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EDITORIAL

Dear Readers,

We are pleased to present the first issue of the 11th volume of *Current Research in Social Sciences*, published in May 2025.

This issue brings together a diverse range of articles that reflect the evolving landscape of psychology, political science, economics, and social studies. From in-depth reviews on emotion regulation and mind-mindedness to original research exploring digital behavior, authoritarianism, environmental transformation, and historical trade dynamics, the contributions highlight both contemporary challenges and emerging insights across disciplines. We hope this collection stimulates thought, fosters dialogue, and inspires further research.

The acceptance rate for this issue was 39.4%. I would like to extend my sincere thanks to our authors, reviewers, editorial board members, and editors who contributed to the publication process.

We look forward to meeting you again in our upcoming issues.

Greetings and regards.

Editor-in-Chief
Asst. Prof. Dr. Duygu TÜRKOĞLU
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Emotion Regulation in Clinical Populations: Mechanisms, Challenges, and Therapeutic Interventions

Klinik Popülasyonlarda Duygu Düzenleme: Mekanizmalar, Zorluklar ve Terapötik Müdahaleler

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Abstract

Emotion regulation is a fundamental aspect of psychological well-being, involving processes through which individuals manage and respond to their emotional experiences. This review explores the mechanisms of emotion regulation, the challenges faced by clinical populations, and therapeutic interventions designed to enhance regulation skills. Theoretical models, such as Gross's Process Model and Emotion Regulation Theory, provide insights into cognitive and situational factors influencing regulation. Neurobiological research highlights the roles of brain regions like the prefrontal cortex and amygdala, and neurotransmitters such as serotonin, dopamine, and norepinephrine. Assessment methods range from self-report questionnaires to behavioral tasks and physiological measures, with innovative approaches like Ecological Momentary Assessment offering real-world insights. Adaptive strategies, including cognitive reappraisal, are linked to improved emotional outcomes, while maladaptive strategies, such as suppression, exacerbate distress. Emotion dysregulation manifests uniquely across disorders, including anxiety, depression, Post Traumatic Stress Disorder, Bipolar Personality Disorder, and substance use disorders, necessitating tailored treatments. Effective therapies such as Dialectical Behavior Therapy, Acceptance and Commitment Therapy, Cognitive Behavioral Therapy, and mindfulness-based interventions are discussed. These interventions have demonstrated efficacy in enhancing emotional regulation across various clinical populations, equipping individuals with skills necessary to manage their emotions more effectively. Despite progress, challenges remain in the accurate assessment and cultural adaptation of treatments. Future research should focus on long-term outcomes and integrating technology to enhance interventions, ultimately aiming to improve emotion regulation and mental health outcomes. This comprehensive approach is essential for addressing the complexity of emotion dysregulation and improving psychological well-being.

Keywords: Emotion Regulation, Psychological Disorders, Therapeutic Interventions, Neurobiological Mechanisms.

Öz

Duygu düzenleme, bireylerin duygusal deneyimlerini yönetme ve bunlara yanıt verme süreçlerini içeren psikolojik iyi oluşun temel bir bileşenidir. Bu derleme, duygu düzenlemenin mekanizmalarını, klinik popülasyonların karşılaştığı zorlukları ve düzenleme becerilerini geliştirmek için tasarlanan terapötik müdahaleleri incelemektedir. Gross'un Süreç Modeli ve Duygu Düzenleme Teorisi gibi teorik modeller, duygu düzenlemeyi etkileyen bilişsel ve durumsal faktörler hakkında içgörüler sunmaktadır. Nörobiyolojik araştırmalar, prefrontal korteks ve amigdala gibi beyin bölgelerinin ve serotonin, dopamin ve norepinefrin gibi nörotransmitterlerin rollerini vurgulamaktadır. Değerlendirme yöntemleri, öz-bildirim anketlerinden davranışsal görevler ve fizyolojik ölçümlere kadar uzanmakta olup, Ekolojik Anlık Değerlendirme gibi yenilikçi yaklaşımlar gerçek dünya içgörülerini sunabilmektedir. Bilişsel yeniden değerlendirme gibi uyumlu stratejiler, duygusal sonuçları iyileştirirken baskılama gibi uyumsuz stratejiler stresi artırmaktadır. Duygu düzenleme güçlüğü, anksiyete, depresyon, travma sonrası stres bozukluğu, bipolar kişilik bozukluğu ve madde kullanımı bozuklukları gibi çeşitli rahatsızlıklarda benzersiz şekilde ortaya çıkabilmekte ve kişiye özel tedaviler gerektirebilmektedir. Diyalektik Davranış Terapisi, Kabul ve Kararlılık Terapisi, Bilişsel Davranışçı Terapi ve farkındalık temelli müdahaleler etkili terapiler olarak değerlendirilebilir. Bu müdahaleler, çeşitli klinik popülasyonlarda duygu düzenlemeyi geliştirmede etkinlik göstermiş, bireylerin duygularını daha etkili yönetmeleri için gerekli becerilerle donatabilmektedir. İlerleme kaydedilmesine rağmen, duygu düzenlemenin doğru değerlendirilmesi ve tedavilerin kültürel uyarlanması konularında zorluklar devam etmektedir. Gelecek araştırmaların, uzun vadeli sonuçları ve müdahaleleri geliştirmek için teknolojinin entegrasyonuna odaklanabileceği tavsiye edilebilir, nihayetinde duygu düzenlemeyi ve ruh sağlığı sonuçlarını iyileştirmek asıl amaçtır. Bu kapsamlı yaklaşım, duygusal düzensizliklerin karmaşıklığını ele almak ve psikolojik iyi oluşu artırmak için etkili bir strateji olarak değerlendirilebilir.

Anahtar Kelimeler: Duygu Düzenleme, Psikolojik Rahatsızlıklar, Terapötik Müdahaleler, Nörobiyolojik Mekanizmalar.

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Emotion Regulation in Clinical Populations: Mechanisms, Challenges, and Therapeutic Interventions

Emotion regulation is a fundamental aspect of psychological well-being (Greenier et al., 2021), encompassing the processes by which individuals influence their emotions—how they experience and express them (Fomina et al., 2020). It plays a critical role in daily functioning and is integral to mental health. Emotion regulation allows individuals to manage and adapt their emotional responses to meet the demands of their environment (Ferreira et al., 2020), thus facilitating goal-directed behavior and enhancing social interactions. However, in clinical populations, the capacity for effective emotion regulation is often impaired, leading to significant psychological distress and dysfunction (Lincoln et al., 2022).

This review seeks to explore the mechanisms underlying emotion regulation, focusing on the neurobiological and cognitive processes involved. It will examine the specific challenges faced by individuals with psychological disorders, such as anxiety, depression, Post-Traumatic Stress Disorder (PTSD), Bipolar Personality Disorder (BPD), and substance use disorders, where emotional dysregulation is a prominent feature. Additionally, the review will evaluate various therapeutic interventions designed to enhance emotional regulation skills, including Dialectical Behavior Therapy (DBT), Acceptance and Commitment Therapy (ACT), Cognitive Behavioral Therapy (CBT), and mindfulness-based approaches.

The need for this review arises from these theoretical and methodological gaps. Theoretical reviews serve several critical functions: they synthesize existing research to identify trends in the field, clarify conceptual ambiguities, introduce unfamiliar yet essential theoretical constructs, and comprehensively examine well-established concepts to highlight unresolved issues. Despite the growing body of research on emotion regulation, there remains a lack of a cohesive framework that integrates cognitive, neurobiological, and therapeutic perspectives. Furthermore, while various interventions—such as Dialectical Behavior Therapy, Acceptance and Commitment Therapy, and mindfulness-based approaches—have demonstrated efficacy in improving emotion regulation, challenges persist in assessing their long-term impact, cross-cultural applicability, and real-world implementation.

The present study aims to address these issues by providing a comprehensive theoretical review of emotion regulation mechanisms, challenges faced by clinical populations, and the effectiveness of current interventions. Specifically, this review will (1) examine the predominant theoretical models of emotion regulation, (2) evaluate the neurobiological underpinnings of regulation processes, (3) assess the measurement tools used in research and clinical practice, and (4) analyze the efficacy and limitations of therapeutic interventions. By synthesizing current knowledge and identifying areas requiring further exploration, this review will offer a structured perspective to guide future research and improve clinical interventions. Ultimately, this work seeks to enhance our understanding of emotion regulation, address existing gaps in literature, and contribute to the development of more effective assessment and treatment strategies.

By providing a comprehensive overview of the current understanding of emotion regulation in clinical populations, this article aims to highlight the importance of effective emotion regulation for mental health and the potential benefits of targeted therapeutic interventions. Understanding these aspects is crucial for clinicians and researchers alike, as it informs both the development of new treatment strategies and the refinement of existing ones, ultimately aiming to improve outcomes for individuals

struggling with emotion dysregulation. In this context, process model, emotion regulation model and neurobiologic models of emotion regulation will be examined.

Theoretical Perspectives on Emotion Regulation

In this section, various theoretical perspectives and approaches to emotion regulation will be explored.

Process Model

Emotion regulation has been extensively studied through various theoretical lenses, providing a robust framework for understanding its complexity (Park et al., 2023). These theoretical perspectives offer critical insights into the mechanisms and processes underlying how individuals manage and respond to their emotions. One of the most influential models in this domain is James Gross's Process Model of Emotion Regulation (Olderbak et al., 2023). This model outlines a sequence of steps involved in regulating emotions, emphasizing that regulation can occur at multiple points in the emotional response trajectory.

The first step in Gross's model is the selection of situations, where individuals choose which situations to enter or avoid based on the anticipated emotional outcomes (Gross, 2024). This proactive step allows individuals to manage their emotional experiences by seeking out environments that are likely to produce desired emotions and avoiding those that may lead to negative emotions. For example, someone might choose to attend a social event where they expect to feel joy and connection, while avoiding a potentially stressful confrontation at work.

Once in a situation, individuals can modify the situation to alter its emotional impact, the second step in the model. Situation modification involves making changes to the environment or the context to influence the emotional experience (Benita, 2020). This could involve altering aspects of the physical environment, such as adjusting lighting or seating arrangements, or changing social dynamics, such as redirecting a conversation to a more pleasant topic. By actively modifying situations, individuals can create conditions that are more conducive to positive emotional experiences.

The third step is deploying attention within the chosen or modified situation. Attention deployment refers to how individuals direct their focus within a given context to regulate their emotions (DiGirolamo et al., 2023). This can involve techniques such as distraction, where attention is diverted away from negative stimuli, or concentration, where focus is intensified on positive aspects of the situation. For instance, someone might focus on the supportive aspects of a challenging task to mitigate feelings of anxiety.

The fourth step involves changing one's cognitive appraisal of the situation. Cognitive appraisal is the process of interpreting and making sense of a situation in a way that influences its emotional impact (Chang, 2020). This step is crucial because how an individual thinks about a situation can significantly alter their emotional response. Cognitive reappraisal, a specific strategy within this step, involves reinterpreting a situation to change its emotional significance. For example, viewing a setback as a learning opportunity rather than a failure can reduce feelings of disappointment and foster resilience.

Finally, the fifth step in Gross's model is modulating the emotional response itself. This step includes various strategies to influence the intensity, duration, or expression of emotions after they have been generated. Techniques in this stage might involve using relaxation exercises to calm down after a stressful event, expressing emotions in socially acceptable ways, or engaging in activities that help to dissipate lingering negative emotions (Smith et al., 2022). By modulating their emotional responses, individuals can better align their emotional expressions with their goals and social contexts.

This process-oriented approach highlights the dynamic and multifaceted nature of emotional regulation. It underscores that regulation is not a single, static event but rather a series of ongoing adjustments that can occur at multiple points before, during, and after an emotional experience. Understanding this sequence provides a comprehensive framework for studying emotional regulation and developing interventions to enhance it. By recognizing that emotional regulation involves multiple stages, researchers and clinicians can better identify where individuals may struggle and tailor interventions to address specific points in the regulatory process (Hiebel et al., 2021).

In clinical populations, research has explored the application and efficacy of this model such as; **Neurofeedback Training**: A study investigated the use of simultaneous real-time functional MRI (fMRI) and electroencephalography (EEG) neurofeedback to enhance emotion regulation in patients with major depressive disorder. Participants learned to upregulate specific brain activities associated with positive emotions, leading to mood improvements. Emotion self-regulation training in major depressive disorder using simultaneous real-time fMRI and EEG neurofeedback (Zotev et. al. 2020). Another research has investigated the application of the process model of emotion regulation within clinical populations, focusing on interventions like Mindfulness-Oriented Recovery Enhancement (MORE) and neurofeedback training. MORE integrates mindfulness training, cognitive-behavioral therapy, and positive psychology to address addiction, chronic pain, and psychiatric symptoms. A meta-analysis of randomized controlled trials (RCTs) involving 816 participants demonstrated that MORE effectively reduces addictive behaviors, craving, opioid dosage, pain, and psychiatric symptoms (Parisi et al. 2022). These studies underscore the potential of interventions targeting specific stages of the emotion regulation process model to improve mental health outcomes in clinical settings.

Emotion Regulation Theory

Another significant theoretical framework in the study of emotional regulation is the Emotion Regulation Theory, which places a strong emphasis on the role of cognitive processes in managing emotions. This theory posits that the way individuals perceive and interpret emotional stimuli plays a crucial role in shaping their emotional responses (Wilms et al., 2020). According to this perspective, our thoughts about a situation can significantly influence the intensity and nature of our emotional reactions.

Central to the Emotion Regulation Theory are cognitive strategies such as reappraisal, which involves changing one's interpretation of a situation to alter its emotional impact. Reappraisal is considered an adaptive strategy because it allows individuals to modify their emotional responses by reframing the meaning of an event (Bodrogi et al., 2022). For example, if someone receives critical feedback at work, they might initially feel upset and defensive. However, by reappraising the feedback as constructive criticism intended to help them improve, they can reduce their emotional distress and respond more positively. This cognitive shift can transform a potentially negative experience into a more manageable and even beneficial one.

Reappraisal has been shown to have several beneficial effects on emotional regulation and overall psychological well-being. Research indicates that individuals who frequently use reappraisal experience lower levels of emotional distress, such as anxiety and depression, compared to those who use less adaptive strategies like suppression or rumination. By altering their interpretations of emotional stimuli, individuals can decrease the intensity of negative emotions and increase positive emotions, leading to enhanced psychological well-being (Vally & Ahmed, 2020).

The Emotion Regulation Theory also highlights the importance of flexibility in cognitive processes. Effective emotional regulation requires the ability to adaptively shift cognitive strategies based on the context and demands of a situation. For instance, while reappraisal might be effective in some situations, other strategies such as problem-solving or acceptance might be more appropriate in different contexts (Pruessner et al., 2020). This flexibility allows individuals to employ the most suitable cognitive strategy to manage their emotions effectively.

Furthermore, the theory underscores the interplay between cognitive processes and emotional experiences. It suggests that individuals who are more adept at identifying and understanding their emotions are better equipped to use cognitive strategies like reappraisal (Thomas et al., 2020). This emotional awareness provides a foundation for recognizing when and how to apply different regulation strategies. Conversely, those with less emotional awareness may struggle to implement effective cognitive strategies, leading to poorer emotion regulation.

The adaptive use of cognitive strategies such as reappraisal also has long-term benefits for mental health (Levin & Rawana, 2022). Regular practice of reappraisal can lead to more resilient emotional patterns, making individuals less susceptible to emotional disturbances. This resilience is particularly important in coping with chronic stressors and adversities, where effective emotion regulation can mitigate the impact of prolonged stress on mental health.

Overall, the Emotion Regulation Theory provides a comprehensive framework for understanding the crucial role of cognitive processes in managing emotions (Sheppes, 2020). It emphasizes the power of perception and interpretation in shaping emotional experiences and highlights the adaptive potential of cognitive strategies like reappraisal (Rompilla et al., 2022). This theory not only enhances our understanding of emotional regulation but also informs the development of effective therapeutic approaches to improve emotional health and well-being.

In clinical settings, these theoretical perspectives are invaluable for understanding the challenges faced by individuals with psychological disorders. For instance, the Process Model can explain why individuals with anxiety disorders may struggle to avoid or modify situations that trigger their anxiety, leading to persistent emotional distress (Hayes & Hofmann, 2021). Similarly, Emotion Regulation Theory can clarify why individuals with depression may find it difficult to reappraise negative situations, resulting in prolonged periods of sadness and hopelessness.

These theories also inform the development of therapeutic interventions aimed at improving emotional regulation. For example, interventions that teach cognitive reappraisal can help individuals with various disorders develop more adaptive ways of thinking about and responding to emotional stimuli (Volkaert et al., 2020). Similarly, therapies that focus on enhancing situational modification or attention deployment skills can provide individuals with practical tools for managing their emotions more effectively (Colombo et al., 2021).

Overall, these theoretical frameworks provide a comprehensive understanding of emotional regulation, highlighting the interplay between cognitive processes, situational factors, and emotional responses (Liu et al., 2021). This understanding is crucial for both diagnosing emotion regulation difficulties and designing effective interventions to address them. By grounding therapeutic approaches in these well-established theories, clinicians can better tailor their strategies to meet the specific needs of their clients, ultimately improving therapeutic outcomes and enhancing overall psychological well-being.

Integrating neurobiological mechanisms into the development of emotion regulation interventions is essential for enhancing their effectiveness. Neuroimaging studies have identified specific brain regions

associated with various emotion regulation strategies. For instance, both cognitive reappraisal and acceptance strategies engage the left inferior frontal gyrus and insula, while also showing distinct patterns of activity in other regions, reflecting

By comprehending these neural processes, clinicians can design interventions that target specific brain mechanisms, thereby enhancing the efficacy of therapeutic approaches. This neurobiological insight informs the development of tailored strategies that align with individual neural profiles, promoting more effective emotion regulation and overall psychological well-being.

Neurobiological Mechanisms

Understanding the neurobiological underpinnings of emotion regulation is essential for comprehending how emotional processes are managed and modulated within the brain. Several brain regions and neurotransmitter systems are involved in the regulation of emotions, each playing a distinct yet interconnected role in this complex process (Dong et al., 2022).

Understanding the neurobiological underpinnings of emotion regulation is essential for comprehending how emotional processes are managed and modulated within the brain. Several mechanisms, including specific brain regions such as the prefrontal cortex and the amygdala, as well as neurotransmitter systems like serotonin, dopamine, and norepinephrine, play distinct yet interconnected roles in this complex process.

Prefrontal Cortex

The prefrontal cortex (PFC) is a critical region for the cognitive control of emotions, playing a pivotal role in the processes that allow individuals to regulate their emotional responses effectively (Friedman & Robbins, 2022). This brain region is involved in higher-order executive functions such as planning, decision-making, and moderating social behavior, all of which are essential for effective emotional regulation. The PFC helps individuals to manage their emotions in a way that is adaptive and appropriate to their social and environmental context.

Within the PFC, the dorsolateral prefrontal cortex (dlPFC) is particularly important for cognitive reappraisal (Steward et al., 2021). Cognitive reappraisal is a strategy that involves changing one's interpretation of a situation to alter its emotional impact. For example, by reinterpreting a stressful event as a challenge rather than a threat, individuals can reduce their emotional distress (Wang et al., 2023). The dlPFC facilitates this process by engaging in the cognitive tasks necessary for reappraisal, such as analyzing the situation, generating alternative perspectives, and suppressing initial emotional responses (Zhao et al., 2021). This ability to reframe situations cognitively is crucial for maintaining emotional balance and preventing negative emotions from becoming overwhelming.

The ventromedial prefrontal cortex (vmPFC) and the orbitofrontal cortex (OFC) are also key players in the neural network that supports emotional regulation (Nejati et al., 2021). The vmPFC is involved in evaluating emotional stimuli and integrating this information to guide behavior. It helps in assessing the emotional value of different stimuli and making decisions that are congruent with one's goals and social norms. For instance, the vmPFC helps individuals determine whether a particular emotional response is appropriate in each social context and whether it aligns with long-term objectives (Alexander et al., 2023). This region is also associated with the regulation of fear and the extinction of conditioned fear responses, making it essential for adaptive emotional regulation.

The OFC, on the other hand, is implicated in the processing of rewards and punishments, which influences decision-making based on emotional information. It plays a role in evaluating the potential outcomes of different actions and using this information to guide future behavior (Ishikawa et al., 2020). The OFC helps individuals to anticipate the emotional consequences of their actions and make choices that maximize positive outcomes and minimize negative ones. For example, when deciding how to respond to a potentially upsetting situation, the OFC helps weigh the possible emotional repercussions and select a response that is likely to result in the least distress.

Together, these regions of the PFC work in concert to support the cognitive processes underlying emotional regulation. They enable individuals to interpret emotional stimuli accurately, generate appropriate emotional responses, and adjust these responses as needed to fit the context (Menon & D'Esposito, 2022). This neural network's functionality is crucial for maintaining psychological health and well-being, as it allows for the flexible and adaptive management of emotions in daily life.

Moreover, dysfunction in these areas of the PFC is often associated with various emotion regulation difficulties and psychiatric disorders (Weis et al., 2022). For instance, impaired functioning of the dlPFC can lead to challenges in cognitive reappraisal, resulting in increased susceptibility to anxiety and depression (De la Peña-Arteaga et al., 2021). Similarly, abnormalities in the vmPFC and OFC are linked to conditions such as obsessive-compulsive disorder (OCD) (Acevedo et al., 2021) and BPD (Šimić et al., 2021), where individuals struggle with evaluating emotional stimuli and making adaptive decisions based on emotional information.

Understanding the roles of different PFC regions in emotion regulation not only provides insights into the neural mechanisms underlying these processes but also informs the development of targeted interventions. Therapeutic approaches such as CBT often focus on enhancing cognitive reappraisal and other executive functions supported by the PFC. By strengthening these neural pathways, such interventions can improve emotion regulation and overall mental health.

The Amygdala

The amygdala, a small almond-shaped structure located deep within the brain, is central to the detection and initial response to emotional stimuli, especially those perceived as threatening (Inman et al., 2020). It plays a pivotal role in the rapid, automatic processing of emotions, serving as an early warning system that alerts the brain to potential dangers (Bertini & Lâdavos, 2021). This swift response is crucial for survival, as it allows for immediate reactions to threats, such as the fight-or-flight response. The amygdala is particularly associated with the processing of fear and anxiety, rapidly evaluating sensory information and triggering appropriate emotional and physiological responses.

The interaction between the PFC and the amygdala is crucial for effective emotion regulation (Berboth & Morawetz, 2021). While the amygdala is responsible for the quick and automatic detection of emotional stimuli, the PFC provides a higher-order, cognitive layer of control over these emotional responses. The PFC can exert top-down control over the amygdala, helping to modulate and dampen emotional reactions. This interaction facilitates more adaptive behavior by allowing individuals to assess situations more thoroughly and respond in a manner that is congruent with their long-term goals and social norms.

The PFC's regulatory influence on the amygdala involves several mechanisms. For instance, when an individual is faced with a threatening situation, the amygdala may trigger an immediate fear response (Murray & Fellows, 2022). However, the PFC can reassess the situation and determine whether the threat is real or exaggerated. If the PFC concludes that the threat is not as severe as initially perceived,

it can send inhibitory signals to the amygdala, reducing the intensity of the emotional response (Alexandra et al., 2022). This process is essential for preventing overreactions to non-threatening stimuli and for managing stress and anxiety in a controlled manner.

Moreover, the PFC aids in the implementation of cognitive strategies such as reappraisal, which can alter the emotional impact of a situation. For example, reinterpreting a stressful event in a more positive or neutral light involves the PFC's engagement in higher-order thinking and problem-solving (Wessa et al., 2022). This cognitive reappraisal helps to calm the amygdala's response, promoting a more balanced emotional state. The ability of the PFC to modulate the amygdala's activity is thus fundamental to adaptive emotion regulation and effective coping strategies.

Disruptions in the PFC-amygdala interaction can lead to difficulties in emotion regulation and are implicated in various psychiatric conditions. For instance, individuals with anxiety disorders often exhibit hyperactivity in the amygdala along with hypoactivity in the PFC (Kim & Kim, 2021). This imbalance results in heightened fear and anxiety responses that are difficult to control. Similarly, in conditions such as depression, the reduced regulatory capacity of the PFC over the amygdala can contribute to persistent negative emotional states and impaired stress management.

Understanding the interplay between the PFC and the amygdala is critical for developing therapeutic interventions aimed at improving emotional regulation. Cognitive-behavioral therapies, for example, often focus on enhancing the PFC's ability to regulate the amygdala through cognitive restructuring and mindfulness practices (Goldin et al., 2021). These therapies help individuals develop skills to reinterpret negative experiences and reduce the intensity of their emotional responses. Additionally, neurofeedback and other techniques that directly target brain function may help strengthen the PFC's regulatory capacity, providing more effective control over amygdala-driven emotional reactions (Kirlic et al., 2021).

Neurotransmitters

Neurotransmitters such as serotonin, dopamine, and norepinephrine play significant roles in the complex processes of emotional regulation (Azizi, 2022). These chemical messengers facilitate communication between neurons and are crucial for various aspects of mood and emotional response.

Serotonin, for example, is deeply involved in mood regulation and has been extensively linked to the modulation of emotional responses (Roberts et al., 2020). It helps stabilize mood, feelings of well-being, and happiness. Dysregulation of the serotonergic system is associated with several mood disorders, including depression and anxiety (Otsuka et al., 2022). For instance, lower levels of serotonin are often found in individuals suffering from depression, which is why many antidepressants, such as selective serotonin reuptake inhibitors (SSRIs), work by increasing serotonin levels in the brain. By enhancing serotonin availability, these medications help to alleviate symptoms of depression and anxiety, promoting better emotional balance and stability.

Dopamine is another critical neurotransmitter, essential for reward processing and motivation. It influences how individuals experience pleasure and approach goals, which are fundamental components of emotional regulation (Sander & Nummenmaa, 2021). Dopamine pathways in the brain, particularly those connecting the ventral tegmental area to the nucleus accumbens (known as the mesolimbic pathway), play a key role in the reward system. This system helps regulate behaviors by reinforcing activities that are pleasurable or rewarding, thus motivating individuals to engage in goal-directed behavior. Dysfunctions in the dopaminergic system can lead to issues such as anhedonia (the inability

to feel pleasure) and a lack of motivation, which are common symptoms in conditions like depression and schizophrenia.

Norepinephrine, also known as noradrenaline, is involved in the body's stress response and plays a crucial role in regulating arousal and alertness. It helps the body respond to stress by increasing heart rate, releasing glucose from energy stores, and increasing blood flow to skeletal muscles. This neurotransmitter is vital for managing emotions effectively, as it prepares the body and mind to respond to stressors (Ross & Van Bockstaele, 2021). High levels of norepinephrine are associated with heightened arousal and alertness, which can be beneficial in short-term stress situations but problematic if chronic, contributing to anxiety and hypervigilance. Conversely, low levels of norepinephrine can result in a lack of energy and alertness, contributing to feelings of lethargy and depression.

The interplay between these neurotransmitters is complex and highlights the intricate balance required for optimal emotional regulation. For example, serotonin and dopamine systems interact in ways that can influence mood and behavior (Muller & Cunningham, 2020). While serotonin can help modulate dopamine's effects, ensuring that reward-seeking behavior does not become excessive, dopamine's role in reward processing can influence how serotonin affects mood regulation (Liu et al., 2020). Similarly, norepinephrine's role in arousal and alertness can interact with serotonin and dopamine to impact mood and motivation, illustrating the multifaceted nature of neurotransmitter interactions in emotional regulation.

Understanding the roles of these neurotransmitters in emotional regulation has significant implications for treating mood disorders. Pharmacological treatments often aim to restore the balance of these neurotransmitters to improve emotional regulation and overall mental health (Küpeli Akkol et al., 2021). For example, SSRIs increase serotonin levels to treat depression, while medications that affect dopamine levels are used in the treatment of conditions like Parkinson's disease and schizophrenia (de la Mora et al., 2020). Additionally, norepinephrine reuptake inhibitors (NRIs) can be used to address issues related to attention deficit hyperactivity disorder (ADHD) and depression by enhancing alertness and mood (Hu et al., 2021).

Neuroimaging studies have provided valuable insights into how these brain regions and neurotransmitter systems interact during emotional regulation tasks (Murnane et al., 2023). Functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) scans have revealed patterns of brain activity associated with different emotional regulation strategies (Grill et al., 2021). For instance, individuals who effectively use cognitive reappraisal tend to show increased activation in the PFC and decreased activation in the amygdala (Hassa et al., 2021). Conversely, those who rely on maladaptive strategies like suppression may exhibit different patterns of brain activation, highlighting the neural basis of these regulatory processes (Laumann & Snyder, 2021).

In clinical populations, abnormalities in these neurobiological mechanisms are often observed. For instance, individuals with anxiety disorders may show hyperactivation of the amygdala in response to threatening stimuli, coupled with hypoactivation of the PFC, indicating reduced top-down control. Similarly, those with depression may exhibit altered serotonergic function and impaired connectivity between the PFC and other brain regions involved in emotional regulation (Daffre et al., 2020).

Understanding these neurobiological mechanisms is crucial for developing targeted interventions that can enhance emotional regulation. Techniques such as neurofeedback, which trains individuals to modulate their brain activity, and pharmacological treatments aimed at balancing neurotransmitter levels, offer promising avenues for improving emotional regulation in clinical populations. By

continuing to explore the neurobiological basis of emotional regulation, researchers and clinicians can develop more effective strategies for helping individuals manage their emotions and improve their psychological well-being.

Understanding these neurobiological mechanisms is crucial for developing targeted interventions that can enhance emotional regulation. By continuing to explore the neurobiological basis of emotional regulation, researchers and clinicians can develop more effective strategies for helping individuals manage their emotions and improve their psychological well-being. Building upon this foundation, the subsequent section delves into the assessment and measurement of emotional regulation, highlighting the importance of accurate evaluation in developing effective interventions.

Assessment and Measurement of Emotional Regulation

Evaluating emotion regulation in clinical populations requires a multifaceted approach, incorporating various tools and methods to capture the complexity of emotional experiences and regulation strategies. Accurate assessment is crucial for diagnosing emotion dysregulation, guiding treatment planning, and evaluating the effectiveness of interventions (Reichenberg & Seligman, 2016).

Specifically, this section will focus on self-report questionnaires, behavioral tasks, physiological measures, and ecological assessments as key tools for measuring emotional regulation.

Self-Report

Self-report questionnaires are among the most commonly used tools for assessing emotion regulation, providing valuable insights into how individuals perceive and manage their emotions (Phillips & Power, 2007). These instruments rely on individuals' subjective accounts of their emotional experiences and the strategies they use to regulate their emotions, offering a practical and accessible method for gathering data on emotion regulation processes.

This section will focus on the Emotion Regulation Questionnaire (ERQ) and the Difficulties in Emotion Regulation Scale (DERS), two widely used self-report measures for assessing emotional regulation.

The Emotion Regulation Questionnaire (ERQ) is one widely used self-report measure that assesses the frequency of two specific emotion regulation strategies: cognitive reappraisal and expressive suppression (Sörman et al., 2022). Cognitive reappraisal involves changing the way one thinks about a situation to alter its emotional impact, while expressive suppression involves inhibiting the outward expression of emotions. The ERQ helps researchers and clinicians understand how often individuals employ these strategies and how they relate to emotional outcomes and psychological well-being.

Another popular self-report tool is the Difficulties in Emotion Regulation Scale (DERS). The DERS evaluates multiple dimensions of emotional regulation difficulties, providing a comprehensive assessment of various aspects of emotion regulation (Dan-Glauser & Scherer, 2012). It includes items that measure non-acceptance of emotional responses, which assesses the extent to which individuals experience negative secondary emotions (such as shame or guilt) in response to their primary emotional reactions. The DERS also evaluates difficulties engaging in goal-directed behavior, assessing how well individuals can maintain focus and pursue goals when experiencing negative emotions (Hallion et al., 2018). Additionally, it measures impulse control difficulties, which looks at individuals' ability to control their behaviors when experiencing strong emotions, and lack of emotional awareness, which assesses how well individuals recognize and understand their own emotions. Other dimensions include limited access to emotion regulation strategies, evaluating whether individuals feel they have effective

ways to regulate their emotions when upset, and lack of emotional clarity, measuring how clearly individuals understand the emotions they are experiencing.

While self-report questionnaires like the ERQ and DERS provide valuable insights into individuals' perceptions of their emotional regulation, they are subject to several limitations and biases. One significant limitation is social desirability bias, where individuals may respond in ways they believe are more socially acceptable or favorable rather than providing accurate accounts of their true experiences. For instance, someone might underreport their use of expressive suppression because it is often viewed negatively. Another limitation is self-awareness. The accuracy of self-report data depends on individuals' ability to accurately reflect on and report their emotional experiences and regulation strategies (Goldenberg et al., 2006). Some individuals may lack the introspective capacity to fully understand their emotional processes, leading to incomplete or inaccurate responses. For example, individuals with alexithymia (a condition characterized by difficulties in identifying and describing emotions) may struggle to accurately complete self-report questionnaires on emotional regulation.

Despite these limitations, self-report questionnaires remain a widely used and valuable tool in both research and clinical settings. They provide a straightforward and cost-effective method for assessing emotional regulation across large groups of people, making them ideal for epidemiological studies and initial screenings in clinical practice. Furthermore, self-report measures can be complemented with other assessment methods, such as behavioral tasks and physiological measures, to provide a more comprehensive understanding of emotional regulation.

In clinical practice, self-report questionnaires can help identify areas where individuals may be struggling with emotional regulation and guide the development of personalized intervention plans (Bettis et al., 2022). For example, a high score on the DERS subscale for impulse control difficulties might indicate a need for interventions focused on enhancing self-control and distress tolerance skills. Similarly, a low score on the emotional awareness subscale could suggest the benefit of mindfulness-based interventions aimed at increasing emotional awareness and clarity.

Behavioral Tasks

Behavioral tasks offer a more objective measure of emotion regulation by directly observing how individuals respond to controlled emotional stimuli in a structured environment (Aldao, 2013). These tasks are designed to elicit specific emotional responses and then assess the effectiveness of various regulation strategies in managing those emotions. By capturing real-time data on participants' behaviors and physiological reactions, behavioral tasks provide a richer and more nuanced understanding of emotional regulation processes.

Within this context, the Emotion Regulation Task and the Trier Social Stress Test will be examined.

One commonly used behavioral task is the Emotion Regulation Task where participants are presented with emotionally evocative images or scenarios designed to provoke specific emotional responses, such as sadness, anger, or fear (Ziv et al., 2013). Participants are then instructed to employ specific emotion regulation strategies, such as cognitive reappraisal (reinterpreting the meaning of the emotional stimulus to reduce its impact) or expressive suppression (inhibiting the outward expression of the emotional response). Researchers record and analyze participants' behavioral responses, such as facial expressions, eye movements, and reaction times, to determine the effectiveness of the regulation strategies being used (Harms et al., 2010). For instance, a participant may be shown a distressing image and asked to reframe it in a more positive light. Their ability to change their facial expression from

distressed to neutral or positive, and the time it takes to do so, provides valuable data on their emotion regulation capacity.

Another valuable approach involves the use of experimental paradigms that manipulate emotion regulation demands, such as the Trier Social Stress Test (TSST). The TSST is designed to induce stress in a controlled laboratory setting. Participants are typically asked to perform a public speaking task and complete a series of challenging mental arithmetic problems in front of an evaluative audience. This setup reliably induces stress, allowing researchers to observe how participants regulate their emotions under pressure (Frisch et al., 2015). During the TSST, researchers measure both physiological responses (such as heart rate, cortisol levels, and skin conductance) and behavioral responses (such as verbal fluency, posture, and facial expressions). By examining these responses, researchers can assess the participants' ability to manage stress and maintain emotion regulation in a high-pressure situation.

These behavioral tasks provide valuable real-time data on how individuals regulate their emotions, offering insights that complement and extend beyond self-report measures. While self-report questionnaires rely on individuals' retrospective accounts of their emotional experiences and emotion regulation strategies, behavioral tasks capture immediate responses to emotional stimuli, reducing the potential for recall bias and social desirability effects. For example, a person may report using cognitive reappraisal effectively in a self-report measure, but their performance in a behavioral task may reveal difficulties in applying this strategy in real-time. Moreover, behavioral tasks can be used to identify specific patterns of emotion dysregulation associated with different psychological disorders. For instance, individuals with anxiety disorders may exhibit heightened and prolonged physiological arousal in response to stress-inducing tasks like the TSST, indicating difficulties in down-regulating their emotional responses (Long et al., 2020). Similarly, individuals with depression might show a slower recovery to baseline emotional states after exposure to negative stimuli in the Emotion Regulation Task, reflecting persistent negative affect and impaired emotion regulation.

Although behavioral task measurements are commonly used in psychological and cognitive research to assess various aspects of human behavior, cognition, and performance, they come with several limitations. One of the main drawbacks is the considerable amount of time needed for data collection. Additionally, the accuracy and validity of these measurements often depend on the researcher's expertise and ability to properly administer the tasks. Some behavioral tasks also require subjective interpretation by the researcher, which can introduce bias into the results.

In clinical practice, behavioral tasks can also be used to assess the effectiveness of therapeutic interventions aimed at improving emotional regulation (David et al., 2022). By administering these tasks before and after treatment, clinicians can objectively evaluate changes in clients' emotion regulation abilities. Improvements in task performance, such as quicker and more effective use of regulation strategies and reduced physiological arousal, can provide evidence of therapeutic progress. Additionally, these tasks can help identify specific regulation deficits that need to be targeted in therapy, allowing for more personalized and effective intervention plans.

Physiological Measures

Physiological measures capture the bodily correlates of emotion regulation, providing a more nuanced understanding of the underlying processes involved in how individuals manage their emotions (Pace-Schott et al., 2019). These measures offer objective data that can complement self-report and behavioral assessments, leading to a more comprehensive picture of emotional regulation. Common physiological measures include heart rate variability (HRV) (Pham et al., 2021), skin conductance (Figner & Murphy,

2011), and electroencephalography (EEG) (Charles & Nixon, 2019), each of which shed light on different aspects of the body's response to emotional stimuli.

HRV is one of the most widely used physiological indicators of emotion regulation. HRV reflects the variability in the time intervals between consecutive heartbeats, which is influenced by the autonomic nervous system. The autonomic nervous system has two branches: the sympathetic nervous system, which prepares the body for fight or flight responses, and the parasympathetic nervous system, which promotes rest and digestion (Wehrwein et al., 2016). A higher HRV indicates a greater ability of the autonomic nervous system to adapt to changing circumstances, suggesting greater flexibility in emotion regulation. Conversely, lower HRV is associated with reduced autonomic flexibility and is often linked to emotion dysregulation. For example, individuals with anxiety or depression frequently exhibit lower HRV, reflecting their difficulty in adapting to stress and regulating their emotions effectively.

Skin conductance, also known as galvanic skin response (GSR), measures the electrical conductance of the skin, which varies with the level of sweat gland activity (Sharma et al., 2016). Since sweat gland activity increases with emotional arousal, skin conductance provides a direct measure of physiological arousal in response to emotional stimuli. Higher skin conductance levels are typically observed during states of high emotional arousal, such as stress or excitement, indicating increased sympathetic nervous system activity. By tracking changes in skin conductance, researchers can gain insights into how individuals physiologically respond to and recover from emotional challenges.

EEG measures brain wave activity by detecting electrical signals on the scalp. EEG provides valuable information about the neural processes underlying emotion regulation. For instance, increased frontal alpha asymmetry is associated with approach-oriented emotions and positive affect, while increased right frontal activity is linked to withdrawal-oriented emotions and negative affect (Harmon-Jones et al., 2010). This asymmetry reflects the differential activation of the brain's frontal regions, which play a critical role in emotion processing and regulation. By examining patterns of brain wave activity, researchers can infer how different emotional states are represented and regulated in the brain.

Each of these physiological measures offers unique insights into the mechanisms of emotion regulation. HRV captures the dynamic interplay between the sympathetic and parasympathetic branches of the autonomic nervous system, highlighting the body's capacity for adaptive emotional responses (Cornes, 2023). Skin conductance provides a direct measure of emotional arousal, reflecting the intensity of the body's immediate response to emotional stimuli. EEG reveals the neural correlates of emotion regulation, showing how different brain regions contribute to the regulation of emotions.

Together, these physiological measures enhance our understanding of emotion regulation by providing objective data that can be used to validate and complement subjective self-report and behavioral observations. For example, an individual may report feeling calm, but physiological measures such as HRV and skin conductance might reveal underlying autonomic arousal, suggesting that the individual is experiencing unrecognized stress (Wearne et al., 2019). Similarly, EEG data can help identify neural patterns associated with successful emotional regulation, which can inform the development of targeted interventions.

Physiological task measurements also come with their own set of challenges. One significant limitation is the high cost of the required equipment, which can make these methods less accessible, particularly for researchers with limited budgets. Additionally, interpreting the results of physiological measurements often demands specialized training. Without this expertise, it can be difficult to

accurately analyze the data and draw meaningful conclusions, which can make the process more complex and prone to error.

In clinical settings, physiological measures can be used to assess the effectiveness of therapeutic interventions aimed at improving emotion regulation. For instance, a therapy that successfully enhances HRV and reduces skin conductance levels would indicate improved autonomic regulation and reduced physiological arousal in response to stress. These objective measures can provide valuable feedback to both clinicians and clients, helping to track progress and tailor interventions to individual needs.

Ecological Assessment

Ecological Momentary Assessment (EMA) is an innovative approach that captures emotion regulation in real-world settings (Shiffman et al., 2008). EMA involves repeatedly sampling individuals' emotional states and regulation strategies in their natural environments using smartphones or other digital devices. This method reduces recall bias and provides a more ecologically valid picture of emotion regulation as it occurs in daily life. EMA can track fluctuations in emotional states and regulation efforts in response to everyday stressors and events, offering rich data on the temporal dynamics of emotion regulation (Ebner-Priemer & Trull, 2009). Other studies have investigated the use of EMA in understanding the relationship between emotional states and behaviors, such as substance use, physical activity, or eating habits, in naturalistic settings (Stone et al., 2007). These studies have highlighted EMA's ability to track momentary changes and provide an in-depth understanding of how individuals regulate their emotions throughout the day. While EMA offers many advantages, such as its high ecological validity and real-time data collection, its use also comes with challenges. One significant limitation is the potential burden placed on participants. The repeated sampling of emotional states and regulation strategies throughout the day can be intrusive, and participants may become fatigued or less compliant over time. Additionally, the effectiveness of EMA is highly dependent on the study design. Poorly timed prompts, ambiguous questions, or excessive frequency of assessments can lead to participant dropout or inaccuracies in the collected data.

While each of these assessment methods has its strengths, they also have limitations. Therefore, combining multiple assessment methods can provide a comprehensive understanding of emotion regulation, leveraging the strengths of each approach while mitigating their limitations (Roshdy et al., 2024). For instance, integrating self-report measures with behavioral tasks and physiological recordings can offer a holistic view of how individuals regulate their emotions across different contexts and time points. Such a multi-method approach is particularly valuable in clinical settings, where a detailed understanding of emotion regulation is essential for accurate diagnosis and effective treatment planning.

Advancements in assessment techniques continue to enhance our ability to measure emotion regulation more accurately and comprehensively. The development of more sophisticated and user-friendly digital tools, along with improvements in data analytics, promises to further refine our understanding of emotion regulation and its impact on mental health. By continually improving assessment methods, researchers and clinicians can better support individuals in managing their emotions and achieving better psychological outcomes.

Upon reviewing the theoretical frameworks, underlying mechanisms, and measurement techniques associated with emotion regulation, attention now shifts toward clinical populations. This transition to clinical applications is pivotal for bridging the gap between theoretical knowledge and practical implementation, facilitating the translation of insights from emotion regulation research into effective strategies for enhancing mental health within clinical contexts. A comprehensive understanding of these

dynamics is essential for the development of individualized interventions that address the distinct needs of individuals experiencing emotional difficulties.

Emotion Regulation Strategies in Clinical Populations

Emotion regulation involves a range of strategies that individuals use to manage and modify their emotional experiences. These strategies can be broadly categorized into cognitive and behavioral approaches, each with its own implications for psychological health. In clinical populations, the use of these strategies varies significantly, often contributing to the persistence of emotion dysregulation and associated mental health issues (Hughes et al., 2020) including cognitive strategies, mindfulness, and acceptance-based approaches and suppression.

Cognitive Strategies

Cognitive strategies for emotion regulation include techniques such as cognitive reappraisal, which involves changing the way one thinks about a situation to alter its emotional impact (Rodriguez et al., 2020). Reappraisal is generally considered an adaptive strategy because it allows individuals to reinterpret potentially distressing situations in a more positive or neutral light, thereby reducing their emotional intensity (Roos & Bennett, 2023). For example, someone might view a challenging work project not as a source of stress, but as an opportunity for growth and development. This shift in perspective can significantly decrease feelings of anxiety and stress associated with the project.

Research has consistently shown that cognitive reappraisal is associated with better psychological outcomes, including lower levels of anxiety and depression, and greater overall well-being (Riepenhausen et al., 2022). Studies have demonstrated that individuals who frequently use reappraisal experience less emotional distress and exhibit more resilience in the face of adversity. This strategy is effective because it helps individuals maintain a sense of control over their emotional experiences, which is crucial for psychological health.

Cognitive reappraisal engages the prefrontal cortex, a brain region involved in higher-order executive functions such as planning, decision-making, and regulating social behavior (Salehinejad et al., 2021). The prefrontal cortex helps to modulate the activity of the amygdala, the brain's emotional center responsible for detecting and responding to threats (Dixon & Dweck, 2022). By reinterpreting a situation, the prefrontal cortex can downregulate the amygdala's response, thereby reducing the emotional intensity of the experience. For instance, during a potentially threatening situation, an individual might use reappraisal to convince themselves that the threat is not as severe as it appears, which in turn dampens the fear response generated by the amygdala.

Furthermore, cognitive reappraisal has been linked to numerous long-term benefits. It fosters greater emotional stability and helps build psychological resilience (Stover et al., 2024). By regularly practicing reappraisal, individuals can develop a habit of looking at life events through a more balanced and less distressing lens. This habitual positive reinterpretation of events can lead to lasting improvements in emotional health and well-being.

In clinical settings, cognitive reappraisal is a key component of many therapeutic approaches, including CBT (Goldin et al., 2013). Therapists often work with clients to identify and challenge negative thought patterns and to replace them with more adaptive interpretations. This process not only alleviates immediate emotional distress but also equips clients with tools to handle future emotional challenges more effectively.

Mindfulness and Acceptance-based Approaches

Mindfulness and acceptance-based approaches have gained prominence as effective strategies for improving emotional regulation (Simione & Saldarini, 2023). These approaches focus on enhancing individuals' awareness and acceptance of their present-moment experiences, including thoughts, emotions, and bodily sensations, without judgment or the urge to alter them.

Mindfulness involves maintaining a non-judgmental awareness of the present moment, including one's thoughts, feelings, and bodily sensations (İnce & Demir, 2023). This practice encourages individuals to observe their internal experiences as they unfold, fostering a deeper understanding and connection with their emotional states. By staying present and attentive, individuals can recognize and acknowledge their emotions without becoming overwhelmed by them. For instance, during a moment of anxiety, a mindful approach would involve noticing the sensations of tension in the body and the racing thoughts, but rather than trying to suppress these feelings, simply observing them and allowing them to be.

Acceptance-based strategies complement mindfulness by encouraging individuals to experience their emotions fully without trying to change or avoid them, fostering a sense of openness and acceptance (Polizzi et al., 2020). These strategies are based on the understanding that attempting to resist or control emotions often leads to increased distress and emotional dysregulation. Instead, acceptance involves embracing emotions as they are, even if they are unpleasant, which can paradoxically reduce their intensity and impact. For example, someone feeling sad might practice acceptance by acknowledging their sadness, understanding that it is a natural emotional response, and allowing themselves to feel it without judgment or resistance.

These approaches are particularly beneficial for individuals with clinical disorders, as they help reduce the tendency to engage in maladaptive regulation strategies such as rumination and avoidance (Aldao et al., 2010). Rumination involves repetitively focusing on distressing thoughts and feelings, which can exacerbate emotional distress and contribute to conditions like depression and anxiety. Avoidance, on the other hand, involves efforts to escape from or ignore unpleasant emotions, which can prevent effective coping and lead to further emotional difficulties. Mindfulness and acceptance help individuals break these patterns by fostering a healthier relationship with their emotions (Strosahl & Robinson, 2017).

Mindfulness practices activate brain regions associated with self-regulation and emotional awareness, such as the anterior cingulate cortex (ACC) and insula, promoting greater emotional stability (Grecucci et al., 2015). The ACC is involved in monitoring and regulating attention, detecting conflicts, and managing emotional responses, making it a crucial player in emotional regulation. The insula is associated with interoceptive awareness, or the ability to sense internal bodily states, which is important for recognizing and understanding emotional experiences. By engaging these brain regions, mindfulness practices enhance individuals' capacity to regulate their emotions effectively.

Research has shown that regular mindfulness practice can lead to structural and functional changes in the brain, supporting better emotional regulation (Wheeler et al., 2017). For example, studies have found increased gray matter density in the ACC and insula among individuals who regularly practice mindfulness, suggesting enhanced neural connectivity and efficiency in these areas. These changes are associated with improved emotional stability, reduced reactivity to stress, and greater overall well-being.

In clinical practice, mindfulness and acceptance-based approaches are integrated into various therapeutic modalities, including Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-

Based Cognitive Therapy (MBCT). MBSR involves structured mindfulness practices, such as meditation and body scans, aimed at reducing stress and improving emotional regulation. MBCT combines mindfulness practices with cognitive therapy techniques to prevent relapse in individuals with recurrent depression. Both approaches have been shown to be effective in enhancing emotional regulation, reducing symptoms of anxiety and depression, and improving overall mental health (Salmon et al., 2011).

Suppression

In contrast, suppression is a behavioral strategy that involves inhibiting the outward expression of emotions (Sikka et al., 2022). This means that while an individual might feel strong emotions internally, they deliberately prevent these feelings from being visible to others. For example, someone might hide their anger during a conflict by maintaining a neutral facial expression and calm tone of voice, even though they are feeling highly agitated inside.

While suppression can be effective in certain short-term contexts, such as maintaining composure during a professional meeting or avoiding conflict in a volatile situation, it is generally regarded as maladaptive when used as a primary emotional regulation strategy (Cavicchioli et al., 2021). The chronic use of suppression tends to have several negative consequences. Physiologically, it is associated with increased arousal, including heightened heart rate and blood pressure, as the body continues to experience the suppressed emotion without the relief that typically comes from expressing it. This sustained arousal can strain the cardiovascular system and contribute to long-term health issues.

Psychologically, suppression can lead to elevated levels of anxiety, depression, and stress (Tyra et al., 2023). Because suppression involves pushing emotions away rather than dealing with them directly, it does not resolve the underlying emotional experience. Over time, this can lead to a build-up of unexpressed emotions, which may eventually manifest in more intense and uncontrolled ways. For instance, someone who consistently suppresses feelings of sadness might find that these feelings intensify and lead to bouts of depression, or someone who suppresses anger might experience sudden, explosive outbursts when they can no longer contain their feelings.

Research also suggests that suppression can have detrimental effects on social interactions and relationships (Butler et al., 2003). By not expressing emotions, individuals can appear distant or disengaged, which can hinder effective communication and connection with others. This can lead to misunderstandings and conflicts, as well as feelings of isolation and loneliness.

Furthermore, suppression can create a feedback loop where the effort to suppress emotions increases the intensity of those emotions (Gross & Levenson, 1993). The more an individual tries to avoid thinking about or feeling a particular emotion, the more attention they may inadvertently give it, making it harder to suppress. This paradoxical effect can exacerbate the very emotions the individual is trying to manage.

In clinical settings, addressing the reliance on suppression involves helping individuals develop more adaptive emotional regulation strategies. Therapies such as CBT and DBT emphasize the importance of recognizing, accepting, and expressing emotions in healthy ways (Fruzzetti et al., 2009). Clients are taught to identify their emotions, understand the context and triggers, and find constructive ways to express and cope with their feelings. This approach helps to reduce the physiological and psychological burdens associated with chronic suppression.

Emotion Dysregulation in Specific Psychological Disorders

If these strategies are not effectively applied, individuals may struggle more with emotion regulation, which can worsen the course of different psychological disorders.

Emotion dysregulation is a pervasive issue across a range of psychological disorders, each characterized by unique challenges and manifestations (Sharma & McClellan, 2021). Understanding how emotion dysregulation presents in these disorders is crucial for developing targeted interventions and improving patient outcomes. Emotion regulation plays a critical role in the onset and maintenance of various psychological disorders. Conditions such as anxiety, depression, post-traumatic stress disorder (PTSD), borderline personality disorder, and substance use disorders, among others, are often influenced by the individual's ability to effectively manage and regulate their emotions.

Anxiety and Depression

In anxiety and depressive disorders, emotion dysregulation often manifests as heightened emotional responses and difficulty returning to a baseline state after experiencing emotional arousal (Deckert et al., 2020). This means that individuals with these disorders frequently remain in a state of heightened emotional intensity long after the initial trigger has passed, making it challenging to regain emotional stability. For those with anxiety disorders, such as generalized anxiety disorder (GAD) and social anxiety disorder, this dysregulation is characterized by pervasive and intense fear and worry that are often disproportionate to any actual threat (Horenstein & Heimberg, 2020). These individuals are prone to maladaptive cognitive processes like catastrophizing, where they may interpret relatively minor events as disastrous, and hypervigilance, which involves an exaggerated state of alertness and constant scanning for potential threats. For instance, a person with social anxiety might view a small social blunder as catastrophic, triggering excessive anxiety and leading to avoidance behaviors to prevent future occurrences of such distress. In the context of depressive disorders, emotional dysregulation presents itself through persistent feelings of sadness, hopelessness, and a marked inability to experience pleasure, a condition known as anhedonia. These individuals often engage in ruminative thinking, a maladaptive cognitive process where they continually focus on their negative thoughts and feelings. This pattern of rumination not only exacerbates the symptoms of depression but also prolongs depressive episodes, making recovery more difficult (Blanke et al., 2022). Ruminative thinking traps individuals in a cycle of negativity, where their constant focus on distressing emotions and thoughts reinforces and deepens their depressive state.

Post-Traumatic Stress Disorder

PTSD presents another distinct profile of emotion dysregulation, characterized by a severe and persistent disturbance in the ability to manage emotional responses (Muñoz-Rivas et al., 2021). PTSD is marked by intense and overwhelming emotional reactions to trauma-related cues, which can include intrusive flashbacks, distressing nightmares, and severe anxiety that can be debilitating. Individuals with PTSD often find it extremely challenging to modulate their emotional responses, resulting in pronounced states of hyperarousal or emotional numbing (Giotakos, 2020). Hyperarousal in PTSD is manifested through symptoms such as chronic irritability, an exaggerated startle response to unexpected stimuli, and significant difficulty in concentrating on tasks. These individuals may feel constantly on edge, with their nervous system remaining in a heightened state of alertness as if they are perpetually prepared for danger. This constant state of hypervigilance can severely disrupt daily functioning and lead to an ongoing sense of being overwhelmed. Conversely, emotional numbing in PTSD involves a diminished capacity to experience positive emotions and an overall sense of emotional detachment from

others (Litz et al., 2002). Individuals may find it hard to connect with loved ones or feel joy, often reporting a sense of emptiness or alienation. This numbing effect serves as a defense mechanism to protect against the overwhelming pain of traumatic memories but also contributes to feelings of isolation and disconnection. These symptoms collectively reflect a disrupted balance in the brain's emotional regulation mechanisms. The brain of a person with PTSD remains stuck in a state of heightened alertness and hyperarousal, making it difficult to effectively down-regulate in response to trauma reminders. This imbalance prevents the brain from returning to a baseline state of calm after exposure to trauma-related stimuli, perpetuating a cycle of distress and emotional instability (Nicholson et al., 2023). Consequently, the constant state of heightened alertness and inability to modulate emotions effectively underscores the profound impact PTSD has on an individual's emotional and psychological well-being.

Borderline Personality Disorder

BPD is perhaps the most well-known for its association with severe emotion dysregulation, characterized by rapid and intense fluctuations in mood and emotional states (Mirkovic et al., 2021). Individuals with BPD often experience dramatic and sudden changes in their emotions, typically triggered by interpersonal stressors. These stressors could be real or perceived slights or rejections, which are often amplified in the minds of those with BPD, leading to disproportionately strong emotional reactions. These emotional swings can result in impulsive and sometimes dangerous behaviors, such as self-harm, substance abuse, and erratic patterns in relationships (Bell, 2004). For instance, in response to feelings of abandonment or rejection, a person with BPD might engage in self-injurious behaviors to cope with their overwhelming emotions or to express their distress. Substance abuse may be used as a form of self-medication to numb painful feelings or to escape from emotional turmoil. Additionally, their relationships tend to be intense and unstable, characterized by a pattern of idealizing others, followed by rapid devaluation. This pattern, known as "splitting," reflects the difficulty individuals with BPD have in maintaining a balanced view of themselves and others (Fertuck et al., 2018). The instability in mood and behavior seen in BPD is closely linked to significant challenges in regulating emotional intensity and duration. Patients with BPD may experience extreme emotional responses to seemingly minor events, especially those involving perceived rejection or abandonment. These responses can trigger episodes of intense anger, anxiety, or depression, which may last for hours or even days (Kreisman & Straus, 2021). Such episodes are often disproportionate to the actual events that trigger them, highlighting the difficulty BPD patients have in modulating their emotional responses. The chronic nature of these emotional fluctuations significantly impacts the daily functioning and overall quality of life of individuals with BPD. Their emotional instability often leads to frequent crises and conflicts, both in their personal and professional lives. The intensity and volatility of their emotions can make it difficult for them to maintain steady employment, form lasting relationships, and achieve a stable sense of self. As a result, individuals with BPD often feel misunderstood and isolated, further exacerbating their emotional distress and perpetuating a cycle of instability and emotional turmoil. The profound impact of these emotional difficulties underscores the importance of effective therapeutic interventions to help individuals with BPD develop more adaptive strategies for managing their emotions and improving their overall functioning and quality of life.

Substance Use Disorders

In substance use disorders, emotion dysregulation plays a central role in both the development and maintenance of the disorder, acting as both a trigger and a perpetuating factor (Darharaj et al., 2023). Many individuals turn to substances such as alcohol, drugs, or prescription medications to manage or escape from overwhelming and distressing emotions. This self-medication hypothesis suggests that

individuals use substances to alleviate feelings of anxiety, depression, anger, or other negative emotional states that they find difficult to cope with otherwise. However, the use of substances often leads to a vicious cycle of dependency and further emotional dysregulation. Initially, substances may provide temporary relief from emotional pain, offering a fleeting sense of calm or euphoria. This temporary alleviation can reinforce the behavior, making individuals more likely to continue using substances to manage their emotions. Over time, this can lead to the development of tolerance, where increasingly larger amounts of the substance are needed to achieve the same effect, and eventually, dependence, where the body requires the substance to function normally (Garland et al., 2020). The consequences of substance use extend beyond the immediate effects of the substances themselves. Withdrawal symptoms, which can include severe anxiety, depression, irritability, and physical discomfort, often occur when the effects of the substance wear off (Fertuck et al., 2018). These withdrawal symptoms can significantly exacerbate emotional instability, creating a powerful drive to use the substance again to alleviate the discomfort. This cycle of relief followed by withdrawal and craving perpetuates the disorder, making it incredibly difficult for individuals to break free from substance use without appropriate intervention. Moreover, the lifestyle and consequences associated with substance use, such as legal issues, financial problems, strained relationships, and health complications, can further contribute to emotional distress (Orford et al., 2013). The stress and negative affect associated with these issues frequently act as emotional triggers that precipitate relapse. For instance, a person who is trying to abstain from substance use might encounter a stressful situation, such as a conflict at work or a personal loss, which triggers intense negative emotions. Without effective emotional regulation strategies, the individual may revert to substance use as a coping mechanism. This intricate interplay between emotion dysregulation and substance use underscores the importance of interventions that address underlying emotion regulation deficits. Effective treatment approaches often incorporate strategies to enhance emotion regulation skills, helping individuals develop healthier ways to manage their emotions without resorting to substances. CBT is commonly used to help individuals identify and challenge maladaptive thought patterns and develop more adaptive coping strategies (Greimel & Kröner-Herwig, 2011). Mindfulness-based interventions can also be beneficial, as they teach individuals to observe and accept their emotions without judgment, reducing the impulse to escape from negative feelings through substance use (Chiesa & Serretti, 2014). Additionally, treatments may include building resilience and stress management techniques, improving interpersonal skills, and addressing any co-occurring mental health conditions that contribute to emotion dysregulation. By focusing on these underlying issues, interventions can help individuals achieve long-term recovery and improve their overall emotional and psychological well-being. This holistic approach is essential for breaking the cycle of dependency and supporting sustained sobriety and emotional health.

Addressing emotion dysregulation in these disorders involves understanding the specific patterns and mechanisms that contribute to each condition. For example, in anxiety and depression, cognitive-behavioral strategies that focus on modifying maladaptive thought patterns can be particularly effective (Leahy et al., 2022). In PTSD, trauma-focused therapies that incorporate techniques for managing hyperarousal and reprocessing traumatic memories are essential (Lee et al., 2022). For BPD, DBT offers a comprehensive approach that includes skills training in emotional regulation, distress tolerance, and interpersonal effectiveness (Schaich et al., 2021). In substance use disorders, interventions that combine behavioral therapies with strategies for managing emotional triggers and building healthier coping mechanisms are critical. By tailoring therapeutic approaches to the specific emotion dysregulation profiles of different disorders, clinicians can more effectively support individuals in managing their emotions and improving their overall mental health. This nuanced understanding of emotion dysregulation across psychological disorders underscores the importance of personalized treatment plans that address the unique challenges faced by each patient.

Therapeutic Interventions Targeting Emotional Regulation

Enhancing emotion regulation skills is a central goal in many therapeutic interventions, particularly for individuals with psychological disorders characterized by emotional dysregulation. Various therapeutic approaches have been developed to target emotional regulation, each drawing on different theoretical frameworks and techniques to help individuals manage their emotions more effectively (Berkling et al., 2008). These interventions include Dialectical Behavior Therapy (DBT), Acceptance and Commitment Therapy (ACT), Cognitive Behavioral Therapy (CBT), Mindfulness-Based Interventions, and pharmacological treatments, each offering unique strategies for enhancing emotional regulation.

Dialectical Behavior Therapy

DBT is one of the most well-established and effective interventions specifically designed to address emotion dysregulation. Originally developed by Marsha Linehan in the late 1980s for treating individuals with BPD (Linehan & Wilks, 2015), DBT has since been adapted for use with a variety of other mental health conditions characterized by severe emotional instability (Chapman, 2006).

DBT is unique in its combination of cognitive-behavioral techniques and mindfulness practices. It is structured around four key areas, each targeting a specific aspect of emotional and behavioral functioning: mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness. Mindfulness is a core component of DBT, involving teaching clients to focus on the present moment and become more aware of their thoughts, feelings, and sensations without judgment (Baer & Krietemeyer, 2006). Mindfulness practices help individuals observe their experiences as they occur, promoting a greater sense of control and reducing impulsive reactions. By staying present, clients can more effectively manage their emotions and behaviors. Distress tolerance which is crucial for managing high-stress moments when the impulse to engage in harmful behaviors is strongest equips clients with skills to tolerate and survive crises without resorting to self-destructive behaviors (Van Dijk et al., 2023). Techniques such as self-soothing, distraction, and radical acceptance help individuals endure intense emotions and situations. The emotion regulation module teaches clients skills for identifying and labeling their emotions accurately, understanding the function of their emotions, and reducing their vulnerability to negative emotional states. Clients learn strategies to manage their emotional intensity, such as opposite action, where they engage in behaviors contrary to what their emotions urge them to do (e.g., approaching a feared situation rather than avoiding it).

Another technique, accumulating positive emotions, involves building a life worth living by participating in activities that bring joy and satisfaction, thus enhancing overall emotional well-being. Interpersonal effectiveness focuses on helping clients develop skills to navigate relationships more effectively. It includes techniques for assertiveness, maintaining self-respect, and building healthy relationships (Dimidjian & Linehan, 2008). Clients learn how to communicate their needs and set boundaries while maintaining positive connections with others, which is essential for reducing interpersonal conflicts and fostering supportive relationships.

Research has consistently shown that DBT significantly reduces symptoms of emotion dysregulation and improves overall functioning in individuals with BPD and other disorders. Studies have demonstrated that DBT can lead to reductions in self-harm behaviors, suicidal ideation, and hospitalizations, as well as improvements in mood, social functioning, and quality of life. The effectiveness of DBT is attributed to its comprehensive and multifaceted approach, which addresses the complex interplay of emotional, cognitive, and behavioral factors that contribute to emotion dysregulation. Furthermore, the adaptability of DBT has allowed it to be successfully applied to a range

of other conditions, including eating disorders, substance use disorders, PTSD, and mood disorders (Ritschel et al., 2015). This flexibility makes DBT a valuable therapeutic option for many individuals struggling with severe emotional and behavioral challenges. By providing clients with practical and evidence-based skills, DBT empowers them to manage their emotions more effectively, improve their relationships, and enhance their overall quality of life.

Acceptance and Commitment Therapy

ACT is another therapeutic approach that emphasizes emotion regulation through acceptance and mindfulness strategies, making it particularly effective in managing a variety of psychological conditions (Hayes et al., 1999). ACT encourages individuals to embrace their emotional experiences without judgment, which fosters a non-reactive and open stance towards their thoughts and feelings (Webb, 2023). By promoting acceptance, ACT helps clients to stop avoiding or struggling against their emotions and instead to observe them as they are. This approach is coupled with a commitment to engage in actions that are aligned with one's personal values, thus facilitating meaningful and purpose-driven living. The core objective of ACT is to develop psychological flexibility, which is the ability to stay present and fully engaged in life activities despite experiencing difficult emotions (Kashdan & Rottenberg, 2010). Psychological flexibility allows individuals to adapt to changing circumstances and to handle stress more effectively, without becoming overwhelmed by their internal experiences. This is achieved through a set of six interconnected processes: acceptance, cognitive defusion, being present, self-as-context, values, and committed action. ACT techniques include cognitive defusion, which involves helping individuals to see their thoughts as just thoughts, rather than as absolute truths that dictate their behavior (Harris, 2019). This technique reduces the power of negative thoughts by encouraging a more detached and observational stance. For instance, rather than thinking "I am a failure," a person might learn to think "I am having the thought that I am a failure," which diminishes the thought's emotional impact.

Acceptance exercises are another key component of ACT, teaching individuals to fully experience their emotions without trying to change or avoid them. These exercises often involve mindfulness practices, such as focusing on the breath or engaging in body scans, to cultivate a sense of awareness and presence. By learning to sit with their emotions, individuals can reduce the struggle against their internal experiences and increase their capacity to cope with distress. Values clarification is a process in ACT where clients identify what is most important to them in life, such as relationships, career, or personal growth (Kirschenbaum, 2013). This clarity about values provides a direction for behavior, helping individuals to make choices that are consistent with their values, even in the face of emotional challenges. Committed action involves setting specific goals and taking actionable steps towards these values, reinforcing a sense of purpose and fulfillment.

Studies indicate that ACT is effective in reducing symptoms of anxiety, depression, and other forms of emotional distress by promoting greater emotion regulation and psychological flexibility. Research has shown that individuals undergoing ACT experience significant improvements in their ability to manage stress, reduce avoidance behaviors, and increase overall psychological well-being (Flaxman et al., 2013). For example, in cases of anxiety, ACT helps individuals confront and accept their fears, rather than avoiding them, which leads to a decrease in anxiety symptoms over time. Similarly, for depression, ACT's emphasis on values and committed action can help individuals to re-engage with life and find motivation and meaning, counteracting feelings of hopelessness and inactivity. Overall, ACT's integrative approach, which combines acceptance, mindfulness, and commitment to values-based living, offers a robust framework for enhancing emotion regulation and psychological resilience (Hope-Bell, 2022). By fostering a more accepting and proactive stance towards emotional experiences, ACT

helps individuals navigate life's challenges with greater ease and purpose, ultimately leading to improved mental health and quality of life.

Cognitive Behavioral Therapy

CBT is a widely used and empirically supported intervention that addresses emotion regulation by targeting and modifying maladaptive thought patterns and behaviors (Boswell, 2013). CBT operates on the principle that our thoughts, feelings, and behaviors are interconnected, and that by changing unhelpful thoughts and behaviors, we can improve our emotion regulation skills and overall mental health (Roth et al., 2002). One of the key components of CBT is cognitive restructuring, which involves helping clients identify and challenge distorted cognitions that contribute to emotion dysregulation. Distorted cognitions, such as catastrophizing (exaggerating the negative consequences of an event) or overgeneralization (drawing broad, negative conclusions based on a single incident), can lead to intense and often inappropriate emotional responses. For instance, a person who catastrophizes might believe that failing a single exam means they are doomed to fail in life, leading to feelings of despair and anxiety. In CBT, therapists work with clients to recognize these irrational thoughts, evaluate their validity, and replace them with more realistic and balanced perspectives (Shea, 2014). This process helps clients alter their emotional responses and develop healthier coping mechanisms.

Behavioral techniques are another critical aspect of CBT. These techniques are designed to change unhelpful behaviors that contribute to emotion dysregulation. For example, exposure therapy is commonly used to treat anxiety disorders. In exposure therapy, clients gradually and systematically confront their fears in a controlled and safe environment. This process helps individuals face and manage their emotional reactions to feared situations, reducing their anxiety over time. By repeatedly exposing themselves to the source of their fear without experiencing the anticipated negative outcomes, clients learn that their anxiety decreases and becomes more manageable (Craske et al., 2006). This behavioral change helps to break the cycle of avoidance and fear that perpetuates anxiety disorders. CBT is also effective in treating depression by addressing the negative thought patterns and behaviors that sustain depressive symptoms. Depressed individuals often engage in negative self-talk and maintain a pessimistic outlook on their lives and future. CBT helps these individuals identify these patterns, challenge their validity, and replace them with more positive and realistic thoughts. Additionally, behavioral activation, a CBT technique for depression, encourages clients to engage in activities that they once found pleasurable or meaningful. This re-engagement with positive activities can help lift the mood and counteract the inactivity and withdrawal common in depression.

The effectiveness of CBT in improving emotional regulation has been demonstrated across a range of psychological disorders, including anxiety, depression, and PTSD (Moltrecht et al., 2021). For example, in the treatment of PTSD, CBT helps clients process traumatic memories and reduce the distress associated with them. Techniques such as cognitive restructuring help clients challenge and change the dysfunctional beliefs that stem from the trauma, while exposure therapy helps them gradually face and reduce the trauma-related anxiety. Overall, CBT provides a structured and evidence-based approach to enhancing emotion regulation. By addressing the cognitive and behavioral components of emotional responses, CBT equips individuals with practical skills to manage their emotions more effectively (Wright et al., 2017). Clients learn to identify and alter maladaptive thought patterns, confront and change unhelpful behaviors, and develop healthier coping strategies. These skills contribute to long-term improvements in emotion regulation and overall mental health, making CBT a valuable and versatile therapeutic intervention for a wide range of emotional and psychological issues.

Mindfulness-Based Interventions

Mindfulness-Based Interventions, including Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT) have gained significant prominence for their effectiveness in enhancing emotional regulation (Teper et al., 2013). These interventions are designed to cultivate mindfulness, which involves paying deliberate attention to the present moment with an attitude of openness, curiosity, and acceptance. By doing so, mindfulness helps individuals develop a greater awareness of their thoughts, feelings, and bodily sensations, without becoming overwhelmed or excessively reactive to them.

MBSR, developed by Jon Kabat-Zinn, incorporates mindfulness practices such as focused breathing, body scans, and mindful movement (Santorelli et al., 2017). Focused breathing exercises involve paying close attention to the breath as it moves in and out of the body, which helps anchor the mind and reduce distractions from external stressors. Body scans involve systematically paying attention to different parts of the body, noticing any sensations without judgment. This practice promotes a sense of bodily awareness and relaxation. Mindful movement, such as gentle yoga or walking meditation, integrates physical movement with mindfulness, encouraging a connection between the mind and body. Through these practices, MBSR participants learn to observe their thoughts and emotions as transient experiences, rather than as fixed or overwhelming realities.

MBCT, developed by Zindel Segal, Mark Williams, and John Teasdale, combines the principles of mindfulness with cognitive therapy techniques (Segal et al., 2018). It specifically targets individuals with recurrent depression, aiming to prevent relapse by teaching them how to respond more adaptively to stress and negative emotions. MBCT involves similar mindfulness practices as MBSR, but it also includes cognitive therapy elements such as identifying negative thought patterns and learning to relate to them differently. For example, individuals are taught to recognize the early signs of depressive relapse and to apply mindfulness techniques to observe these thoughts and feelings without judgment, thereby breaking the cycle of rumination that often leads to relapse. Mindfulness practices help individuals develop a heightened sense of awareness and acceptance of their present experiences (Garland et al., 2015). By observing their thoughts and emotions without immediate reaction, individuals can create a space between their experiences and their responses. This space allows for a more balanced and measured approach to emotions, fostering greater emotional stability and reducing the likelihood of being overwhelmed by negative feelings. For instance, during moments of stress or anxiety, mindfulness practices enable individuals to acknowledge their emotions without getting caught up in them, leading to more effective coping and reduced emotional reactivity.

Research has shown that both MBSR and MBCT are effective in enhancing emotional regulation and overall mental well-being (Googhari et al., 2022). MBSR has been found to reduce symptoms of anxiety, stress, and depression, improve sleep quality, and enhance overall quality of life. Participants in MBSR programs often report feeling more resilient and better able to manage daily stressors (Zhang et al., 2019). MBCT, on the other hand, has been particularly effective in preventing relapse in individuals with recurrent depression. Studies have demonstrated that MBCT significantly reduces the risk of depressive relapse by helping individuals develop a mindful awareness of their thoughts and emotions, enabling them to respond more adaptively to stress and emotional challenges.

In addition to these established therapies, other interventions are being developed and refined to target specific aspects of emotion regulation. For example, Emotion-Focused Therapy (EFT) emphasizes the importance of understanding and processing emotions to facilitate healing and personal growth. EFT techniques include accessing and expressing core emotions, exploring unmet emotional needs, and

transforming maladaptive emotional responses into healthier ones. Research on EFT has shown positive outcomes in improving emotion regulation and reducing symptoms of depression and anxiety.

Pharmacological Treatments

Pharmacological treatments can also play a crucial role in enhancing emotion regulation, particularly when they are combined with psychotherapy (Otto et al., 2010). Medications are often prescribed to address the neurobiological aspects of emotion dysregulation, helping to stabilize mood and improve overall emotional functioning. By modulating the brain's chemical environment, these treatments can provide a more stable foundation for individuals to benefit from psychotherapeutic interventions.

One of the most commonly used classes of medications in the treatment of emotion dysregulation are SSRIs. SSRIs, such as fluoxetine (Prozac), sertraline (Zoloft), and citalopram (Celexa), work by increasing the levels of serotonin in the brain (Ogata et al., 2019). Serotonin is a neurotransmitter that plays a key role in mood regulation, anxiety, and overall emotional balance. By preventing the reuptake of serotonin into neurons, SSRIs enhance its availability in the synaptic cleft, thereby improving communication between neurons and stabilizing mood. This can help reduce symptoms of depression, anxiety, and other mood disorders, allowing individuals to better manage their emotions and engage more effectively in psychotherapy.

Mood stabilizers are another important class of medications used to enhance emotion regulation, particularly in individuals with bipolar disorder and other conditions characterized by mood swings (Altamura et al., 2011). Medications such as lithium, valproate (Depakote), and lamotrigine (Lamictal) help to balance the extremes of mood by influencing various neurotransmitter systems and neural pathways. Lithium, for example, affects the flow of sodium through nerve and muscle cells, which impacts mood regulation and stabilizes mood fluctuations (Vosahlikova & Svoboda, 2016). Valproate and lamotrigine work by affecting the levels of certain neurotransmitters and modulating neural excitability, which can help prevent the extreme highs (mania) and lows (depression) associated with bipolar disorder.

In addition to SSRIs and mood stabilizers, other classes of medications may also be used to address specific aspects of emotion dysregulation. For instance, atypical antipsychotics such as aripiprazole (Abilify) and quetiapine (Seroquel) can be effective in managing mood swings and emotional instability in conditions like bipolar disorder and schizoaffective disorder (Noel & Jackson, 2020). These medications work by affecting dopamine and serotonin receptors in the brain, helping to regulate mood and reduce symptoms such as agitation and emotional volatility.

When combined with psychotherapy, pharmacological treatments can enhance the overall effectiveness of treatment for emotion dysregulation (Lenzi et al., 2018). Medications can help alleviate the intense emotional symptoms that might otherwise interfere with an individual's ability to participate fully in therapy. For example, an individual experiencing severe depression may find it challenging to engage in CBT due to low energy, poor concentration, and pervasive negative thinking (Roepke & Seligman, 2016). By alleviating these symptoms through the use of antidepressants, the individual may become more receptive to the cognitive and behavioral strategies taught in CBT.

Similarly, in conditions like PTSD, medications can help manage symptoms such as hyperarousal, anxiety, and intrusive thoughts, providing a calmer mental state that allows for more effective engagement in trauma-focused therapies like prolonged exposure therapy or eye movement desensitization and reprocessing (EMDR) (Valiente-Gómez, 2017). In the context of BPD, mood

stabilizers and antipsychotic medications can help reduce emotional intensity and impulsivity, making it easier for individuals to benefit from therapies like DBT.

Overall, the integration of pharmacological treatments with psychotherapy offers a comprehensive approach to enhancing emotion regulation. Medications address the neurobiological mechanisms underlying emotion dysregulation, providing a more stable foundation for therapeutic work. By alleviating severe emotional symptoms, pharmacological treatments enable individuals to engage more fully and effectively in psychotherapy, ultimately leading to improved emotional regulation and better mental health outcomes (Emmelkamp et al., 2014). This combined approach underscores the importance of personalized treatment plans that consider both biological and psychological factors in the management of emotional dysregulation.

Overall, these therapeutic interventions demonstrate the importance of a comprehensive approach to emotion regulation that integrates cognitive, behavioral, and mindfulness-based strategies. By tailoring interventions to the specific needs and challenges of individuals, clinicians can more effectively support clients in developing the skills necessary for managing their emotions and improving their mental health. The ongoing refinement of these therapies, informed by advances in research and clinical practice, promises to enhance our ability to address emotion dysregulation and promote psychological well-being across diverse populations.

Emotion dysregulation is a common issue in many psychological disorders, including anxiety, depression, PTSD, borderline personality disorder, and substance use disorders. People with these conditions often struggle to manage their emotions, which can make their symptoms worse and impact their daily lives. Understanding how emotion dysregulation plays a role in these disorders is important for creating better treatments that can help people feel better and improve their mental health.

To address emotion dysregulation, several therapeutic approaches have been developed, each with its own unique methods. These include Dialectical Behavior Therapy (DBT), Acceptance and Commitment Therapy (ACT), Cognitive Behavioral Therapy (CBT), Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), and even medications. These treatments use different techniques, like mindfulness, cognitive restructuring, and behavioral changes, to help people better manage their emotions and improve their overall well-being.

Challenges and Future Directions

Addressing emotion dysregulation in clinical populations presents several challenges, both in terms of understanding the underlying mechanisms and in developing effective interventions. Despite significant progress, there remain numerous areas where further research and innovation are needed to improve outcomes for individuals struggling with emotion regulation.

One major challenge in addressing emotion dysregulation is the complexity and variability of its manifestations across different psychological disorders. Emotion dysregulation presents itself in unique ways depending on the specific disorder, making it essential to tailor interventions to meet the needs of each condition. This variability complicates the development of universal interventions and necessitates a deeper understanding of the disorder-specific mechanisms that drive emotion dysregulation.

Given the diverse manifestations of emotion dysregulation across these disorders, developing interventions that are flexible and adaptable to individual needs remains a critical goal. For example, cognitive reappraisal, a strategy where individuals change their interpretation of a situation to alter its

emotional impact, might be highly effective for individuals with depression. This technique can help them challenge and change their negative thought patterns, thereby improving their mood and reducing depressive symptoms. However, for individuals with PTSD, grounding techniques that help manage hyperarousal may be more beneficial. Grounding techniques involve using sensory experiences to anchor individuals in the present moment, helping them to feel more connected to the here and now and reducing the intensity of their traumatic responses.

Another challenge lies in the accurate assessment and measurement of emotion regulation. Current assessment tools, while valuable, have limitations such as reliance on self-report, which can be biased by individuals' perceptions and willingness to disclose their emotional experiences. Behavioral tasks and physiological measures provide more objective data but can be resource-intensive and may not fully capture the complexity of real-world emotion regulation. Innovative approaches like EMA offer promise but also present practical challenges, such as ensuring participant compliance and managing large volumes of data. Advances in assessment technology and methodology are needed to develop more comprehensive and accurate tools for evaluating emotion regulation.

The integration of technology in therapeutic interventions presents both opportunities and challenges. Digital health interventions, including mobile apps and online therapy platforms, offer scalable solutions for delivering emotion regulation strategies to a broad audience. These tools can provide real-time support and feedback, enhancing accessibility and convenience. However, the effectiveness of digital interventions varies, and ensuring that these tools are evidence-based and tailored to individual needs is crucial. Moreover, digital interventions must address issues of user engagement and adherence, which can impact their overall effectiveness.

Research on the neurobiological mechanisms of emotion regulation continues to advance, yet translating these findings into clinical practice remains a challenge. While neuroimaging studies have identified key brain regions and pathways involved in emotion regulation, applying this knowledge to develop targeted interventions requires further exploration. Techniques such as neurofeedback, which trains individuals to modulate their brain activity, hold promise but require more robust evidence and practical implementation strategies. Bridging the gap between neurobiological research and clinical application is essential for developing more precise and effective treatments.

Cultural and social factors also play a significant role in emotion regulation, influencing how emotions are experienced, expressed, and managed. Cross-cultural research has highlighted variations in emotion regulation strategies and outcomes, indicating that cultural context must be considered in both assessment and intervention. Developing culturally sensitive approaches that respect and integrate diverse emotion regulation practices is crucial for ensuring the effectiveness of therapeutic interventions across different populations.

In addition to cultural factors, individual differences such as gender, family practices, social support, socioeconomic status (SES), and education should also be considered, as these factors can significantly influence emotion regulation and its outcomes. Evaluating these individual factors is essential for tailoring interventions to meet the specific needs of diverse individuals.

Future research should also focus on the long-term outcomes of emotion regulation interventions. While many studies demonstrate short-term benefits, understanding the sustainability of these effects over time is critical. Longitudinal studies that track individuals' emotion regulation and psychological well-being over extended periods can provide valuable insights into the enduring impact of various interventions. Additionally, exploring the mechanisms that contribute to the maintenance of improved

emotion regulation skills can inform the development of booster sessions or follow-up interventions to support long-term success.

Emerging trends in personalized medicine and precision psychiatry offer exciting opportunities for advancing emotion regulation interventions. By leveraging genetic, neurobiological, and psychological data, personalized approaches can be developed to tailor interventions to the unique profiles of individuals. This approach can enhance the specificity and effectiveness of treatments, improving outcomes for those with emotion dysregulation.

Conclusion

Emotion regulation is a multifaceted construct that plays a critical role in psychological well-being and mental health. It encompasses the processes by which individuals manage their emotional experiences and responses to meet the demands of their environment. Effective emotion regulation allows individuals to cope with stress, maintain healthy relationships, and achieve personal and professional goals. Conversely, difficulties in emotion regulation are associated with a range of psychological disorders, contributing to significant distress and impairment.

This review has highlighted the various dimensions of emotion regulation, from its theoretical underpinnings to the neurobiological mechanisms involved, the diverse strategies used by individuals, and the manifestation of emotion dysregulation in specific psychological disorders. It has also examined the tools and methods used to assess emotion regulation and evaluated the therapeutic interventions designed to enhance emotion regulation skills in clinical populations.

ore the long-term outcomes of emotion regulation interventions, understanding the sustainability of these effects over time. Longitudinal studies that track individuals' emotion regulation and psychological well-being over extended periods can provide valuable insights into the enduring impact of various interventions. Additionally, exploring the mechanisms that contribute to the maintenance of improved emotion regulation skills can inform the development of booster sessions or follow-up interventions to support long-term success.

Emerging trends in personalized medicine and precision psychiatry offer exciting opportunities for advancing emotion regulation interventions. By leveraging genetic, neurobiological, and psychological data, personalized approaches can be developed to tailor interventions to the unique profiles of individuals. This approach can enhance the specificity and effectiveness of treatments, improving outcomes for those with emotion dysregulation.

Looking ahead, future research should focus on (1) developing more sophisticated, real-time assessment tools—such as Ecological Momentary Assessment and digital interventions—to capture the fluidity of emotion regulation, (2) refining theoretical models to better account for individual and cultural variability, and (3) enhancing intervention strategies like biofeedback mechanisms. Additionally, interdisciplinary collaboration across psychology, neuroscience will be essential in advancing both theoretical understanding and practical applications.

By synthesizing existing knowledge and identifying critical gaps, this review contributes to the advancement of emotion regulation research. Rather than merely summarizing prior work, it provides a roadmap for future inquiry, emphasizing the need for integrative, personalized, and scalable solutions. Ultimately, deepening our understanding of emotion regulation will not only refine theoretical

frameworks but also lead to more effective interventions, improving mental health outcomes on a broader scale.

In summary, while significant strides have been made in understanding and addressing emotion dysregulation, numerous challenges remain. Ongoing research, innovation, and collaboration across disciplines are essential for developing more effective, personalized, and culturally sensitive interventions. By addressing these challenges and exploring future directions, the field can continue to advance, ultimately improving the lives of individuals struggling with emotion regulation difficulties. This ongoing effort to refine our understanding and treatment of emotion dysregulation will contribute to better mental health outcomes and an improved quality of life for those affected by psychological disorders.

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The Mind-Mindedness: Is It a Construct that Shapes Theory of Mind?

Zihin Yönelimliliği: Zihin Kuramını Şekillendiren Bir Kavram mıdır?

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Abstract

Mind-mindedness refers to the caregivers' ability to be sensitive to the cognitive and emotional states of their children. It may also pertain to the extent to which caregivers are able to accurately perceive the behavior of their infants and children. Mind-mindedness is operationalized through the assessment of remarks made by individuals regarding the behavior of infants, distinguishing between those that are pertinent and those that are not. In that context, infants' comprehension, and engagement with their environment through their caregivers is the basis for their cognitive development. It is widely reported that the mind-mindedness of caregivers, especially of mothers is positively correlated with children's cognitive abilities such as linguistic abilities, symbolic play, executive functions, and/or theory of mind. In this review paper, it is aimed to provide a summary of the definition and the measurement of mind-mindedness within the scope of recent studies focusing theory of mind and cognitive development of children. Since the concept has not been examined vastly in diverse cultural contexts yet, and it is not as popular as it should be among the social scientists and practitioners, it is vital to be aware of this relatively new construct.

Keywords: Mind-Mindedness, Theory of Mind, Mothers, Infancy, Cognitive Development.

Öz

Zihin-yönelimliliği, annelerin çocuklarının bilişsel ve duygusal durumlarına duyarlı ve ilgili tepki verme becerilerini ifade eden ve annelerin bebeklerinin davranışlarını doğru bir şekilde algılayabilme derecesiyle de ilişkili olan bir kavramdır. Yetişkinlerin, bebeklerin davranışlarıyla ilgili yaptıkları yorumların değerlendirilmesi yoluyla tanımlanan zihin yönelimliliği, gerçekten bebekle ilgili ve yerinde olan çıkarımlar ile ilişkili olmayanlar üzerinden değerlendirilir. Bu bağlam içerisinde, bebeklerin anneleri aracılığıyla çevreleriyle anlam ve etkileşim kurmaları, bilişsel gelişimlerinin temelini oluşturmaktadır. Annelerin zihin-yönelimliliğinin, çocukların zihin kuramı, yönetici zihinsel işlevler, sembolik oyun ve/veya dil becerileri gibi bilişsel yetenekleriyle pozitif yönlü ilişkili olduğu yapılan araştırmalar kapsamında raporlanmıştır. Bu derleme makalesinde, son yıllarda yapılan zihin kuramına ve bebeklerin bilişsel gelişim özelliklerine odaklanan çalışmalar incelenerek, zihin-yönelimliliğinin tanımı ve ölçümüne dair kısa bir özet sunulması ve zihin-yönelimliliğinin zihin kuramı üzerinden kavramsallaştırılması amaçlanmıştır. Zihin-yönelimliliğinin oldukça yeni bir kavram olduğunun göz önünde bulundurulması ve farklı kültürel bağlamlarda incelenmesi oldukça önemlidir. Buna ek olarak, zihin yönelimliliğinin hem ebeveynler hem sosyal bilimciler hem de uygulayıcılar tarafından dikkate alınarak, çocukların bilişsel becerilerinin üzerindeki etkisinin incelenmesi kritiktir.

Anahtar Kelimeler: Zihin-Yönelimliliği, Zihin Kuramı, Annelik, Bebeklik Dönemi, Bilişsel Gelişim.

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The Mind-Mindedness: Is It a Construct that Shapes Theory of Mind?

A developing child is capable of teaching new skills to those who are around as well as learning from their environment. In this two-way process, the communication between the child and the primary caregiver—usually the mother—have high importance in every step of life, including cognitive development. The development of cognition has been widely studied in various aspects, such as the theory of mind, social understanding, language, and memory, in infants and adults. However, rather than concepts, current research trends lead us into the different dynamics of those skills, focusing on how and why these dynamics engage in cognitive development.

One of the ascending segments of research in cognitive development is mind-mindedness. It is defined as maternal preference and ability to be attuned to her baby's mental status (Colonnese et al., 2017; McMahon et al., 2016). Mind-mindedness is mothers' acknowledgement and acceptance that their baby is an individual with an independent mind (Easterbrooks et al., 2017; Fernyhough, 2011). In this manner, it allows mothers to interpret their babies' behaviors in a cognitive manner (Arnott & Meins, 2008). Previous studies defined mind-mindedness as either an inherently verbal behavior where mothers make verbal comments about a baby's mental status and activities (Bernier et al., 2017) or mothers' state of mind referring to their understanding of infants' mental state with infant-directed terms (Milligan et al., 2015). Mind-minded mothers tend to see their babies as interactive agents with independent thoughts and feelings (Wang et al., 2017).

The research focusing on mind-mindedness reports that this construct is highly related to attachment between the primary caregiver and the infant, and cognitive development including theory of mind, language abilities and executive functions of the child. Hence, it is important to comprehend this construct to support the development. From this perspective, this review aims to focus on maternal mind-mindedness as a fundamental basis for cognitive development of their children. The lack of culturally focused research on mind-mindedness brings the need of clarification to define this behavior within the scope of current article, and to clarify measuring methods. In addition, although many studies have structured mind-mindedness in relation to cognitive development of children, to the best of our knowledge, there is no other review solely focusing on mind-mindedness as the construct that shapes theory of mind. At this point, it is also important to preserve the developmental psychology perspective and reflect its principles. Hence, this review holds an important position to define mind-mindedness, re-evaluate the current perspective, and offer suggestions for forthcoming research.

Coding Mind-Mindedness

Prior to evaluating the relationship between mind-mindedness and developmental outcomes, it is essential to measure it with proper definitions and boundaries (Meins & Fernyhough, 2015). In their significant works over the years, Meins and colleagues on mind-mindedness opened up a new field along with a contribution of the "Mind-Mindedness Coding Manual" with many collaborators (see Arnott & Meins, 2008; Bernier et al., 2017; Colonnese et al., 2017; Costantini et al., 2017; Farrow & Blissett, 2014; Fishburn, et al., 2017; Hughes et al., 2017; Kirk et al., 2015; Laranjo et al., 2014; McMahon et al., 2016; Wang et al., 2017). This manual sees mind-mindedness as a construct and measure of maternal mentalization involving mothers' speech (Bigelow et al., 2015). Parental mind-mindedness can exist at every stage of life, but its measurement depends on children's interaction abilities, mainly because of language development. That is why mind-mindedness can be measured in two different ways according to the age of the child (Hughes et al., 2017). Measuring mind-mindedness

can either be observation-based or describe-your-child assessment. In both methods, all the comments are coded according to the coding system.

'Offline' or 'representational' measures of mind-mindedness include only parents' descriptions of their children as an answer to the question of 'Can you describe [child] for me?' The answer is coded according to whether it refers to mental, physical, behavioral, or general attributes of the child (Meins & Fernyhough, 1999). For studying preschool children, offline measures are more suitable than online measures (Hughes et al., 2017). On the other hand, online measures of mind-mindedness include mind-related comments on a child's mental state (Meins et al., 2001). It is measured within play sessions and obtained by coding appropriate or non-attuned comments of parents about their child's mental state (Meins & Fernyhough, 2015).

In both methods, the coding system consists of three sections: (1) mind-related comments; (2) comments that might or might not be mind-related; and (3) comments that are not mind-related. Mind-related comments consist of cognitions, epistemic states, emotions, desires, and preferences and talking on the infants' behalf. The comments that might or might not be mind-related are physical characteristics, comments including definitive adjectives, and intentions. Lastly, not mind-related comments include perception, saying or talking, and non-specific references to infants' mental states. Once all conversations and sentences are transcribed verbatim and all comments are identified, those comments are classified as appropriate or non-attuned in the next step. Online mind-mindedness, referring to comments about children's mental state, shows a moderate correlation with offline measures of mind-mindedness, which is basically describing the child (Meins et al., 2003). Moreover, both indicators of mind-mindedness have been found to be associated with the ability to understand others' mental states along with many other developmental aspects (Laranjo et al., 2014; Lundy, 2013; Meins et al., 1998; Hughes et al., 2017).

Mind-Mindedness from Developmental Psychology Perspective

The research focusing on mind-mindedness reports that this skill is related to many different aspects of development and relationships (Fernyhough, 2011). Researchers began to understand those dynamics during pregnancy. It is known that although babies in the womb have not been born yet, their development starts there and continues throughout their lives. From this perspective, the relationship between mother and child is significant in terms of the child's cognitive and social development, which is why being mind-minded should be evaluated as early as in pregnancy. For instance, in a study, mothers were asked to think about their unborn babies in the sixth month of pregnancy. After the babies were born, the mother and child had a play session where they could talk to each other freely. Those conversations were transcribed and coded in terms containing explicit mental terms about their babies. It was found that mothers who predicted more details about their unborn babies' characteristics were more likely to show mind-minded behavior to their infants (Arnott & Meins, 2008). Research by McMahon and colleagues (2016) has also shown that maternal-fetal attachment in the third trimester of pregnancy predicts maternal mind-mindedness at both 7 and 19 months of age. These findings indicate that maternal mind-mindedness is a behavior that starts to evolve during pregnancy and continues through infancy. In addition, it has been reported that these abilities help mothers have healthier pregnancies. When the obstetric histories of pregnant mothers were examined, mothers with high mind-mindedness were found to have a high ratio of planned conception, higher positivity in the perception of pregnancy, and healthy recollections of first contact with the child (Meins et al., 2011).

Besides pregnancy, mind-mindedness has also been investigated in terms of parenting, especially motherhood. Within the parent-child relationship, it is known that mind-mindedness is related to

sensitive parenting and to child's secure attachment (Colonnesi et al., 2017), in addition to responsive parenting behavior (Farrow & Blissett, 2014). For instance, while breastfeeding mothers have higher mind-mindedness abilities compared to formula-feeding mothers, high maternal mind-mindedness was correlated with more positive and sensitive feeding behavior in 1-year-olds in addition to higher maternal sensitivity during play (Farrow & Blissett, 2014). In another study where the relationship between mind-mindedness and mothers' mirroring behaviors was investigated, mothers were asked to play with their children for a while, and they were videotaped. After, mothers watched their sessions, they were asked about their infants' mental states and possible thoughts and emotions they might have. It was found that higher-level mind-minded mothers showed more mirroring in their sessions (Bigelow et al., 2015).

In a study, the attachment security of three-year-olds was predicted by their parents' mind-minded comments. When it comes to gender difference, male and female caregivers did not differ in terms of their scores in mind-mindedness, children did not differ in terms of their attachment to their caregivers. The only thing is that their secure attachment was predicted by caregivers' mind-mindedness. It is essential to possess this knowledge, especially in cultures where mothers were traditionally viewed as the primary caregivers and where they bear most of the responsibility (Colonnesi et al., 2017). Other than parenting skills that are affected by mind-mindedness, there are also some parental behaviors and characteristics that shape their mind-minded behavior. In a study, biological and adoptive parents were compared in terms of mind-mindedness. Biological parents show higher mind-mindedness skills compared to foster carers and those involved with child protection. Foster carers and those involved with child protection have the same level of mind-mindedness, but both are lower compared to the community sample (Fishburn et al., 2017). In another point, studies showed that mothers with secure attachments were more likely to use emotion-related terms within mind-related conversations than mothers with dismissing attachments. In addition, the effects of secure and dismissing attachment on emotion-related words are more distinct in a negative context (Milligan et al., 2015).

Mind-mindedness has a direct relationship with not only parenting but also child development. In a longitudinal study, the relationship between the mind-mindedness skills of mothers and the language development of preterm infants was explored. It was found that mind-mindedness contributed to infants' linguistic abilities. In addition, this contribution is stronger in preterm infants. It was highlighted that preterm babies had higher linguistic abilities if their mothers had high mental abilities compared to full-term infants. The results showed that the tendency of mothers to treat their babies as cognitive agents might help them show resilience to psychosocial risk conditions (Costantini et al., 2017). Moreover, further studies reported that maternal mind-mindedness measured in toy-based free play at 12 months of age specifically predicted false belief and visual perspective-taking in preschoolers (Laranjo et al., 2014). The lie-telling behavior of preschoolers in Hong Kong was also predicted by the parents' level of mind-mindedness but not by false belief. This finding suggests that children of parents with high mind-mindedness are more likely to have autonomy skills in socially unclear situations (Wang et al., 2017).

On the other hand, the research on mind-mindedness continues in terms of social adjustment and adaptive behaviors during early and middle adolescence. In research, when controlling children's adjustment that has been experienced, mothers' mind-mindedness predicted disruptive behavior at the age of 12 (Hughes, et al., 2017). In addition, Meins et al. (2013) reported that maternal mind-mindedness was negatively related to children's externalizing and internalizing behaviors, especially in low socioeconomic status (SES) families when controlling for perceived social support, child language ability, maternal depressive symptoms and sensitivity, and child gender. Lastly, cognitive school

readiness was also predicted by mind-mindedness, and the relationship was mediated by language and effortful control (Bernier et al., 2017).

Other than these developmental aspects, the examination of the correlation between the theory of mind and maternal mind-mindedness should also be undertaken. Theory of mind is one of the key aspects of cognitive development, and it is known as fundamental for human social interaction including emotion comprehension, executive functions, and many other cognitive abilities during adulthood. In this manner, it is important to focus on theory of mind and its predictors. There is evidence that when parents talk with their children about minds and use mental talk, it facilitates children's ability to understand others' minds (Meins & Fernyhough, 1999; Meins et al., 2013), and that is why mind-mindedness is acknowledged as 'the earliest identified predictor of theory of mind and emotion understanding abilities' (Centifanti et al., 2016; Laranjo et al., 2010; Meins et al., 2013). Theoretically, Meins et al. (2002) argues that when mind-minded parents by perceiving their children as mental agents are more likely to focus on mental states and label thoughts and emotions during interaction and conversations (Kirk et al., 2015). Thus, children might also focus more on mental states and gain a better theory of mind skills when such interactions aided them. (Dore & Lillard, 2014). That is why mind-mindedness is perceived as an individual difference in the theory of mind (Meins et al., 2002).

Despite the scarcity of research on this subject matter, the mind-mindedness during infancy has been found to be indicative of the development of theory of mind abilities during the preschool years (Kirk et al., 2015). In another study, a comparison of Hong Kong and the United Kingdom showed that British children have better theory of mind skills, and their parents' mind-mindedness performance is higher. However, in both cultures, the theory of mind and mind-mindedness have been found to be positively correlated, which shows that mind-mindedness also accounts for cultural differences in preschoolers' theory of mind abilities (Hughes et al., 2017). These results showed that there is a possible strong connection between mind-mindedness and theory of mind that needs to be evaluated in detail within the scope of cognitive development theories and dynamics between aspects.

Mind-Mindedness and Theory of Mind

Piaget claimed that children learn best from social interaction and experimentation, which lead them to have their own opinions and make them decide about the world (Fleming, 2004; Zhang, 2022). With his guidance, researchers focused on social interaction and the environment in which a child can learn. It is known that the first interaction occurs within the family, especially with the primary caregivers, who happen to be mainly mothers. This interaction with learning, adapting, and imitating becomes the essence of cognitive development.

The cognitive development research mainly focused on the 'theory of mind' (Lundy, 2013), which is defined as the ability to understand another's mind and their perspectives (Centifanti et al., 2016), as well as their mental states, such as, desires, perceptions, beliefs, and intentions (Laranjo et al., 2010). Research showed that understanding the mental state of others is reciprocally related to other sides of development, such as emotional understanding, executive functioning, and prosocial behaviors. (Wellman, 2017). That is why what children think about the mind (Wellman, 2017) and how children understand others' minds (Hughes et al., 2017) became a focus of interest for many researchers.

When the dynamics of the theory of mind are on the table, the mental jump that happens at 3 to 4 years of age should be considered. The researchers focused on this stage of development since studies show that this stage is passed differently in each child (Wellman, 2017). When individual differences are considered in terms of the theory of mind development, social interaction in the family and the

environment might be one of the factors, as Piaget claimed (Meins & Fernyhough, 1999). It is known that children use a mental state language and talk with their families about their intentions, desires, and feelings in their daily conversations (Dore & Lillard, 2014). However, it is found that children who talk with their families more often about their feelings are more successful in tasks that require an understanding of others (Meins et al., 2002).

From this idea, Meins and Fernyhough directed their research to one-to-one interaction between carers and children to understand the differences in the theory of mind and other cognitive development stages that might be related to mental understanding. They came up with the construct of mind-mindedness, which is defined as "the tendency to regard one's child as an individual with cognitive abilities" (Meins & Fernyhough, 1999). Parents who are mind-minded tend to focus on the mental attributes of their children rather than physical or behavioral traits (Dore & Lillard, 2014). It includes appropriately labelling the child's mental state (Meins et al., 2001) and commenting on the infant's thoughts and feelings in the first year of life (Laranjo et al., 2010; Meins et al., 2002), including the child's intentions, memories, thoughts, and desires (Lundy, 2013). Parents who possess a high level of mind-mindedness tend to provide more suitable and accurate remarks regarding their children's mental state. For instance, by acknowledging the child's interest in the item without making any reference to the child's potential boredom, when observing the child's active exploration (Lundy, 2013).

The beginning of the research on the relationship between mind-mindedness and theory of mind was with the idea of consistency and stability of mind-mindedness. Meins and Fernyhough (1999) argued that the mind-mindedness of a parent with an infant would continue until preschool ages and would affect the theory of mind abilities. They showed that there is consistency in being a mind-minded mother when the child is 20 months and three years old. The mind-mindedness of mothers when the baby is 20 months old, predicted performance on false belief tasks and emotion recognition abilities at three years of age, and surprisingly, it was not related to language acquisition style (Meins & Fernyhough, 1999). Later, Meins et al. (2003) continued their research with the construct and predictive validity of mind-mindedness, where the stream of consciousness defined as children's attribution of thoughts to a person engaged in various activities, like the theory of mind, was included.

In a study, both online and offline measures of mind-mindedness were collected from mothers when their children were six months, four, and five years old. Theory of mind abilities were also assessed when children were four and five years old. Mothers' appropriate comments related to mental states (mind-mindedness score) positively predicted their mind-mindedness at four years of age, indicating the stability in mind-mindedness, as well as theory of mind and stream of consciousness performance between the ages of four to five. This suggests a direct association between mothers' use of relevant mind-related comments and their children's later understanding of the mind (Meins et al., 2003). Furthermore, the persistence of mind-mindedness and its correlation with the theory of mind abilities were examined with older children. Mind-mindedness was evaluated when infants were 10, 12, 16, and 20 months old using online measures, while their theory of mind abilities were assessed when children were five and six years old through strange story tasks, a measure of advanced theory of mind skills. Children's theory of mind abilities at 5-6 years old were significantly predicted by their mother's mind-mindedness up to four years earlier, with mind-mindedness accounting for 40% of the variance in the scores on the strange stories task. This supports the claims of the stability of mind-mindedness as a construct (Kirk et al., 2015).

Reevaluating Mind-Mindedness as a Construct that Shapes Theory of Mind

From this point, researchers took a step further and tried to understand other factors that might be involved in or related to the relationship between mind-mindedness and theory of mind. The mind-mindedness of parents when their babies were 6 months old, attachment when their babies were 12 months old, and theory of mind when their toddlers were 3 years old was measured by Meins et al. (2002) with online measures. According to the findings, only appropriate comments—not non-attuned ones or attachments—predicted theory of mind. A similar study has been conducted by taking gender into account (Laranjo et al., 2010). In that study the mind-mindedness of mothers was measured when babies were 12, 15, and 26 months old with online measures. In addition, babies' theory of mind abilities was measured with a discrepant desires task where babies tried to understand that agents might have different desires and a visual perspectives task where babies tried to acknowledge that agents might have different visual perspectives. It is found that children's understanding of different desires and visual perspectives was positively related to their mothers' use of appropriate mind-related comments at an early age, which might be evidence for the predictive power of mind-mindedness on theory of mind not just in toddlerhood but also as early as infancy. When gender was considered, more securely attached boys performed better on a task requiring comprehension of their mothers' visual perspective (Laranjo et al., 2010). As a follow-up, the same cohort was tested again when the toddlers were 4 years old. Identical results were obtained: mothers' use of appropriate mind-related comments at 12 months of age predicted children's understanding of false beliefs and visual perspective. Furthermore, more securely attached boys scored higher on a task requiring visual perspective taking, but not the girls (Laranjo et al., 2014). In addition to attachment, the mediating roles of language and perspectival symbolic play were studied. The play sessions were held, and mind-mindedness was measured with online measures when toddlers were two years of age, and theory of mind was assessed when children were four. Appropriate mental comments were related to theory of mind abilities but not with language or symbolic play, while non-attuned comments were related to language and symbolic play but not with theory of mind abilities (Meins et al., 2013). On the other hand, it has also been found that mothers' appropriate and attuned comments predicted complexity, maturity level and length of infants' symbolic play (Giovannelli, 2020). Findings showed that it is essential to acknowledge that only appropriate and attuned comments might foster theory of mind or cognitive abilities.

Besides attachment and other types of interactions, additional parental abilities were also considered in relation to mind-mindedness and theory of mind. Parental mental state talk, mind-mindedness, and false beliefs of preschoolers were measured. Mental state talk was measured with a wordless picture book where mothers were asked to tell a story to their children based on the book. Afterwards, mothers' mental attributions to the characters were coded. Both mind-mindedness and mental state talk were weakly associated with children's false belief performance (Devine & Hughes, 2017). In addition to mental state talk, the emotional availability of parents is defined as the expressiveness and responsiveness of their emotions to each other (Licata et al., 2016), was found to be an essential variable within this relationship. Mind-mindedness was measured when babies were 7 months old, and theory of mind was measured when children were 4 years old. Both dyadic emotional availability between mother and child and mind-mindedness predicted the child's theory of mind, even when controlling for child temperamental and cognitive characteristics as well as dyadic emotional availability at four years and early maternal mind-mindedness. Findings showed the importance of high emotional connection between mothers and infants and mind-mindedness for preschoolers' development of theory of mind skills (Licata et al., 2016).

Not only mothers' but also fathers' mind-mindedness is a critical indicator of theory of mind since both parents' attuning to their infants' emotions and cognitions is known to predict children's later theory of

mind and emotion understanding (Centifanti et al., 2016). Lundy (2013) considered the relationship between four-year-old children's theory of mind abilities, both mothers' and fathers' mind-mindedness, and parental interactional attunement. Interactional attunement was defined as the parent's ability to use feedback from the child's performance to handle the next step appropriately (Lundy & Fyfe, 2016). Attunement was measured with a problem-solving puzzle task, and both online and offline mind-mindedness measures were used. It was found that parental attunement and both mothers' and fathers' mind-mindedness positively predicted theory of mind abilities. In addition, mothers and fathers who scored higher on the mind-mindedness in the interview were more attuned to their children's mental processes during the online interaction (Lundy, 2013). As a follow-up, the same cohort was tested again with the same research design but also considering the interaction between family members. In addition to previous findings, it was found that parental encouragement of thinking independently for children and children's own mind-related comments mediated the relationship between mind-mindedness abilities of both parents and the theory of mind performance of preschoolers (Lundy & Fyfe, 2016).

Along with parental abilities, culture is also an immense factor. Hughes and colleagues (2017) compared British children with children in Hong Kong at four years of age and their mothers in terms of mind-mindedness and theory of mind abilities. Although within both cultures, maternal mind-mindedness was correlated with theory of mind, British mothers were found as high on mind-mindedness, and their children had better performances on their false belief tasks (Hughes et al., 2017). In Hong Kong, children's understanding of false belief is delayed but they are reported to lie as much as children from other cultures. For this purpose, Wang and her colleagues (2017) studied the lie-telling behavior of three to six-year-old children. It is necessary to understand the role of mind-mindedness for lie-telling and theory of mind since children can tell lies at two years of age; however, theory of mind develops around four. Lie-telling behavior was measured under the temptation-resistance paradigmⁱ. It is found that the lie-telling behavior of these children was predicted by parental mind-mindedness and the children's age but was unrelated to the children's false belief understanding. Findings showed that not theory of mind, which is known as one of the core constructs of cognitive development, but parental mind-mindedness, which can be defined as the earliest cognitive interaction, predicts lie-telling, a critical mental ability that is known to be related to emotion understanding, prosocial behaviors, executive functioning, and memory (Wang et al., 2017). It shows that, contrary to expectations, theory of mind did not predict children's lie-telling behavior, instead, parental mind-mindedness—a foundational form of early cognitive interaction—emerged as the key predictor, underscoring its critical role not only in the development of theory of mind but also in broader cognitive functioning.

Conclusion and Future Studies

Mind-mindedness has emerged as a central focus in recent developmental psychology research, particularly because of its implications for cognitive development. Interpreting the behavior of mind-minded parents—and how they support their children's emotional needs—provides valuable insight into the developmental trajectory of children's understanding of their own and others' mental states. In this study, we aimed to explore whether mind-mindedness should be conceptualized primarily as a relational bond or as a construct that can be developed independently of the parent-child relationship. It has been found that mind-mindedness is based on a relationship with their own child, and mothers' interpretation for other children is not related to their mind-mindedness (Larkin et al., 2020). For this reason, in particular, mind-mindedness is seen as a parent-child bond which can widely affect executive function, language, and social cognition (Aldrich et al., 2021).

In addition, mind-minded mothers' attuned comments start as early as first month and continue to increase as the baby grows (Bigelow et al., 2023). It is also found that not only with typically developed

but also with neurodivergent children mind-mindedness is a strong bond with mother and the child. It is reported that mothers with high mind-mindedness have lower levels of stress and describe their children with less reference to their disability (Larkin et al., 2021)ⁱⁱ.

To sum up, theory of mind as the ability to understand others' mental states such as beliefs, intentions, and desires (Wellman, 2017) is being strongly predicted by parental mind-mindedness, which is the ability and intention of treating babies as mental agents and acknowledging that they can have an independent mind (Meins & Fernyhough, 2015). This relationship is shown to become stronger when both parents are included and attuned (Lundy, 2013), and it depends whether parents have mental state talks (Devine & Hughes, 2017), or emotional availability (Licata et al., 2016). It is also significant to understand that different dynamics can exist in different cultures (Hughes et al., 2017).

Although mind-mindedness is a relatively new subject, and to the best of our knowledge, only few studies has been conducted in Türkiye yet, it is a fruitful and promising topic since it is related to many cognitive and social outcomes for both infants and caregivers. In a thesis, the relationship between preschool children's executive function skills and mothers' mind-mindedness were investigated, however no relation was found (Yılmaz, 2017). In another study, mothers with children aged between 6-14 participated and were asked their children's emotion regulation skills. Again, the results revealed no significant relationship (Demirkan & Yeşilyaprak, 2023). In another thesis, the mediation role of mind-mindedness in a relationship between attachment security and maternal sensitivity were investigated, however, again, no mediation model was reported (Güner Algan, 2021). Lastly, in another thesis, the effects of parental competence on theory of mind abilities of children were assessed and parental mind-mindedness was hypothesized as a moderator on this relationship. However, no relationship was found between mind-mindedness and theory of mind, as well as no moderation role was supported (Karaalioğlu, 2024). Although, there is no relationship found between mind-mindedness and theory of mind in Türkiye yet, it is important to keep in mind that there are only few studies conducted with limited number of participants. In addition, it is thought that there is more to this relationship to discover, and cultural effects also need to be considered. For example, a study by Şahin Acar and Leichtman (2015) examined mother-child memory conversations among families from Eastern Türkiye, Western Türkiye, and the USA. The findings revealed that USA mothers provided the most voluminous, descriptive, and elaborative talk, while Eastern Turkish mothers exhibited the highest level of repetitiveness, with Western Turkish mothers' talk falling in between. This suggests that Turkish mothers, particularly in Eastern regions, may engage in less elaborative verbal interactions with their children. This might lead that Turkish mothers may have a different level of maternal mind-mindedness. Another point might be that based on collectivist culture characteristics, there might be another factor affecting the relationship between mind-mindedness and theory of mind, such as emotion socialization of the parent. Although there are some inconsistencies, the results are also in line with some of the previous research. For that reason, these studies have been showing signs of initiation toward understanding the importance of mind-mindedness. Nonetheless further research is needed, and it would be beneficial to conduct interventions and prevention studies to understand the dynamics of mind-mindedness and increase its positive outcomes.

Since the relationship between theory of mind and mind-mindedness was presented thoroughly, mind-mindedness should be focused, and the surrounding dynamics should be evaluated. It is shown that parents who are high on mind-mindedness talk with and teach their children about emotions more; they may help the child understand emotions and may shape an empathic understanding of others (Centifanti et al., 2016). That is why it might be essential to foster mind-mindedness in parents in terms of helping children develop empathy and theory of mind abilities earlier and more substantially.

Compliance with Ethical Standards

Author Contribution: All authors equally contributed to this review paper, and all reviewed and approved the final version of the manuscript. The first author developed the initial idea, conducted the literature review, and constructed the main framework. The second author supervised the project, provided guidance throughout the process, and significantly contributed to the transitional sections. Finally, the first author refined the structure, added final comments, and completed the review.

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Notes

ⁱ Children were asked to guess an object under a cup using clues. Right before the third and last clue, the experimenter showed a gift and told the child that if they could guess correctly, the gift would be given to them. After that, the researcher had to leave the room for just a second and ask the child not to peek at the object. When the researcher came back, the child was asked whether she peeked or not. Children were divided into groups of non-peekers or peekers, and again coded among peekers, liars or truth-tellers.

ⁱⁱ Neurotypical refers to brain functions that are 'typically' comparable to the average of the general population and developmental milestones. The comparison between neurotypicality and neurodiversity was first proposed by sociologist Judy Singer in 1998. It is an assertion that the characteristics of neurally differentiated individuals should not be viewed from a 'disability' or 'deficiency' perspective, but rather as variations in the brain's capacity to function and adapt. Although the group that does not exhibit typical brain functions may be a singular diagnostic group, the most contentious aspect of this group is that it exhibits change and diversity in terms of neural functions and is therefore termed "neurodiverse." Attention Deficit Hyperactivity Disorder, Autism, Obsessive Compulsive Disorder, Dyspraxia, Dyslexia, Dyscalculia, or Tourette syndrome can be included in neurodivergent or neurodiversity, which asserts that there are more ways than the 'typical' way that the brain functions (Milton et al., 2020).

Degrowth and Public Choice: Navigating Private Interests and Power Dynamics for a Sustainable Future

Büyümeme ve Kamu Tercihi: Sürdürülebilir Bir Gelecek İçin Kişisel Çıkarları ve Güç Dinamiklerini Yönlendirmek

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Abstract

This article examines degrowth through the lens of public choice theory. Since degrowth is both a political and economic concept, public choice provides a useful framework for analyzing its various dimensions. Degrowth challenges the dominant ideology of constant economic expansion, promoting a deliberate reduction in resource consumption to restore ecological balance, reduce inequality, and improve collective well-being. However, the article emphasizes the difficulties of implementing degrowth policies, pointing to the self-interested motivations of key social actors: voters, politicians, and bureaucrats. Voters often prioritize their own utility when choosing a party or policy, while politicians focus on reelection and bureaucrats aim to expand their department's budget. These individual interests often conflict with the broader goals of degrowth, making the transition to a more sustainable and equitable society difficult. The article critically analyzes degrowth from a public choice perspective, underscoring the systemic obstacles posed by inherent self-interest. It also argues that since government outcomes are often the result of the collective actions of self-interested individuals, the public choice perspective has the potential to provide useful insights for degrowthers.

Keywords: Degrowth, Self-interest, Sustainability, Public Choice.

Öz

Bu makale, büyümeyi kamu tercihi perspektifinden incelemektedir. Büyümeme hem politik hem de ekonomik bir kavram olduğundan, kamu tercihi, büyümemenin çeşitli boyutlarını analiz etmek için yararlı bir çerçeve sunar. Büyümeme, ekolojik dengeyi sağlamak, eşitsizliği azaltmak ve toplumsal refahı iyileştirmek için kaynak tüketiminde planlı bir azalmayı teşvik ederek, sürekli ekonomik büyümenin baskın ideolojisine meydan okur. Makale, büyümeme politikalarını uygulamanın zorluklarını vurgulayarak, seçmenler, politikacılar ve bürokratlar gibi kilit sosyal aktörlerin benmerkezci motivasyonlarına işaret etmektedir. Seçmenler genellikle bir parti veya politika seçerken kendi çıkarlarını önceliklendirirken, politikacılar yeniden seçilmeye odaklanırlar. Bürokratlar ise kendi bütçelerini en çoklaştırmayı amaçlar. Bu bireysel çıkarlar genellikle büyümemenin daha geniş hedefleriyle çatışır ve daha sürdürülebilir ve eşitlikçi bir topluma geçişi zorlaştırır. Makale, büyümeyi kamusal seçim perspektifinden eleştirel bir şekilde analiz ederek, içselleşmiş çıkarların oluşturduğu sistemik engelleri vurgular. Ayrıca, hükümet kararlarının çoğunlukla kendi çıkarını gözetan bireylerin kolektif eylemlerinin sonucu olduğu ve bu nedenle kamu tercihi perspektifinin, büyümeme yanlıları için yararlı içgörüler sağlama potansiyeline sahip olduğu savunulmaktadır.

Anahtar Kelimeler: Büyümeme, Kişisel çıkar, Sürdürülebilirlik, Kamu Tercihi.

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Degrowth and Public Choice: Navigating Private Interests and Power Dynamics for a Sustainable Future

Growth is one of the primary subjects of interest of macroeconomics and it is the magic word for economists and policy makers. An increase in the size of a country's economy over time is referred to as economic growth. The gross domestic product (GDP), or the entire amount of goods and services produced within an economy, is commonly used to measure the size of that economy. Drivers of economic growth are well-known, among them capital accumulation, division of labor, saving rate, capital output ratio or institutional structure. The positive consequences of economic growth, such as improved living standards, increasing employment, or reduction in poverty, are also well-known, yet its negative effects became a widely discussed subject only recently. Overpopulation in urban areas, climate change and pollution are only a few of these negative consequences. The obsession of constant growth threatens a sustainable future, where human well-being is achieved within ecological limits, ensuring environmental health, social equity, and economic stability for current and future generations. Genuine sustainability involves rethinking current production and consumption systems, transcending technological efficiency alone, and addressing underlying economic and social structures (Lorek, Cohen and Alfredsson, 2024, p.258). Many scientists across the world believe that the destructive effects of the negative consequences of growth can and do actually exceed its benefits and the degrowth idea and literature have developed around this approach to economic growth.

As early as 1978, Georgescu-Roegen, a Romanian-American mathematician, statistician, and economist known for his *The Entropy Law and the Economic Process* (1971) warned us that the industrial activity that a great portion of humanity is currently involved in was accelerating the depletion of terrestrial resources, heralding the arrival of a crisis. Growth, the main fixation of mainstream and Marxist economists, had to eventually come to an end. The question then was, "When?". Over the last ten or so years, the symptoms of environmental limit had been blatantly apparent and pollution was becoming more and more prevalent everywhere. Once the largest oil-producing country, the United States was no longer able to raise its crude oil output to meet its current needs (Georgescu-Roegen, 2011). With the demise of Keynesian economics in the 1970s, the 1980s witnessed radical changes in economic policies in both developed and developing world, causing increasing inequalities and generating new regional wars. This article aims at discussing a concept (a new life style or a new economic system for some) which is a product of this period from a very specific perspective. The concept under scrutiny, degrowth, is multi-dimensional and controversial. The perspective that will be used, public choice theory, is also multi-dimensional with its emphasis on utility maximization and methodological individualism, making it necessarily controversial.

In the first part of the article, we will look at the idea of degrowth as objectively as possible. We do not aim to assess the idea of degrowth in terms of its economic or future implications. Some perceive degrowth as a naive dream and some as a necessity. We do not aim to prove one or the other right, since there is an ample literature on both views. In the second part we will present the public choice theory briefly, so that the reader, not familiar with the approach, can get a glimpse of it. Similarly, we do not aim at proving public choice arguments right or wrong, given the fair amount of criticism it already received (Pressman, 2004). The public choice theory just provides us with a sturdy platform to evaluate degrowth. Degrowth is not just economic but also a political concept making it all the more suitable for an analysis from the public choice perspective. The third part of the article will discuss the idea of degrowth from the perspective of public choice. A final part with possible strategy advices for degrowthers will conclude the article.

Degrowth: A Naive Dream or a Necessity

A new scholarly and social movement known as "degrowth" first appeared in France ("décroissance") and other Southern European countries in the 2000s. In the decade that followed, it expanded throughout the English-speaking world ("degrowth"), the German-speaking region ("Postwachstum" or "Wachstumsrücknahme"), and beyond. When we look at the theoretical and historical foundations of degrowth, one particular publication and two names stand out. Published in 1972, *The Limits to Growth* warned that without coordinated global action, humanity risked ecological collapse due to overpopulation, pollution, and resource depletion. The report marked a turning point in environmental thinking, challenging the belief in unlimited growth and promoting the idea of planetary limits. While some criticized its simplistic computer model and methodology, others defended it as a vital warning (Turnbull, 2018, p.271). Of the two names, Georgescu-Roegen was already mentioned above, in the introduction. Another influential figure is André Gorz (born Gerhard Hirsch), who, in the 1970s, offered a striking critique of growth-driven capitalism. He argued that the crisis of capitalist growth stems not only from its economic structure but also from its collision with the planet's physical limits. Gorz acknowledged a hard truth: our current way of life is unsustainable and lacks a viable future. The solution, he suggested, lies not in endlessly increasing consumption, but in consciously choosing to consume less. This, he believed, was the only path to safeguarding the planet's finite resources for future generations (Gorz, 1980, pp.11-13).

The degrowth perspective focuses on the structural and cultural role that the fixation on economic growth has been playing in contemporary, capitalist societies and envisions a radical transformation of fundamental social institutions, while retaining the traditional critique of growth as a monetary rate (measured by GDP) and as a material flow that increases the pressure on ecosystems (measured by ecological footprint). Fundamentally, it is about finding alternatives to economic development and growth (instead of alternative growth paths), repoliticizing economic discussions, and arguing that global environmental justice necessitates a decline in high-income countries' economic output as well as a profound socioeconomic shift toward a decent life for all (Muraca & Schmelzer, 2017, pp. 174-175). One of the most renowned proponents of degrowth, Serge Latouche (2009, pp. 7-8) defines degrowth as follows:

The slogan of 'de-growth' is primarily designed to make it perfectly clear that we must abandon the goal of exponential growth, as that goal is promoted by nothing other than a quest for profits on the part of the owners of capital and has disastrous implications for the environment, and therefore for humanity. It is not just that society is reduced to be nothing more than an instrument or a means to be used by the productive mechanism; human beings themselves are becoming the waste products of a system that would like to make them useless and do without them.

According to degrowth supporters the idea of degrowth challenges the global capitalist system, which prioritizes growth over all other considerations and exploits the environment and people in the process. In other words, the capitalist system, particularly in its neoliberal form, has been widely criticized for its relentless pursuit of economic growth and profit maximization, often at the expense of social welfare and ecological sustainability. This growth-centric logic is embedded in the very fabric of capitalist production and consumption patterns and it tends to prioritize short-term financial returns over long-term human and environmental well-being since the very beginning of the Industrial Revolution. Such an orientation fosters systemic inequality, exploits labor, and commodifies essential aspects of life, including education, healthcare, and natural resources. Private businesses and free entrepreneurship are regarded as central drivers of innovation and the generation of wealth. The idea is that ongoing productivity growth will eventually lead to improved living standards for all. The advocates of

neoliberal capitalism argue that poverty, both nationally and globally, can be most effectively addressed through open markets and unrestricted trade, based on the belief that "a rising tide lifts all boats" or the concept of "trickle-down" economics. They view the lack of clearly defined private property rights—common in many developing nations—as a major institutional hurdle to economic progress and the enhancement of human well-being. (Harvey, 2005, pp. 64-86). Furthermore, the capitalist imperative for constant accumulation not only deepens social divisions but also accelerates ecological degradation, as seen in the unsustainable extraction of resources and unchecked carbon emissions fueling climate change. Capitalism's inherent drive for growth and profitability appears increasingly incompatible with the needs of a just and sustainable future. As Park (2015, p. 195) suggests the objectives of economic growth and environmental sustainability are fundamentally conflicting. As long as national and global strategies to combat climate change are guided by the capitalist belief that financial gains must exceed costs, we will remain unable to effectively prevent or avert the devastating impacts of climate change. Growth is the cornerstone of the global economy. The idea that companies, industries, and nations must yearly increase output whether or not it is necessary is at the center of the system. This perception is driving climatic change and ecological catastrophe. According to activists and experts in the degrowth movement, society should prioritize social and ecological well-being over corporate profits, overproduction, and excessive consumption. This demands a sharp redistribution of wealth, a physical contraction of the global economy, and a shift in the values of the general public toward self-determination, solidarity, and compassion. Degrowth requires social transformation to bring about environmental justice and a living standard for all people within the boundaries of the planet. For Kallis, Demaria and D'Alisa (2015) first and foremost, degrowth is a criticism of growth. It demands that economic growth be abandoned as a societal goal and that public discourse be freed from the economist vocabulary. Beyond that, degrowth also denotes a desired course, where societies will organize and live differently than they do now, while using fewer natural resources. "Commons," "sharing," "simplicity," "conviviality," "care," and "simplicity" are the key symbols of this civilization. Degrowth should not be seen just a problem that could be addressed through economic means. It is at the same time requires a cultural shift. Moving away from cluttered lives and infinite productivity toward shared sufficiency, ecological responsibility, and communal resilience, for example, can contribute to degrowth efforts as much as economic initiatives. In addition, degrowth requires addressing inequality through redistribution and valuing unpaid care work (Meissner, 2022, pp. 201-203).

Degrowth and negative growth within the capitalist system are two different things. Degrowth cannot be achieved through an economic crisis. Negative growth rates resulting from crises do not lead to positive outcomes for nature. Degrowth is defined as a planned decrease in energy and resource consumption which aims to restore the economy's balance with the natural environment in a way that lessens inequality and enhances human well-being. It is a well-thought-out, cogent program to lessen negative effects on the environment, diminish inequality, and enhance well-being. Degrowth provides measures to stop unemployment and even increase employment, like reducing the length of the workweek, offering a living wage guarantee, and launching retraining programs to get people out of industries that are going out of style. The goal of degrowth is to preserve and enhance people's quality of life in the face of a decline in overall economic activity. By implementing measures like progressive taxation and living wage laws, degrowth aims to lessen inequality and distribute money more evenly on a national and international level. Degrowth aims to decommodify the essential products that people require for thriving lives by increasing access to universal public goods and services such as housing, health, education, and transportation. Degrowth is a strategy to reverse ecological degradation, restore soils and biodiversity, and accomplish a quick switch to renewable energy (Hickel, 2021, pp. 1105-1108). What is crucial in this transition is re-examining what is really necessary to live a dignified life and to be free from superfluous and wasteful consumption (Alexander, 2017, p. 160).

People, in fact, may be willing to give up some wealth for a better environment or more leisure time. The idea is that resource depletion, environmental damage, and climate change cannot be stopped by efficiency gains or technical advancements alone. Increases in technological efficiency, instead of reducing resource consumption, can actually lead to greater overall consumption of that resource. William Stanley Jevons first presented this idea in *The Coal Question* (1865), arguing that improvements in coal-use efficiency led to more, not less, coal consumption because efficiency made coal more economically attractive and widespread in use. This paradox is now often referred to in terms of the rebound effect, where efficiency gains reduce the cost of using a resource, leading to increased demand and ultimately higher total consumption. For example, a more fuel-efficient car reduces the cost of driving, which may encourage people to drive more, possibly using more fuel overall than before (Alcott, 2005, p. 10). The economy might also need to contract in size for degrowthers (van den Bergh & Kallis, 2012, p. 912). However, for Latouche (2009, pp. 8-9) de-growth and negative growth are not the same thing. Although the statement is a ridiculous oxymoron, it does a great job of illustrating how much the fantasy of growth rules people's lives. Everyone is aware that even a slight contraction of the economy throws our society into disorder, drives up the unemployment rate, and speeds up the destruction of social, cultural, educational, health, and environmental initiatives that give people a bare minimum quality of life. The calamities that negative growth would cause can be easily envisioned. Nothing is worse than a work-based society without any jobs, just as there is nothing worse than a growth-based society without any growth; and if the world does not change direction that is exactly what is going to happen to people—a social and civilizational decline. Due to all of these factors, de-growth is only possible in a degrowth society, or alternatively, within the confines of a system that operates according to a distinct logic. The alternatives for Latouche are barbarism or de-growth. Therefore, it is necessary for people to give up on the faith or religion of the economy, progress, and development, as well as the illogical and almost idolatrous worship of growth for the sake of growth.

Degrowth scholars can certainly benefit from different schools of economic thought and different approaches. For example, Gräbner-Radkowsch and Strunk (2023b, p. 481) note that degrowth advocates call for a change in current institutions and seek to re-design the global economic system. However, they add, “that these calls could become more substantive if more consistently backed by institutional theories of how institutions emerge and change over time.” This article offers an alternative and a more political approach for them with a potential of swift results. Tekçe (2024, p. 136) states that although the view of degrowth is perceived as a superficial, idealistic, even utopian vision, its echo in academia shows that there is a need to re-evaluate existing development models. There is no doubt that the major ecological problems we face require a comprehensive examination of alternative paradigms, and the concept of degrowth emerges as an important perspective in that respect. Building a society where people can live better lives while working fewer hours and consuming less goods is the aim of degrowth. Hence degrowth requires a structural and institutional change. A mental struggle against the existing system cannot prevail unless supported by changes in educational and judicial systems. According to Sariöz-Gökten & Gökten (2023, p. 297) creation of new institutions as a complement to the new system in the process of changing production and consumption patterns will be effective in accelerating this process and “transitioning”. The success and operability of this new social order can be ensured by spreading these steps to the grassroots on a global scale. However, in order to create this social support, there is a need for a class perspective and an understanding of organization that goes beyond persuading the real beneficiaries of the capitalist system, power asymmetries, and those in power. Otherwise, degrowth will not go beyond an “elitist” sensibility and a mental exercise. A similar argument is presented by Garcia & Martinez-Iglesias (2017, p. 57) “The transition will not only entail political adjustments and the replacement of some technologies by others, but will be accompanied by

social and cultural changes that bring about substantial modifications in the organization of our societies and our ways of life.”

Degrowth advocates contend that the global economy's unrelenting pursuit of growth, rather than its focus on citizens' social well-being, is depleting the planet's natural resources at an unsustainable rate in order to produce goods, many of which are wasteful, unnecessary, and created more to appease consumers than to improve people's quality of life (McCloskey, 2020, p. 44). Green growth emphasizes the role of clean technologies, information and communication technologies, and renewables in achieving economic expansion and advocates for continued economic growth supported by technological innovation. Degrowth, rooted in Malthusian thinking, argues that in a finite ecological system, indefinite economic expansion is unsupportable regardless of technological advances. Degrowth proponents are skeptical of the notion that technology alone can solve deep-rooted environmental issues, pointing out the ambivalence of technology and its unintended negative impacts. Green growth discourse is criticized mainly because of its techno-optimism. Although in practical policy and governance, green growth is currently more applicable and widely adopted (Pyakurel, 2021), Lehmann, Delbard and Lange (2022)'s “findings indicate that experts dealing regularly with environmental and ecological topics tend to reject green growth while being inclined towards growth-critical concepts, i.e. a-growth, post-growth and degrowth.” In short, although green growth is more commonly applied in practice, the perspective of degrowth remains essential to ensure that sustainability initiatives genuinely prioritize long-term ecological health over short-term economic gains. Empirical studies point out that the notion of green growth, which has been offered as an alternative policy direction to prevent ecological breakdown, is not a viable option (Hickel & Kallis, 2019), leaving degrowth the only response to climate change.

Having outlined the environmental and economic rationale behind degrowth, we now turn to a theory that explains why these policies are so difficult to implement and yet how this theory can also provide some useful tools for the advocates of degrowth: public choice theory. While public choice theory is often used to highlight the flaws in government decision-making, showing how self-interest and institutional pressures can shape political outcomes, it can actually offer valuable lessons for degrowth advocates too. If we take its central idea that voters, politicians, and bureaucrats tend to act based on their own interests, then degrowth policies need to be designed with that reality in mind. In other words, for these policies to succeed, they should not only aim for ecological sustainability but also appeal to the motivations of the people who will implement and support them.

The Perspective: Public Choice

The most convenient way to start this section is to define public choice for the reader, not familiar with the “programme”, because for Buchanan, probably the most prominent figure of public choice, it “should be understood as a research programme rather than a discipline or even a sub-discipline of economics.” As he states, public choice provides “analyses of the behavior of persons acting politically, whether voters, politicians or bureaucrats.” (Buchanan, 2003, pp. 13-16). Brennan & Buchanan (1988, p. 179) defined public choice as “the application of the theoretical method and techniques of modern economics to the study of political processes.” Mueller, another prominent name in public choice circles, gives us a similar definition, along with the main subjects covered by the public choice theory. He (2003, pp. 1-2) denotes that the economic study of nonmarket decision-making, or just the application of economics to political science, is the definition of public choice. Political science and public choice both study the same topics: party politics, voting procedures, voter behavior, state theory, bureaucracy, and so forth. However, public choice employs the methodology of economics. Similar to economics, public choice is based on the fundamental behavioral tenet that humans are rational, egoistic utility maximizers. In this case we can safely put forward that public choice is just the application of

economic theory's rational actor model to politics. Similar to the economic model of rational behavior it is based on, public choice also makes the assumption that people are primarily motivated by their own self-interests. Politicians run for election or reelection, bureaucrats work to further their own careers and to boost the budgets of their offices, and voters back candidates and their policy proposals they believe will benefit them individually. In a sense, it “is a study of the political mechanisms or institutions through which taxes and expenditures are determined; that is, it is a study of the demand for and the supply of public goods.” (Ekelund & Hebert, 1996, p. 532). Defining public goods for the unfamiliar reader may be convenient at this point. Ostrom & Ostrom (1971, pp. 206-210) provides us with the basic properties of public goods, which is environmental quality in our case. Purely public goods are mostly indivisible and it is practically impossible to exclude the rest of the society from enjoying their benefits. It means, once it is provided, each member of the society can take advantage of the public good in question unless he/she moves. Public goods, regardless of who bears the expense, are once granted to some, become the property of others. In the context of this article, environmental quality can be exemplified as public good.

About the provision of government services from the point of view of public choice, Niskanen's comparison of central insights of conventional economics and public choice is illuminating. He (2008, pp. 190-191) notes:

The central insight of conventional economics is that the provision of private goods and services is an incidental effect of the incentives and constraints of consumers, entrepreneurs and employees. In other words, the provision of private goods and services is an effect, but is not the primary objective, of any participant in the private economy. Similarly, the central insight of the literature now described as public choice is that the provision of government services is an incidental effect of the incentives and constraints of voters, politicians, and bureaucrats.

After these definitions, and assuming that individuals are self-interested utility maximizers, it is time to focus on the behavior of politicians and bureaucrats. According to the public choice perspective, politicians are not simply selfless law givers and they are not “exogenous to the economic happenings in society. They are seen rather as self-interested competitors maximizing returns (power, position, votes, etc.) under certain constraints (reelection for instance). The important point is that in seeking to optimize their own interests, politicians impact upon the entire economic system.” (Ekelund & Hebert, 1996, p. 531).

Buchanan (2003, pp. 16-17) notes that public choice is claimed to be immoral by some critics who “argue that people acting politically—for example, as voters or as legislators—do not behave as they do in markets. Individuals are differently motivated when they are choosing ‘for the public’ rather than for themselves in private choice capacities.” However, he continues, “Those who respond predictably to ordinary incentives in the marketplace do not fail to respond at all when they act as citizens.”

Before the Second World War, most economists believed that the government was a tool for redistributing income and correcting market imperfections. Considering the role the states played during the Great Depression years this perception is quite understandable. Researchers suggested the state what public goods should be provided, how taxes should be imposed, and how externalities should be fixed. However, not long after the conflict ended, economists started researching how the state makes decisions, and it was believed that the state ought to act in a way that maximizes the welfare of its people in a democracy. The state needs to find out what the people desire in order to maximize their welfare and the information needed for this purpose was meant to come from the democratic institutions of the state (Mueller, 2015, p. 379). Clearly, this is what an average citizen would expect from the government.

Bureaucrats, with the politicians, control the state apparatus. For Niskanen (2008, p. 192) “A bureaucrat is best defined as the head of a bureau with a separate budget. And a bureaucracy is some set of bureaus with a similar role or other common feature.” Government initiatives are not created just because a legislator grants permission and a special interest group wants them to. These need to be “manufactured.” The provider of a program is typically a government body or an agency within the government. Government growth may result from the bureaucracy that runs government programs as well as from individuals, legislators, or interest groups requesting higher spending. The government bureaucracies operate independently, which could result in a larger government (Mueller, 1987, p. 133). Based on its distinctive nature, economic theory offers a valuable new perspective on bureaucracy claims Niskanen (2008, p. 190). He (2008, p. 194) continues “Any theory of the behavior of bureaus must be based on the relationship between bureaus and their sponsors, usually some group of politicians. This relationship, in turn, is shaped by the distinctive incentives and constraints faced by bureaucrats and politicians.” He (2008, p. 195) put forward three assumptions about the behavior of bureaucrats and their political sponsors: “Specifically, bureaucrats were assumed to act to maximize the expected budget of their bureau. Second, the sponsors were assumed to be “passive” in accepting or rejecting the bureau’s budget output proposal without any careful monitoring or evaluation of alternatives. A third implicit assumption.... was those bureaucrats and their sponsors bargain over the full range of the possible combinations of budget and output.”

Public choice mechanisms manifest themselves in real policy contexts. One such mechanism is lobbying, extensively and efficiently used by pro-growth groups such as big oil companies. As a response, pro-degrowth groups may aim at regulating lobbying through banning political donations or “banning fossil fuel lobbyists from climate negotiations. In fact, the proponents of degrowth have a long list of policy proposals, among them caps on resource use, tax reforms, reducing chemical production, building off-grid systems, legislation of the rights of nature, socially responsible investment, developing networks and cooperatives, reforming education, reducing patent monopolies, promoting nature friendly technologies, slow tourism, reducing motorized mobility (Fitzpatrick, Parrique & Cosme, 2022, pp. 7, 11-18). However, all these proposals require a certain political power, since they are not backed by big capital. The widening gap between the rich and the poor, both internationally and within nations, in the last 40 years provides a fertile ground to harness such political power, yet the discussing the conditions of the emergence of such a political body goes beyond the scope of this article.

As such, before we conclude this section a few words about the interest groups and public choice approach will be convenient. The lexicon definition of an interest group is “a group of people that seeks to influence public policy on the basis of a particular common interest or concern.” People who see significant benefits from government action form interest groups. They supply funds to politicians for their campaigns, and in exchange, they frequently get support for their objectives. Similarly, bureaucrats have strong ties with special interest groups given the fact that they, most of the time, depend on politicians for their budgets.

Dream or Necessity from the Public Choice Perspective

Nobody can deny the fact that growth is the ideology and sine qua non of the current economic system. The idea of degrowth is already quite unacceptable for firms whose main goal is to maximize their profits in an ever-growing economic network of relations. For this reason, we will focus on other actors of economic systems, namely consumers (average citizens), politicians (rule makers) and bureaucrats (enforcers). As we just briefly discussed in the previous section, these are the main actors in the public choice approach.

Average citizens would want to maximize their utility, and their income. This is a basic tenet of conventional economics and public choice. It is not unrealistic to expect at least a temporary economic recession with degrowth-oriented policies in action, and in this unequal world economic structure the average citizen cannot tolerate any decline in his/her income. This is even more so in the Global South. Expecting a reduction in the consumption of energy and resources in the wealthiest parts of the world would not go beyond a naive yearning and people of these regions would definitely not be generous enough to channel some of that wealth to less fortunate.

On top of this maximizing behavior, voters in democratic elections typically have limited knowledge of the issues and candidates on the ballot. Voter may choose to be rationally ignorant if the cost of acquiring knowledge exceeds the expected benefit of that particular piece of knowledge. One of the propositions, Downs tries to prove in his *An Economic Theory of Democracy*, is that “For a great many citizens, acquisition of any nonfree political data whatever is irrational, as is acquisition of much free political data, even during election campaigns.” (Downs, 1957, p. 239). Moreover, there is no reason for a voter to try to be informed for an election in which his/her decision would not make a difference. He (1957, p. 243) adds “...unless new data reveal a very large change in some expected income, it does not really make much difference to him who wins. Therefore, it is irrational for him to acquire many costly bits unless they have either large expected values or high variance relative to his original party differential.” In this case, the promises of the degrowth movement will not be able to reach average citizen and affect his/her voting behavior.

When we look at the political arena, we see that the politicians chosen to represent the people in legislative assemblies make the majority of political decisions, not the people themselves. Reelection-seeking politicians are highly motivated to accommodate the demands of small, well-organized organizations, and this is why representative democracy often ends in a dictatorship of the minority. With Downs’ words: “...rationality under conditions of uncertainty leads government to construct policies often aimed more at the good of a few voters than at the good of all, or even of a majority, to act otherwise would be irrational.” (Downs, 1957, p. 93). To put it simply, fighting strong interest groups to provide advantages to the general people, who may not even be aware that they exist or who provided them, does not directly pay off. As a result, there are few incentives for prudent administration that serves the public good, and one does not have to be genius to recognize the overwhelming power of lobbyists working for the key sectors; such as energy.

An interesting and somewhat intriguing argument on this is presented by Buchanan. He (1993, p. 69) states that political actors are not always motivated to deviate from public interest motivational postulates, just because they are initially driven by other goals. Instead, in order for them to survive at all, the structure of the politics in which they operate compels them to act against the interests of the general public. Because politicians, like the rest of us, are occasionally driven by self-interest, we may not always see the outcomes we want. The reason behind the outcomes we observe is that the political incentive systems ensure the survival of politicians who deviate from standards of public interest. For similar reasons that private sector firms are compelled to pursue maximum profits, politicians are compelled to pursue goals in their own best interests (Buchanan, 1993, p. 69). When we look at the bureaucracy; we see a similar picture. It would be very unlikely to expect pro-degrowth initiatives from a budget maximizing bureaucrat who has strong ties with politicians and also special interest groups.

A clean environment is one of the promises of degrowth and it can be considered as a public good. Just like any other good there must be an equilibrium price and equilibrium quantity of clean environment. A simple Marshallian cross diagram can present us these points. What we are looking here is the marginal benefit of clean environment (which gives us the demand for clean environment) and the marginal cost of clean environment (which gives us the supply of clean environment). The same demand

and supply curves can be considered as the demand for and supply of degrowth. In a political process although the demand comes from the general public, the supplier is mostly the political authority. Obviously, the political actions of the governments (laws and regulations pushing for degrowth and so clean environment) determine the supply curve. For the politician, the price of that supply is the loss of income and employment that would be caused by degrowth (at least in the short run, which could cost him/her his/her post). The same is the price that would be paid by the general public, and the higher that price is the lower the demand for degrowth would be. The average consumer would demand for maximum environment quality with minimum degrowth. This is the case for the politician as well, since she/he would seek to supply clean environment (generating agenda) with minimum losses in her/his support.

At this point the primary actors in question are not just the politician and the average citizen. Bureaucrats can also have a timid approach to degrowth having their own maximization concerns in their minds, as noted above. Rationality of all the actors is one of the main assumptions of the public choice approach. Yet with that famous quote in our minds, the “long run is a misleading guide to current affairs. In the long run we are all dead.” (Keynes, 1924, p. 80), the rational behavior that we may expect from these actors would not deviate from utility maximizing short-sighted behavior of mainstream economic theory. This would make degrowth policies extremely difficult to initiate and to support on behalf of politicians, bureaucrats and the average citizen. One viable solution to the puzzle faced by the politician (clean environment vs losing the elections because of the price paid by the general public) is an institutional arrangement, similar to a constitutional change for example, that would force not only the current administration but also the successive ones.

The main point of this article is quite bleak following the classical tradition of Thomas R. Malthus & David Ricardo which rendered economics the title dismal science. As long as profit maximization is the primary goal of today’s business world degrowth is not a viable option for only firms and firm owners, but also for regular people, politicians and bureaucrats from the point of view of the public choice approach. It is not impossible to find academic works challenging this fact. However, the limited number of environmentally friendly or eco-friendly businesses all over the world and their limited impact despite the visible damage the earth suffers prove the argument of this article right.

Free-rider problem is another problem that pro-degrowth population may suffer from within. According to Hardin (1990, p. 185) “The disconcerting implication of public-choice theory is that majoritarian democracy is both conceptually and motivationally flawed.” There is always a free rider problem in costly collective action decisions. Degrowth is a costly collective action decision and it can be achieved through individual contributions. If a person can get away without paying the price incurred by degrowth and benefit from the contributions of others, s/he would do so, making a sanction necessary for non-cooperation. Or as Hardin (1990, p. 193) depicts:

If many of us would benefit from completion of a project that no one of us could afford to undertake alone, we may confront the perversities of the logic of collective action. If we depend voluntary contributions to our collective interest in this project, I may wish to take a free ride on the efforts of others. My own contribution, whether an equal share or otherwise, might benefit me less than it would cost me, even though, if all of us contribute, all of us benefit more than our own contributions. Alas, we may all try to free ride and may therefore all fail to benefit from the project.

In the context of this work, the collective interest in question is degrowth. It may well be affected negatively by the free-riding behavior of even degrowthers, let alone average citizens.

Conclusion: Insights for Degrowthers

In a recent article, Gräbner-Radkowsch & Strunk (2023a) provide a structured literature review of the discourse surrounding degrowth and the developing world, identifying two main narratives: one highlighting synergies and the other emphasizing challenges. This article challenges degrowth from the public choice perspective, yet it also articulates that the same approach can provide critical insights for degrowthers. Degrowth policies, with their potential to offer a sustainable future and improve current living standards, could benefit the majority of society, if not everyone. However, individuals, politicians, and bureaucrats driven by private interests tend to favor economic growth. Additionally, state policies often do not align with the preferences of individual voters, even if those voters support degrowth. As we've previously noted, a rational voter might avoid supporting degrowth policies, even if these policies would benefit them or future generations, due to short-term priorities or conflicting interests.

So far, the basic argument of this article was that downscaling economic activities in this current profit and utility-centered world economic system is impossible. Expecting rich nations to abandon growth as a policy objective and embrace post-capitalist economic policies, as suggested by Hickel (2018), is not realistic in the short run, no matter how threatening environmental degradation becomes. However, this does not mean that nothing can be done at least to mitigate the destructive effects of uncontrolled growth. It is clear that society's obsession with growth will not fade anytime soon. One way of creating a cleaner environment through profitable investments is to focus on increasing human welfare by building a better infrastructure and improving environment within the existing profit-oriented system. In short; degrowthers must focus on market-based solutions within the capitalist system no matter how critical they are of the system itself. One path to follow can be encouraging people to consume more services than goods and therefore forcing the economic system to produce more services than goods, diminishing the destructive effects of growth without sacrificing it.

Naive policy proposals do not offer realistic solutions and it is unlikely to expect profitable yet welfare enhancing investments (for the average citizen) from private entrepreneurs. Politicians and bureaucrats who control the state apparatus will not favor degrowth unless they see a future in it for themselves. At this point, forming powerful interest groups emerges as a way of convincing them. Because of its cost, it is not easy for degrowthers to form influential interest groups, but once they are established, they may benefit from logrolling practices of legislators. Organized and powerful groups "can bring strong pressure and persuasion to bear on legislators or executive government." (Orchard & Stretton, 1997, p. 412). If pro-degrowth interest groups can cooperate with different interest groups with common goals (or at least with goals indifferent to each other), they may overcome the resistance coming from other interested parties. As Akbulut (2021, p. 106) states it is difficult to figure out how to keep a broad set of ideas open while working on different strategies and actions at various levels. This is a challenge that needs more attention and stronger efforts in the push for degrowth politics. If we admit that change is possible within the existing system through shifting power relations, then the public choice approach provides a trojan horse for the advocates of degrowth.

Another solution can be found in constitutional economics. As such, degrowth can be discussed within the confines of constitutional economics, instead of within the parameters of mainstream. Because as Buchanan (2004, p. 60) states, there is clear-cut distinction between constitutional economics and ordinary or orthodox economics. In orthodox economics choices are made within constraints and these constraints are imposed exogenously to the individual who makes the choice. These constraints restrict "the set of feasible choice options" and they "may be imposed by nature, by history, by a sequence of past choices, by other persons, by laws and institutional arrangements, or even by custom and convention." The approach of constitutional economics is totally different. It "directs analytical attention to the choice among constraints." i.e. the exogenous or given constraints are no more. One

should keep in mind that political, social and economic decisions are shaped within the framework set by the constitution.

As a final word, public choice advocates admit that in certain aspects “[man] is an individual utility maximizer, in a reasonably narrow hedonistic sense” and “in other aspects man is adaptive and associates or identifies himself readily with the larger organizational group of which he forms a part, including the political group” (Buchanan & Tullock, 1999, p. 20). The former may prioritize his/her income, so welfare, the latter on the other hand may prioritize environmental concerns. Public choice examines how personal incentives shape the ability of different groups to organize and exert power over others. If government outcomes are often the result of the collective actions of self-interested individuals rather than a benevolent pursuit of the public good, as public choice theorists put forward, then degrowthers must adopt the rules of the game. Hence, although at first glance, the public choice perspective seems an unlikely choice to assess degrowth, it has the potential to provide useful insights for degrowthers.

Compliance with Ethical Standards

Ethical Approval

Ethics committee approval is not required for this study.

Author Contributions

The author solely contributed to the conception and design of the study, data collection and analysis, as well as the writing and revision of the manuscript.

Declaration of Conflicting Interests

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The Authoritarian Rise of China and Its Geopolitical Dilemma

Çin'in Otoriter Yükselişi ve Jeopolitik İkilemi

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Abstract

China's rise as a global superpower is one of the defining challenges of the 21st century. This transformation impacts the security and prosperity of its neighboring countries and the future of the international, rules-based world order and global security. Beijing's rapid economic growth has fueled its defense industry and accelerated its military expansion, encouraging its leadership to pursue assertive foreign policies and "wolf-warrior" diplomacy. China has extended its global influence through establishing Confucius Institutes and the Belt and Road Initiative (BRI). Its funding of infrastructure projects, particularly in economically vulnerable countries, has fostered dependency on Chinese supply chains and markets. Additionally, China's "debt-trap diplomacy" and efforts to forge alliances with authoritarian regimes have positioned it as an alternative to the United States, gaining the attention of authoritarian leaders worldwide. Despite these achievements, China faces significant geopolitical vulnerabilities, including hostile relationships with neighboring great powers, a declining demographic profile, a lack of political reform in its authoritarian system, dependence on global markets, and challenges in securing energy and food supplies. These weaknesses constrain China's ability to project power and outcompete its rivals on the world stage.

Keywords: China, Authoritarian Rise, Global Rivalry, Geopolitical Weaknesses, Future Dilemmas.

Öz

Çin'in küresel süper bir güç olarak yükselişi, 21. yüzyılın en önemli olaylarından biridir. Bu durum sadece komşu ülkelerin güvenliği ve refahını değil, aynı zamanda tüm insanlığın geleceği ve hukuka dayalı mevcut uluslararası dünya düzeninin kaderini de etkileyecektir. Pekin'in hızla ekonomik açıdan büyümesi, onun savunma sanayisini finanse edebilmesine olanak sağlamış ve askeri açıdan yükselişini hızlandırmıştır. Bu husus Çin liderlerinin yayımladığı dış politika ve "kurt savaşçı diplomasisi" düşüncesini izlemesi konusunda cesaretlendirmiştir. Çin ayrıca Konfüçyüs okulları açarak ve Kuşak Yol Girişimini (BRI) hayata geçirerek nüfuzunu dünya çapında genişletti. Pekin'in özellikle yoksul ülkelerdeki altyapı projelerini finanse etmesi, tedarik zincirlerine ve pazarlarına olan etkisi bu ülkelerin Pekin'e bağımlı hale gelmesine fırsat oluşturmaya devam etmiştir. Ayrıca dünya çapındaki borç tuzağı diplomasisi ve ortakları satın alma girişimleri, Çin'i ABD'ye alternatif olarak görmeye başlayan otoriter liderlerin dikkatini çekmiştir. Son çeyrek asırdaki göz alıcı başarılarla rağmen Çin'in, büyük rakip güçler tarafından kuşatılmış olması, demografik bozulma, dünya pazarına bağımlılığı, otoriter siyasi sistemde reform eksikliği, enerji ve gıda güvenliğinin korunmasındaki zorluk gibi jeopolitik zayıflıkları bulunmaktadır. Bu, Çin'in rakipleriyle olan rekabetteki etkinliğinin güçlenmesi ve manevra kabiliyetini sınırlayıcı etkenlerdir.

Anahtar Kelimeler: Çin, Otoriter Yükseliş, Dünya Hakimiyeti Rekabeti, Jeopolitik Zayıflık, Gelecek İkilemi.

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The Authoritarian Rise of China and Its Geopolitical Dilemma

China emerged as a successful state in World War II and secured its seats in the United Nations Security Council. During the civil war, the Chinese Communist Party (CCP) took control of China with the help of the Soviet Union and built the world's largest communist state. Until 1950th China achieved the world's largest land grab since World War II (Navarro, 2011) by invading Manchuria, South Mongolia, East Turkistan, and Tibet. These territories, rich in natural resources and strategically valuable, bolstered China's rapid development and strengthened its geopolitical position. Additionally, China extended its claims to maritime territories. In 1946, the Chinese navy included 41 older Chinese ships plus 82 transferred from the US and 9 from the UK. For the first time in recorded history, a Chinese official set foot on one of the Spratly Islands (Hayton, 2015). These were the roots of the current territorial disputes between China and other surrounding countries. Today, China's ambition for expansion is getting even bigger in parallel with its increasing national power.

The transformation of China began in earnest in 1971, when it ended decades of isolation by allowing integration into the global community, aided by the United States. Moreover, in 1978, it successfully implemented economic reform and opening door policies, and in 2001, it joined the World Trade Organization. During this period, Western nations, along with Japan, South Korea, Taiwan, Singapore, and Israel, provided China with substantial support, including economic, technological, and political assistance. In 2010, China, the world's second-largest economy and had more than 2.5 trillion foreign exchange reserves, still received about 2.5 billion dollars in foreign aid, with about 1.2 billion dollars coming only from Japan (Keating, 2010). More interestingly, Japan, which is the world's third-largest economy, together with Germany, Britain, and other developed economies continue feeding up the world's second-largest economy. In addition, they invested billions of dollars in China, opened the markets to Chinese goods, helped China build its economy, and accelerated industrialization through knowledge sharing and technology transfer. Furthermore, they kept a blind eye to Chinese manipulations of foreign trade, stealing technology, and violating international norms and values.

The collapse of the Soviet Union, the United States, and its alliance miscalculations about China gave Beijing an invaluable opportunity to develop its economy, strengthen its military, and build up its industry in a short period. Western idealistic policy and wishful thinking of "change China through trade" failed. China very prudently exploited Western weakness to its benefit. When the world powers awakened, China had already become more prosperous and stronger than ever. Contrary to Western thinking, Chinese leaders have become more authoritarian, more ambitious, and more emboldened with the steadily increasing overall national strength. Today, China is the world's largest industrial power and the world's largest economy by purchasing power parity, and it holds the world's largest standing army equipped with cutting-edge technology. Its influence already extended beyond its region and became one of the global superpowers and the only systematic rival of the United States. In addition, the gap between China and its adversaries narrowed rapidly toward Beijing's interests. If this trend continues without interruption, China has great potential to develop and surpass its rivals in a medium or long period. In 2017, at the beginning of his second term, Chinese President Xi declared that "China has stood up, grown rich, become strong and is moving toward the center stage" (Wingfield-Hayes, 2022).

China seeks Indo-Pacific regional hegemony in the near term and the displacement of the United States to achieve global pre-eminence in the future (U.S. National Defense Strategy, 2018). China's growing ambitions and expansionist policies have caused great alarm around the world. China's massive military build-up, 750% growth in defense spending over the last

10 years, and unilateral territorial claims have irritated its neighbors and become the main cause of the accelerating arms race in the Hindu-Pacific region. In response to China's authoritarian rise, America declared that "China Poses the Largest Long-Term Threat to the U.S." (U.S. Department of Defense, 2019). The European Union also stated that China is a "systematic rival" to its interests (Small, 2020). Countries in the Hindu-Pacific region responded by accelerating military build-up and strengthening defense ties with America. Some countries joined the American-led security constructions QUAD in the region.

As China grows, its problems do follow suit. China's steady rise increasingly faces external pressure and is forced to struggle with rising internal problems. The CCP's outdated authoritarian policies failed to cope with its economic developments. CCP leaders' oppressive mindset became a barrier to growing free enterprises and the development of innovative thinking. The deteriorating demographic structure was mainly caused by the CCP's unethical policies adversely affecting its overall future developments. Geopolitical problems both at home and abroad dependence on the world market, and deepening reliance on foreign food products and energy resources to meet increasing domestic needs adversely affect Beijing's competition with its rivals.

Confronting such a reality, some questions arise, such as what is the CCP's real nature and intention? Is it trying to dominate the world and build the China-centric world order "Tian Xia" through its "BRI"? What CCP advocated for a shared future for humanity? What does it mean to the world? Can China be strong enough to replace the United States? What would be the response of the United States and other countries in different parts of the world to expansionist China? How will it affect the world and the future of humanity? This study employs qualitative analyses to answer these questions by evaluating China's advantages and disadvantages and potential and hidden weaknesses from both domestic perspectives and international developments.

Research Methodology

The study of China's authoritarian rise and its geopolitical implications necessitates a comprehensive and multi-faceted approach. This research begins with an extensive review of existing literature to examine the historical roots and evolution of China's authoritarian regime, identifying the factors that have driven its rise. It explores how China's political system has struggled to adapt to the demands of economic reform and globalization, ultimately becoming a barrier to sustained growth and integration into the liberal international order.

Primary sources such as academic articles, books, policy papers, and reports from reputable institutions form the foundation of the analysis. These sources provide insights into China's domestic and international strategies, enabling a nuanced understanding of its political and economic trajectory. The study employs qualitative methods, including case studies, comparative analysis, and expert opinions, to identify key trends and patterns

The collected data is synthesized into a coherent narrative that evaluates both the strengths and vulnerabilities of China's rise. Particular attention is given to how Beijing's authoritarian practices impact its global ambitions, its interactions with rival powers, and its long-term economic and political stability. The research also examines the implications of China's policies for global security, international relations, and the future prosperity of the nation itself. By combining theoretical analysis with empirical evidence, the study aims to illuminate the challenges and dilemmas facing China as it navigates its ascent to global prominence.

Literature Review

The rise of China as a global superpower has been a subject of significant scholarly interest, with researchers analyzing its implications for international security, economic stability, and the global balance of power. The literature broadly addresses three key themes: China's authoritarian political system, its strategic economic initiatives, and the geopolitical challenges it faces. Scholars argue that China's political system, rooted in authoritarian control, has played a dual role in its rise. On one hand, centralized governance under the Chinese Communist Party (CCP) enabled rapid decision-making and state-driven development, contributing to economic growth and technological advancement (Pei, 2006). On the other hand, this system stifles innovation, restricts individual freedoms, and generates internal dissent, posing long-term challenges to sustainable development (Nathan, 2003). The CCP's hierarchical structure and lack of political reform are identified as critical barriers to fostering a more inclusive and adaptive society (Shambaugh, 2016).

China's economic growth has been underpinned by its strategic initiatives, such as the BRI and its integration into the World Trade Organization (WTO). These strategies are seen as efforts to expand China's influence, particularly in developing regions, by providing infrastructure investments and establishing economic dependencies (Jones & Zeng, 2019). However, critics highlight the risks associated with "debt-trap diplomacy," where recipient countries become economically beholden to Beijing, raising concerns about sovereignty and exploitation (Brautigam, 2020).

China's geopolitical landscape presents significant challenges to its aspirations of global dominance. The country's territorial disputes in the South China Sea, strained relations with neighboring powers like India and Japan, and growing tensions with the United States exemplify the obstacles to its rise (Goldstein, 2005). Scholars also emphasize demographic decline, energy dependency, and the vulnerability of China's coastal industrial hubs as key weaknesses that could undermine its long-term ambitions (Friedberg, 2011). These challenges are compounded by international resistance to China's authoritarian practices, as countries increasingly align to counter Beijing's influence (Allison, 2017).

The literature reveals a complex interplay of strengths and vulnerabilities in China's rise. While its centralized governance and economic strategies have accelerated its growth, internal inefficiencies and external pressures limit its capacity to achieve unchallenged global hegemony.

Authoritarian Political System as a Stalemate

China's most significant challenge does not stem from external threats posed by powers such as the United States, Russia, or India, nor from internal dissidents or ethnic minorities such as Uyghurs and Tibetans. Instead, it lies within its authoritarian political system. The Chinese Communist Party (CCP), despite overseeing decades of rapid economic development, has failed to modernize its governance structure to align with global democratic norms and the needs of its society (Kasim, 2029). Current rents and privileges also deter the elite from implementing serious political reforms, leading to a trap that prevents the completion of the transition process and continues to harm economic efficiency (Székely-Doby, 2018). Without successful political reform it's difficult to sustain economic growth and lack of political reform is considered an obstacle to the future success of economic reforms (Jinglian, et al. 2016)).

For over two thousand years, China was ruled by authoritarian rulers in which the King, Emperor, or President had supreme authority. In this hierarchical political system, the relationship is between the ruler and the ruled. Contrary to the modern democratic world, people in China never enjoyed freedom or equal treatment with their rulers. In Chinese

tradition, it is deeply rooted that people are considered subjects and have the mission to obey and serve their masters. In Confucius's tradition, the social relationship is unequal "Fathers were above sons, husbands above wives, older siblings above younger ones, and rulers above their subjects" (M. Elshaikh, 2020). CCP rulers have been accepting and advocating the same mentality and hierarchical tradition for their benefit to create obedient citizens as ancient Chinese Kingdoms did. The CCP believed itself to be superior and people who were considered inferior subjects had the responsibility to obey and respect them.

Despite its enormous economic achievements, technological progress, and increasing military power, the CCP did not want or failed to achieve social progress in terms of liberty, life, and rule of law. The CCP implemented economic reforms but failed to initiate political reforms. China's authoritarian regime has become increasingly repressive in recent years. The ruling CCP maintains tight control over all aspects of life and governance, including the state bureaucracy, the media, online speech, religious practice, universities, businesses, and civil society, and China is considered not free country in overall scores (Freedom House, 2024). China remains a virgin in terms of understanding and applying modern terms of human rights, the rule of law, and democracy. While there is private ownership in China, this does not mean that private ownership is inviolable, as in a democratic world. According to China's Constitution:

"Article 6 "The basis of the socialist economic system of the People's Republic of China is socialist public ownership of the means of production, namely, ownership by the whole people and collective ownership by the working people", and Article 13 states that "The State may, in the public interest and accordance with the law, expropriate or requisition private property for its use and shall make compensation for the private property expropriated or requisitioned" (The Constitution of the People's Republic of China, 2023).

In China, the state controls everything, and the CCP is the sole authority in the state. CCP members comprise less than 10% of the Chinese population. But they are controlling the government, economics, auditions, army, media, and everything that comes to mind in China. As Lord Acton said, "Same moral standards should be applied to all men, political and religious leaders included, absolute power corrupts absolutely" (Acton, 1887). This famous phrase can also apply to modern China. The CCP is undoubtedly the world's most powerful political entity and at the same time, one of the most corrupt. It is widely believed that abusive practices and terrible human rights violations are common in China, and the CCP even committed genocide against its citizens. Today, non-Han nationalities such as Uyghurs, Tibetans, Mongols, Kazakhs, etc., and different religious believers such as Falun-Gung practitioners, Muslims, Christians, and Buddhists are all subjected to oppression. A long-delayed human rights report under pressure from China finally published on August 31, 2022, by the UN says:

"The extent of arbitrary and discriminatory detention of members of Uyghur and other predominantly Muslim groups, according to law and policy, in context of restrictions and deprivation more generally of fundamental rights enjoyed individually and collectively, may constitute international crimes, in particular, crimes against humanity" (United Nations Human Rights Office, 2022).

China violated its commitments in Hong Kong by brutally suppressing its dissidents. Even the Han population has been suffering from maltreatment by the CCP, and cultural revolutions and ongoing oppressive COVID restrictions are prime examples of this. This shows that no one in China is safe from the evil hand of the authoritarian regime. China's authoritarian practice is not limited to China alone. It continuously hijacks overseas Chinese dissidents and human

rights supporters in other countries. China also successfully exported its abusive, authoritarian practices across the globe. In 2016, Amnesty International found:

“Chinese company Huayou Cobalt was using 40,000 enslaved children—some as young as seven years old—to mine for critical minerals in the Democratic Republic of the Congo.... These are just a few examples of China’s horrid practices and subversive influence” (Rubio, 2022).

China’s greatest misfortune is an authoritarian political system that is against modern democratic values. In an authoritarian system, it is difficult to calculate or know people’s thinking and their loyalty to the party or the state. Because people are forced to live under pressure and fear. They are afraid to express their thoughts and real understandings about the developments of any issues or events. Totalitarian regimes such as the CCP can fulfill their dream and mobilize people only through incursion and forces. In 2020, China spent 1.29 trillion yuan on its defense and 1.39 trillion yuan on domestic security (Nikkei, 2022). China’s domestic security spending to control its massive population far exceeds military spending to safeguard itself from external forces. This is simply because authoritarian regimes are generally forced to act with ambiguity and fear of their people; moreover, the fear sometimes exceeds the fear of a foreign enemy.

The Chinese authoritarian political system not only restrains its people from enjoying the freedom of life but has also been a barrier to personal development, exploring innovative potential, and freely using their talent and capability to achieve success and fulfill the personal dreams of over a billion citizens. The CCP in its terms also creates a hardship for its citizens in contact with the wider world, especially in the modern democratic world, by restricting freedom of movement and banning citizens from freely using various types of free social media.

The most dangerous action taken by the CCP, which concerns the most, has been making over 1.4 billion Chinese the enemy of the whole world for its selfish dream of global domination. The CCP’s advocations of expansionist ‘wolf warrior diplomacy’ without abiding by international norms and rules have created fear among its neighbors and mistrust in the wider world.

Under Xi Jinping’s “*rich nation and strong army*”-富国与强军” slogans, China exposed its global ambitions and accelerated its military buildup. Despite the countries struggling with COVID-19 and COVID-related economic hardship, Beijing increased its military budget by about 7.1 % more than the previous year in 2022 alone (Ministry of Finance, 2022). China’s militarization of the South China Sea and increasing incursions into other countries’ territories greatly damaged its reputation and relations with most of its neighboring states. This set alarmed and became one of the biggest reasons for stirring the arms race in the Asia-Pacific region.

China has become an epicenter of the totalitarian worldview, which is against liberal democratic values. Beijing has built close relations with North Korea, Russia, Pakistan, Iran, and other authoritarian regimes in the Islamic world, Africa, and Latin America. However, the CCP has almost no real alliance that is built based on trust and long-term national interest. Relations between China depend on various reasons. In addition, hatred against the West and democratic values, Chinese money, and the pursuit of the personal interest of authoritarian rulers are common and play crucial roles in these relationships. Since such relations fail to reflect the will of the people, they are vulnerable to regime changes or political transitions. Because of the authoritarian nature of the CCP, a political priority of alliance-making is used

to care much about building bilateral relations with the ruling class and undermining people's well-being and common interests.

Russia is one of the classic examples of this. Moscow is historically believed to be one of the greatest enemies and geopolitical natural rivals of China. Even so, they have chosen to maintain close relations. Both mistrust one another and consider each other a great threat to their national security. Close cooperation is not based on long-term national interest or common values; rather, it depends on similar concerns and intentions of anti-west and anti-democratic mindset, envy against America, and determination to overthrow the existing rule-based world order.

On the contrary, the American approach and diplomatic tradition are different from those of the CCP. Washington, most of the time, pursues a comprehensive long-term global strategy that emphasizes protecting American interests worldwide and helps advance its democratic values. It involves strengthening economic, trade, and security relations as well as targeting nations' leaders to pursue winning the hearts and minds of their people via advocating democracy, human rights, freedom, and the common welfare of the people. Successful democratic transitions and prosperity in post-Second World War II Japan, Germany, South Korea, Singapore, Taiwan, etc. are clear success examples of the American model. With the patience and enormous help of the United States, these countries were not only able to achieve economic prosperity and democracy, but most importantly, they emerged as pioneers in advocating democracy, protecting the current liberal democratic world order, and forming strong and reliable alliances with America.

China is becoming more authoritarian and even more aggressive under Xi Jinping's rule. After winning over its rivals and successfully breaking two-term limits in the 20th Party Congress in October 2022, Xi Jinping became a strong man in China after Mao. This was one of the turning points, and since then, China has been entering a new stage of the darkest era. Xi openly declared in his speech that China had already become strong and stood up (Xi, 2022). That means there is no need for former leader Deng Xiaoping's strategy of "hide its capacity and bide its time" anymore. He also advocated too much about building a stronger military, unification, rejuvenation, and struggle. Xi replaced its cabinet with yes-men and hawkish guys who are most loyal to him and share the same ideology.

The rise of the cult of personality and wolf-worrier diplomacy is a very possible sign that the world will have to deal with an even more aggressive China in the future. This might have further accelerated the struggle between China and its neighbors. Competition with America will upgrade rather than downgrade, which is the opposite of many wishful politicians and academic thinking. The fundamental issue is not only Xi's success but also the rising nationalism, expansionist tendencies, and hawkish worldview in China. This has a long-lasting impact not only on economic prosperity and security for China but also has a very strong relevance to the wider world.

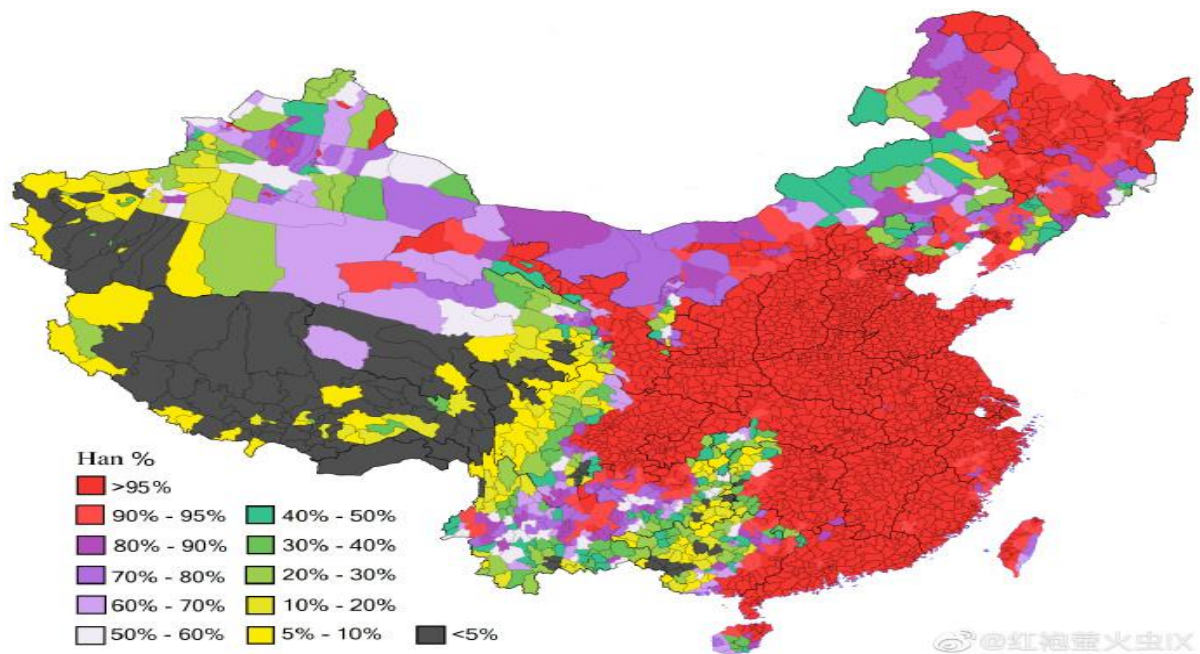
China might become a further unhappy place, and people possibly face more authoritarianism, more restriction of freedom, and curbing free enterprises at the highest level. The world might even be approaching a clash with expansionist China. Chinese expansionist policies might not make China stronger, but they accelerate the isolation of the world market and may cause economic slowdown and even stagnation. Authoritarian and aggressive China will likely be subjected to countering by coalitions. China's actions will strengthen the United States' position in the Hindu-Pacific, and more and more countries that are bordering China or feel threatened by China can easily cooperate with America and become part of anti-China coalitions. If this happens, it will be more likely to endanger the economic prosperity, sustainable development, and security of China, contrary to the CCP leaders' dream of becoming the central power of world politics.

Unfavorable Geopolitical Environments

China is a geographically large and very diverse country. It is not as homogenous as many believe. Today, more than two-thirds of China's territory was integrated into its mainland only after World War II. They are included in the Northeast is Manchuria, in the North is South Mongolia, in the Northwest is the Uyghur region, Southwest is Tibet, and so on. These newly integrated regions are ethnically, linguistically, culturally, and historically different from the mainland Han populations. And all of them are located on the border with the outside world. These regions in which minorities live cover 64.3% of the landmass, which is approximately 90% of the Chinese border lines (Clarke, 2016; Kasim, 2021). Since the occupation, China has implemented systematic assimilation policies and supported Han migration into the borderlands. Today, the Han have become the dominant ethnic group in Manchuria and South Mongolia, but in the Uyghur region and Tibet, local populations are still dominant. Chinese forced assimilation and genocidal policies toward different ethnic groups, especially Uyghurs, have been a major concern in the modern world.

Figure 1

Han Dominance in China



Source: Vividmaps, 2021.

According to 2020 statistics, China's population density was 150 people per sq. km, and it seems in a better position compared to some other countries such as Bangladesh 1265 people per sq. km) and India 464 people per sq. km (World Bank, 2020). China possesses large territories and the world's largest population, but there are huge disparities and unequal distributions among them. China's large majority of the population is in the coastal regions, especially between two river basins in the East, in which the area is mostly Han dominant. Over 90% of China's population lives in about 40% of the landmass. The population density of these regions is over 400 people per sq. km, and even in some places like Macao in 2021, the population density exceeded 20800 people per sq. km (Zhongguo Xinwen Wang, 2021). But most of the territory in the North and West are sparsely populated, and these buffer zones are where most of the non-Han ethnicity used to live. The Han population, densely settled in Chinese coastal regions, has benefited enormously from Chinese economic reform, opening to the world market, and rapid economic developments in the past several decades. They get the

first advantage of investment, trade, and government support for economic development. However, the inner regions and most borderlands did not have enough government support for economic development as their peers in the east. The disparity in economic prosperity between different regions and communities has been a major social problem that the CCP faces today. In addition, ethnic discrimination and forced assimilation policies have been some of the biggest causes of mistrust and ethnic tensions in China. These ethnic issues, which are mainly caused by unequal treatment and inhumane policies, also become major political and security challenges for Chinese governments.

The CCP's inability to deal with internal problems and failure to cope with the modern world is increasingly becoming a geopolitical flaw, and it might have a consequential effect on China's foreign policy and power projection around the world. In the globalized modern world, there is no single issue considered solely internal issues of any country. The world community also keeps a close eye on China's domestic policies, including the treatment of various ethnic and religious communities. China's worst treatment of its people has set alarms in many parts of the world. This phenomenon also negatively affects China's international image. The world powers increasingly question the true nature of the CCP and its real intention. Because every development in China has directly and indirectly affected the interests of the wider world community.

While the world is developing very fast, technology brings people closer, communications between countries have increased even before, and the national border has become more irreverent, at least in some parts of the world. However, the reality is that geopolitics still matters today. China's rise may not be as good news for everybody to hear, especially the one that is neighboring China and has security concerns of its own. History taught that when a country rises, it naturally begins to expand its influence one or another way. This means that one's gains are at the same time means another loss. There is no such thing in the real world as "win, win" or "shared future destiny of mankind" except in theory or propaganda. China for a long time concealed its true intention and succeeded in manipulating the world by stating that China's rise only brings peace and prosperity, and this is good for all humanity. Despite the warnings of some wise intellectuals like Peter Navarro, who penned "Death by China: Confronting the Dragon - A Global Call to Action" (Navarro, 2011), and Michael Pillsbury, with his intellectual work "The Hundred-year Marathon: China's Secret Strategy to Replace America as the global superpower" (Pillsbury, 2015), who has a deep understanding of China's politics, true nature, and evil intentions of the communist party, world leaders and greedy elites ignored these warnings. Instead of taking immediate and decisive actions, they have chosen to live in oblivion as if they were on honeymoon with communist China. Today, some of them wake up and come to the real world. Then, they began to see a different China, which is economically prosperous, militarily strong, technologically more advanced, politically aggressive, and has a global ambition that is different from what they thought before.

At the end of the Cold War, elites in the democratic world thought that the world was moving toward democratization, and this was an irreversible trend. They thought that when China became rich and prosperous, it would move toward democratization (Kasim, 2021). They invested in and helped Beijing with its overall development. The democratic world is blinded to China's atrocities, authoritarianism, and repression of its people. But when China became more assertive and aggressive in its foreign policy and more authoritarian in its domestic policy, it also transformed economic wealth into military might. Not only China's neighbors but also America began to feel threatened by its presence in the Asia-Pacific region due to China's increasing influence in this region. China's aggressive foreign policies toward neighboring countries by unilaterally claiming territorial sovereignty in East and Southeast Asia and territorial disputes with India and other neighboring countries are also the main

concern (Kasim, 2021). These developments were the opposite of Western democracies' wishful thinking that led to the rise of authoritarianism and the decline of democracy (Law, 2021).

Despite China's enormous potential and great ambition, Beijing has some geopolitical limitations to fulfill its global outreach. This is because China is surrounded by big and strong countries like Russia in the North, India in the Southwest, and Japan in the East, which are not yet ready to accept Beijing's dominance. Japan and India were strongly determined to protect their interests against Chinese aggression. They are working hard to strengthen their defenses and build broader cooperation against the worst possible scenario in the region. Both countries supported the American-led Indo-Pacific Strategy and actively joined QUAD cooperation. All these countries have a similar vital national interest to America in protecting free and open sea lines and safeguarding a rule-based international system. Besides this, they all have concerns about the rising China. Because China is the only country in the world that harbors the intention and, increasingly, the economic, diplomatic, military, and technological power to advance that objective, the capacity to reshape the international order in favor of one that tilts the global playing field to its benefit (The White House, 2022). Chinese dominance not only poses a security threat to this region but also poses systematic challenges, including political, ideological, technological, etc., to all of them. How does dealing with a strong and anti-democratic China directly affect the future security and prosperity of all these countries? That is why balancing against China through close cooperation and alliance-making is not a choice but a necessity for them to survive.

Japan had already begun to abandon its pacifist national strategy and started to invest more in defense via upgrading and buying cutting-edge modern defense equipment, improving the defense industry, and educating personnel. India, Taiwan, and other countries in the Indo-Pacific began to follow in the Japanese footsteps to strengthen their defensive capabilities. While some countries in these regions are economically more dependent on China, they have begun to show a willingness to cooperate with America in the security arena. Indonesia, which has historically close ties with China, signed a deal to purchase France's Rafale fighter jets while also winning U.S. approval for a potential purchase of approximately 14 billion dollars worth of F-15s, as the Southeast Asian country moves to modernize its military considering rising tensions in the South China Sea (Pene-Lassus & Tani, 2022).

If China wants to fulfill its ambitions to become a world-only superpower by overcoming harsh geopolitical weakness, it will not only face American challenges but should better prepare for a possible broader coalition of like-minded and strong countries worldwide or at least in its region. America is determined to build the strongest and broadest possible coalition of nations that seek to cooperate while competing with those powers that offer a darker vision and thwart their efforts to threaten our interests (The White House, 2022). America has geopolitical advantages over China; this is because America has no direct borders of any of these countries and any struggle occurring in these regions does not directly affect its mainland. Besides this, America has no ambition to occupy the territory of other countries that China has, which will give it better positions to ally with other countries. American strategy and advocacy of safeguarding democracy, rule-based international order, and free and open Indo-Pacific cope with the national interests of most of the countries, and it will make a clear comparison of the foreign policy of China, which is so focused on expansionism and bullying of small and weaker states.

Recently, anti-CCP sentiment has been on the rise worldwide. Especially since it is increasingly receiving bipartisan support in America. Under the leadership of newly elected House Speaker Kevin McCarthy, to tackle the emerging Chinese threat, a new committee named "House Select

Committee on the Strategic Competition Between the U.S. and the Chinese Communist Party” was created in the U.S. Congress with majority bipartisan support (Willkie, 2023). These developments will have a lasting impact on geopolitical competition, including the possible armed struggle between China and America. China has natural geographical barriers and buffer zones such as the Himalayas, Pamirs, Altay Mountains, Gobi Desert, and so on in its land borders, which help protect against external attacks. However, struggling with major sea powers may not bring good luck to China. Its eastern plain and coastal regions, in which most of the Chinese population is inhabited, major industrial bases are located, major ports, cities, and the majority of commercial and economic activities occurring are open to the attack of external air powers and strong navies like what America and its alliances have. Any military clash with the United States over Taiwan will have a destructive effect on China’s overall development and bring devastating damage to the Chinese economy. Heavy loss and failure to occupy Taiwan might destabilize the CCP’s rule (F. Cancian, Cancian, & Heginbotham, 2023). In comparison, the U.S. very possibly suffers less because of its geopolitical advantages over China.

China has some like-minded neighbors, such as North Korea, Russia, and Pakistan, which have been supporting Chinese policies in various arenas. However, most of these countries are economically poor, technologically backward, politically corrupt, and lacking modernization. These will not have the capacity to change the status quo of future developments of great power competition in modern times. Russia is the strongest among these neighbors, but Moscow has an agenda to become the regional hegemon. While Moscow has close cooperation with China to counter Western dominance, it is the natural geopolitical rival of China, especially in the Far East and Central Asia. Despite close cooperation between them, any Chinese attempt to power projection or become a hegemon in its backyard Russians will not be ready to tolerate and possibly face a strong Russian challenge.

Demographic Deteriorations

China had been believed to be the world’s most populous country but one of the poorest countries in the world in the 20th century. Since opening its economy to the world market, China has benefited enormously from the abundance of its workforce and low labor costs. Decades-long rapid economic growth mainly comes from Chinese integration into the global market, benefiting second-comer advantages via absorbing, implementing, and expanding existing technologies that were developed mostly in advanced countries without requiring Beijing to spend much more for innovation and research. In addition, the mobilization of its massive population into the workforce was one of the driving forces for the expansion of production and development of the world’s industrial base. Moreover, abundant, and cheap labor costs positively affected the competitiveness of Chinese products and were the main attractive force for foreign capital and investment. Without abundant and cheap labor, it would be too difficult to mention today’s Chinese success and tremendous economic growth.

Table 1

Age Dependency Ratio, Old (% of Working-Age Population) - China, World

Year	1980	2001	2010	2022
China	7	10	12	20
World	10	11	12	15

Source: data.worldbank, 2022.

Recent demographic developments in China show that maintaining this demographic advantage might not be possible in the future. In the past, China benefited from the demographic advantage, which has increasingly diminished due to increasing labor costs and, most importantly, a declining birthrate and rapidly aging populations. China is on the way to suffering an irreversible demographic disaster in the future. This was mainly because governments have made wrong policies without considering social and ethical consequences and have focused too much on short-term material gains in the past decades.

Normally, every state in its initial stage of moving toward industrialization and modernization has experienced economic development, increased welfare, and a gradual trend of demographic decline. This is because countries initially encourage citizens to focus more on pursuing more education, getting involved in the job market, and making a career. With the increasing years of education and improving quality of life, the birth rate among people naturally shows a gradual decline. Most of the developed Western countries and other modernized states in Asia experienced a steady decline in birth rates during their industrialization process. In contrast to countries in West Europe, East Asia, and other parts of the world in which the decline in birth rates was caused by natural social developmental phenomena and choices of families, China's decline in birth rates not only came from natural development but was also mainly related to unethical government family planning policies against the parents' will. CCP's implementations of harsh family planning and one-child policies brought disaster not only for healthy demographic growth but also for ethical, racial, and social consequences for the country. Decades of family planning policies have turned China into one of the most gender-imbalanced countries. The balance between male and female was destroyed because in Chinese tradition, males are considered to continue their family heritage and are preferred over females. Because very limited children were allowed, millions of children, especially females, were killed before they were borne via abortions. Today, in China, there is a larger male population than females. In 2021, the female population accounted for nearly 48.7 % of the total population (World Bank, 2022). This means that nearly 40 million more men are facing difficulty in finding a female spouse in modern China, and this is becoming one of the main social challenges that are difficult to deal with. Moreover, it hurts fertility as well as the sustainability of future healthy demographic growth.

The worst scenario in the coming years is not merely declining population growth but a steady shrinking of the Chinese population. At the same time, it will be one of the worst news for China's future growth since it must face the harsh reality of losing one of its key drivers and abundant and cheap labor force advantages. The ratio of older people (ages 65 and above) to the overall population of China increased from 4% (42.3 million) in 1978 to over 12% (175.3 million) in 2021, and the average age also increased from 20 to 39 in the same period (World Bank, 2022). This trend shows the difference between China and developed countries, and China's population is likely to become older before the country becomes rich. This phenomenon will worsen in the coming years. Because most younger generations aged below 45 were born after 1979, at which time China kicked off implementing unholy family planning and One Child policies. This means that more and more people will join the retired group at an accelerated pace. But there is less and less population coming into the working age. In 2021 alone, the number of people over 65 years old increased by more than 9.92 million, and the number of people aged between 0 and 15 decreased by more than 5.28 million (Chinese National Bureau of Statistics, 2022). Therefore, with the increasing average age and ratio of older people, a lesser number of people are forced to shoulder a greater burden in society, such as paying taxes and feeding a larger population. This will not only harm demographic growth and social welfare but also the overall economic growth of the country. An increasing number

of labor-intensive companies, both domestic and foreign, will move out to advantageous countries like India, Indonesia, and Vietnam.

Lack of Food and Energy Securities

Ensuring a safe, sustainable food and energy supply is one of the top priorities of any country. Food and energy security is also considered to be part of national security. This has become more relevant, especially when a country is in a crisis, has a geopolitical rivalry, and is involved in a war with other countries. In such a critical time, a country that has robust food and energy security would have gained enormous strategic advantages over its opponents, who are dependent on the foreign market and have difficulty in self-sufficiency.

There is a difference among countries in fulfilling the demand for their food and energy needs due to the dissimilar policies, geographic and geopolitical environments, and various dependency levels of global developments. As China's economy and industrial output have grown dramatically in the last several decades, the demand for freshwater, food, and energy has also increased. Nowadays, China is not only the most populous country in the world but also the world's biggest industrial power and largest energy consumer. China needs more food to feed its mass population and energy to meet the steadily increasing demand of a huge and fast-growing economy. Insufficiency in fulfilling the increasing demand for food and energy domestically without relying on foreign markets due to incapability to produce enough food and lack of energy reserves on its own is becoming one of the great strategic challenges for China today and might continue more severely in the coming future.

While in theory greater self-sufficiency in grains remains a policy priority for the government, China is becoming more dependent on foreign markets to fulfill its demand for food. China imported a record-high 164.5 million tons of grain in 2021, up 18.1 % from a year earlier, and the country's food self-sufficiency rate has fallen to 76.8 % in 2020, declining from 101.8 percent in 2000, and the ratio is expected to drop to 65 percent by 2035 (Wang, 2022). This is mainly because of the loss of arable fertile land due to massive urbanization, industrialization, desertification, and soil pollution. According to World Bank statistics, there were more than 125.5 million hectares of arable land in China in 1991, and this number decreased to 119.4 million hectares in 2020 (World Bank, 2021). During the same period, the Chinese population increased from 1.135 billion in 1991 to over 1.41 billion in 2021 (Chinese National Bureau of Statistics, 2022).

Feeding a massive population is always considered not only food security of China but also part of national security. As Yu said,

“No country in modern history has witnessed more unnatural deaths than the People's Republic of China. China is unique in that deaths are not only caused by outright brutality but also simply by the Chinese Communist Party's stupefying incompetence and stupidity... Mao's Great Leap Forward caused the deaths of up to 45 million people, almost the total death toll from World War II” (Yu, 2023).

In modern times, more people died by starvation compared with the Sino-Japanese War and Civil War combinedⁱⁱ. A populous country that has difficulty achieving self-sufficiency in food is also likely to be open to influence by shocks such as natural disasters, wars, regional or global political and economic crises, and so on. Apart from food security, China has a big problem in safeguarding its energy security. While China is considered one of the most energy-rich countries and among the largest energy producers by volume, it faces difficulty in fulfilling its increasing energy demands.

Since its opening up in 1978, China has experienced a decades-long dramatic rise and economic growth. This triggered a rapid increase in energy needs, and after the mid-1990s, China turned from a net energy exporter to an energy importer. Since then, China's dependence on foreign countries for energy imports has steadily increased. China is now the world's largest energy consumer and largest emitter of carbon dioxide. This is mostly because of China's huge industrial sector, which consumes 66% of the country's energy and nearly 60% of its energy needs come from coal (CSIS, 2022).

China wanted to diversify its energy supplies by replacing other energy sources such as natural gas, oil, nuclear, and renewables. However, coal is still the dominant energy source in China, down from 70% in 2001 to 56 % in 2020. Then comes petroleum and other liquids, which comprise 19%, while there has been diversification to clean energy. Natural gas only comprises 9%, hydroelectric sources (8%), nuclear power (2%), and non-hydro renewables account for about 7% in 2021 (U.S. Energy Information Administration, 2022). China's energy production has increasingly failed to meet its increasing energy consumption. China should import more from outside the world to fulfill its energy demand. Statistics from the General Administration of Customs show that "in 2021, China imported 323.216 million tons of coal, an increase of 6.6% compared with the same period in 2020, and 121.356 million tons of natural gas, an increase of 19.9% compared with the same period in 2020. In 2022, the total allowable import volume of crude oil for non-state trading will be 243 million tons, which is the same as that in 2021" (Xinhuanet,2022).

It is assumed that if the Chinese economy continuously grows at a slower pace in the future, its energy demand will also follow suit. China's limited energy resources are considered, and China's dependency on energy imports is very likely to continue to increase without an energy revolution in the future. Dependency on energy is relevant to national security. If a country is heavily dependent on foreign markets for its energy use, it is vulnerable to external shocks. In addition, these energy-dependent countries easily affect regional and global crises, especially when energy becomes a weapon to punish its opponents. The world witnessed its example with the ongoing war in Ukraine, in which energy-dependent Europe stressed safeguarding energy needs against Russian aggression.

Dependence on the World Market and Trading Routes

China has experienced rapid economic growth and development in the past several decades. This is mostly because during this period Beijing received a massive inflow of Western capital, investment, and technology. China has a favorable external environment and developed countries have easy access to their market for Chinese goods. In addition, the Chinese export-derived economy benefited enormously from international favorable environments. Without these, it may not be possible to talk about the dramatic rise of China.

The American idealistic approach to China and ignoring the CCP's true intention played a crucial role in Beijing's gaining opportunities to achieve a dramatic rise. Before Washington thought that China's rapid economic development and accumulation of wealth were beneficial for U.S. interests. They assumed that economic prosperity and trade liberalization also led Beijing to democratization (Kasim, 2019). Beijing exploited the weakness of democracy and the money-hungering business class to achieve its strategic goal of providing false information to transform into a more liberal system when it became rich. Matt Pottinger likened it "We kept feeding the shark and the shark got bigger and bigger. And now we're dealing with a formidable, great white" (Pottinger, 2023). But now they increasingly believe that China, in its development, fooled the world by exploiting its weakness and masking its true intention of world domination:

“Since China joined the World Trade Organization in 2001 and falsely promised to end its mercantilist and protectionist practices, America’s apparel, textile, and wood furniture industries have shrunk to half their size—with textile jobs alone beaten down by 70%. Other critical industries such as chemicals, paper, steel, and tires are under similar siege, while employment in our high-tech computer and electronics manufacturing industries has plummeted by more than 40%. China’s newly modernized Navy and Air Force features everything from virtually undetectable nuclear submarines and the latest Russian-designed fighter jets to ballistic missiles that can precisely target America’s aircraft carriers on the high seas (Navarro, 2011; Kasim, 2019).

When China became prosperous, it transformed its economic power into military might, its foreign policy became more assertive, and its ambition of global dominance became even bolder. However, Chinese leaders must notice its strategic weakness of heavily depending on the world market. China is the world’s largest exporter, and its share in global exports is about 14.7% of America’s share of 8.1% in 2020 (United Nations, 2022). The exports of goods and services to GDP ratio was 20% for China and only 10.9 % for America in 2021 (World Bank, 2022). China exports more of its production rather than consuming domestically compared to its peer competitor, America. China’s dependence on the world market is nearly two times higher than that of the world’s largest economy, America. China’s prosperity is more related to reaching the world market, and Beijing benefited enormously from free and open trading routes and the current international trading system. And its dependence on the world market is much greater than that of America. In addition, China’s main export markets, sources of foreign direct investments, and key technology providers have been America and its key alliances such as NATO and QUAD members.

Some countries including America increasingly realized the danger of dependency on China’s market. During COVID-19, Beijing carried out stringent lockdown measures and a zero-COVID strategy, which have significantly impacted global supply chains, raising concerns among other countries about their dependency on Beijing for essential goods. The COVID-19 outbreak exposed several vulnerabilities in the supply chain of global manufacturers, who realized the extent of their dependence on China. Moreover, several countries realized that they relied on China for key medicines and medical supplies, which cost them heavily during the pandemic (Eos Intelligence, 2021). As countries experienced shortages and delays in critical supplies, there was a growing realization of how vulnerable global economies had become due to reliance on Chinese manufacturing. According to a report by the McKinsey Global Institute, "Lockdowns, shelter-in-place orders, and travel restrictions were disrupting activity in every part of the economy. As they struggled to keep their businesses running, companies were planning significant strategic changes to the configuration and operation of their supply chains" (Alicke, Barriball, and Trautwein, 2021). This shift reflects a broader geopolitical concern where nations are increasingly wary of being too dependent on China, which could leverage its position in times of crisis.

The competition between China and America is intensifying. America sees itself as a guarantor of safeguarding the rule-based current world system and China is increasingly considered as a threat. Countering China's threat, appropriate countermeasures were developed and practiced (Sadler, 2024). In this competition for world dominance, America has unmatched geopolitical advantages over China. The CCP gained its legitimacy in China mostly from economic development, and without accessing foreign investment, technology, and markets, the Chinese economy will face great difficulty in steady growth if not crumble. China’s exports to the U.S. and other high-income countries play a central role in its economy. Together, these advanced countries hold the largest share of global trade compared with China (Allison, 2022). America

has great potential to lead the democratic world and build anti-China coalitions. If Washington can act wisely, it will win the competition against China without suffering great damage.

Contrary to America, China depends on importing a significant number of its energy needs from the international market because of its insufficient energy reserves. At present, China is the world's largest importer of energy and food. Despite heavily investing in renewable energies, much of its energy needs come from the world market, and some of the sources do not come from politically stable regions. For example, over 67% of China's oil consumption comes from the foreign market, and it is estimated that by 2040th China's more than 80% of China's oil will need to be imported. More than 80% of imports must travel through narrow straits and contested waterways before reaching China (CSIS China Power Project, 2022). These critical sealines and trading routes are controlled by the United States with its regional alliance.

Dependency on the foreign market for energy, food, and other critical products restricts political options and limits the maneuvering ability of any country. Therefore, safeguarding its energy flows is crucial to the sustainable development and prosperity of China. While China kicked off BRI and invested massively in building China-centric infrastructure development and creating alternative trade routes, there is doubt that China will overcome this geopolitical dilemma.

America was not only the leader of the post-World War II international system, a pioneer of innovations, and a main source of new thinking and knowledge. Moreover, it controls the sealines and critical trading routes that China depends on. As a current leading country in the world, Washington is controlling the world's main currency in trade, a source of critical and emerging new technologies, and the world's largest consuming market together with its democratic and strong alliance. Any country that wants to prosper needs America and its alliance more than America does. China is not an exception to that. Even so, Beijing became the biggest trading partner with most countries in the world compared to Washington. But this is not enough in a comprehensive and systematic rivalry. China has a way to go and still needs to do more to overcome its rivals. China is too big to ignore and it is not powerful enough to change the status quo on its own without America and its alliance making grave strategic mistakes in the future.

Conclusion

With its landmass, population, economic potential, culture, and history, mainland China is pregnant to becoming a great power. Whoever rules China, no matter which race, religion, or ideology he or she belongs to, will possess a land with great potential that no nations are comparable to except very few countries like India bestowed on the Earth. China's becoming the first world power to surpass the United States of America in GDP size is not considered a miracle or outperforming success. On the contrary, it is a natural phenomenon in a country with over four times more population than America. Normally, being the second biggest world economy might not be considered a source of pride for a giant like China. This is not a normal response for any capable government. Because any assumption that China is catching up with America and becoming equal soon does not cover up the reality that China will not become equal to America in every criterion, but only by the overall size of its economy. In terms of quality, China still lags far behind, and Americans are richer and more productive than their Chinese peers.

The success of Chinese economic growth and developments in the past several decades is eye-catching. This is not because of miracles, or because the Chinese model is the best. But the outcome of abandoning the unrealistic economic policies of the Chinese government after the

death of Mao Ze Dong and implementing economic reform, opening its market, allowing private enterprise, inflowing foreign investment, and technology as well as increasingly engaging with outside the world. China's fast economic growth not coming from innovation-driven but using second-coming advantages via absorbing existing technology and knowledge, which were created mostly in the developed world.

Compared to Taiwan, South Korea, and other successful developed economies in Asia, China still has a long way to go. If Chinese rulers were able to give more freedom and opportunities to their people and provide them an idle platform to explore their talent and a fair environment to compete, China would possibly be in a better position on the world stage today. However, China's authoritarian political system and its characteristics of curbing individual freedom, free thinking, and free enterprises are the main obstacles to Chinese success in every field from science to humanitarian development. Xi Jinping's grasp on power and securing the third term is a sign of a dark shadow not only for the Chinese but also for the development and security of the world. The CCP's ambition to become the central state and dominant power of the world by enforcing its will and subjugating other states in every corner of the world will have a destabilizing effect on regional security.

From historical experience and a strategic viewpoint, the geopolitical environment plays a crucial role in the fate of states. Any country that wants to dominate the world should have considered both domestic developments and international environments to a great extent, and China is no exception. Capability, intention, and viable grand strategy are inseparable parts of achieving a country's ambition. Since the world is too big to be dominated by a single country, ambitious countries must have a clear understanding of their advantages and weaknesses as well as their adversaries. Any miscalculations can have severe consequences. As the world's largest populous country and one of the strongest powers, China has great potential to become a world hegemon, but this does not mean Beijing has no limitations or weaknesses.

Despite its enormous potential, China has a great geopolitical dilemma. The Chinese rise itself is a natural threat to its neighbors and the hegemony of the United States. A more ambitious, aggressive, authoritarian, militaristic, technologically sophisticated, and expansionist state is considered even more dangerous. It will increase the risk of China colliding with the outside world. China is surrounded by great and powerful countries such as Japan, India, and Russia, which do not want to accept others' will and are determined to protect their sovereignty and national interests. There is awareness and concern, especially in Japan and India, about preparing for the worst scenario by strengthening national defense and building greater coalitions to safeguard peace and security in its regions.

China's dilemma in fulfilling its national rejuvenation and global ambitions is not only to face stronger resistance from outside the world but also to face harsh internal realities such as fundamental geopolitical weaknesses, demographic deterioration, and difficulty in safeguarding energy and food security. China depends on foreign energy supply, most of which comes from seelines controlled by America and its allied forces. Any conflict in the region will damage not only the energy and food security of China but also severely affect trading with the wider world market, and without these, China will not sustain itself. Besides this, most of China's industrial and commercial hubs as well as major military components are located near the east and south coastlines, which are very vulnerable to foreign attacks. Especially in any conflict with the United States and its alliances, they can become an easy target for superior American air force or advanced alliance equipment.

China's geopolitical weakness does not mean that it cannot achieve the strategic goal of world domination. Everything is possible for a human being if he is smart enough to solve problems and capable of overcoming his rivals. China's future developments depend very much on

domestic developments and how the international community will respond to Beijing's rise in the coming future. Any other miscalculations and grave strategic mistakes made by the world community, especially leading global players, will play a fundamental role in how China will shape global politics. There are conflicts of interest among American elites and a lack of coherence in the democratic world toward China.

Winning the support of Russia, the Islamic world, and other countries in the Global South will also, to a very extent, play a determining role in the determination of who would be a dominant player in the future world order. China's wisdom and capability to create a viable strategy to exploit the weakness of its adversaries and wider world communities to its benefit will play a crucial role. Beijing has rich experience in it. By building close alliances with greedy elites and major international companies, China masterfully created the interdependence of major world economies, which makes it difficult for its rivals to form coherent strategies and policies toward Beijing. In addition, America and its alliance may face difficulty competing with China in the technological sphere. Because key technologies are widely spread throughout the developed world, they have difficulties in building coherent policies or mindsets against China. This makes it difficult for America to curb China's gaining and developing key technologies. Once China gains a technological advantage, it will be far more difficult for Washington and its alliances to succeed in the competition as well as curb China's potential to become the world's most powerful hegemon.

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Notes

ⁱ This is the same slogan that was implemented during the Qin Dynasty (221-206 BC) to conquer neighboring states by legalist policymakers.

ⁱⁱ There are estimates that about 3,94 million Chinese died in the Sino– Japanese War, although statistics vary. It has been suggested that up to 4,96 million people died during the 1945–1949 phase of the Civil War, and between 1959 and 1962, 38,70 to 76,70 million people (some estimates reach about 90 million) died by starvation (<https://www.hawaii.edu/powerkills/NOTE2.HTM>).

Investigation of Coping Styles and Related Variables in Adolescents with and without ADHD

DEHB Tanısı Olan ve Olmayan Ergenlerde Başa Çıkma Tarzları ile İlişkili Değişkenlerin İncelenmesi

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Abstract

The study aimed to examine the relationship between coping styles, cognitive errors, and perceived parental behaviors of adolescents diagnosed and nondiagnosed with attention deficit hyperactivity disorder (ADHD) and to examine the predictors of coping style in adolescents with ADHD. Another aim of the study was to compare these variables in adolescents with and without ADHD. Data were collected using the Personal Information Form, Perceived Stress Scale, Ways of Coping Inventory, The Children's Negative Cognitive Errors Questionnaire, Leuven Adolescent Perceived Parenting Scale and Conners Rating Scale. The study analyses included 79 adolescents with ADHD and 70 without ADHD. In ADHD group, there was a negative correlation between active coping styles and negative cognitive errors and a positive correlation with parental responsiveness, whereas there was a positive correlation between passive coping and negative cognitive errors. In ADHD group, 34% of passive coping was predicted by cognitive errors. It was found that coping styles and cognitive errors did not differ in adolescents with and without ADHD, but parents' responsiveness was lower, and psychological control was higher in the ADHD group. Based on the findings, it was concluded that improving family relationships in families with children with ADHD and developing alternative thinking methods in adolescents would enhance active coping. There is a paucity of studies on the diagnosed adolescent ADHD group in the existing literature. Furthermore, this study is the only one to examine the adolescent's characteristics and the behaviors of both parents together. For these reasons, it is believed that this study will make a valuable contribution to the existing literature.

Keywords: ADHD, Parenting, Cognitive Errors, Stress, Coping.

Öz

Araştırmanın amacı, dikkat eksikliği hiperaktivite bozukluğu (DEHB) tanısı almış ve almamış ergenlerin başa çıkma tarzları, bilişsel hataları ve algıladıkları ebeveyn davranışları arasındaki ilişkiyi incelemek ve DEHB tanılı ergenlerde başa çıkma tarzının yordayıcılarını araştırmaktır. Çalışmanın bir diğer amacı ise bu değişkenleri DEHB tanısı olan ve olmayan ergenlerde karşılaştırmaktır. Veriler Kişisel Bilgi Formu, Algılanan Stres Ölçeği, Stresle Başa Çıkma Tarzları Ölçeği, Çocuklar için Olumsuz Bilişsel Hataları Ölçeği, Leuven Algılanan Ebeveynlik Ölçeği ve Conners Derecelendirme Ölçeği kullanılarak toplanmıştır. 79 DEHB ve 70 DEHB olmayan ergen çalışma analizlerine dahil edilmiştir. DEHB grubunda, aktif başa çıkma tarzları ile olumsuz bilişsel hatalar arasında negatif ve ebeveyn duyarlılığı ile pozitif bir korelasyon varken, pasif başa çıkma tarzları ile olumsuz bilişsel hatalar arasında pozitif bir korelasyon saptanmıştır. DEHB grubunda pasif başa çıkmanın %34'ü bilişsel hatalar tarafından yordanmıştır. DEHB olan ve olmayan ergenlerde stresle başa çıkma tarzları ve bilişsel hataların farklılık göstermediği, ancak DEHB grubunda ebeveynlerin duyarlılık davranışının daha düşük, psikolojik kontrol davranışının ise daha yüksek olduğu bulunmuştur. Bulgulara dayanarak, DEHB tanısı almış çocukları olan ailelerde aile ilişkilerinin iyileştirilmesinin ve ergenlerde alternatif düşünme yöntemlerinin geliştirilmesinin stresle aktif başa çıkmayı geliştireceği sonucuna varılmıştır. Literatürde tanı almış ergen DEHB grubuna ilişkin çalışmalar az sayıdadır. Ayrıca, bu çalışma, ergenin belirtilen özellikleri ile hem anne hem de babanın davranışlarının birlikte incelendiği görülen tek çalışmadır. Bu nedenlerle çalışmanın literatüre katkı sunacağı düşünülmektedir.

Anahtar Kelimeler: DEHB, Ebeveynlik, Bilişsel Hatalar, Stres, Başa Çıkma.

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Investigation of Coping Styles and Related Variables in Adolescents with and without ADHD

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by difficulty in directing and maintaining attention, hyperactivity and impulsivity, which is frequently observed in children and adolescents (APA, 2013). The prevalence of ADHD in school-age children varies between 5-12% worldwide and it is known that 80% of those diagnosed with ADHD in childhood continue to experience symptoms in adolescence (Morrison, 2022; Sadek, 2014). In addition to genetic and neurological factors, which are believed to play a significant role in the etiology of ADHD, psychosocial processes such as emotional deprivation and parental attitudes are also thought to contribute to the development of ADHD symptoms. Previous studies have also indicated that individuals with ADHD have difficulties in social domains such as interpersonal relationships and coping with stress (Sadek, 2014).

It is established that individuals with ADHD experience elevated levels of physiological and perceived stress compared to those without ADHD. Additionally, they tend to utilize passive coping styles, such as denial and avoidance, to cope with stress (Al-Yagon et al., 2020; Hirsch et al., 2018; Palma et al., 2015; Vogel et al., 2017). The ability to cope with stress requires the use of executive functions such as planning and self-regulation (Hirsch et al., 2018; Taş Torun et al., 2021) and individuals with ADHD exhibit difficulties in these functions, which consequently influence their coping strategies. In addition to cognitive effects, parental attitudes are among the factors that are related to coping with stress (Hardy et al., 1993; McIntyre & Dusek, 1995).

The parent-child relationship has a significant impact on the child's social, emotional and behavioral outcomes. Perceived parental control and emotional warmth are among the factors that determine the child's internalizing/externalizing problems (Muris et al., 2003). Parents' rejecting and punitive control behaviors are associated with behavioral problems (Muris et al., 2003; Roelofs et al., 2006). In addition, parents' supportive behavior was found to be associated with children's interpersonal problem-solving skills (Anderson & Keim, 2016). Research indicates that families with children diagnosed with ADHD tend to experience more parent-child conflict and dysfunctional parenting styles, as well as less communication and emotional involvement (Climie & Mitchell, 2017; Ghanizadeh & Shams, 2007; Johnston & Mash, 2001). Children with ADHD perceive their parents as more controlling and less warm, caring and supportive (Brown & Pacini, 1989; Gau & Chang, 2013; Johnston, 1996). It should be noted, however, that there may be differences in parenting behaviors between mothers and fathers. On the contrary to the fact that there was no difference between the parenting styles of parents of children without ADHD, it was found that mothers of children with ADHD exhibited more democratic approach than fathers (Alizadeh & Andries, 2002).

Parental behaviors are examined in four basic dimensions: responsiveness, behavioral control, psychological control and autonomy support (Sevim, 2014). Responsiveness refers to the ability of the parent to identify and address the needs of the child. Psychological control refers to the parent's intervention and manipulation on the child. Behavioral control is setting of appropriate limits without limiting the autonomy of the child. Finally, the autonomy support refers encouraging child to express and make his/her own decisions (Sayıl & Kindap Tepe, 2016; Sevim, 2014).

Many studies have shown that authoritarian parenting and psychological control are associated with lower self-esteem, more anxiety and approval seeking by interfering with the child's emotions and thought processes (Sayıl & Kindap Tepe, 2016; Sevim, 2014). In contrast, permissive parenting is associated with challenges such as coping with stress, self-regulation and sense of responsibility (Sümer et al., 2010).

Different types of cognitive errors are used in internalising/externalising problems (Leung & Wong, 1998). Studies show that there is a positive relationship between ADHD symptoms and cognitive errors (Abramovitch & Schweiger, 2009; Miklósi et al., 2016; Mitchell et al., 2013; Strohmeier et al., 2016) and individuals with ADHD are more likely to use distortions such as emotional reasoning and decision-making, comparison and perfectionism (Strohmeier et al., 2016).

Adolescence is a period between childhood and adulthood and is usually included in one of these periods and its unique developmental characteristics are ignored. From a developmental perspective, this period contains stressful elements. At the same time, adolescents are learning to navigate these difficulties through the development of new coping strategies. On the one hand, while parental behaviors remain a significant factor, on the other hand, the cognitive processes of the adolescent begin to exert a strong influence during this period (Frydenberg, 1997).

In this study, it is aimed to add a broad perspective to the literature on the above variables by conducting three different analyses.

Firstly, many studies have shown that children and adults with ADHD experience more stress (Salla, 2017; Combs, 2015) and that parents of these children have more authoritarian behaviors (Climie & Mitchell, 2017; Alizadeh et al., 2007). However, these variables have not been sufficiently examined in adolescents diagnosed with ADHD. Studies conducted with non-clinical samples show that there is a relationship between coping with stress and parental behaviors in adolescents (Wolfradt et al., 2003). Cognitive error, which we examined in our study, is a variable whose relationship to stress coping styles has been studied only to a limited extent (Hamarta et al., 2009). However, coping with stress refers to engaging in a particular behavior as a result of various thought processes and it is predicted that coping is highly related to cognitive errors (Frydenberg, 1997).

Furthermore, given that adolescence is a period of transition from childhood, it is anticipated that adolescents will demonstrate more effective cognitive processes. Consequently, the relationship between coping and parental behaviors is expected to weaken, while the relationship with their own cognitive errors is expected to strengthen. In light of the above, the relationship between these variables, which had not been previously examined, was investigated in the group with ADHD in this study. However, considering the characteristics of children with ADHD and their families (such as being more authoritarian parenting, weaker relationships, and more immature behaviors), it is reasonable to expect that these relationships will differ in the group without ADHD. Consequently, the same correlation analyses were also conducted on the group without an ADHD diagnosis.

Secondly, research has shown that individuals with and without ADHD have different cognitive processes, coping mechanisms and parental behaviors (Al-Yagon et al., 2020; Climie & Mitchell, 2017; Overbey et al., 2011). However, the majority of these studies were conducted with adult or child populations and undiagnosed samples. In this study, it was aimed to contribute to the existing literature by comparing adolescents with and without an ADHD diagnosis.

The final stage of the study was to analyse the predictors of stress coping styles in the group diagnosed with ADHD. As a disadvantaged group, maladaptive coping with stress is an important problem in adolescents with ADHD. Identifying the most effective factor will provide valuable insight into the key areas to address at the initial stages of treatment and inform intervention strategies.

Method

Participants

The ADHD group included in the study consisted of 79 adolescents between the ages of 13 and 18 who were admitted to the Child and Adolescent Psychiatry outpatient clinic of Health Sciences University Erenköy Mental and Neurological Diseases Training and Research Hospital between October 2020 and April 2021, met the DSM-5 Attention Deficit Hyperactivity Disorder diagnostic criteria. Participants were diagnosed with ADHD by a child psychiatrist and his assistants. Those who met the criteria then referred to the researchers.

The non-ADHD group consisted of 70 adolescents between the ages of 13 and 18 who were matched with the patient group in terms of age and gender between May 2021 and April 2022, after the completion of the patient group, and who did not indicate that they had any psychiatric diagnosis in the past or currently. For the control group, research permission was obtained from the Ministry of National Education. In order to select a similar socio-economic level with the patient group, the schools of the students in the district where the hospital is located were visited and the students were invited to the study.

The sample size was calculated in the G*Power analysis program. The minimum sample size was determined as 128 children (64 children in the patient group and 64 children in the control group) with an effect size of 0.5, power of 80% and alpha error value of 0.05.

Measurement Tools

Personal Information Form

The demographic information form is created by the researcher to obtain information concerning the participants' age, class, parental status (alive/deceased), number of siblings, parents' education levels and occupations, socioeconomic level of the family and previous/ongoing psychiatric diagnoses.

Perceived Stress Scale (PSS)

The original form was developed by Cohen, Kamarck and Mermelstein (1983). It was adapted into Turkish by Eskin et al. (2013). Consisting of a total of 14 items, the PSS is designed to measure the degree to which certain situations in a person's life are perceived as stressful. Participants evaluate each item on a 5-point Likert-type scale ranging from "Never (0)" to "Very often (4)". It was reported that the Cronbach's alpha coefficient of the scale was .84 (Eskin et al. 2013). In this study, Cronbach's alpha value of the scale was found to be .61.

Ways of Coping Inventory (WCI)

The "Ways of Coping Inventory" developed by Folkman and Lazarus (1984) was adapted into Turkish by Şahin and Durak (1995) under the name of "Stress Coping Styles Scale". The scale consists of 30 items and 5 sub-dimensions. The sub-dimensions are self-confident approach (7 items); optimistic approach (5 items); helpless approach (8 items); submissive approach (6 items) and resorting to social support (4 items). The scale is answered on a 4-point scale (0- Not at All Appropriate, 3 - Very Appropriate). Cronbach's alpha value of the scale is calculated .68. As a result of the factor analysis, two main dimensions were obtained: problem-oriented/active and emotion-oriented/passive styles (Şahin & Durak, 1995). In this study, Cronbach's alpha value of the scale was found to be .65.

The Children's Negative Cognitive Errors Questionnaire-CNCEQ

The scale, originally named "The Children's Negative Cognitive Errors Questionnaire-CNCEQ", was developed by Leitenberg, Yost and Carroll-Wilson (1986). The Turkish adaptation of the scale was conducted by Aydın (2006). It consists of 24 items and 4 sub-dimensions. The sub-dimensions are catastrophising, overgeneralisation, personalisation and selective abstraction. The scale is a 5-point Likert scale (5="Almost exactly like my thinking"; 1="I never think like that"). The items cover three content areas: social, academic and athletic. The total scale score ranges from 24 to 120. In each subtest include items from social, two from academic and two from athletic domains. It was reported that the Cronbach's alpha coefficient of the scale was .91 and two-half test reliability was .87 (Aydın, 2006). In another validity-reliability study conducted by Karakaya et al. (2007), three factors were obtained: catastrophizing, personalization and selective perception. In the current study, Cronbach's alpha score of the CNCEQ was found to be .92.

Leuven Adolescent Perceived Parenting Scale-Adolescent Version (LAPPS/a)

Originally developed by Soenens et al. (2004) LAPPS/a was adapted to Turkish by Sevim (2014). The scale is a 5-point Likert-type scale and consists of four dimensions, namely LAPPS, responsiveness, behavioral control, psychological control and autonomy support. The LAPPS/a has 28 items with 7 items in each dimension. The 28 items in the original scale were arranged as 21 items in the adolescent mother version and 19 items in the adolescent father version. The internal consistency coefficients of the scale were found .88 for responsiveness, .58 for behavioral control, .81 for psychological control and .72 for autonomy support in the adolescent mother version; .91, .78, .77 and .67 for autonomy support in the adolescent father version, respectively (Sevim, 2014). In this study, Cronbach's alpha score of the scale was found to be .92, .73, .84 and .83 for mother version; .92, .77, .78 and .75 for father version, respectively.

Leuven Adolescent Perceived Parenting Scale-Parent Version (LAPPS/p)

The scale has four dimensions and consists of 24 items, including 7 items in the responsiveness dimension, 4 items in behavioral control, 7 items in psychological control, and 6 items in autonomy support. The internal consistency coefficients of the original scale were calculated .75 for responsiveness, .66 for behavioral control, .82 for psychological control and .63 for autonomy support (Sevim, 2014). In this study, Cronbach's alpha value of the scale was found to be .78, .64, .63 and .69, respectively.

Conners Rating Scales (CRS)-Short Form

Conners Rating Scale developed by Conners (1969, 1970, 1973) measures attention deficit, hyperactivity and behavioral problems in children. The short form of the scale was developed by Goyette et al. in 1978. This short form was adapted into Turkish by Dereboy et al. (2007). Conners Parent Rating Form consists of 48 items and five subscales. In the 4-point Likert-type scale, a higher scores indicate that the symptoms are more severe. Conners Teacher Evaluation form evaluates children's attitudes and behaviors in the classroom. The teacher form consists of 3 subscales and 28 items. A high score on the 4-point Likert-type scale indicates that the symptoms are more severe (Dereboy et al., 2007).

Procedure

Ethics Committee of İstanbul Erenköy Mental and Neurological Diseases Training and Research Hospital approved the study on 02.03.2020 with decision number 7.

After preliminary information was given to both adolescents and their parents, written informed consent form was obtained from the parents of ADHD and non-ADHD group. Volunteers were informed that they could interrupt the study when they felt uncomfortable.

Self-report scales were used to obtain the research data. Among these scales, Personal Information Form, Ways of Coping Inventory, Perceived Stress Scale (PSS), The Children's Negative Cognitive Errors Questionnaire (CNCEQ) and Leuven Perceived Parenting Scale-Adolescent Version were completed by adolescents; Conners Rating Scale-Parent Form and Leuven Parenting Scale-Parent Version were completed by parents; Conners Rating Scale-Teacher Form was completed by teachers. Since the data collection process of the adolescents in the ADHD group occurred during the period when schools were closed due to the COVID pandemic and their diagnoses were determined by the psychiatry outpatient clinic, the teacher form was not taken from this group.

A total of 205 adolescents from the ADHD and non-ADHD groups were reached for the study. Of these participants, 79 were in the patient group, and 126 were in the non-ADHD group. However, 56 people who did not meet the inclusion criteria in the non-ADHD group (describing a psychiatric disorder as self-report in Personal Information Form, having a score above the cut-off score on the Conners scale, and whose parental forms could not be reached) were not included in the analyses. The analysis included 79 adolescents diagnosed with ADHD and 70 adolescents in the non-ADHD group.

Statistical Analysis

The data were analysed using Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL) version 26.0. Sociodemographic characteristics of the participants were determined by frequency analysis. Quantitative variables were expressed as mean scale scores and standard deviation values, and qualitative variables were expressed as frequency. The normality distribution of the data was analyzed by Shapiro-Wilk test. In the analyses, Independent Sample t-test was used when parametric test assumptions were met in the comparison of continuous variables and Mann Whitney U test was used when parametric test assumptions were not met. These analyses were used to compare the variables in the ADHD and non-ADHD groups. Correlations between variables were analysed using Pearson Correlation Coefficient when parametric test assumptions were met and Spearman Correlation Coefficient when assumptions were not met. The predictor variables of coping styles were tested with simple regression analysis. All analyses were conducted using appropriate analyses, as long as the analyses met the necessary assumptions.

Results

Table 1 shows demographic characteristics of participants.

Table 1

Demographic Characteristics of Participants

Baseline characteristics	ADHD		Non-ADHD		Full Sample	
	n	%	n	%	n	%
Sample group	79	53	70	47	149	100
Gender						
Girls	26	32.9	43	61.4	69	46.3
Boys	53	67.1	27	38.6	80	53.7
Class						
Grade 8	4	5.1	5	7.1	9	6.0
Grade 9	22	27.8	14	20.0	36	24.2
Grade 10	14	17.7	18	25.7	32	21.5
Grade 11	10	12.7	22	31.4	32	21.5
Grade 12	25	31.6	11	15.7	36	24.2

Table 1 (continue)*Demographic Characteristics of Participants*

Baseline characteristics	ADHD		Non-ADHD		Full Sample	
	n	%	n	%	n	%
Age*	15.92±1.10		15.32±1.38		15.64±1.27	
Living together with						
Parents	71	89.9	63	90.0	134	89.9
Mother	7	8.9	4	5.7	11	7.4
Father	1	1.3	2	2.9	3	2.0
Relatives	0	0	1	1.4	1	0.7
Parental partnership						
Married	71	8.9	63	90.0	134	89.9
Divorced	7	8.9	7	10.0	14	9.4
Separate life	1	1.3	0	0	1	0.7
Number of siblings						
1	19	24.1	12	17.1	31	20.8
2	36	45.6	41	58.6	77	51.7
3	12	15.2	13	18.6	25	16.8
4	10	12.7	2	2.9	12	8.1
5	0	0	1	1.4	1	0.7
Sibling order						
1	49	62	35	50.0	84	56.4
2	20	25.3	27	38.6	47	31.5
3	5	6.3	5	7.1	10	6.7
4	2	2.5	0	0	2	1.3
5	0	0	1	1.4	1	0.7
Education level of mother						
Illiterate	1	1.3	0	0	1	0.7
Literate	2	2.5	0	0	2	1.3
Primary school	15	19.0	10	14.3	25	16.8
Middle school	9	11.4	4	5.7	13	8.7
High school	28	35.4	23	32.9	51	34.2
Bachelor's degree	24	30.4	33	47.1	57	38.3
Education level of father						
Illiterate	0	0	0	0	0	0
Literate	0	0	0	0	0	0
Primary school	14	17.7	4	5.7	18	12.1
Middle school	11	13.9	5	7.1	16	10.7
High school	33	41.8	25	35.7	58	38.9
Bachelor's degree	21	26.6	35	50.0	56	37.6
Mother's working status						
Yes	24	30.4	24	34.3	48	32.2
No	55	69.6	46	65.7	101	67.8
Father's working status						
Yes	69	87.3	62	88.6	131	87.9
No	8	10.1	6	8.6	14	9.4
Income level						
High	4	5.1	3	4.3	7	4.7
Above average	13	16.5	20	28.6	33	22.1
Average	54	68.4	41	58.6	95	63.8
Low	5	6.3	2	2.9	7	4.7
Very low	0	0	0	0	0	0

Chi-Square Test of Independence analysis was conducted to examine whether the genders of adolescents in ADHD and non-ADHD groups whether independent of each other. The results of the analysis showed that there was a significant association between the variables ($p=.00$) (Table 2).

Table 2*Association between Gender and ADHD/non-ADHD Group*

	Gender		χ^2	df	p
	Girl	Boy			
ADHD	26	53	12.14	1	.00
Non-ADHD	43	27			
Total	79	70			

Correlation Analysis between Variables in ADHD Group

Pearson Correlation analysis was performed to examine the relationship between perceived stress, coping styles and parental behaviors and the results are shown in Table 3. Perceived stress in adolescents diagnosed with ADHD was found to have a positive correlation with passive coping style ($r=.378$; $p=.001$), cognitive errors total score ($r=.388$; $p=.000$) and cognitive errors sub-dimensions of catastrophising ($r=.380$; $p=.001$), personalisation ($r=.291$; $p=.009$) and selective abstraction ($r=.436$; $p=.000$). Active coping style had a negative correlation with the total score of cognitive errors ($r=-.256$; $p=.023$) and a positive correlation with father responsiveness ($r=.228$; $p=.046$) and mother responsiveness ($r=.249$; $p=.027$). Passive coping style has a positive correlation with cognitive errors ($r=.583$; $p=.000$).

Table 3

The Correlation between PSS, Ways of Coping, CNCEQ and Leuven Parental Behaviors In Adolescents With and Without ADHD

	ADHD			Non-ADHD		
	1	2	3	1	2	3
1. PSS	1			1		
2. Active Coping	-.208	1		-.399**	1	
3. Passive Coping	.378**	-.179	1	.533**	-.411**	1
4. CNCEQ	.388**	-.256*	.583**	.350**	-.279*	.592**
5. CNCEQ Catastrophizing	.380**	-.203	.596**	.348**	-.256*	.573**
6. CNCEQ Personalizing	.291**	-.269*	.492**	.289*	-.202	.524**
7. CNCEQ Selective Abstraction	.436**	-.239*	.547**	.336**	-.274*	.461**
8. Father Responsiveness	.058	.228*	-.096	.004	.248*	-.223
9. Father Behavior Control	.097	-.127	.003	-.086	-.163	.138
10. Father Psychological Control	.089	-.099	.148	-.052	-.201	.189
11. Father Autonomy Support	-.141	.204	-.178	.050	.190	-.008
12. Mother Responsiveness	-.115	.249*	-.003	-.100	.280*	-.216
13. Mother Behavior Control	-.050	-.106	-.102	.192	-.114	.362**
14. Mother Psychological Control	.161	-.128	.144	-.012	-.207	.317**
15. Mother Autonomy Support	-.190	.162	-.010	-.142	.196	-.303*

Note. * $p<.05$; ** $p<.01$. CNCEQ: The Children's Negative Cognitive Errors Questionnaire; PSS: Perceived Stress Scale

Correlation Analysis between Variables the Non-ADHD Group

Spearman Correlation Analysis was performed to obtain correlation results in the non-ADHD group. Accordingly, there was a negative correlation between perceived stress and active coping styles ($r=-.411$; $p=.000$) and while there was a positive correlation with passive coping styles ($r=.516$; $p=.000$). There was a negative correlation between active coping and cognitive errors total scores ($r=-.306$; $p=.010$), while there was a positive correlation with maternal responsiveness ($r=.268$; $p=.025$) and paternal responsiveness ($r=.332$; $p=.006$). Passive coping styles show a positive correlation ($r=.584$; $p=.000$) with cognitive errors total scores. In addition, passive coping has a positive correlation with maternal behavioral control ($r=.338$; $p=.004$) and psychological control ($r=.338$; $p=.004$) and a negative correlation with autonomy support ($r=-.315$; $p=.008$) (Table 3).

Comparison of ADHD and Non-ADHD Group in terms of Variables

As a result of the Independent Sample t-test analysis performed to compare the perceived stress scale, total scores of passive style in coping with stress and total scores of active style in coping with stress of ADHD and non-ADHD adolescents, no statistically significant difference was found ($p>.05$) (Table 4).

Table 4*Comparison of PSS and Ways of Coping Scores of ADHD and Non-ADHD Groups*

Scale	Group	n	Mean	Standard Deviation	t	p
PSS	ADHD	79	25,76	6,59	1,545	0,124
	Non-ADHD	70	24,00	7,30		
Active Coping	ADHD	79	21,39	7,12	-0,783	0,435
	Non-ADHD	70	22,28	6,75		
Passive Coping	ADHD	79	16,43	7,18	1,531	0,128
	Non-ADHD	70	14,61	7,28		

Note. PSS: Perceived Stress Scale.

As a result of Mann-Whitney U analysis, total scores and sub-dimension scores of cognitive errors did not show a significant difference between ADHD and non-ADHD groups ($p > 0,05$) (Table 5).

Table 5*Comparison of CNCEQ Scores of ADHD and Non-ADHD Groups*

Scale	Group	n	Mean Rank	Sum of Ranks	U	p
CNCEQ	ADHD	79	78,65	6213,50	2476,500	0,272
	Non-ADHD	70	70,88	4961,50		
CNCEQ Catastrophizing	ADHD	79	77,54	6125,50	2564,500	0,445
	Non-ADHD	70	72,14	5049,50		
CNCEQ Personalizing	ADHD	79	80,77	6380,50	2309,500	0,082
	Non-ADHD	70	68,49	4794,50		
CNCEQ Selective Abstraction	ADHD	79	77,28	6105,50	2584,500	0,491
	Non-ADHD	70	72,42	5069,50		

Note: CNCEQ: The Children's Negative Cognitive Errors Questionnaire

It was examined whether perceived maternal and paternal behaviors differed in adolescents with and without ADHD adolescents. Perceived maternal responsiveness ($p = .001$) and perceived paternal responsiveness ($p = .000$) were found to be higher in non-ADHD adolescents while perceived paternal psychological control ($p = .018$) was found to be higher in adolescents diagnosed with ADHD. Similarly, the self-report results of the parents showed that parental responsiveness scores were higher in the non-ADHD group ($p = .000$) and psychological control scores were lower in the non-ADHD group ($p = .000$) (Table 6).

Table 6*Comparison of parenting behaviors scores of ADHD and non-ADHD groups*

Scale (Adolescent self-reporting)	Group	n	Mean Rank	Sum of Ranks	U	p
Mother Responsiveness	ADHD	79	64,31	5080,50	1920,500	0,001
	Non-ADHD	70	87,06	6094,50		
Mother Behavior Control	ADHD	79	76,15	6016,00	2674,000	0,728
	Non-ADHD	70	73,70	5159,00		
Mother Psychological Control	ADHD	79	81,12	6408,50	2281,500	0,065
	Non-ADHD	70	68,09	4766,50		
Mother Autonomy Support	ADHD	79	73,17	5780,50	2620,500	0,581
	Non-ADHD	70	77,06	5394,50		
Scale (Adolescent self-reporting)	Group	n	Mean	Standard Deviation	t	p
Father Responsiveness	ADHD	77	24,70	7,86	-3,690	0,000
	Non-ADHD	68	28,98	6,09		
Father Behavior Control	ADHD	77	11,52	3,64	-0,867	0,387
	Non-ADHD	68	12,07	4,05		
Father Psychological Control	ADHD	77	9,75	3,75	2,396	0,018
	Non-ADHD	68	8,28	3,63		
Father Autonomy Support	ADHD	77	14,51	4,19	-0,572	0,568
	Non-ADHD	68	14,88	3,65		
Scale (Parent self-reporting)	Group	n	Mean	Standard Deviation	t	p
Parent Responsiveness	ADHD	79	28,34	4,41	-3,895	0,000
	Non-ADHD	70	30,91	3,64		
Parent Behavior Control	ADHD	79	10,63	3,16	-0,240	0,810
	Non-ADHD	70	10,76	3,14		
Parent Psychological Control	ADHD	79	14,68	5,03	4,679	0,000
	Non-ADHD	70	11,31	3,72		
Parent Autonomy Support	ADHD	79	22,40	3,74	-1,343	0,181
	Non-ADHD	70	23,27	4,13		

Predictors of Coping Styles

The predictors of coping styles were analysed separately for ADHD and non-ADHD groups by simple regression analysis. Accordingly, cognitive errors explained 6% of variance in active coping and 34% of variance in passive coping in adolescents with ADHD. Maternal responsiveness explained 6% and paternal responsiveness explained 5% of variance in active coping (Table 7 and Table 8).

Table 7

Predictors of Active Coping Style

	ADHD			Non-ADHD		
	B	sd	β	B	sd	β
Model 1						
Constant	26.05	2.15		28.07	2.31	
CNCEQ	-0.91	0.40	-.26*	-.12	.05	-.31*
Model 2						
Constant	16.30	2.64		12.09	3.74	
Father responsiveness	.20	.10	.23*	.36	.13	.33**
Model 3						
Constant	16.38	2.91		16.09	3.31	
Father autonomy support	.35	.19	.20	.43	.21	.24*
Model 4						
Constant	13.91	3.40		11.61	4.71	
Mother responsiveness	.27	.12	.25*	.35	.15	.27*

Note 1. In the ADHD group, $R^2 = .06$; * $p < .05$ for Model 1; $R^2 = .05$ * $p < .05$ for Model 2; $R^2 = .04$ $p > .05$ for Model 3; $R^2 = .06$; * $p < .05$ for Model 4.

Note 2. In the non-ADHD group, $R^2 = .09$; * $p = .01$ for Model 1; $R^2 = .11$; ** $p < .01$ for Model 2; $R^2 = .06$; * $p < .05$ for Model 3; $R^2 = .07$; * $p < .05$ for Model 4.

Note 3: CNCEQ: The Children's Negative Cognitive Errors Questionnaire

Table 8

Predictors of Passive Coping Style

	ADHD			Non-ADHD		
	B	sd	β	B	sd	β
Model 1						
Constant	5.72	1.82		2.69	2.13	
CNCEQ	.21	.03	.58**	.25	.04	.58**
Model 2						
Constant	18.91	2.86		6.70	2.80	
Mother behavioral control	-.20	.22	-.10	.65	.22	.34**
Model 3						
Constant	13.97	2.08		9.11	2.03	
Mother psychological control	.19	.15	.14	.50	.17	.34**
Model 4						
Constant	16.76	3.87		24.53	3.72	
Mother autonomy support	-.02	.20	-.01	-.52	.19	-.31**

Note 1. In the ADHD group, $R^2 = .34$; ** $p < .01$ for Model 1; $R^2 = .01$; $p > .05$ for Model 2; $R^2 = .02$; $p > .05$ for Model 3; $R^2 = .00$; $p > .05$ for Model 4.

Note 2. In the non-ADHD group, $R^2 = .34$; ** $p < .01$ for Model 1; $R^2 = .11$; ** $p < .01$ for Model 2; $R^2 = .11$; ** $p < .01$ for Model 3; $R^2 = .10$; ** $p < .01$ for Model 4.

Note 3: CNCEQ: The Children's Negative Cognitive Errors Questionnaire

In the non-ADHD group, cognitive errors explained 9% of variance in active coping and 34% of variance in passive coping. Maternal responsiveness explained 7%, paternal responsiveness explained 11% and paternal autonomy support explained 6% of variance in active coping. None of the paternal behaviors explained variance in passive coping, whereas maternal behavioral control explained 11%, maternal psychological explained 11% and maternal autonomy explained 10% of variance in passive coping (Table 7 and Table 8).

Discussion

The objective of the present study was to examine the factors and predictors associated with coping strategies in adolescents with and without ADHD. As anticipated, findings demonstrated that coping styles were associated with parenting behaviors and cognitive errors in both groups. It is notable that the passive coping style was found to be strongly predicted by cognitive errors.

Previous studies have argued that positive parenting skills improve adolescents' problem solving skills by providing social support and psychological resources (Baumrind, 1991; Cohen & Wills, 1985; Wolfradt et al., 2003). Many studies show that there is a negative correlation between active coping and authoritarian parenting styles, and a positive correlation between democratic and permissive parenting styles (Dusek & Danko, 1994; Wolfradt et al., 2003). Additionally, research indicates that warm behavior of mother and father is positively related to active coping, and that the supportive behavior of mother decreases passive coping strategies in children. Conversely, behavioral control behavior increases the passive coping (Wolfradt et al., 2003).

In the analysis results of this study, a weak positive correlation was found between active coping styles and parental responsiveness both in adolescents diagnosed with and without ADHD group. In adolescents with ADHD, passive coping styles were not correlated with parents' behaviors. In the non-ADHD group, a positive correlation was observed between passive coping styles and maternal behavioral control and psychological control, with moderate strength. Conversely, a negative correlation was noted between passive coping styles and maternal autonomy support. It is seen that the findings are consistent with previous studies. Considering that families with children diagnosed with ADHD are less supportive, more stressful and controlling, and have a weaker parent-child relationship (Brown & Pacini, 1989; Gau & Chang 2013; Ghanizadeh & Shams, 2007), this finding can be explained within the context of parent-child relationship. Since the parent-child relationship is comparatively weak in the ADHD group and strong in the healthy group, there is an assumption that parenting behaviors may not have an effect on adolescents with ADHD but may affect healthy adolescents.

Similarly, while the results indicate that parental responsiveness was associated with active coping in both groups show the importance of parental responsive behavior for adolescents, the higher predictive value of parental responsiveness in the non-ADHD group appears to reduce the positive effect of parental responsiveness due to lower family functioning in the ADHD group (Gau & Chang, 2013).

The analyses show that parental behaviors did not predict passive coping in the ADHD group. However, maternal behaviors did predict passive coping in the non-ADHD group. Family attachment is weaker in families with children diagnosed with ADHD (Ghanizadeh & Shams, 2007). In addition, it has been reported that mothers interact more with their adolescent children (regardless of the gender of the children), and mothers establish more secure attachment with their children than fathers in healthy adolescents (Williams & Kelly, 2005). In light of these considerations, the findings that maternal behaviors were more predictive of passive coping in the non-ADHD group and that parental behaviors were not predictive of passive coping in the ADHD group can be explained.

The results of correlation analyses showed that cognitive errors were negatively related to active coping and positively related to passive coping in both ADHD and non-ADHD adolescents. In addition,

regression analyses showed that cognitive errors predicted active coping by 6% in ADHD group and 9% in non-ADHD group. In both ADHD and non-ADHD adolescent groups, cognitive errors predicted passive coping by 34%.

A review of the literature revealed a paucity of studies that examined the relationship between coping styles and cognitive errors. The results of studies conducted with adults indicate that the greater the use of cognitive errors, the more likely it is that a passive coping style will be employed. Additionally, dysfunctional beliefs have been identified as predictors of coping styles (Hamarta et al., 2009; Türküm, 2001). In addition, many studies have examined the relationship between cognitive flexibility and coping styles. These studies have shown that cognitive flexibility has a positive relationship with active coping and a negative relationship with passive coping (Bedel & Ulubey, 2015; Demirtaş, 2019; Tutuş, 2019). Considering the effect of cognitive flexibility in creating functional thoughts in response to challenges (Basut, 2020) the positive correlation between passive coping styles and cognitive errors in both ADHD and non-ADHD groups in our study aligns with the findings of previous research.

In both with and without ADHD groups, cognitive errors were found to be the highest predictor of passive coping style. This finding suggests that in addition to the fact that the parent-child relationship is still effective, adolescents' separation from their parents in this period and individualization processes may have reduced the direct effect of parenting behaviors. At this point, the fact that the responsiveness of both parents had a significant effect on active coping for both groups suggests that parental responsiveness can be seen as the most effective parental behavior. On the other hand, the fact that maternal behaviors had an effect on coping in the non-ADHD group, but not in the ADHD group, suggests that it may be due to the weak intra-family relationships and commitment in the ADHD group.

In our study, the lack of a significant difference in the coping styles between adolescents diagnosed with ADHD and those without ADHD is inconsistent with previous findings, which suggest that individuals with ADHD tend to use less active and more passive coping styles compared to healthy individuals (Al-Yagon et al., 2020; Hampel et al., 2008; Overbey et al., 2011; Taş Torun et al., 2021; Young, 2005). Previous studies show that parents of adolescents diagnosed with ADHD use more passive coping style compared to the healthy group (Craig et al., 2020; Durukan et al., 2008; Taş Torun et al., 2021). This suggests that there is an aspect of coping style that can be learned from parents. Parental coping styles, which were not examined in our study, could have been a reason for the lack of difference between the groups. In addition, it is seen that the medications used by adolescents diagnosed with ADHD improve family functioning and problem-solving skills by alleviating ADHD symptoms (Borg, 2009; Tancred & Greeff, 2015). In the present study, the patient group was not queried regarding their medication use, but it is known that most adolescents who applied to the outpatient clinic used medication. In this respect, the positive effects of medication use may explain the lack of intergroup differences in the current study. Furthermore, research indicates that adolescents with ADHD who have a better understanding of their illness and a sense of personal control over it tend to employ active coping strategies (Wong et al., 2019). This highlights the importance of how adolescents perceive ADHD in determining their coping styles. Finally, previous studies demonstrated a correlation between perceived stress and coping styles. Specifically, as perceived stress levels increase, individuals tend to use more passive coping and less active coping styles (Alkan, 2004; Ball & Lee, 2002; Çetin Özden, 2010; Lewis & Frydenberg, 2004; Manti et al., 2022; Savci & Aysan, 2014; Tekin et al., 2019). The fact that there was no difference between the perceived stress levels between the two groups in our study can be interpreted as a reason for the lack of difference between coping styles.

In this study, it was aimed to investigate the predictors of coping styles with stress in adolescents diagnosed with ADHD. The study also examined whether adolescents with and without ADHD differed in terms of coping styles. The study's findings revealed that cognitive errors were a significant predictor

of passive coping strategies in both groups. It also shows that the importance of responsive parental behavior continues in adolescence. It is believed that the declining influence of parental conduct in adolescents is linked to autonomy and, consequently, personal processes such as cognitive errors are more influential in behaviors such as coping. In addition, the findings that parental behaviors may be more effective in the non-ADHD group may be due to the fact that family relationships are inconsistent and less connected in parents with children diagnosed with ADHD; for this reason, it is thought that interventions aimed at strengthening family relationships and increasing interaction in families with children diagnosed with ADHD may be beneficial. Additionally, including cognitive methods in treatment will enable the development of active coping methods along with the development of alternative thinking, thus helping in social and academic areas.

In literature, coping styles have been mostly studied with adults diagnosed with ADHD or parents of children diagnosed with ADHD. The fact that these studies with adolescents are very limited is a contribution of our study to literature. The fact that coping styles have rarely been examined together with cognitive errors, and the fact that cognitive errors and parental behaviors are examined together in adolescence, which is a transition period, makes an important contribution to literature by enabling us to see how these two different processes affect adolescents together. In addition, while parental behaviors in previous studies were mostly based on parental (usually maternal) self-reports, in our study, parental behaviors were examined with the self-reports of both parents and adolescents. Adolescents were asked to evaluate both mother and father and the contribution of both parents was analyzed.

One of the limitations of the study is that the data were collected during the Covid pandemic. Collecting data during Covid pandemic that is an intense stressor for all populations might explain our finding that there is no difference in perceived stress and coping styles between ADHD and non-ADHD adolescent groups. Conducting a similar study in a more neutral period would eliminate the effects that may have occurred due to the pandemic. In addition, although the gender ratios in the ADHD group are consistent with epidemiology of ADHD, the difference in gender ratios between the two groups is another limitation of the study. Because of that, equal distribution of the proportions of girls and boys in both groups in future studies will help to exclude the effects that may arise from gender differences. Another limitation is at the point of diagnosis. The fact that the diagnosis of anxiety disorders was not excluded and comorbid diagnoses were not monitored while forming the ADHD group makes it difficult to compare the results between adolescents with pure ADHD and without ADHD. Furthermore, another limitation is that only self-report scales were used to assess the non-ADHD group. Since the presence of expert evaluation in this group will increase the reliability of the study findings. This is a limitation that should be considered in future studies. Lastly, it should be noted that the data were obtained through cross-sectional sampling, which means that the findings of the research cannot be generalized to the research population.

This study is the first study to investigate the coping styles of adolescents diagnosed with ADHD and to examine the related variables. In this study examining coping styles were not investigated the other variables related to coping styles such as coping styles of parents, medication use of adolescents diagnosed with ADHD, subtypes of ADHD and personality traits of teenagers. Therefore, investigating these variables in future studies will contribute to a better understanding of the coping processes of individuals diagnosed with ADHD.

Conclusion

It is widely known that ADHD is one of the most common psychiatric disorders in childhood. However, there are limited studies in which adolescents with ADHD are examined and self-report scales are used. In this study, an important contribution was made by evaluating both parents from the adolescent's perspective, as well as the parent's evaluation of their own parenting behaviors and comparing the groups with and without ADHD on these characteristics. The study results showed that maternal and paternal responsiveness behavior and cognitive errors are strong predictors of coping styles. For future studies, it is recommended that parents' coping styles and the treatment methods and duration of the ADHD-diagnosed group should also be taken into consideration. In addition, implementing interventions to cognitive errors and family interaction, may also help to clarify the effect of these factors.

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Compliance with Ethical Standards

Ethical Approval

All study procedures involving human participants followed institutional and/or national research committee ethical standards and the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Ethical approval was also received from the Ethics Committee of İstanbul Erenköy Mental and Neurological Diseases Training and Research Hospital (02.03.2020 number: 7).

Author Contributions

The investigation, conceptualization, methodology, formal analysis, and writing-review & editing tasks were carried out by S.Ç. In addition, Ö. E. contributed to conceptualization, data collecting and writing-review.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Investigating the Relationships Between Excessive Instagram Usage, Perceived Ostracism, and Personality Traits

Aşırı Instagram Kullanımı, Algılanan Psikolojik Dışlanma ve Kişilik Özellikleri Arasındaki İlişkilerin İncelenmesi

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Abstract

Instagram is a widely favored platform among social media users and its utilization is gaining increasing prevalence. Globally, Türkiye ranks fifth in terms of Instagram usage. The extensive and regular use of Instagram entails various issues associated with the excessive usage of the platform. Hence, it is crucial to ascertain the factors that may influence excessive Instagram usage. The current study aimed to investigate the correlations between personality traits, perceived ostracism, and excessive Instagram usage. The research sample comprised a total of 379 university students. Data were collected using the Instagram Addiction Scale, Ostracism Scale, and Basic Personality Traits Inventory and the data was compared with the existing literature. Our findings indicate a negative correlation between excessive Instagram usage and the personality traits of extraversion, conscientiousness, agreeableness, and openness to experience. Additionally, there was a positive correlation between excessive Instagram use and the personality traits of neuroticism, negative valence, and perceived ostracism. Hierarchical regression analysis revealed that gender, conscientiousness, neuroticism, and perceived ostracism were significant predictors of excessive Instagram use. Moreover, a notable difference was observed in Instagram usage, conscientiousness, openness to experience, and negative valence scores based on gender. The current study contributes to the field by investigating the connections between Instagram usage, personality factors, and perceived ostracism in a sample from Türkiye.

Keywords: Instagram, Instagram Usage, Ostracism, Personality, Exclusion.

Öz

Sosyal medya hesapları arasında popüler olan Instagram'ın kullanımı giderek yaygınlaşmaktadır. İstatistikler de Türkiye'nin Instagram kullanımında dünyada beşinci sırada olduğunu göstermektedir. Ancak Instagramın bu kadar yaygın olarak ve sıklıkla kullanılması beraberinde Instagramın aşırı kullanımı ile ilgili sorunları da getirmektedir. Bu yüzden aşırı Instagram kullanımının altında yatan nedenlere dair ya da Instagram kullanımını etkileme olasılığı olan değişkenlerin tespit edilmesi önemlidir. Bu çalışmanın amacı da kişilik özellikleri, algılanan psikolojik dışlanma ve aşırı Instagram kullanımı arasındaki ilişkilerin incelenmesidir. Bu araştırmanın örneklemini toplamda 379 üniversite öğrencisinden oluşmaktadır. Veri toplama amacıyla Instagram Bağımlılığı Ölçeği, Dışlanma Ölçeği, Temel Kişilik Özellikleri Envanteri kullanılmıştır. Sonuçlar aşırı Instagram kullanımının dışadönüklük, sorumluluk, uyumluluk ve deneyime açık olma boyutları ile negatif yönlü, nevrotiklik, olumsuz değerlik ve algılanan psikolojik dışlanma ile ise pozitif yönlü anlamlı ilişkili olduğunu göstermiştir. Yapılan hiyerarşik regresyon analizi sonucunda cinsiyet, sorumluluk, nevrotiklik ve algılanan psikolojik dışlanmanın aşırı Instagram kullanımını yordadığı bulunmuştur. Ayrıca Instagram kullanımı, sorumluluk, deneyime açıklık ve olumsuz değerlik puanlarında cinsiyete göre anlamlı farklılık bulunmuştur. Bu çalışma, Instagram kullanımı kişilik özellikleri ve algılanan psikolojik dışlanma arasındaki ilişkileri Türkiye örnekleminde inceleyerek alana katkı sağlamaktadır.

Anahtar Kelimeler: Instagram, Instagram Kullanımı, Psikolojik Dışlanma, Kişilik, Dışlanma.

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Investigating the Relationships Between Excessive Instagram Usage, Perceived Ostracism, and Personality Traits

The utilization of the Internet and social media is currently very extensive and widespread. Instagram is a widely used media platform with global popularity that serves as both a social media tool and a space for individuals to engage in activities such as self-promotion (Moon et al., 2016; Sheldon et al., 2017), information sharing (Alhabash & Ma, 2017), and social comparison (Jiang & Ngien, 2020; Kavaklı & Ünal, 2021). However, despite its benefits, concerns have been raised about excessive Instagram usage and the associated problems. According to February 2024 data from Statista Türkiye ranks fifth in the world for Instagram usage, with 57.1 million users. India (362.9 million users), the USA (169.65 million users), Brazil (134.6 million users), and Indonesia (100.9 million users) were the countries that ranked ahead of Türkiye (Statista, 2024a). Additionally, the number of Instagram users worldwide in 2023 was 1.35 billion. This number is expected to reach 1.4 billion in 2024 and 1.44 billion in 2025 (Statista, 2024b). Taking into account the ratio of Instagram users to the population of different countries Instagram usage in Türkiye can be considered to be quite common. This makes it important to identify possible variables that may motivate or affect Instagram use.

Excessive Instagram use raises serious concerns regarding its influence on individuals' psychological and emotional well-being. According to the literature, excessive social media use can lead to increased stress (Brailovskaia et al., 2021; Wolfers & Utz, 2022), anxiety (Lopes et al., 2022; O'Day & Heimberg, 2021), and depression (Lin et al., 2016; Shensa et al., 2018), as well as decreased life satisfaction (Marttila et al., 2021) and self-esteem (Hawi & Samaha, 2017; Miljeteig & von Soest, 2022). Furthermore, the pervasive nature of social comparison enabled by platforms such as Instagram has been linked to worsening feelings of inadequacy and the perpetuation of false standards of beauty and success (Ho et al., 2016; Kavaklı & Ünal, 2021; Lup et al., 2015; Tiggemann & Anderberg, 2020). Despite increased recognition of the potential risks related to excessive Instagram use, our understanding of the underlying variables driving this behavior is still limited. Addressing this gap in the evidence is critical in the establishment of effective interventions and methods to promote healthier social media habits while mitigating negative outcomes. Many scholars are quite interested in the phenomena of excessive Internet usage and the underlying reasons of such behavior. The growing online popularity has made theoretical models more necessary to define the idea of problematic Internet usage. In this regard, certain theoretical models developed in the literature have been found to help to explain excessive online behavior. Among these models suggested by Brand et al. (2016), the Interaction of Person-Affect-Cognition-Execution (I-PACE) model stands among the most important. The I-PACE model was developed specifically to explain problematic Internet usage (Brand et al., 2016). Prior to the I-PACE model, Brand et al. (2014) proposed three alternative explanations for Internet addiction: functional Internet use, general Internet addiction, and specific Internet addiction. The I-PACE model is based on these models. In these models, it was suggested that the individual's goals and needs affect their core person's characteristics, which in turn direct cognitive processes and therefore Internet use. However, in both general and specific Internet addiction theories, it has been suggested that psychopathology, individual predispositions, personality traits, loneliness, and perceived social support all play a crucial role, particularly in problematic Internet use. Later, Brand et al. (2016) defined the I-PACE model, arguing that it shares similarities with existing theoretical frameworks for Internet use. The I-PACE model examines excessive Internet use in terms of the dynamic interaction of person characteristics, emotional states, cognitive processes, and executive functions. According to this concept, a variety of factors influence people's basic personal characteristics and Internet usage habits. These include biological characteristics, psychological traits, social cognitions (loneliness, perceived social support), psychopathology, and unique motivations for using the Internet.

Brand and colleagues (2019) modified the I-PACE model and classified the addiction process into early and later stages. Individuals utilize the Internet for reward seeking and escape motivation in the early stages, but as they progress, their use becomes more compulsive, automated, and uncontrollable. Personality traits, psychopathology, genetic and neurobiological predispositions are all effective factors in the early and later stages of Internet use. Furthermore, external and internal triggers, reward seeking, and escape motivation on the Internet are the main factors that drive first-time use. Individuals' emotional and cognitive reactions to Internet use strengthen, decision-making processes become more impulsive, and compulsive use patterns emerge. At this point, the individual's inhibition control is weakened, making it more difficult to limit Internet use and raising the likelihood of addiction (Brand et al., 2019). The I-PACE model can also explain different types of behavioral addictions associated with Internet use in a wide sense. One example could be excessive use of social media. The I-PACE model also offers a useful framework for explaining excessive social media use. Indeed, several research studies within the scope of this model have investigated issues such as game addiction (Kim et al., 2021; Li et al., 2024), problematic smartphone use (Mehmood et al., 2021; Zhou et al., 2024), and pornography addiction (Hatch et al., 2022; Kumalaratih & Margono, 2023). However, it is clear that studies particularly addressing excessive Instagram use within the framework of the I-PACE model are limited. In recent years, excessive social media use has emerged as a key research topic within the context of problematic Internet use. Individuals can use social media platforms to develop social connections, express themselves, and gain access to information more easily. However, excessive and uncontrolled social media use can have a harmful impact on people. Excessive Instagram use can similarly be addressed using the I-PACE model in a similar way. Personality traits, psychological aspects, internal and external triggers, and cognitive processes described in the model can all help to explain how and why people use Instagram excessively. For example, as stated in the model, personality influences the development of excessive Internet or social media use (Brand et al., 2019; Brandtner et al., 2021). One of the model's probable external triggers might be ostracism. Perceived ostracism can also cause these individuals to spend more time on social media, including excessive Instagram use. Individuals who sense ostracism may consider social media as an escape (Knausenberger & Echterhoff, 2018; Seidman, 2013). As a result, in this study, the associations between personality traits, perceived ostracism, and excessive Instagram use were explored.

Personality is characterized by qualities that influence how people think, act, and feel; these features are considered to be permanent (Caspi & Shiner, 2006). Researchers attempting to understand personality have proposed several models; however, the Five-Factor Model of personality, introduced by Costa and McCrae (1992), is widely accepted as the primary framework for understanding the structure of personality in recent studies (McCrae & Costa, 1997). According to this model, personality is composed of five distinct dimensions: extraversion, conscientiousness, openness to experience, agreeableness, and neuroticism. In addition to the dimensions outlined in the Big Five model, a new dimension called "negative valence" emerged during the creation of the Turkish version of the scale. This dimension specifically pertains to an individual's negative self-perceptions or self-attributions about themselves (Gençöz & Öncül, 2012).

Studies suggest that the personality of an individual may be related to their Internet and social media usage behaviors (Calaresi et al., 2024; Hasani et al., 2024). Furthermore, as previously indicated, the I-PACE model identifies personality as one of the most critical characteristics influencing Internet and, by extension, social media usage (Brand et al., 2019). For example, a study examining the relationship between personality and social media use reported that extraversion, openness to experience, and

neuroticism were positively related to social media use (Correa et al., 2010). In a study conducted by Nikel et al., (2024), Internet addiction was found to be negatively associated with extraversion, conscientiousness, and agreeableness, but positively associated with neuroticism. Another study from Indonesia where Instagram is also very widely used reported that, extraversion, agreeableness, and neuroticism were positively related, whereas openness to experience was negatively related to social media addiction (Sumaryanti et al., 2020). Hawi and Samaha (2019) reported that openness to experiences, neuroticism, conscientiousness, agreeableness, and self-esteem were predictors of both Internet addiction and social media addiction as well. A meta-analysis on the relationship between personality and social media addiction showed that neuroticism was a risk factor for social media addiction, while agreeableness and conscientiousness could function as protective factors (Huang, 2022). Another study reported that social media addiction was positively related to agreeableness, conscientiousness, and openness to experience, but no significant relationship with neuroticism and extraversion was detected (Mercan & Uysal, 2023). Berdida (2025) asserted that agreeableness and openness to experience positively influenced high-risk social media addiction, whereas conscientiousness exerted a negative effect. Another study indicated that neuroticism had a positive correlation with social media addiction while demonstrating a negative correlation with the personality traits of extraversion, agreeableness, and conscientiousness (Isbulan et al., 2024). Research on the correlation between personality and social media usage seems inconsistent, making it difficult to arrive at a definitive conclusion. The broad nature of social media usage may be one contributing factor to this issue. Various types of social media might show different correlations with components of personality. Consequently, it is believed that investigating the correlations between personality traits and the excessive use of various social media platforms, such as Instagram, will improve the relevant literature.

However, research investigating the correlation between personality traits and Instagram use are relatively scarce. Some studies have inferred personality traits based on the photographs that individuals share on Instagram (Cooper et al., 2020; Harris & Bardey, 2019; Ferwerda & Tkalcic, 2018; Osterholz et al., 2023; Skowron et al., 2016). One study suggested that that agreeableness and conscientiousness were negatively associated with Instagram addiction, while neuroticism was positively associated (Kircaburun & Griffiths, 2018). Similarly, Sharifi Fard et al. (2025) discovered a positive correlation between neuroticism and problematic Instagram use, whereas conscientiousness, openness to experience, agreeableness, and extraversion showed negative correlations. Another study on the association between personality traits and attitudes toward Instagram discovered a positive relationship between extraversion and total number of Instagram posts and social media addiction tendency. There was also a positive correlation between Instagram attitude and addictive tendencies and neuroticism. There was a negative correlation discovered between conscientiousness and Instagram posts, number of accounts followed, and addictive tendencies. There was no significant association identified between openness to experience, agreeableness, and Instagram usage (Moore & Craciun, 2021). Santos et al. (2023) discovered a positive significant association between Instagram use and neuroticism, but a negative significant relationship with conscientiousness. Hussain et al. (2023) found a positive association between problematic Instagram use and neuroticism, but a negative relationship with extraversion, agreeableness, conscientiousness, and openness to experience. Another study discovered a positive significant association between problematic Instagram use and neuroticism, a negative significant relationship between agreeableness and conscientiousness, and no significant relationship with extraversion (Marengo et al., 2024). However, another study failed to establish a correlation between personality characteristics and addictions to Instagram, Facebook, or Snapchat. The same study reported that only extraversion and conscientiousness were significantly associated with Snapchat and Facebook addiction (Sheldon et al., 2021). Studies that examine the direct relationship between Instagram usage and personality traits are relatively rare; moreover the existing findings seems

inconsistent. Therefore, one of the goals of the current study was to determine the presence of a link between personality traits and excessive Instagram usage.

One of the variables that is thought to affect Instagram usage is ostracism. Furthermore, perceived ostracism, such as loneliness and perceived social support, might be considered external triggers in the context of the I-PACE model. Ostracism is a distressing experience that is characterized by being ignored and excluded (Williams, 2007, 2009). particularly from social gatherings, or isolation without explicit notification (Reinhard et al., 2020). The temporal need-threat model posits that such circumstances compromise basic psychological needs, including self-esteem, need to belong, meaningful existence, and control (Williams, 2009). Because ostracism threatens the psychological needs listed above, individuals may seek to satisfy those needs in some way. Individuals who have experienced ostracism may use the Internet for a variety of reasons. One of these is that people who have experienced ostracism may use social media to satisfy their threatening needs (Deters & Mehl, 2013; Knausenberger & Echterhoff, 2018; Seidman, 2013; Sheldon et al., 2011). People who experience ostracism use a variety of strategies to alleviate need threats and meet their endangered psychological needs, such as self-esteem, belonging, control, and meaningful existence. The Internet and social media may help individuals cope with the negative effects of ostracism. Individuals may isolate themselves and withdraw from their social surroundings if they experience ostracism. In such circumstances, the virtual world may be a viable option for meeting the needs threatened by ostracism. Indeed, research indicates that ostracism is associated with increased use of social media and the Internet usage. Joining new groups and meeting new individuals online appears to be less costly and easier than in person. As a result, it appears to be an ideal setting for satisfying psychological needs and recovering a sense of belonging. Indeed, research have shown that social media and the Internet can help mitigate the detrimental impacts of ostracism (Knausenberger & Echterhoff, 2018; Knausenberger et al., 2015). Seidman (2013) also proposed in her study that Facebook users might meet their need to belong by communicating with others.

Although there is a possibility of being exposed to ostracism on social media (Smith et al., 2017), the Internet and social media can also be used to cope with ostracism encountered in real life (Kavaklı, 2018; Kavaklı & Aydın, 2024). For instance, studies suggest that ostracism is positively related to social media addiction or Internet use (Coşkun et al., 2024; Kavaklı & Aydın, 2024; Poon, 2018; Turan et al., 2024). According to Taş (2023), ostracism positively influences social media addiction. Another study reported that ostracism is positively significantly related to social media addiction (Kaya & Cenkseven-Önder, 2025). Zhang et al. (2024) stated that social exclusion is positively related to short video addiction. Yue et al. (2023) revealed that social exclusion and social media addiction are positively associated. Lim (2019) also reported that social exclusion is positively associated with Facebook addiction. Social anxiety may explain why people who have experienced ostracism turn to social media and the Internet (Lim, 2019). According to Shi et al. (2025), ostracism can intensify social anxiety and create a sense of need-related threat. Social media appears to have the potential to alleviate social anxiety and promote relaxation (Angelini & Gini, 2024; Huang et al., 2024). In fact, Wu et al. (2024) discovered in their systematic review study that social anxiety is positively associated with problematic social media use. However, the number of studies specifically on the relationship between ostracism and Instagram use is quite limited (Lee et al., 2022). One of the aims of the current study was to examine the relationship between perceived ostracism and Instagram usage.

Present Study

Excessive social media use, particularly on Instagram, has emerged as a significant behavioral phenomenon associated with individuals' psychological well-being and personality features (Mackson et al., 2019; Perugini & Solano, 2021). The incorporation of social media platforms into daily life is very widespread, and Instagram in particular gaining immense popularity among college students. Social media sites, especially Instagram, have become essential for modern social interactions, influencing many aspects of the lives of its users'. Understanding the factors that influence Instagram usage can provide significant insights into the platform's psychological and social effects. Given the considerable number of users that Instagram has amassed, particularly in countries such as Türkiye, it is imperative to understand the elements contributing to its widespread adoption.

The purpose of this study is to investigate how personality and perceived ostracism predict excessive Instagram use. The I-PACE Model, established by Brand et al. (2016, 2019), serves as the theoretical basis for this study. According to this model, problematic technology use is influenced by the interaction of personality factors and emotional-cognitive processes. In this context, the purpose of this study is to investigate the association between perceived ostracism, personality factors, and excessive Instagram use, as well as to assess how these variables predict excessive Instagram use using hierarchical regression analysis. According to the I-PACE model, personality is one of the most essential aspects influencing a person's core characteristics. Personality traits are also seen as determining factors in problematic social media use (Kırcaburun et al., 2020). According to the Five-Factor Personality Model (McCrae & Costa, 1997), neuroticism might cause people to exhibit excessive emotional reactivity and utilize social media to cope with stress (Gugushvili et al., 2024). On the other hand, extraversion is expected to encourage Instagram use by increasing social interaction motivation, while conscientiousness is expected to help individuals better regulate their social media use (Bowden-Green et al., 2020).

Furthermore, perceived ostracism, such as loneliness and perceived social support, might be considered external triggers in the context of the I-PACE model. Ostracism is a stressful feeling that involves being ignored and excluded (Williams, 2007, 2009). Perceived ostracism refers to individuals' perception of being socially rejected or ignored (Williams, 2007). Previous research suggests that individuals experiencing ostracism may try to establish social ties by using social media platforms more (Kavaklı & Aydın, 2024; Knausenberger & Echterhoff, 2018; Seidman, 2013). According to the Need-Threat Model (Williams, 2009), people who perceive a high level of ostracism see a danger to their basic psychological needs. It appears reasonable to utilize social media to avoid the need threat and unpleasant emotions associated with ostracism, or to satisfy basic psychological needs. Furthermore, according to the I-PACE Model, psychosocial stressors like ostracism can act as emotional regulation by increasing people's social media use (Brand et al., 2016, 2019).

Previous research has produced conflicting results, necessitating a more thorough investigation into whether personality traits such as extraversion, conscientiousness, openness to experience, agreeableness, neuroticism, and negative valence have a significant impact on an individual's tendencies for excessive Instagram use. Beyond analyzing individual features, the primary goal of this study is to look into potential links between perceived ostracism and personality traits associated with excessive Instagram use. The purpose of this study is to gain a better understanding of the individual and psychological aspects related with excessive Instagram use, as well as to contribute to digital media psychology.

RQ1: Do age, gender, basic personality traits, and perceived ostracism significantly predict excessive Instagram usage?

Furthermore, demographic variables such as age and gender might be considered to influence a person's core characteristics within the context of the I-PACE model. For example, one study found that increased social media use by young people aged 18 to 29 was related to better mental health, whereas the converse was true for participants aged 30 and up (Hardy & Castonguay, 2018). Another study conducted with the neurosurgical community found a similar difference in social media use between the 25-34 age group and the 55-plus age group. According to Udawatta et al. (2019), young people benefit more from using social media than elderly people. However, it is possible to conclude that there are some inconsistent results relating to age and social media. One study found that being young and female was associated with addictive social media use (Andreassen et al., 2017). Some studies on older people have also found that social media use is negatively related to loneliness (Bryne et al., 2021) and positively correlated with life satisfaction (Gaia et al., 2021; Sala et al., 2023). The studies in question focused on Facebook. Instagram's structure may explain why it is more popular among young people. There are also researches that show gender differences in social media use (Karatsoli & Nathanail, 2020; Wei et al., 2024). For example, in research on adolescents, there was no gender difference in the use of Facebook, Instagram, X, and Snapchat, but females reported using TikTok more than males (Manago et al., 2023). Given these findings, it is reasonable to conclude that demographic variables such as gender and age can also influence social media use. As a result, in this study, both age and gender data were used as control variables in the first step of the regression model.

The hierarchical regression analysis revealed a statistically significant association between gender and Instagram usage in this study. As a result, the study's scope included an evaluation of gender-based Instagram usage differences. Furthermore, recent research has demonstrated that personality traits (Hartas, 2024; Krems et al., 2024; Marengo et al., 2024) and perceived ostracism (Saito et al., 2012; Simpson et al., 2024; Webster et al., 2024; Zimmerman et al., 2016) may differ by gender. In line with these findings, we investigated whether personality traits and perceived ostracism differed by gender.

RQ2: Are there gender differences in Instagram usage, perceived ostracism, and basic personality traits?

Method

A cross-sectional study was conducted with university students studying at a state university in Türkiye. In this study, 379 participants aged 18-40 years were included ($M = 20.99$, $SD = 2.81$). The participants included 77 males (20.3%) and 302 females (79.7%), who were selected using the convenience sampling method. An informed consent form stating the details of the research was provided to all participants, and only those participants who volunteered for the study, approved the form and consented to participate were included in the study sample.

Measures

Demographic Information Form

The ages and genders of the participants were gathered using a standard demographics questionnaire.

Instagram Addiction Scale

The Instagram Addiction Scale was developed by D'Souza and colleagues (2018) in order to measure excessive Instagram usage. This scale was adapted to the Turkish by Kavaklı and İnan (2021). The

Instagram Addiction Scale is a 5-point Likert type scale ranging from *never* (1) to *all the time* (5); the Turkish version of the scale consists of 21 items. The scale has five-factor structure, which include lack of control, disengagement, escapism, health and interpersonal troubles, and obsession; additionally, the total score is also calculated. The total excessive Instagram usage score was used in the current study. The Cronbach Alpha and McDonald Omega reliability coefficients were both found to be .94 for the total score. Sample items for the Instagram Addiction Scale include: “I often upload photos or videos on Instagram” and “I use Instagram when I am stressed”.

Ostracism Experience Scale

The Ostracism Experience Scale was developed by Gilman et al. (2013), and adapted to the Turkish by Sertelin-Mercan (2016). The Ostracism Experience Scale is a 5-point Likert type scale ranging from *never* (1) to *always* (5). The scale has two factor structure, namely ignored and exclusion. The current study made no differentiation between the subtypes, and ostracism was treated as a single construct. Additionally, the Ostracism Experience Scale was originally developed for use with adolescents. However, Kavaklı (2018) stated that the psychometric properties of the scale were suitable in a university student sample and could be used with this group as well. In the current study, the Cronbach Alpha coefficient values of the scale was found to be .85. The McDonald Omega reliability coefficient values of the scale was found to be .83. Sample items for the Ostracism Experience Scale are: “In general, others treat me as if I am invisible” and “In general, others include me in their plans for the holidays”.

Basic Personality Traits Inventory

The Basic Personality Traits Inventory was developed by Gençöz and Öncül (2012). The scale is a 5-point Likert type scale ranging from *not suitable at all* (1) to *very suitable* (5) and the inventory consists of 45 items. The inventory has a six-factor structure, namely extraversion, conscientiousness, agreeableness, neuroticism, openness to experience, and negative valence. The Cronbach Alpha reliability coefficients of the scale were calculated as .83 for extraversion, .81 for conscientiousness, .86 for agreeableness, .79 for neuroticism, .82 for openness to experience, and .66 for negative valence, respectively. The McDonald Omega reliability coefficients of the scale were calculated as .84 for extraversion, .82 for conscientiousness, .86 for agreeableness, .78 for neuroticism, .83 for openness to experience, and .66 for negative valence, respectively. Sample items for The Basic Personality Traits Inventory are: “passive”, “shy”, and “disciplined”.

Procedure

Ethical approval was obtained from a state university’s ethics committee before collecting data (Approval Date: 19/01/2024, Approval Number: 2024/62). The questionnaire booklet was prepared with consideration for order effects. The data was collected online using Google Forms. Prior to recruitment, all participants received an informed consent form outlining the key points of the study and were assured that participation was entirely voluntary. Individuals who confirmed their voluntary participation completed the questionnaire. JASP, an open-source statistical program, was used to analyze the data. Pearson correlation analysis was used to examine the relationships between the variables. The effect of perceived ostracism and personality on excessive Instagram usage was determined using hierarchical multiple regression analysis. Gender differences were examined using an independent samples t-test.

Results

The statistical analysis of the data collected in the current study is presented here. To test the assumption of normal distribution, the skewness and kurtosis coefficients of all variables in the study were calculated prior to analysis. All skewness and kurtosis values were within the ± 2 range (George & Mallery, 2016), indicating that the data met the assumption of normal distribution (Table 1).

Pearson correlation analyses were carried out to determine the relationship between excessive Instagram usage, personality, and perceived ostracism. Excessive Instagram usage was negatively related with extraversion ($r = -.22, p < .001$), conscientiousness ($r = -.25, p < .001$), agreeableness ($r = -.11, p < .05$), and openness to experience ($r = -.14, p < .01$). Excessive Instagram usage was positively related with neuroticism ($r = .35, p < .001$), negative valence ($r = .22, p < .001$), and perceived ostracism ($r = .31, p < .001$). Perceived ostracism was negatively related with extraversion ($r = -.38, p < .001$), conscientiousness ($r = -.13, p < .05$), agreeableness ($r = -.23, p < .001$), and openness to experience ($r = -.25, p < .001$). Perceived ostracism was positively related with neuroticism ($r = .17, p < .001$), and negative valence ($r = .31, p < .001$).

Table 1

The Associations Among Excessive Instagram Usage, Perceived Ostracism, and Personality

	1	2	3	4	5	6	7	8	α	ω
INS	-								.94	.94
EX	-.22***	-							.83	.84
CON	-.25***	.29***	-						.81	.82
AGG	-.11*	.28***	.42***	-					.86	.86
NEU	.35***	-.33***	-.21***	-.23***	-				.79	.78
OE	-.14**	.52***	.51***	.42***	-.13*	-			.82	.83
NV	.22***	-.18***	-.21***	-.40***	.31***	-.12*	-		.66	.66
OST	.31***	-.38***	-.13*	-.23***	.17***	-.25***	.31***	-	.85	.83
M	50.05	27.23	28.47	33.63	25.60	18.42	9.73	23.87		
SD	17.11	6.50	5.71	4.92	6.58	3.93	3.38	6.85		
SK	.42	-.17	-.32	-.64	-.08	-.30	1.34	1.22		
KR	-.42	-.38	.06	-.10	-.35	-.48	2.16	1.17		

Note. INS: excessive Instagram usage total score, EX: extraversion, CON: conscientiousness, AGG: agreeableness, NEU: neuroticism, OE: openness to experience, NV: negative valence, OST: perceived ostracism, M: mean, SD: standard deviation, α : cronbach alpha coefficient, ω : McDonald's omega reliability coefficient SK: skewness, KR: kurtosis, * $p < .05$, ** $p < .01$, *** $p < .001$

Prior to conducting a hierarchical multiple regression analysis, the relevant assumptions for the analyses were verified. Gender was converted into a dummy variable. First, Mahalanobis and Cook's distance was used to identify any multivariate outliers; however, none were discovered. Additionally, multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) statistics, which

indicated that the assumptions were within an acceptable range. This indicated that multicollinearity was not an issue (Pallant, 2020). Scatter plots and residuals were also examined, confirming linearity, normality, and homoscedasticity. Subsequently, a three-stage hierarchical regression analysis was conducted utilizing a theoretical framework, with excessive Instagram usage serving as the dependent variable.

Table 2

Hierarchical Regression Analysis Results for Excessive Instagram Usage

Predictor	<i>B</i>	β	<i>t</i>	<i>p</i>	95% CI		<i>R</i> ²	<i>R</i> ² change	<i>F</i> _{change}	p
					Lower	Upper				
Step 1							.028		5.38	.005
Age	-.67	-.11	-2.14	.033	-1.28	-.054				
Gender	-5.13	-.12	-2.37	.018	-9.39	-.873				
Step 2							.197	.169	12.98	.000
Age	-.39	-.06	-1.36	.176	-.957	.176				
Gender	-5.31	-.12	-2.45	.015	-9.56	-1.05				
EX	-.23	-.09	-1.55	.122	-.533	.063				
CON	-.59	-.20	-3.48	.001	-.931	-.259				
AGG	.34	.10	1.70	.090	-.054	.733				
NEU	.63	.24	4.59	.000	.361	.904				
OE	.19	.04	0.66	.509	-.368	.741				
NV	.79	.16	2.83	.005	.244	1.35				
Step 3							.251	.054	26.63	.000
Age	-.41	-.07	-1.46	.144	-.955	.140				
Gender	-6.36	-.15	-3.02	.003	-10.49	-2.23				
EX	-.02	-.01	-0.12	.902	-.319	.281				
CON	-.66	-.22	-3.96	.000	-.982	-.330				
AGG	.37	.11	1.90	.058	-.013	.748				
NEU	.63	.24	4.75	.000	.371	.895				
OE	.31	.07	1.14	.256	-.227	.850				
NV	.49	.10	1.78	.076	-.051	1.04				
OST	1.23	.26	5.15	.000	.760	1.70				

Note. EX: extraversion, CON: conscientiousness, AGG: agreeableness, NEU: neuroticism, OE: openness to experience, NV: negative valence, OST: perceived ostracism, **p*<.05, ***p*<.01, ****p*<.001

Hierarchical multiple regression was used to assess the ability of personality and perceived ostracism to predict levels of excessive Instagram usage, after controlling for age and gender. Age and gender were entered at Step 1, and explained approximately 2.8% of the variance in excessive Instagram usage. After entry of the personality traits at Step 2, the total variance explained by the model as a whole was about 19.7% ($F(8, 369) = 11.34, p < .001$). Personality traits explained an additional 16.9% of the variance in excessive Instagram usage, after controlling for age and gender ($R^2_{\text{change}} = .169, F_{\text{change}} = 12.98, p < .001$). After entry of the perceived ostracism at Step 3, the total variance explained by the model as a whole was about 25.1% ($F(9, 368) = 13.74, p < .001$). Perceived ostracism explained an additional 5.4% of the variance in excessive Instagram usage ($R^2_{\text{change}} = .054, F_{\text{change}} = 26.63, p < .001$). In the final model, gender ($\beta = -.15, t = -3.02, p < .01$), conscientiousness ($\beta = -.22, t = -3.96, p < .001$), neuroticism ($\beta = .24, t = 4.78, p < .001$), and perceived ostracism ($\beta = .26, t = 5.16, p < .001$) could significantly predict excessive Instagram usage. Consideration of all variables in the study accounted for 25.1% of the variance in excessive Instagram usage (Table 2).

An independent samples t-test was conducted to determine the role of gender in excessive Instagram usage, personality traits and perceived ostracism (Table 3). Female participants showed significantly higher excessive Instagram usage ($M = 51.14, SD = 17.16$) compared to the male participants ($M = 45.77, SD = 16.32$). Extraversion ($M = 28.67, SD = 6.16$) was significantly higher among the male participants compared to the female participants ($M = 26.88, SD = 6.55$). Additionally, openness to experience was significantly higher among the male participants ($M = 20.01, SD = 3.57$) compared to the female participants ($M = 18.02, SD = 3.92$). Lastly, negative valence was significantly higher among the male participants ($M = 11.43, SD = 4.20$) compared to the female participants ($M = 9.29, SD = 2.99$).

Table 3
Independent Samples t-test Results

	Group	N	M	SD	t	p	d
INS	Female	302	51.14	17.16	2.48	.014	0.32
	Male	77	45.77	16.32			
EX	Female	302	26.88	6.55	-2.20	.028	-0.28
	Male	77	28.67	6.16			
CON	Female	302	28.38	5.78	-.640	.523	-0.08
	Male	77	28.84	5.45			
AGG	Female	302	33.80	4.74	1.36	.175	0.17
	Male	77	32.95	5.56			
NEU	Female	302	25.92	6.55	1.89	.059	0.24
	Male	77	24.34	6.59			
OE	Female	302	18.02	3.92	-4.05	.000	-0.52
	Male	77	20.01	3.57			
NV	Female	302	9.29	2.99	-4.20	.000	-0.65
	Male	77	11.43	4.20			
OST	Female	302	23.53	6.86	-1.99	.052	-0.25
	Male	77	25.23	6.69			

Note. EX: extraversion, CON: conscientiousness, AGG: agreeableness, NEU: neuroticism, OE: openness to experience, NV: negative valence, OST: perceived ostracism, M: mean, SD: standard deviation, d = Cohen's d
* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

The current study aimed to identify associations between personality traits, perceived ostracism, and excessive Instagram usage, as well as to determine whether a model based on age, gender, personality, and perceived ostracism could explain excessive Instagram usage in a Turkish sample. The associations among the previously stated variables were analyzed. Then, hierarchical regression analyses were conducted to determine whether gender, personality, and perceived ostracism predict excessive Instagram usage. The significant findings obtained in this study are presented in order.

The correlation analysis results showed that excessive Instagram use was negatively associated with the personality traits of extraversion, conscientiousness, agreeableness, and openness to experience while being positively associated with neuroticism and negative valence. The I-PACE Model, established by Brand et al. (2016, 2019), serves as the theoretical basis for this study. According to this model, problematic technology use is influenced by the interaction of personality factors and emotional-cognitive processes, and personality is one of the most essential aspects influencing a person's core characteristics. Moreover, perceived ostracism, such as loneliness and perceived social support, might be considered external triggers in the context of the I-PACE model. This study explored the correlation between excessive Instagram usage, personality traits, and perceived ostracism. While the literature indicates a negative correlation between excessive Instagram usage and the traits of conscientiousness, agreeableness, and openness to experience (Isbulan et al., 2024; Kircaburun & Griffiths, 2018; Nikel et al., 2024), some studies present contrary findings (Akhtar et al., 2024; Berdida, 2025). Multiple factors may contribute to the discrepancies observed in the results of various studies. One of these could be culture. The inconsistent or differing research results regarding Instagram or social media use and personality dimensions suggest that this relationship warrants further investigation. Cultural differences may affect the strength and direction of these relationships. For example, Kircaburun and Griffiths' (2018) study, conducted in Türkiye, yielded findings largely similar to ours. However, Sheldon and colleagues' (2021) study involved participants who identified as Caucasian, African American, Asian American, Hispanic, and Native American, and their results differed from ours. These examples indicate that inconsistencies and differences may be due to cultural factors or at least the frequency or level of use. Statistics show that Türkiye ranks fifth in the world with 57 million Instagram users (Statista, 2024a). Sheldon et al. (2021) also noted inconsistent results between personality traits and social media and Internet addiction. They suggest that these differences can be explained within the context of uses and gratification theory and that the motivations for using certain social media platforms may vary between individuals. Additionally, variables examined in relation to personality may include various social media platforms, such as Instagram, X, Snapchat, and Facebook. Distinct characteristics of the social media account under examination may account for variations in the results. Sheldon et al. (2021) found no relationship between personality and Instagram, Facebook, and Snapchat; however, extraversion and conscientiousness were significantly associated with addiction to Snapchat and Facebook. However, it seems reasonable that extraversion is negatively associated with excessive Instagram usage. Individuals exhibiting high levels of extraversion tend to engage more actively in both daily and professional contexts, often allocating greater time to social events and physical activities (Mesurado et al., 2014). In summary, rather than engaging with Instagram in a problematic manner, individuals appear to utilize social media in a more balanced style that does not interfere with their daily obligations and responsibilities.

Examples of agreeableness toward others include sympathy, courteousness, interpersonal adaptability, kindness, trust, and forgiveness (Costa & McCrae, 1992). Individuals exhibiting high levels of agreeableness are likely to favor face-to-face interactions over social media connections. Research

indicates a negative correlation between agreeableness and social media use (Kircaburun & Griffiths, 2018; Sharifi Fard et al., 2025). A similar assessment is applicable to the conscientiousness dimension. The cybernetic big five theory posits that conscientiousness primarily involves protecting long-term goals against short-term temptations. Conscientiousness refers to the tendency to stick to rules and prefer long-term objectives over immediate gratification (DeYoung, 2015). Individuals exhibiting high levels of conscientiousness are likely to engage in less excessive use of social media than those with lower levels of this trait (Bunz, 2021; Santos et al., 2023; Whaite et al., 2018). Research findings regarding the association between openness to experience, particularly neuroticism, and social media usage are notably consistent (Correa et al., 2010; Gugushvili et al., 2024; Montag & Markett, 2024). Studies indicate a negative correlation between social media use and openness to experience, whereas a positive correlation exists with neuroticism (Gil de Zúñiga et al., 2017). Individuals with high openness to experience are inclined to explore new ideas and express themselves meaningfully, suggesting a lower likelihood of excessive social media use, such as passive content consumption or repetitive interactions (Wartberg et al., 2023). A meta-analysis indicated that low openness correlates with problematic social media use (Meynadier et al., 2024). Research supports a positive relationship between neuroticism and excessive use of Instagram (Blackwell et al., 2017; Nikel et al., 2024). Moreover, neuroticism exhibits a positive correlation with pathological variables, including depression (Hou et al., 2024), anxiety, panic disorder (He et al., 2024), and stress (Yin et al., 2024). Individuals exhibiting psychopathological traits alongside elevated neuroticism may utilize social media to alleviate anxiety (Hussain et al., 2023; Sharifi Fard et al., 2025). Additionally, negative valence, which emerged as a dimension specific to Türkiye, was found to be positively related to Instagram use. This dimension specifically pertains to an individual's negative self-perceptions or self-attributions (Gençöz & Öncül, 2012). It is an expected result that negative valence, as in neuroticism, is positively correlated with excessive Instagram usage.

High levels of Instagram usage were positively correlated with perceived ostracism. In the context of the I-PACE model, perceived ostracism was identified as an external trigger in this study. Research indicates a positive correlation between perceived ostracism and excessive social media usage (Kavaklı & Aydın, 2024; Knausenberger & Echterhoff, 2018; Seidman, 2013). As with neuroticism, it can be anticipated that individuals experiencing high levels of perceived ostracism might turn to social media to address their impaired psychological needs.

Although Instagram use is associated with all personality traits in our study, the hierarchical regression analysis results indicate that only gender, conscientiousness, neuroticism, and perceived ostracism predict excessive Instagram use in the final step. Demographic variables such as age and gender might be considered to influence a person's core characteristics within the context of the I-PACE model. For example, there are research that show gender differences in social media use (Karatsoli & Nathanail, 2020; Wei et al., 2024). For instance, in research on adolescents, there was no gender difference in the use of Facebook, Instagram, X, and Snapchat, but females reported using TikTok more than males (Manago et al., 2023). One study found that increased social media use by young people aged 18 to 29 was related to better mental health, whereas the converse was true for participants aged 30 and up (Hardy and Castonguay, 2018). Given these findings, it is reasonable to conclude that demographic variables such as gender and age can also influence social media use. Therefore, the first step of the regression model in this study used both age and gender data as control variables. In the final step of the hierarchical regression analysis, gender predicted the excessive Instagram usage, but age did not predict it.

This study involved university students and individuals within a specific age range. Consequently, it appears that age is not a reliable predictor of Instagram usage. Gender was a predictor of Instagram usage. T-test analyses were conducted to examine the effects of gender on personality and perceived ostracism, specifically investigating potential gender differences. The results indicated that females exhibited statistically higher total scores of excessive Instagram usage compared to males. While there are varied findings regarding gender differences in social media and Internet usage (Alnjadat et al., 2019), a significant portion of the research indicates a gender difference (Dumford et al., 2023; Twenge & Martin, 2020). Many studies indicate that female participants' social media usage rates are higher than those of males, which supports our findings about gender differences. This finding is consistent with the literature. In conclusion, this study suggests that being female might be a risk factor for excessive use of Instagram. However, the difference in social media usage between genders may also be attributed to their differing purposes for using these platforms. For instance, Krasnova et al. (2017) found that males use social media primarily to obtain general information, while females use it to maintain close relationships and obtain social information. Additionally, our study results indicated that male's extraversion, openness to experience, and negative valence scores were higher than those of females. This finding differs from the literature. For example, Rahmani and Lawasani (2012) found that females had higher openness to experience scores. In our study, males had higher negative valence scores, a dimension related to neuroticism. However, another study conducted in Türkiye reported that females had higher levels of neuroticism (Kaya & Karahasanoğlu, 2019). A study involving participants from 55 countries indicated that, in contrast to our findings, males exhibited lower mean scores for neuroticism and extraversion compared to females (Schmitt et al., 2008). The study revealed varying results regarding openness to experience across different cultures. It was reported that males exhibited higher openness to experience scores than females across 37 countries; however, the statistically significant difference was observed in only 8 of these countries. Females exhibited higher openness to experience scores than males across 18 cultures, with significant differences observed in only 4 cultures. Schmitt et al. (2008) indicated that these findings were anticipated, noting that females exhibited greater openness to emotions, whereas males demonstrated more openness to new ideas, suggesting that these discrepancies may arise from this distinction. The self-report measurement tools for openness to experience were not designed to differentiate the relevant distinctions. The observed higher openness to experience scores in males compared to females in this study may be attributed to these differences. Nonetheless, it is challenging to make a comparable assertion regarding extraversion and negative valence. The unequal gender distribution among participants may account for the inconsistency of the results in this study concerning personality traits. Therefore, we must assess the relevant findings while acknowledging this limitation. To validate these varying outcomes, conducting replication studies and additional research with diverse samples may be essential.

The second predictor in hierarchical regression analysis is conscientiousness. Conscientiousness negatively predicts excessive Instagram usage, while neuroticism and perceived ostracism positively predict it. Conscientiousness primarily involves protecting long-term objectives against short-term temptations. Conscientiousness reflects the inclination to keep to regulations and prioritize long-term objectives over immediate gratification (DeYoung, 2015). Individuals exhibiting high levels of conscientiousness are likely to engage in less excessive use of social media than those with lower levels of conscientiousness (Bunz, 2021; Santos et al., 2023; Whaite et al., 2018). Moreover, individuals exhibiting high levels of conscientiousness tend to possess better time management and self-regulation skills (Bayer et al., 2016; Peters, 2009), potentially resulting in reduced time spent on social media. Andreassen et al. (2012) found a correlation between Facebook addiction and low conscientiousness. A separate study indicated a negative correlation between conscientiousness and the number of Instagram posts, accounts followed, and tendencies toward addiction (Moore & Craciun, 2021). The meta-analysis

by Meynadier et al. (2024) found a negative correlation between low conscientiousness and problematic social media use. Huang (2022) stated that high conscientiousness may serve as a protective factor against excessive social media use. The findings of the mentioned research support the results obtained in this study.

The third predictor in hierarchical regression analysis is neuroticism (emotional instability). Neuroticism positively predicts excessive Instagram usage. This study's findings are supported by previous research (Blackwell et al., 2017; Huang et al., 2023; Marengo et al., 2020; Montag et al., 2021). Research indicates a positive correlation between neuroticism and Instagram usage (Kircaburun & Griffiths, 2018; Santos et al., 2023; Sharifi Fard et al., 2025). Bowden-Green et al. (2021) indicated that individuals exhibiting high levels of neuroticism may possess more limited social networks, suggesting that social interaction via social media could serve as a significant motivator for its usage. Huang (2022) found in a meta-analysis study that high neuroticism serves as a risk factor for social media addiction. Meynadier et al. (2024) reported the inclusion of approximately 40 additional samples in the meta-analysis study when compared with Huang (2022). This study, like Huang (2022), identifies neuroticism as a risk factor for problematic social media use (Meynadier et al., 2024). Meynadier et al. (2024) found that neuroticism and conscientiousness accounted for nearly all (91%) of the total variance associated with problematic social media use as predicted by the five-factor personality traits. This result aligns with the findings of our study. Furthermore, people high in neuroticism exhibit characteristics such as vulnerability, anger, hostility, depression, and impulsivity. These individuals may tend to be more pessimistic, dissatisfied, insecure, and emotionally unstable (McCann, 2018; Paulus et al., 2016; Roelofs et al., 2008). Individuals with high neuroticism often have relatively smaller social networks and connections, leading them to use social media more frequently to make friends and establish new relationships (Bowden-Green et al., 2021).

Another last significant predictor of excessive Instagram usage in our hierarchical regression model is perceived ostracism. The I-PACE model identifies external factors contributing to the development of Internet and technology addictions, alongside personality traits. Examples include loneliness and perceived social support (Brand et al., 2019). Perceived ostracism, recognized for its association with variables like loneliness (Kavaklı, 2019) and social support (Teng & Chen, 2012), can be logically categorized as an external factor within the I-PACE model. According to Williams' (2009) need threat model, an experience of ostracism threatens basic psychological needs such as self-esteem, the need to belong, meaningful existence, and control. When self-esteem and the need to belong are threatened, individuals may tend to exhibit prosocial behaviors, such as trying to regain membership status in the group from which they were ostracized, making new friends, and joining new groups. When meaningful existence and the control needs are threatened, individuals may tend to exhibit antisocial behaviors such as aggression. It is relatively easier to make new friends and join new groups and also aggressiveness on social media compared to real life. Therefore, it seems reasonable to try to compensate for psychological needs damaged due to ostracism on social media (Kavaklı, 2018; Knausenberger & Echterhoff, 2018). Studies indicate that perceived ostracism may be associated with excessive Internet use (Coşkun et al., 2024; Kavaklı & Aydın, 2024; Turan et al., 2024). According to Taş (2023), ostracism positively influences social media addiction. Another study reported that ostracism is positively significantly related to social media addiction (Kaya & Cenkseven-Önder, 2025). Zhang et al. (2024) stated that social exclusion is positively related to short video addiction. Yue et al. (2023) revealed that social exclusion and social media addiction are positively associated. Lim (2019) also reported that social exclusion is positively associated with Facebook addiction. The results support the findings of this study. Furthermore, social anxiety may serve as a potential explanation for why individuals experiencing ostracism engage with social media and the Internet (Lim, 2019). Exposure to

ostracism can elevate social anxiety alongside the need threat (Shi et al., 2025). Social media may serve to alleviate heightened social anxiety and promote relaxation (Angelini & Gini, 2024; Huang et al., 2024). Wu et al. (2024) conducted a systematic review indicating a positive correlation between social anxiety and problematic social media usage. Consequently, it is reasonable for individuals facing ostracism to utilize social media as a means of alleviating the need threat and anxiety associated with perceived ostracism.

This study examined the relationships between internal triggers, such as personality, and external triggers, such as perceived ostracism, within the framework of the I-PACE model, in relation to excessive Instagram usage. The study concluded that conscientiousness, neuroticism, and perceived ostracism are predictors of excessive Instagram usage. Individuals exhibiting high levels of conscientiousness may demonstrate reduced tendencies toward excessive Instagram usage, attributable to their more structured and organized lifestyles. Individuals exhibiting high neuroticism traits and higher perceived ostracism levels are believed to utilize social media, particularly Instagram, to manage negative emotional states and anxiety. The results further support the basic assumptions of the I-PACE model. The I-PACE model suggests that individual traits, including personality and perceived ostracism, can influence cognitive emotional processes, potentially resulting in excessive use of Instagram. Individuals exhibiting high levels of neuroticism and perceived ostracism may be inclined to utilize social media platforms, such as Instagram, for emotional regulation. This research enhances the existing literature by clarifying the potential impacts of personality traits and social interaction processes, such as ostracism, on excessive Instagram usage within the framework of the I-PACE model.

Our findings concerning the potential impacts of individual differences, specifically personality and perceived ostracism, on online behaviors align with the predictions of the I-PACE model. Conscientiousness may play a significant role in regulating excessive social media use. Clinicians may design intervention programs based on the observation that individuals exhibiting high neuroticism and perceived ostracism are likely to engage in excessive social media use. Despite its contributions, this research has some limitations. One limitation is that the participants consisted only of university students, representing a specific age group. This sample limits the generalizability of the results to all Instagram users. Additionally, the study was conducted online, presenting challenges inherent to online studies. As a cross-sectional study, it cannot infer directionality or causation. Future studies could use more homogeneous samples to better understand the patterns of Instagram users in Türkiye. Another limitation is the unequal gender distribution of participants, which should be addressed in future research.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study was received from Necmettin Erbakan University, Social and Human Sciences Ethics Committee (Approval Date: 19/01/2024, Approval Number: 2024/62).

Author Contributions

Each part of the article prepared by M.K.

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A Critical Analysis of Ümit Özdağ's X Posts within the Framework of the General Discourse of the Populist Radical Right

Ümit Özdağ'ın X Paylaşımlarının Popülist Radikal Sağın Genel Söylemi Çerçevesinde Eleştirel Analizi

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Abstract

The aim of this study is to analyse the posts made by Victory Party (Zafer Partisi / ZP) leader Ümit Özdağ from his personal account on the X platform with reference to some of the concepts that populist radical right ideology produces discourse around. In this context, the analysis of Özdağ's X posts within the framework of the general discourse of the populist radical right is important for understanding how the populist radical right discourse is reproduced locally. In this study, the method of critical discourse analysis was applied to discuss the ideological meaning of the discourses formed around the concepts. In particular, the concepts of immigrants/refugees, Islam and nation have been selected with reference to the discourses put forward by the populist radical right-wing movements on the rise in Europe, and Özdağ's X posts have been analysed through these concepts. The analysis has been conducted on the concepts of immigrants/refugees, Islam and nation. Özdağ's discourses largely overlap with the populist radical right ideology on migrants and refugees. However, Özdağ's discourse differs from the general discourse of the populist radical right on Islam and the nation at certain points. On the issue of Islam, Özdağ, unlike Western right-wing populists, criticises the cultural practices of Muslims rather than categorically rejecting Islam. By highlighting Turkish nationalism, Özdağ reproduces anti-immigrant discourses within this framework. While the populist radical right has recently produced discourse through civic nationalism rather than discourse based on ethnicity, some of Özdağ's X posts evoke ethnic nationalism.

Keywords: Critical Discourse Analysis, Immigrants/Refugees, Islam, Populist Radical Right, Ümit Özdağ.

Öz

Bu çalışma Zafer Partisi (ZP) Genel Başkanı Ümit Özdağ'ın X platformundaki kişisel hesabından yapmış olduğu paylaşımları popülist radikal sağ ideolojinin üzerine söylem ürettiği bazı kavramları referans alarak incelemeyi amaçlamaktadır. Bu bağlamda, Özdağ'ın X paylaşımlarının popülist radikal sağın genel söylemi çerçevesinde incelenmesi, popülist radikal sağ söylemin yerelde yeniden nasıl üretildiğinin anlaşılması açısından önemlidir. Belirlediğimiz kavramlar etrafında oluşturulan söylemlerin ideolojik anlamını tartışabilmek için bu çalışmada eleştirel söylem analizi yöntemi kullanılmıştır. Özellikle Avrupa'da yükselişe geçen popülist radikal sağ hareketlerin ortaya koyduğu söylemler referans alınarak göçmenler/mülteciler, İslam ve ulus kavramları belirlenmiş ve Özdağ'ın X paylaşımları bu kavramlar üzerinden çözümlenmiştir. Özdağ'ın söylemleri, göçmenler ve mülteciler konusunda popülist radikal sağ ideolojisiyle büyük ölçüde örtüşmektedir; ancak İslam ve ulus konusunda popülist radikal sağın genel söyleminden belirli noktalarda ayrılmaktadır. Özdağ göçmen ve mülteci karşıtı söylemini tıpkı batılı muadilleri gibi özellikle kültürel, güvenlik ve ekonomik kaygılar üzerinden inşa etmektedir. İslam konusunda Özdağ, Batılı sağ popülistlerden farklı olarak İslam dinini kategorik olarak reddetmek yerine Müslümanların kültürel pratiklerini eleştirmektedir. Bu bağlamda Özdağ'ın İslam üzerine ürettiği söylemlerde "özcü (essentialist)" bir yaklaşım sergilediğini söylemek mümkündür. Son dönemde popülist radikal sağ genel olarak soy üzerinden söylem üretmek yerine "civic milliyetçilik" üzerinden söylem üretmeye dikkat ederken, Özdağ'ın bazı X paylaşımları soya dayalı milliyetçilik anlayışını çağrıştırmaktadır.

Anahtar Kelimeler: Eleştirel Söylem Analizi, Göçmenler/Mülteciler, İslam, Popülist Radikal Sağ, Ümit Özdağ.

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A Critical Analysis of Ümit Özdağ's X Posts within the Framework of the General Discourse of the Populist Radical Right

In the 21st century, populism has emerged as one of the most prominent subjects of academic interest, particularly in light of its rise in the Western world. After the 2008 global economic crisis, the precariousness created by the erosion of the welfare state in the lower middle class, the refugee problem, the sovereignty crisis in the EU, the Brexit process, the election of Trump as the President of the US, the rise of far-right parties in Western democracies and the increasing distancing of citizens from mainstream politics all point to the “age of populism”. As Moffitt says, it seems that we are living in populist times (Moffitt, 2016, p. 1). In particular, the fact that right-wing populism is gaining ground in the Western world and influencing mainstream politics strengthens concerns about liberal democracies. In other words, the ghost hovering over Europe this time is not socialism but the “ghost of populism” (Cox, 2017, p. 9).

Despite all these political effects, the academic definition of populism continues to be debated. This concept is classified under different categories such as ideology, strategy, discourse, political logic and political style (Mudde, 2004; Weyland, 2001; Hawkins, 2010; Laclau, 2005; Moffitt, 2016). Among these classifications, Mudde's definition of populism as a “thin centred ideology” (2004, p. 543) is, in our opinion, inclusive and functional as the “thin-centred” character of populism explains its flexibility and the nature of its articulation with other ideologies. Indeed, populism, which does not put forward a comprehensive and coherent ideological programme, can be articulated to any political context by adapting to full ideologies thanks to its “chameleon nature” (Stanley, 2008, p. 95-96; Taggart, 2004, p. 275). This answers the question of how both right-wing and left-wing versions of populism can exist at the same time. The common ground of all versions of populism is the sharp distinction between the people and the elites. According to Mudde (2004, p. 453), populism divides society into two opposing groups, “the pure people” and the “corrupt elite”, and argues that politics should reflect the *volonté générale* (general will).

The recent rise of anti-immigrant, nativist and authoritarian parties in the Western world, challenging the established order, has drawn attention to the populist radical right. Particularly in Europe, parties promising to fight migration and restore national sovereignty have dramatically increased their votes. In fact, populist radical right-wing parties can now be part of a coalition in their countries and even emerge as the first party in elections. For example, in the 2017 Austrian elections, the Austrian Freedom Party (Freiheitliche Partei Österreichs / FPÖ), representing the populist radical right, formed a coalition with the centre-right Austrian People's Party (Österreichische Volkspartei / ÖVP) and became a partner in the government (Halikiopoulou, 2019, p. 35). In Italy, the Brothers of Italy (Fratelli d'Italia) came first in the 2022 general election with around 26 per cent of the vote and far-right leader Giorgia Meloni became Prime Minister (Kirby, 2022). Italy's other populist radical right-wing party, Lega (formerly Lega Nord / LN), has also been part of governing coalitions since 2018, with its leader Matteo Salvini currently serving as Vice-President of the Council of Ministers and Minister of Infrastructure and Transport. Finally, in the Dutch general elections held on 22 November 2023, the Party for Freedom (Partij voor de Vrijheid / PVV), led by Geert Wilders, one of Europe's most famous populist radical rightists, became the first party. The party's winning 37 seats was seen as a development that would shake Dutch politics and create a shock across Europe (Kirby and Holligan, 2023).

The refugee crisis in Europe is one of the most important reasons for the rise of right-wing populism. In 2015, hundreds of thousands of people from different countries, mostly from Syria, entered the European Union (EU) countries fleeing from countries in conflict and the refugee crisis erupted (BBC, 2016; Hayes and Dudek, 2019, p. 31). Around 1.2 million people sought asylum in EU countries this year (Eurostat, 2024). This humanitarian crisis and similar incidents cause populist radical right-wing

parties to further politicise the issue of migration and gain the support of protest voters. Therefore, it is possible to say that the discourse of populist right-wing parties that emphasise anti-immigrant sentiments and the anti-immigrant sentiments of citizens mutually reinforce each other (Santi-Amantini, 2022, p. 106).

The migrant/refugee issue, which has shaped European politics and deeply shaken the established order, has become one of the most important topics of politics in Turkey. Especially in the process that started with the Syrian Civil War, Turkey's 'open door' policy has increased the number of refugees. Afterwards, people of various nationalities who entered the country illegally increased the social, economic and cultural concerns of the residents and caused a social reaction similar to that in Europe (Medyascope, 2023; Semerci-Uyan, 2020). However, it should be noted that this social reaction did not emerge immediately in a surprising manner. Although Turkey has been hosting the largest number of refugees worldwide since 2011, the refugee issue has not been a decisive issue in domestic politics for a long time (Sert and Daniş, 2021). However, antagonisms between the two communities have increased over time. Studies have shown that tensions between Syrian refugees and Turkish society tripled in the second half of 2017 compared to the same period in 2016 (International Crisis Group, 2018). Moreover, some videos circulated on social media in 2022 played an important role in the mass mobilisation of the reaction not only against Syrian refugees but also against irregular migrants. These videos showing alleged Afghan and Pakistani nationals recording women in Turkey with their mobile phones and showing that migrants entering the country illegally cross the border easily brought the migrant issue to the centre of the political agenda (Altundağ and Esin, 2024). As a result, according to public opinion data, 86 per cent of Turkish citizens want refugees and migrants to be sent home (cited in Secen et al., 2024, p. 421).

It is possible to say that there was no political party in Turkey that based its main political discourse on the refugee and migrant problem until August 2021. On that date, Özdağ, a nationalist academic and politician, founded the ZP. Özdağ's party is in many ways similar to anti-immigrant parties in Europe, as its main political discourse is based on anti-refugee and anti-immigrant sentiments (Saylan and Aknur, 2023, p. 271). It can be argued that Özdağ, who comes from a nationalist political tradition and has been a politician in the Nationalist Movement Party (Milliyetçi Hareket Partisi / MHP) for a long time, fills a "political vacuum" in Turkey, which has been experiencing a refugee crisis since 2011, by adopting a European-style anti-immigrant/anti-refugee political discourse. Indeed, although anti-refugee and anti-irregular migration is an issue that cuts horizontally across many segments of society in Turkey, no political party (especially the centre parties) other than ZP has systematically brought this issue to the political agenda (Altundağ and Esin, 2024). However, the ZP fell far behind its European counterparts in terms of the votes it received in the elections, one general and one local.ⁱ On the other hand, it should be noted that Özdağ adopted an anti-immigrant political discourse while he was in the Good Party (İyi Parti / İYİP) before founding ZP.ⁱⁱ

This study aims to frame Özdağ's political discourse on refugees and irregular migrants based on the populist radical right ideology in Europe. For this comparison, Özdağ's posts on his X account were taken as data. The reason for this is the critical role of social media in the dissemination of populist discourse as well as ensuring data integrity. In this context, it is possible to argue that platforms such as X are a stage on which the personality of influential leaders is constructed, as well as a functional tool for the dissemination of information, the selection of topics, interaction, and propaganda (Pérez-Curiel, 2020, p. 175).

Literature Review

Populist Radical Right

We have stated above that populism divides society into two antagonistic groups of “pure people” and “corrupt elites” and argues that politics should reflect the will of the people. Most of the research on populism shows that right-wing and left-wing populist parties put forward a discourse that is anti-elitist and claims to represent the people (Otjes and Louwerse, 2015). However, one of the main elements that clearly distinguishes right-wing populism is that it produces discourse and politics based on anti-immigrant sentiments. In fact, according to Mudde, anti-immigrant attitude is a characteristic of the populist radical right rather than populism (Mudde, 2007). The issue of migration and refugees is usually addressed by right-wing politicians in the context of security threat, cultural threat and economic threat. In order to maintain the “imagined” homogeneity of the nation and its economic prosperity, “others” from outside are excluded. Since populist radical right-wing parties strongly embrace the immigration issue, some scholars refer to them simply as anti-immigration parties (Fennema, 1997; Van der Brug et al., 2005). The main factor motivating anti-immigration is nativism. According to Mudde (2007, p. 19), nativism, which is the main characteristic of the populist radical right, argues that only the indigenous group (the nation) should live within the state and that non-indigenous elements (people and ideas) pose a threat to the homogenous nation-state. According to this perspective, the indigenous people and their culture must be protected against the enemies of the nation. According to Stavrakakis et al. the discourse of populist radical right-wing parties corresponds to a narrative that emphasises the centrality and supremacy of the nation and nationalism by foregrounding the antagonism between a homogenous ethnic community and its ethno-cultural other (Stavrakakis et al., 2017, p. 421).

In fact, populism and nationalism are different concepts despite their often-overlapping characteristics. First, the basic distinction between “us and them” in populism refers to pure people and elites. In nationalism, this distinction corresponds to the nation and non-nationals. In other words, the priority is to protect the sovereignty, interests and identity of the nation against “external elements” that do not belong to that nation. Therefore, it cannot be said that nationalism is an anti-elite ideology like populism. On the contrary, nationalism is often an ideology driven by elites (Varshney, 2021, p. 131). However, when we talk about contemporary populism, it is seen that populism and nationalism are intertwined. The first reason for this is that the nation-state is still the dominant political unit in democratic political representation and thus populism usually operates within a national context (De Cleen, 2017). Secondly, nationalism in practice is often compatible with populist movements. Right-wing populist movements in particular aim to consolidate the population around a national identity and scapegoat “others”, mainstream media, lawyers, academics and LGBT people who pose a “threat” to the nation's identity (Liberties, 2021).

However, it is difficult to say that all populist movements are nationalist. Left-wing populism in particular takes a class approach, seeing “the pure people” as the entire lower classes in opposition to the capital-owning elites, and does not tend to create an antagonistic mobilisation towards foreigners and immigrants. It is therefore important to emphasise the difference between right-wing and left-wing populism. Whereas left-wing populism, as in the case of Podemos in Spain and Syriza in Greece, produces politics based on a vertical opposition between elites and the people, the nativism that characterises right-wing populism is built on a horizontal opposition between the nation and “dangerous others” (foreigners, immigrants, religious minorities, etc.) (Bonikowski et al., 2019, p. 74). “Dangerous others” are seen as groups that are favoured by the elites against the people or even used by the elites in conspiracies against the people. Similarly, while the sharp opposition to globalisation seen in the left

populist movements in South America has a class character, in the populist radical right, which is gaining strength in Europe and the USA, this opposition turns into a xenophobic reaction.

Populist radical right movements divide the domestic community into “in-group” and “out-group”. The in-group corresponds to the “people”, the “real members of the nation”, and they alone should have access to the collective goods of the state. Foreigners and immigrants do not belong to the “people”. For this reason, right-wing populism takes a hard line on immigration, arguing that immigration should be restricted. According to this perspective, the people does not consist of “all the poor” as in left-wing populism, but of the “whole nation”. Thus, in the right-wing version of populism, the distinction between populism and nationalism becomes rather amorphous. Right-wing populists put forward a strong rhetoric that the nation must re-establish its sovereignty and argue that foreigners should be excluded from the national pact and should not share in collective goods (Halikiopoulou, 2019, p. 40).

The success of the populist radical right-wing movements in the West is based on their sophisticated and functional use of nationalism. Far-right parties, which in the past could easily be labelled as racist and marginalised, have succeeded in gaining mass appeal as the spokespersons for the economic and security concerns raised by the phenomenon of migration. In doing so, they introduced a new discourse based on civic nationalism, emphasising a vision of citizenship. They promoted a nativist agenda by grounding the distinction between “us” and “the other” on cultural and religious, rather than racial, grounds (Mudde, 2017, p. 4). This made it easier and legitimised the exclusion of “others” and enabled populist radical right-wing parties to increasingly gain the capacity to influence and direct “mainstream politics”. Thus, they both increased their vote rates significantly and enabled mainstream political parties to adopt a similar political stance and discourse on issues such as migration (Halikiopoulou, 2019, p. 46). As a result, populist radical right parties have succeeded in many countries in Europe by building their populist narratives on national sovereignty and nationalism.

Method

In this study, we analysed selected X posts shared by ZP Chairman Özdağ using critical discourse analysis. Critical discourse analysis suggests that there is a strong relationship between social practice and language. It states that ideology is linked to power relations in society and that these relations are expressed as discourse through language (Fairclough, 1995). In addition, discourse mediates the formation of ideologies and the production of prejudices against outgroups (Dijk, 1990). Therefore, it can be said that critical discourse analysis is a functional method in analysing populist radical right discourse.

Özdağ’s official X account is @umitozdog, was the primary source of data for our analysis. We focused on Özdağ’s X posts specifically examining themes central to populist radical right discourse. Through discourse analysis of these posts, we identified their connections to populist radical right ideology. In selecting these themes, we considered key issues emphasised in the existing literature on right-wing populism and categorised them under relevant subheadings (Fuchs, 2020; Engesser et al., 2016). In other words, we analysed Özdağ’s X posts within the framework of migrants/refugees, Islam and nation, key issues on the agenda of the rising populist radical right in Europe and on central to its discourse.ⁱⁱⁱ

X allows a maximum of 3200 posts to be viewed retrospectively, which has posed a limitation for this study. The data collection process concluded on 1 February 2023. As a result, we examined 3200 X posts shared by Özdağ between 16 January 2022 and 1 February 2023, selecting examples that best fit the themes we identified. We applied the critical discourse analysis method to the selected X posts, evaluating Özdağ’s political stance within the broader framework of the rising populist radical right in

the West. However, it is important to note that this study does not aim to conduct a comparative analysis of X posts. Thus, while X posts serve as the primary data for Özdağ's ideas on the identified themes, they will not be the sole data source when providing examples related to the intellectual framework of the populist radical right.

Although our study incorporates quantitative data, we believe that an approach, primarily based on textual analysis, provides a deeper understanding of the subject. All the X posts analysed in this study were published after the establishment of ZP. Given that Özdağ's political stance, which aligns with the populist radical right in the West, became more pronounced after founding the ZP and that the party's core policies largely reflect themes of contemporary right-wing populism, the data collection period can be deemed appropriate for the objectives of this study.^{iv}

This study aims to evaluate Özdağ's political perspective by examining his X posts, focusing the functional role of political communication through digital media. Indeed, social media offer many possibilities for optimising propaganda and provide a more direct and personal channel of communication with potential audiences (Ernst et al., 2017). Social media allows users to communicate directly with each other. Thanks to its multi-centre structure, it has eliminated the threshold gatekeeper and allowed the message to be delivered directly to the target audience. Thus, it became easier for Özdağ and similar right-wing populist leaders to reach the public. Indeed, in his VOX-Pol Year in Review for 2018, Conway observed that the appearance of the far right on online platforms was very strong and growing in 2018 (Conway, 2019, p. 11). In this context, we used X posts as research data to examine the similarities or differences between Özdağ's political discourse and the populist radical right's discourse across specific themes. This method enables us to achieve a holistic perspective.

Critical Discourse Analysis of Özdağ's X Posts in the Context of Some Concepts of Populist Radical Right Ideology

In this section, Özdağ's discourses on X will be analysed through the themes of immigration, Islam and nation, while examining the political ideological background underlying these discourses. The followers reactions to Özdağ's X posts are particularly striking highlighting the potential of populist radical right discourse to channel social anger towards refugees and migrants in Turkey. A total of 3200 X posts by Özdağ spanning from 16 January 2022 to 1 February 2023 were downloaded to an Excel file. From these, the top 10 posts, related to immigration/refuges, Islam and nation, with the highest number of likes are listed in Table 1.

When we look at the ranking of the most liked posts, the first one is a post on immigration that Özdağ shared as a result of a polemic with Soyly. The second most liked post by Özdağ includes a video link. The video depicts an individual, allegedly a refugee, secretly photographing a Turkish woman, who then reacts strongly. Özdağ shared this video on his X account, captioned with the note "I kiss your eyes". The third most liked post, features a video in which a Syrian-born individual, who acquired Turkish citizenship, criticises Özdağ. Özdağ responds to this video. The fourth post shares a video. The video features a refugee who gets between two young people who like each other on the subway. This situation is presented in a humorous way. In fifth post, Özdağ criticises Syrians for taking the driving licence exam in Mersin in their native language. The sixth post includes a video. The video features a speaker claiming to smuggle refugees to Europe. The seventh post shows Özdağ criticising to refugees for receiving education in Turkey. The eighth post features Özdağ reaction to the detention of the director of the documentary Silent Invasion. The ninth post alleges that a refugee harassed a child. The tenth post, accompanied by a video, implies that refugees struggle to adapt to city life and disrupt the environment.

Table 1*Top 10 X Posts by Özdağ on Refugees/Migrants, Islam and Nation*

	Contents of Tweets	Favorites	Retweets
1	In defence of refugees, Soyly said “we came here from the steppes of Mongolia”. Sülü, did we come as refugees? Did Byzantium give us refugee status? If Sultan Alpaslan were alive, he would beat you with a dogwood. The Ministry of Internal Affairs does not deserve this ignorance.	145000	12000
2	I kiss your eyes. https://x.com/umitozdog/status/1524479306189135876	118000	6000
3	Ahmet Hamo, you came from Syria. You got citizenship against the law. Are you going to teach us how to do politics now? I promise, I will cancel your illegal citizenship and send you on the first voyage of Zafer Tourism in seat number 1. https://x.com/umitozdog/status/1522192639348678657	115000	11000
4	I'll let you be the judge. But that's the way it is. It's a pity. https://t.co/KQ84uoW5hG	95000	11000
5	Syrians took the driving licence test in Mersin/Erdemli yesterday. Syrians took the test in Arabic and Turks took the test in Turkish. Moreover, the Syrians who took the test in Arabic have Turkish citizenship. When did Turkey become bilingual? What are you doing?	93000	12000
6	I'll hire you at Zafer Tourism. 😊 https://t.co/APcUBXK7Wu	86000	7000
7	Whether you are a graduate or not, we have reserved seat 1-A for you on the Zafer Turizm Damascus journey. It will be a pleasant journey. Promise... https://t.co/TVTOOPFogw	79000	5000
8	Hande Karacasu, who made the documentary #SilentInvasion, was detained by the police and taken to Sakarya Provincial Security Directorate. While those who tell about the threats against Turkey are detained, those who conspire against our country are rewarded. Hande Karacasu is not alone.	73000	10000
9	Last night in Esenyurt, a Syrian forcibly dragged a 10-year-old boy into the courtyard of a mosque and harassed him. The imam who came out from Isha prayer saw the harassment and saved the child. He locked the harasser in a room and reported to the police. Ebubekir Sofuoğlu is your religious brother.	70000	7000
10	Now, when we tell this asshole to “go to your homeland”, are we racist? No way. Anyone who says “stay” is a traitor. https://x.com/umitozdog/status/1563217132489302018	68000	7000

Refugees and Migrants

One of the most fundamental political discourses of the populist radical right is the opposition to migrants and refugees. Using a nationalist rhetoric, politicians representing the populist radical right argue that “others” are the source of many socioeconomic and sociocultural problems in the country and scapegoat them (Wodak, 2015; Rydgren, 2002). According to them, ordinary people are in danger of losing not only their economic well-being but also their cultural and ethnic identity due to irregular and uncontrolled migration. Right-wing populists in Europe generally present a harsh political discourse by opposing immigration from the Islamic world for cultural reasons and the financial support of undocumented migrants from the government for economic reasons. In this context, they see the population as a nation in a position of power against “external enemies”, including foreigners (Gandesha, 2018, p. 63), and adopt “welfare chauvinism”, advocating the restriction of social benefits to natives (Muis and Immerzeel, 2016, p. 6).

The recent anti-refugee and anti-immigrant sentiments of the populist radical right are to a large extent directly related to a categorical exclusion of Muslim identity. The cultural practices of Muslims, as well as the attacks in the West by terrorist organisations claiming to represent Islam, have made migration, culture and religion the central issues of politics. Thus, right-wing populists took advantage of the increasing interest in the phenomenon of migration, transformed it into a cultural issue and succeeded in bringing the “culturalised immigration debate” to the centre of political discourse (Yilmaz, 2012, p. 376). The fact that the discriminatory discourse is constructed culturally rather than biologically has increased the influence of the populist radical right on mainstream politics and made it necessary for mass parties to produce exclusionary policies towards “others/foreigners”. However, many scholars have described this situation as a new form of racism in cultural clothing, namely “cultural racism” (Modood, 2005; Wren, 2001).

The populist radical right generally produces discourse on refugees/migrants based on the above-mentioned concerns. The idea that refugees/immigrants will create a burden on the economies of the countries they move to and that the natives, who should benefit from social rights, will not be able to access some services due to foreigners is one of the most commonly used arguments of the populist radical right in the context of anti-immigration. According to Alice Weidel, co-leader of the German populist radical right party AfD, Angela Merkel's refugee policy is destroying the welfare state. Open borders and a sustainable welfare state cannot go together (Weidel, 2017). Marine Le Pen, the best-known representative of right-wing populism in France, has also claimed that refugees and migrants are an economic burden on the French people. According to Le Pen, it is a wrong policy to import unemployment by taking in immigrants when there are 7 million unemployed, 9 million poor and one in three French people cannot get proper healthcare because they cannot afford it (Le Pen, 2016). Riikka Purra, leader of the Finns Party, emphasized the disadvantage of natives in benefiting from the welfare state by stating that it is very easy for immigrants and difficult for Finns to live on benefits as part of the welfare system in Finland (Purra, 2023).

Right-wing populists commonly mention cultural, demographic and security concerns in their opposition to refugees/migrants. They argue that people from non-Western and “unstable” regions will damage European culture. Heinze-Christian Strache, former leader of the FPÖ (Freedom Party of Austria), states that their common goal is “...the preservation of the historically indigenous identity of the European people, who are in the grip of unbridled mass migration from culturally alien regions...” (Strache, 2014). He drew attention to the “cultural threat” posed by immigration not coming from Western countries. According to PVV leader Geert Wilders, one of the most iconic right-wing populist figures in the Netherlands, migrants are a major security threat to Europe and the Netherlands. Wilders stated that ISIS terrorists among Syrian refugees fleeing to Europe threaten them like a ticking time

bomb (Wilders, 2015). He also argues that non-Western refugees - mostly Muslims - are over-represented in crime statistics. Refugees, two-thirds of whom are young men, make Dutch women feel insecure (Wilders, 2013; Wilders, 2015). Matteo Salvini, the leader of Lega Nord, one of Italy's populist radical right parties, aims to improve the economy in order to encourage Italians to have children. Salvini has expressed demographic concerns, saying that he “does not want to think about replacing 10 million Italians with 10 million immigrants” (Salvini, 2021).

The main backbone of Özdağ's political discourse, especially after he founded ZP, is anti-immigrant/anti-refugee discourse like European populist radical right-wing politicians. When his posts on this issue are analyzed, it is seen that he emphasizes economic, cultural and security concerns towards immigrants and refugees similar to European right-wing populists. Selected examples from Özdağ's related posts are as follows.

Refugees and Migrants as an Economic Burden

The cost of living is rising. But why?

1- 13 million refugees and illegals have arrived in our country. These people have increased the demand for housing, transportation, health and food.

2- 17 billion dollars in aid to refugees and foreign countries every year

3- Production is completely finished.

Solution @ZaferPartisi

In post X above, Özdağ attributes the price increases to “others” with a reductionist discourse by saying that the entire reason for the inflation in Turkey is the refugees and irregular migrants in the country. He presents a discourse that tries to render invisible the causes of the inflationary trend stemming from internal and external dynamics. Even if one accepts that the share of refugees and irregular migrants in price increases is marginal, holding them solely responsible for inflation aims to channel the public's negative feelings about the high cost of living towards “outsiders”. Simplifying complex problems is one of the basic elements of populist politics (Liberties, 2021). Özdağ's evaluation of inflation, which is based on many parameters, only on refugees and irregular migrants reflects the simplistic politics of populism aimed at creating antagonism. However, it reproduces the right-wing populist discourse that sees refugees and migrants as scapegoats in the context of unfavorable economic conditions in Turkey.

I wish you had also met the needs of 80 million Turkish citizens. People are hungry and unemployed. In 10 years, our country had a current account deficit of 134 billion dollars. 80 billion dollars of this is the money spent on Syrians. Zafer Party will come, refugees will leave.

In the context of “welfare chauvinism”, one of the most frequently used arguments of the populist radical right is that refugees and migrants benefit from the opportunities provided by the welfare state. Özdağ emphasizes that this situation is to the disadvantage of Turkish citizens by quoting Minister of National Defense Hulusi Akar's statement “we are meeting the needs of 9 million Syrians”. Özdağ attributes a large part of Turkey's current account deficit to Syrian refugees and criticizes the mobilization of welfare state practices for refugees. He argues that only “real members of the nation” should have the right to access the collective goods of the state. Indeed, according to right-wing populists, foreigners should be excluded from the national pact and should not share in collective goods (Halikiopoulou, 2019, p. 40). According to this perspective, the opportunities provided by the welfare state to refugees/immigrants are to the disadvantage of natives and these opportunities should be allocated to citizens of the country. In this X post, Özdağ repeated the discourse of the populist radical

right that only natives should benefit from the goods and services of the state in the context of social aid to refugees in Turkey. This perspective, which we can express as the reproduction of nativist discourse through economic sharing, overlaps with the populist radical right discourse in Europe.

Refugees and Migrants as a “Cultural Threat”

Great Turkish Nation, due to over 4 million refugees and fugitives, the most important urban culture of our civilization has been destroyed in Istanbul. Istanbul has become the center of many criminal organizations, especially drugs.

#ZaferPartisi

#Patriarchal Alliance

#The Moment is Coming

In the X post above, Özdağ expressed his sociocultural concerns about refugees and irregular migrants. This post was shared together with a video of Özdağ giving a speech. In the video, Özdağ states that refugees and fugitives are destroying Istanbul's urban culture and that a degenerate and impersonal style dominates Istanbul's life. While he is making this speech, a part of the screen shows photographs of women with “many children”, who appear to be foreign nationals, and two Middle Easterners lying on the floor in a closed space in their local clothes, taking off their slippers. There are also photographs of shops in Istanbul with Arabic signs. According to Özdağ, refugees and irregular migrants have destroyed the civilised appearance of Istanbul with their lifestyle. The ideology and discourse of populist radical right parties is based on opposition to immigration, multiculturalism and multi-ethnicism (Rydgren, 2008, p. 739). Özdağ's emphasis on “foreigners destroying civilisation” overlaps with this ideology and discourse. According to him, refugees and irregular migrants “threaten” the culture of the host country with their lifestyle, clothing and social life. Another issue emphasised by Özdağ in this post is related to security. He claims that Istanbul has become the centre of international drug organisations. However, he did not express whether this claim is directly related to refugees and irregular migrants.

Refugees and Migrants as a Security Threat

Dear brother

Many families like yours have been forced to leave their homes and cities because of the security threat posed by refugees.

We promise to the great Turkish nation,

In the @ZaferPartisi government, there will not be a single refugee and fugitive in Turkey!...

Özdağ shared this X post together with a video of a taxi driver. In the video, the taxi driver states that he supports Özdağ's discourse and political line. He also states that he is from Kilis, one of the places where Syrian refugees live in large numbers, and that his elderly mother is afraid of going to Kilis due to the security threat posed by refugees. A taxi driver who claims that Syrians killed several old women living in Kilis demands Özdağ to publicise this. In Rydgren's article analysing the reasons for voting for radical right parties in six countries (Austria, Belgium, Denmark, France, the Netherlands and Norway), he states that local people mostly believe that refugees or immigrants will increase crime rates and this causes them to sympathise with the radical right (Rydgren, 2008, p. 754). Therefore, petty crimes committed or potentially committed by outsider groups are highlighted by the populist radical

right and all refugees/migrants are criminalized. Özdağ dramatically expressed these concerns of the taxi driver from Kilis and drew attention to the security threat posed by refugees and irregular migrants.

Security is on high alert.

There is intelligence that Syrian groups and Arab terrorist organizations will cause major incidents. We warned for years, yet you allowed the field to be plowed. There are two centres responsible for every terrorist attack; the terrorist organization and the AK Party.

The security issue, which is one of the themes in which migration is securitised, covers both individual crimes and terrorism (Innes, 2010). In this context, it is possible to say that the transfer of terrorism in Syria to Turkey is a concrete concern. As a matter of fact, some of the terrorist attacks in Turkey are caused by the unstable conflict environment in Syria and Iraq (Kadıoğlu, 2020). Instability and uncontrolled migration in Turkey's neighbouring countries have posed a real security threat to the country. Refugees are seen as potential threats during periods of increased terrorist acts, and social media is one of the most suitable environments for spreading this view. Indeed, refugees were portrayed as potential terrorists and criminals on Twitter (X) after the terrorist attacks in Paris in 2015 (Siapera et al., 2018). In this context, it is possible to say that the same trend is observed in Turkey, which has been subjected to much more terrorist attacks than France in the same period. In the studies on the subject, it is stated that a large part of the Turkish society sees Syrian refugees as a source of crime and terror (Ekici, 2019, p.709). Özdağ's X post aims to reinforce the negative perception towards Syrian refugees and in this respect, it is in line with the political discourse of populist radical right movements in Europe.

Islam

Islamophobia is one of the main political discourses shared by right-wing populist movements in the West. They have tried to construct the image of Muslims as potential terrorists by instrumentalising the fear of terrorism, especially in the context of the 9/11 attacks, Al Qaida and ISIS (Fuchs, 2020, p. 16). Anti-Islamism is directly linked to the refugee issue, as most of the refugees travelling to Europe are fleeing countries where Islamic beliefs and culture are dominant. This opposition to Islam is often categorical and ontological. In other words, right-wing populists in the West emphasise the incompatibility of the basic sources of Islam and the culture it creates with European culture. They claim that this belief therefore threatens Western civilisation as a whole. In this context, they use vulgar and marginalising language to discuss the issue of Islam on the grounds of a "clash of civilisations". For example, according to Wilders, Islam is the antithesis of Judeo-Christian values (Kaya and Tecmen, 2019, p. 56). He stated that he has a problem with Islamic culture, tradition and ideology, although not with Muslims, and argued that the Quran should be banned because it incites violence (Wilders, 2008; Wilders, 2010). Other representatives of the populist radical right in Europe have similar views. In fact, the AfD's 2017 election programme stated that Islam does not belong in Germany and that the existence of Islam poses a threat to the state, society and the values of Germany (AfD, 2017, p. 48). Like the AfD, the FPÖ emphasised that Islam is not part of their country and argued that this religion sees the world as a battlefield until all humanity becomes Muslim (FPÖ, 2013; FPÖ, 2017).

It can be said that Özdağ's views on Islam have overlapping and diverging aspects with the European populist radical right. First of all, since Özdağ is a politician with a *Ülkücü* background, it is expected that he sees Islam as an important element in his system of values. Because, although this ideology is basically based on Turkish nationalism, it has made Islam one of the fundamental values of its doctrine.^v In addition, Özdağ's belonging to the religion of Islam is also confirmed by his own statements (Yurt Gazetesi TV, 2023). Therefore, unlike European right-wing populist politicians, Özdağ does not have a categorical and ontological opposition to Islam. However, he evaluates Islam from a more

“essentialist” perspective. Özdağ shared a video from his X account, which appears to be a section of the education given to children under Taliban rule, and interpreted this video as follows:

Artificial intelligence, quantum computers, spacewalks on the one hand, and what you see on the other. Yes, the West is imperialist, but imperialism is not the only culprit. It is the reactionary mentality that keeps Muslim people slaves of the age. The surrender of a religion whose first commandment is READ to a nomadic mentality.

In this post, Özdağ states that although there have been significant developments in the field of science and technology worldwide, the Islamic world has not been able to catch up with modern education and therefore has lagged behind the West. He criticises the people of Islam by saying that Muslims do not question their own mentality due to their helplessness in the face of the West and that their archaic point of view has made them slaves of the age. However, as can be seen, the criticism here is not directed against the Islamic religion. Özdağ reminded the command to “read” in the first verse of the Quran and stated that the problem is not in Islam but in Muslims. According to him, the religion of Islam essentially encourages progress and development, but the culture of the people who adopt this religion prevents development. In the aforementioned post, Özdağ differs from Western right-wing populists and attributes underdevelopment to Muslims, not to the doctrines of Islam. It is possible to find traces of an essentialist approach towards Islam here. According to him, the Islam that Muslims apply to their lives is not “true Islam” because a religion whose first verse of its holy book says “read” encourages catching up with the age, not bigotry.

The context in which Özdağ presents a parallel discourse with Western right-wing populists on Islam is “radical Islam”. He emphasized at the highest level that salafi jihadism, especially ISIS, is an imminent and existential threat, especially in connection with the security problem posed by the Syrian Civil War in Turkey. It can be argued that the terrorist attacks of ISIS, which carried out its first serious action in Turkey in Reyhanlı in 2013 and continued until 2017, strengthened Özdağ's discourse that directly concretises jihadist terrorism through refugees. Özdağ shared the following post in relation to a video clip he quoted from his X account named “Mülteci Gündemi”.

He doesn't like Turkey. Soon he will start working to fix it. Why do Salafist gangs want refugees to stay? Because refugees constitute the human resources of Salafist gangs. ENOUGH IS ENOUGH

In this post, Özdağ shared a video of an Afghan journalist named Sunatullah Saadat, who made a video to criticise Tanju Özcan, the mayor of Bolu, for his policies and discourse against refugees; however, Saadat used expressions targeting the secular lifestyle in Turkey rather than criticising Özcan. Özdağ drew attention to the Salafist threat through this video.^{vi} In the aforementioned video, Saadat claimed that young people in Turkey were adopting an “immoral lifestyle” and called it “cultural degradation”, which drew public reaction.^{vii} Saadat's targeting of certain life practices, especially through women's bodies, facilitated Özdağ's production of a discourse containing implications that overlap the mentality of refugees and Salafist jihadists. In this X post, Özdağ states that Salafist gangs see refugees as human resources. The critical point here is that he also implies that the worldviews of salafist/jihadist groups that use terrorism as a method and refugees are similar. He thinks that refugees who think that the lifestyle in Turkey is “immoral” and “un-Islamic” will mobilise on the side of terrorist organisations if they decide to change this condition.

In another X post, Özdağ emphasised the “danger of the political regime created by refugees” through a video featuring a Moroccan man who again targeted the secular lifestyle. The person in the video tells a woman working in a supermarket in Istanbul that selling alcohol is a sin. He also says that she should cover her head in accordance with Islam. Meanwhile, another woman who intervened in the incident

asked the man where he was from (he replied that he was Moroccan) and reminded him that they lived in the Republic of Turkey and that there was democracy in this country. She continued to talk to the Moroccan person and expressed her reaction by saying “who works where and what they do is none of your business...If you are uncomfortable with me being here, you don't live in this country, you should go to Morocco and live there”. Özdağ's post on the subject is as follows.

These are our better days. If the Turkish people do not authorise the Zafer Party to “Send them away” in the June 2023 elections, Chechen, Syrian, Moroccan, Afghan, Iraqi, in short, all Salafist jihadists will take to the streets with the desire to establish a caliphate in Turkey. It is time for Zafer.

In this post, Özdağ essentially emphasises that foreigners from underdeveloped Muslim countries pose a potential threat to Turkey's political regime and secular lifestyle. He tries to legitimise this view through individual foreigners who see the social and political order in Turkey as “un-Islamic”. He argues that the only way to protect the Republic and democracy from the caliphate is to expel all refugees and irregular migrants. This discourse overlaps with the discourse of Western right-wing populists towards Muslim immigrants.

Nation

As we have mentioned in the literature section, populist radical right-wing movements are able to gain power through the anger in the public by creating enemies through the opposition of us and them in order to create a space for themselves in the field of politics. In particular, Europe-based populist radical right-wing movements produce a discourse of civic nationalism on the basis of citizenship instead of ethnic belonging and attempt to justify their negative discourses against immigrants with the cultural incompatibility they claim to exist between “outsiders” and “natives”. Populist radical right-wing parties in Europe take a political stance based on opposition to immigrants who they claim are incompatible with the local culture (Halikiopoulou, 2019; Wilders, 2015; Strache, 2014). In parallel to this, the programme of the ZP founded by Özdağ does not carry ethnic overtones. There are statements in the programme stating that it is sufficient to be a citizen in order to belong to the Turkish nation. The Turkish Nation, whose borders are drawn in the ZP's programme, is defined as “everyone who is bound to the Turkish Nation by the bond of citizenship is part of the Turkish Nation. No discrimination can be made on the basis of concepts such as sub-social groups, ethnic origin, beliefs and sects, political views, especially sexual discrimination” (Zafer Party, 2021). However, in some of Özdağ's X posts that are the subject of this study, he has gone beyond the “civic nationalism” that the European populist radical right has recently put forward. It is possible to say that some expressions containing “ethnic implications” have been used in these posts.

ZP defines itself as a Turkish Nationalist along the lines of Atatürk (Zafer Party, 2021). In this context, it seems that ZP is distant from the definition of the nation with a Turkish-Islamic synthesis. Özdağ's response to IYI Party MP Yavuz Ağralıoğlu's statement ‘Why should we call the non-Muslim Turk a human being?’ on X is important in terms of deepening the nation debates.

How does this mind explain 4000 years of pre-Islamic Turkish history?

What does it say about the Christian Gagauzians?

Are Muslim Turks who sided with the Sultan in the War of Independence Turks or Orthodox Turks who sided with Mustafa Kemal? There is definitely something wrong with the enemies of Atatürk.

Özdağ does not limit the definition of the Turkish nation to Muslim Turkishness. As can be seen in the posts above, the definition of Turkishness is extended beyond the boundaries of belief and includes the pre-Islamic period. In the example given with reference to Mustafa Kemal, it is stated that Orthodox Turks who supported Mustafa Kemal during the national struggle were more “Turkish” than Muslim Turks who supported the Sultan. In this sense, for Özdağ, the identity of Turkishness is registered with the attitude towards the national liberation war. In this example, the identity of Turkishness stands out as a superior identity that transcends Muslim identity.

Özdağ's reaction to the activities organised in Arabic language in some schools in another X post also contains ethnic implications. The reaction is not limited to Arabic language; Özdağ also reacted to the clothes worn by Syrian refugees as Arab clothes.

The Minister of National Education went to Atatürk High School, one of the best high schools in Ankara, and organised Arabic activities in Arabic clothes under the name of integration. We will not integrate. If you want to integrate so much, go to Syria.

Although the definition of the Turkish Nation in the ZP Programme does not include an expression based on ethnic origin, Özdağ's reactions to Arab culture in the X post above are striking. The problem here goes beyond the reactions against irregular migration policies. By using the concepts of Arabic language and clothes in these posts, Özdağ creates the impression that his discomfort is not limited to refugees and irregular migrants, but more generally, he is uncomfortable with the core of Arab culture in general. In this sense, Özdağ's reaction created through language and dress is based on the thesis of the absolute incompatibility of two different and incompatible cultures. We have also previously stated that right-wing populist political parties in Europe generally define anti-immigrant sentiments through cultural differences and define their national belonging through cultural values rather than a biological basis (Mudde, 2017, p. 4). In this X-post by Özdağ, the Arabic language and the clothes considered to belong to the Arabic culture are considered as “dangerous others” or “out-group” in terms of Turkish culture. In particular, whether citizens of the Republic of Turkey who identify themselves as Arabs in terms of their ethnic origin are considered part of the Turkish Nation or not becomes ambiguous in the context of this debate. Arabs who are citizens of the Republic of Turkey face the danger of being seen as “other” or “out-group” by Özdağ. This reaction is not limited to the Arabic language and ethnic dress.

6 million Syrians, 1.750 million Afghans, 2 million Negroes etc. flooded the country. The cost is \$100 billion. ISIS is organised. Ghettos are formed. Agents are on the prowl. Weapons are everywhere. You think it's a joke. You're dragging a country into the worst disaster it can suffer. The Victory Party won't allow it.

Özdağ expresses his reactions against refugees by stating their nationality and even their skin colour. His categorisation of refugees on the basis of biological differences differs from the discourse of European populist radical right politicians on cultural differences. The definition of “negro” used to distinguish African refugees from refugees belonging to other nations shows that he also discriminates on the basis of “racial” differences. We have stated above that populist radical right parties in Europe prefer not to discriminate on the basis of biological differences in order to avoid accusations of racism. Populist radical right movements therefore integrate anti-immigrant sentiments into the discourse of cultural incompatibility in order to organise social anger and dissatisfaction. Özdağ's resorting to a distinction based on skin colour along with cultural differences shows that he sometimes makes a racial categorisation. Özdağ also associates Afghan and African refugees with ISIS and accuses them of being spies in the same X-post. There may be structures among refugees that have connections with jihadist groups, but labelling refugees as a whole as ISIS-affiliated makes refugees an open target.

The X post shared by Özdağ regarding Uyghur Turks is quite remarkable. As we have mentioned before, in the ZP Programme, the Turkish Nation is defined on the basis of the basic principle of the bond of citizenship. People who are citizens of the Republic of Turkey are recognised as members of the Turkish Nation, regardless of their ethnic, sexual or religious identity. At this point, instead of being an identity belonging to an ethnic group, Turkish identity is expressed as a supra-identity of all ethnic groups living in Turkey. However, Özdağ's approach towards Uyghur Turks who are not citizens of the Republic of Turkey differs from his approach towards other refugees. Özdağ reacted in X to the police teams intervening in the demonstration of Uyghur Turks in front of the Consulate of the People's Republic of China in Istanbul.

The aggressive attitude used by this police chief against the Uyghur Turks in Turkey, who are resisting the Chinese oppression regime in a quiet, calm, honourable and painful way, is not the attitude of TURKISH police.

Indeed, the other police officers showed with their body language that they were not on the side of the police chief.

Uyghur Turks are not citizens of the Republic of Turkey. Therefore, the police threaten to deport the demonstrators (Diken, 2022). Özdağ's reaction to Uyghur Turks, who are in the position of refugees, is different from his reaction to Syrians, Afghans, Africans, Ukrainians and Russians. He used positive discourses such as “silent, calm, honourable and painfully resisting” when referring to Uyghur Turks. This approach is based on the view of Turks living in different parts of the world as cognates. Özdağ comes from the *Ülkücü Movement* as a political tradition. It seems that the Turan ideal, which was frequently expressed by the *Ülkücü Movement* for a period of time, still continues to have an impact on Özdağ.^{viii} The definition of the Turkish nation in the ZP's programme, which is based on citizenship and avoids ethnic overtones, contradicts this X reference. Özdağ, who does not see Uyghur Turks in Turkey as a danger, makes a distinction between refugees based on their ascendancy. As we mentioned before, Özdağ sees Afghan, Syrian and African refugees as a threat to the unity of the country with his X posts. Here, it is clear that the main difference that distinguishes Uyghurs from the above-mentioned refugees and irregular migrants is a sense of belonging based on lineage. Özdağ, who sees people of all other nationalities as a threat to the Turkish Nation, does not see Uyghurs as a threat even if they are not citizens of the Republic of Turkey, since he considers them as natural members (in-group) of the Turkish Nation. At this point, despite the discourse of the populist radical right, which makes distinctions based on culture, Özdağ's nationalism is sometimes based on ethno-nationalism.

Conclusion

In this study, some of the political discourses shared by ZP Chairman Özdağ on X have been evaluated by considering the general discourses of the European populist radical right. X posts have been analysed using discourse analysis method. The posts have been categorised under the themes of refugees/immigrants, Islam and nation. Özdağ has expressed views on refugees and migrants that align with the populist radical right perspective. For instance, Özdağ directly attributed the recent inflation in Turkey to refugees and irregular migrants and overlooking other variables. In line with the “welfare chauvinism” of the populist radical right, Özdağ argued that a significant portion of Turkey's current account deficit stems from financial support provided to refugees. He also perceived the diverse cultures of refugees and irregular migrants as a threat to Turkish civilisation. By emphasising the “criminal potential” of refugees, Özdağ largely associated security issues with “outsiders.” Nativism, a core element of the populist radical right, asserts that the “out-group” poses a fundamental threat to the nation state. This movement also advocates a political stance asserting that only the native group should reside

within the country's borders. In this context, Özdağ clearly places nativism at the centre of his political discourse.

In the analysed X posts, Özdağ's views on Islam exhibit both similarities to and differences from the European populist right. Similarities primarily involve concerns over the security threat posed by "radical Islam" and the risk to "secular" and "civilised" life. Özdağ argues that the ideological influence of jihadist terrorist groups, particularly ISIS, has spread significantly in Turkey, a situation exacerbated by the mass migration caused by the Syrian civil war. He asserts that terrorist groups recruit potential members from these migrant populations. In line with the European populist radical right, Özdağ highlights the terrorist potential of jihadist and Salafist ideologies and the threat they pose to the secular lifestyle. However, Özdağ departs from the mainstream populist radical right's discourse on Islam by adopting a different perspective on its essence. While populist right-wing leaders in Europe frequently portray Islam as inherently "anti-civilisation" and reject it categorically, Özdağ adopts an essentialist perspective. He argues for a distinction between "true Islam" and "radical Islam". Özdağ's "essentialist" stance on Islam appears closely tied to his political and cultural identity. As a politician in a predominantly Muslim country, his approach contrasts with the European populist radical right. Although he advocates for a secular and Kemalist political order, Özdağ's *ülküü* ideological roots regard Islam as one of the country's foundational values. Moreover, as a self-identified Muslim, his position on Islam differs significantly from the European populist radical right's discourse.

Lastly, we compared some of Özdağ's views shared on platform X with the general discourses of the European radical populist right, particularly regarding the concept of "nation." One of the key elements distinguishing the populist radical right from the extreme right of the past is its emphasis on civic nationalism, which is based on shared values of citizenship rather than direct ethnic distinctions. In this context, the populist radical right-wing discourse defines "others" not on biological grounds but based on cultural and religious differences. Because this new perspective cannot be labelled as racist, it has enabled right-wing populist discourse to exert significant influence on mainstream politics. This shift has also legitimised right-wing populist discourse in the political arena. However, although the ZP programme, founded by Özdağ, partially defines an "inclusive" nation, certain X posts reflect ideas that fall outside a civic nationalist perspective, deviating from the recent trend in populist radical right discourse. As a result, Özdağ has reproduced the populist radical right discourse, which has gained increasing global influence, to align with Turkey's unique conditions. Although Özdağ identifies anti-immigrant, anti-refugee sentiments and nativism as the key elements of his political discourse, our analysis of X posts also reveals traces of his nationalist past. The posts also demonstrate nuances that consider Turkey's social codes and highlight distinctions Europe's radical populist right-wing parties. In fact, Özdağ's essentialist stance on Islam and occasional ethnic emphases, occasional exceptional, diverge from the recent discourse of the populist radical right.

Compliance with Ethical Standards

Ethical Approval

Ethics committee approval is not required for this study.

Author Contributions

The first author wrote the literature review. Both authors contributed equally to the collection and interpretation of data, methodology and conclusion.

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Notes

ⁱ ZP received approximately 2.2 per cent of the votes in the 2023 general elections and 1.7 per cent in the 2024 local elections.

ⁱⁱ See. Özdağ's speech in the Parliament on 2018, November 29 on behalf of İYİP, https://www.tbmm.gov.tr/develop/owa/genel_kurul.cl_getir?pEid=73505

ⁱⁱⁱ The issues on the agenda of the populist radical right are of course much broader and cannot be limited to three topics. However, the themes appropriate to the context of this study are “refugees/migrants”, “Islam” and “nation”.

^{iv} In the ZP programme, the issue of migrants and refugee is emphasised many times. See <https://zaferpartisi.org.tr/parti-programi/>

^v Alparslan Türkeş, the absolute leader of the *Ülkücü* ideology, moved the Republican Peasant Nation Party, of which he was the chairman, to a more conservative line at the 1969 Adana Congress. The name of the party was changed to the Nationalist Movement Party at this congress, which is regarded as an important stage in the process of incorporating Islam into the *Ülkücü* ideology as an element reinforcing Turkishness. The *Ülkücü* Movement, which undertook the “mission of fighting communism” under the conditions of the Cold War, gained the support of the Sunni conservative masses in Central and Eastern Anatolia by strengthening its Islamic discourse at the end of the 1970s. Therefore, it is possible to say that Islam was one of the fundamental elements of the *Ülkücü* Movement. For detailed information, see Tanıl Bora and Kemal Can. *Devlet Ocak Dergâh: 12 Eylül'den 1990'lara Ülkücü Hareket*, İstanbul: İletişim Yayınları.

^{vi} In the aforementioned video, Saadat stated that Turkish youth show their bodies for money on a website called Bigolive, that no one prays despite the fact that there are many mosques in Turkey, and argued that this is a “cultural degradation”. See <https://twitter.com/SiginmaciGundem/status/1424442670550855681>

^{vii} This incident was met with reaction on social media and the prosecutor's office filed a lawsuit against Saadat for up to six years in prison for his statements in the video (Sözcü, 2022).

^{viii} Turan is the idea of bringing Turks living in different nation states together under an umbrella. The idea of Turan can contain different nationalist tendencies. Especially as interpreted by Nihal Atsız, the idea of Turan is interpreted as the unity of people with the same origin. In this sense, Atsız accepts ethnicity or the Turkish race as the dominant element of Turan instead of the nationalist understanding characterised as a Turkish-Islamic synthesis (Bölükbaşı, 2018, 50).

Predictive Effects of Intolerance of Uncertainty, Perceived Uncertainty and Need for Autonomy on Depression and Anxiety Levels of University Students in the Post-COVID-19 Era

COVID-19 Sonrası Dönemde Belirsizliğe Tahammülsüzlük, Algılanan Belirsizlik ve Özerklik İhtiyacının Üniversite Öğrencilerinin Depresyon ve Anksiyete Düzeyleri Üzerindeki Yordayıcı Etkileri

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Abstract

This study investigates the predictive roles of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy on depression and anxiety levels among Turkish university students during a period in which the effects of the COVID-19 pandemic persisted. Prior research indicates that emerging adults are especially vulnerable to heightened anxiety and depressive symptoms under pandemic conditions. Accordingly, we hypothesized that perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy would each significantly predict levels of depression and anxiety. Data were collected online from 421 university students in Türkiye (ages 19–25; 303 female, 117 male, 1 undisclosed), who completed validated measures assessing perceived uncertainty, intolerance of uncertainty, and basic psychological need satisfaction and frustration. Hypotheses were tested via hierarchical regression analyses conducted in Jamovi software, with gender entered as a control variable. Results demonstrated that, after controlling gender, both intolerance of uncertainty and frustrated need for autonomy significantly predicted increased depression and anxiety, whereas perceived uncertainty did not exert a direct effect in the regression models. To further clarify the role of perceived uncertainty, parallel mediation analyses were performed, revealing that perceived uncertainty indirectly predicted higher levels of depression and anxiety through its effects on autonomy frustration and intolerance of uncertainty. These findings underscore the importance of targeting underlying cognitive and motivational processes in interventions designed to mitigate mental health risks among university students.

Keywords: Depression, Anxiety, Intolerance of Uncertainty, Need for Autonomy, Perceived Uncertainty.

Öz

Bu çalışma, COVID-19 salgınının etkilerinin devam ettiği bir dönemde Türkiye'de eğitime devam eden üniversite öğrencileri arasında algılanan belirsizlik, belirsizliğe tahammülsüzlük ve engellenmiş özerklik ihtiyacının depresyon ve anksiyete düzeyleri üzerindeki yordayıcı rollerini araştırmaktadır. Önceki araştırmalar, beliren yetişkinlik dönemindeki gençlerin pandemi koşullarında artan anksiyete ve depresif semptomlara karşı özellikle savunmasız olduğunu göstermektedir. Bu doğrultuda, algılanan belirsizlik, belirsizliğe tahammülsüzlük ve engellenmiş özerklik ihtiyacının her birinin depresyon ve anksiyete düzeylerini önemli ölçüde yordayacağı varsayılmıştır. Veriler, Türkiye'deki 421 üniversite öğrencisinden (19-25 yaş; 303 kadın, 117 erkek, 1 belirtmek istemeyen) çevrimiçi olarak toplanmıştır. Katılımcılar algılanan belirsizlik, belirsizliğe tahammülsüzlük ve temel psikolojik ihtiyaç tatmini ve engellenmesini ölçen geçerli ve güvenilir ölçekleri doldurmuştur. Hipotezler Jamovi programında yapılan hiyerarşik regresyon analizleri ile test edilmiş ve cinsiyet kontrol değişkeni olarak girilmiştir. Sonuçlar, cinsiyet kontrol edildikten sonra hem belirsizliğe tahammülsüzlüğün hem de engellenmiş özerklik ihtiyacının artan depresyon ve anksiyeteyi önemli ölçüde yordadığını, algılanan belirsizliğin ise regresyon modellerinde doğrudan bir etkisi olmadığını göstermiştir. Algılanan belirsizliğin rolünü daha iyi anlamak için paralel aracılık analizleri yapılmıştır. Analizler algılanan belirsizliğin, engellenmiş özerklik ihtiyacı ve belirsizliğe tahammülsüzlük aracılığında depresyon ve anksiyete düzeylerindeki artışı dolaylı olarak yordadığını göstermiştir. Bu bulgular, üniversite öğrencileri arasında ruh sağlığı risklerini azaltmak için tasarlanan müdahalelerde altta yatan bilişsel ve motivasyonel süreçleri hedeflemenin önemini vurgulamaktadır.

Anahtar Kelimeler: Depresyon, Anksiyete, Belirsizliğe Tahammülsüzlük, Özerklik İhtiyacı, Algılanan Belirsizlik.

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Predictive Effects of Intolerance of Uncertainty, Perceived Uncertainty and Need for Autonomy on Depression and Anxiety Levels of University Students in the Post-COVID-19 Era

The period of emerging adulthood, typically associated with the university years and defined as the period between the ages of 18 and 25, is a developmental stage characterized by significant psychological, social, and emotional transitions (Arnett, 2000). Although it is widely accepted that many aspects of emerging adulthood are considered to be adaptive, for university students, this transitional phase is characterized by uncertainty and inconsistency (Arnett, Žukauskienė, & Sugimura, 2014), which can result in elevated stress levels and psychological health concerns. Understanding the factors that contribute to the development of adverse psychological health conditions, specifically depression and anxiety, is crucial in this context. This study examines how perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy predict depression and anxiety levels among university students in Türkiye.

Depression and anxiety are among the most common psychological health problems globally (World Health Organization, 2008) and their prevalence has significantly increased since the COVID-19 pandemic (Asif et al., 2020; Mahmud et al., 2023; Salari et al., 2020; Yang et al., 2021). A meta-analysis examining the impact of the COVID-19 pandemic on university students, based on studies conducted between December 2019 and October 2020, reported that depression and anxiety prevalence rates were 39% and 36%, respectively, aligning with findings from a multinational study that identified rates of 40% and 30% (Li et al., 2021; Ochnik et al., 2021). Similarly, a study in Türkiye found even higher rates among university students during the COVID-19 period, with depression at 55% and anxiety at 36.2% (Aslan & Çınar, 2023). Beyond the pandemic, university students have been identified as a high-risk group for depression and anxiety due to various psychosocial stressors (Auerbach et al., 2018; Buchanan, 2012; Saleh et al., 2017; Ochnik et al., 2021). Research suggests that these mental health challenges are closely linked to academic concerns, separation from family, major social life transitions, and uncertainty about the future (Eisenbarth, Champeau, & Donatelle, 2013; Eryılmaz, Kurtuluş, & Uzun, 2023; Pedrelli et al., 2015). Additionally, these psychological issues negatively impact academic performance, social relationships, and overall well-being (Hunt & Eisenberg, 2010; Mofatteh, 2021; Othman et al., 2019). Given the high prevalence of depression and anxiety among university students, it is crucial to understand the contributing factors for effective intervention strategies. Rather than broadly examining psychological health indicators, this study explicitly investigates three potential predictors: perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy. The following section provides a conceptual overview of depression and anxiety before reviewing relevant literature on these predictors.

Depression is characterized as a state of negative mood that impacts an individual's life, involving intense and prolonged negative emotions (American Psychiatric Association, 2013). On the other hand, anxiety is defined as reactions to perceived threats (Lewis, 1970), focusing on the anticipation of negative future events (Grupe & Nitschke, 2013). These two mental health conditions frequently co-occur (Brown et al., 2001; Carleton et al., 2012; Groen et al., 2020) and share common symptoms, including negative mood, difficulty focusing, fatigue, and sleep disturbances (Beard et al., 2016; Lamers et al., 2011). Symptoms of one disorder can increase susceptibility to the other, highlighting their close interrelation. Although they have specific characteristics and high levels of co-occurrence, anxiety usually focuses on future-oriented, potential dangers, whereas depression is based on past losses and failures (MacLeod et al., 1997; Pomerantz & Rose, 2014; Rinaldi et al., 2017). Furthermore, according to the Global Burden of Disease (GBD) 2021 report, mental health disorders, particularly depression and anxiety, remain major contributors to the global disease burden, emphasizing the need for urgent

policy measures, increased funding, and improved treatment accessibility (Lancet Psychiatry, 2024). Given their widespread prevalence and impact, understanding the underlying factors contributing to these conditions is crucial for effective intervention strategies. The present study examines explicitly the roles of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy in shaping depression and anxiety levels among university students.

The current era is often described as an age of uncertainty (Çakır, 2011), with factors like the pandemic, economic crises, and conflicts playing key roles in creating uncertainty. Understanding how individuals perceive uncertainty and its impact on individuals is essential. Uncertainty is a multifaceted concept addressed in various disciplines and is an integral part of life. Research has shown that uncertainty negatively influences indicators related to psychological health (Birrell et al., 2011; Carleton et al., 2012; Dugas & Ladouceur, 2000). Therefore, understanding uncertainty-related factors and distinguishing between them is crucial to determine how uncertainty affects psychological health positively or negatively. Perceived uncertainty and intolerance of uncertainty are distinct yet interrelated constructs that play significant roles in psychological research. Perceived uncertainty relates to subjective evaluations of the current situation or timeframe, while intolerance of uncertainty deals with the anxiety resulting from this perception process. Uncertainty, which is subjectively experiencing not knowing what to expect or how to react in a given situation (Anderson et al., 2019), is linked to both anxiety and depression (Freeston et al., 1994). The present study hypothesizes that the level of perceived uncertainty can be related to the occurrence of these outcomes. More specifically, although uncertainty is negatively associated with psychological health variables, this may be related to how uncertain the current situation is perceived. A review of the relevant literature reveals that studies on perceived uncertainty are limited, and the majority are often carried out with the concepts of intolerance of uncertainty or avoidance of uncertainty. Studies examining perceived uncertainty are relatively limited, and predominantly focused on issues encountered in domains such as medical health (Reich et al., 2006; Steele et al., 2009; Tarhani et al., 2020), management, and organization (Bordia et al., 2004; Downey & Slocum, 1975; Godinic et al., 2020; Kim et al., 2013; Rafferty & Griffin, 2006), or sudden societal changes (Kim & Ng, 2008). During the COVID-19 pandemic, university students experienced high levels of uncertainty about their academic futures, social lives, and health, likely increasing feelings of anxiety and depression (Conrad et al., 2021).

Intolerance of uncertainty, on the other hand, refers to an individual's tendency to see an uncertain situation as uncomfortable or threatening (Budner, 1962; Dugas et al., 2004). It encompasses the negative emotions, thoughts, and behaviors individuals experience when faced with uncertainty (Birrell et al., 2011), and the difficulty in tolerating future uncertainty (Carleton, 2016). Individuals who struggle with uncertainty often perceive ambiguous situations as dangerous, which can lead to avoidance behaviors and more significant psychological distress (Andrews et al., 2023; Bottesi et al., 2019; Lee, 2018). For instance, research has found a positive correlation between intolerance of uncertainty and anxiety disorders, highlighting its significant role in mediating the link between perceived stress and mental health outcomes (Andrews et al., 2023; Boelen & Reijntjes, 2009). Intolerance of uncertainty is strongly linked to anxiety disorders and is recognized as a significant factor in depression (Carleton, 2016; Carleton et al., 2012; Huang et al., 2019; Saulnier et al., 2019). A high level of intolerance of uncertainty can lead to maladaptive coping methods, such as avoidance behaviors or excessive worrying, which worsen anxiety and depressive symptoms (Boswell et al., 2013; Flores et al., 2018). Although much of the literature focuses on intolerance of uncertainty, it is equally important to assess how uncertain the current situation is perceived. Unlike intolerance of uncertainty, which reflects an individual's dispositional tendency to find uncertainty distressing, perceived uncertainty refers to the subjective evaluation of environmental unpredictability. This distinction is critical because individuals may perceive an event as highly uncertain without necessarily having a low tolerance for

uncertainty. Perceived uncertainty may be a stressor, leading to increased cognitive load and anticipatory anxiety (Grupe & Nitschke, 2013). The multifaceted uncertainty that characterizes the contemporary era appears to have a detrimental effect on many dimensions of psychological health. Beyond cognitive and emotional responses to uncertainty, psychological well-being is also shaped by fulfilling basic psychological needs, as outlined in Self-Determination Theory (Deci & Ryan, 2000). This framework identifies autonomy, competence, and relatedness as fundamental to mental health. When any of these needs are not met, adverse psychological outcomes such as depression, anxiety, and stress may occur (Vansteenkiste et al., 2020). The restrictions, uncertainties, and social distancing rules imposed during the pandemic are believed to have made it difficult for individuals to fulfill their basic psychological needs. Research suggests that in times of unpredictability, the ability to exert control over one's circumstances becomes particularly salient, and the frustration of autonomy can amplify the psychological toll of uncertainty (Vermote et al., 2021). When individuals experience high levels of uncertainty but lack the autonomy to navigate it effectively, their psychological well-being may be further compromised. Thus, one significant concept during this time can be seen as the frustration of the need for autonomy. Autonomy refers to an individual's ability to control their behavior, participate in decision-making processes, and take responsibility for these processes, feeling a sense of will and freedom (Deci & Ryan, 2000). If an individual participates in decision-making processes through intrinsic motivation, this indicates satisfaction of the need for autonomy. However, when an individual is compelled into a situation, the frustration of this need occurs. In this regard, need frustration differs from the mere absence of need satisfaction. It has been suggested that need satisfaction and need frustration exist in an asymmetric relationship, where the absence of need satisfaction does not necessarily imply the presence of need frustration, yet need frustration inherently signifies the absence of need satisfaction (Vansteenkiste & Ryan, 2013). This study examines the need for autonomy through the lens of frustration.

Frustrated autonomy occurs when an individual is compelled to take action under external or internal pressures rather than by their own choice (Chen et al., 2015). In particular, the frustration of basic psychological needs may occur when such needs are actively impeded by social contextual influences (Vansteenkiste et al., 2020). This situation hampers the individual's self-regulation and decision-making processes, negatively affecting their psychological well-being. The constraints imposed during the COVID-19 pandemic have made it challenging for many individuals, especially university students, to fulfill their need for autonomy. Students had to adapt to remote education and online learning environments during the pandemic, which hindered their ability to satisfy their need for autonomy and likely increased psychological difficulties. Studies conducted during this period indicate a decrease in the satisfaction of psychological needs, especially among university students (Müller et al., 2021; Levine et al., 2022), leading to increased negative emotions such as depression, anxiety, and helplessness (Cantarero et al., 2020; Dasinger & Gibson, 2024; Šakan et al., 2020; Vermote et al., 2022). While Self-Determination Theory highlights the importance of competence and relatedness in overall well-being, the unprecedented disruptions caused by COVID-19—particularly remote learning and limited in-person social interactions—had a pronounced effect on university students' autonomy. In a study examining the satisfaction of psychological needs during the pandemic, it was found that the satisfaction of autonomy needs decreased. In contrast, the satisfaction of relatedness needs showed a slight but statistically significant increase (Cantarero et al., 2021). Similarly, another study observed that during a period of anticipated uncertainty, participants' satisfaction with competence needs increased over time (Howell & Sweeny, 2019). Moreover, when considering the developmental characteristics of emerging adulthood, which constitutes the sample of the study, this period is characterized by an increased desire for independence (Arnett, 2000). Additionally, Deci and Ryan (2000) emphasize that optimal functioning is not possible in a given social environment if autonomy

needs remain unmet. An individual who cannot control an outcome is, by necessity, deprived of autonomy (Deci & Ryan, 1987). Thus, we chose to focus our investigation on the ways that frustration of autonomy contributes explicitly to depression and anxiety. Research consistently demonstrates that meeting needs positively influences psychological health, while frustration with these needs has negative repercussions (See Costa et al., 2022; Quested et al., 2011; Novak et al., 2021). For example, a study by Baard et al. (2004) revealed that meeting autonomy needs is linked to higher self-esteem, positive emotions, and lower levels of negative emotions. Yu et al. (2016) found that teachers' autonomy-supportive methods contributed to students' satisfaction with basic psychological needs, thereby reducing anxiety levels. Therefore, supporting autonomy plays a crucial role in meeting these needs. In this context, the frustration of autonomy needs should not be overlooked when examining depression and anxiety levels. From a cultural perspective, Türkiye is classified as a collectivist society (Hofstede, 1980). In collectivist cultures, prioritizing collective goals over personal aspirations is fundamental, and one of the most important norms for achieving this is acting in harmony. However, being part of a collectivist culture does not imply that autonomy is unimportant within society. On the contrary, according to Self-Determination Theory (SDT), basic psychological needs are universal (Coleman, 2000), and their satisfaction is facilitated within an autonomy-supportive environment (Deci & Ryan, 2002). Moreover, autonomy is conceptually distinct from independence and individuality (Chirkov et al., 2003). Similarly, autonomy does not equate to the absence of relatedness with others (İmamoğlu, 2003; Kağıtçıbaşı, 2005). Instead, it refers to an individual's capacity to regulate their own actions in a self-determined manner. Considering both Türkiye's collectivist orientation and the significance of autonomy-supportive environments, the need to investigate the impact of autonomy satisfaction and frustration on psychological health within this cultural context becomes evident. In the present study, understanding how this inclusive nature of autonomy influences the psychological health of emerging adults in Türkiye is of particular importance.

Considering the relationships between these variables and psychological health, this study aims to investigate the predictive roles of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy on depression and anxiety levels in Turkish university students. By conducting hierarchical regression analyses for both depression and anxiety, the study aims to provide insights into how these factors contribute to mental health outcomes in emerging adults, particularly in a context where the effects of global stressors such as the COVID-19 pandemic continue to persist. The present study aims to contribute to the extant literature on psychological health during emerging adulthood, while considering environmental contexts. The research hypotheses formulated for this purpose are as follows:

H1: Depression and anxiety are positively and significantly related to perceived uncertainty, intolerance of uncertainty, and frustrated autonomy needs.

As outlined in the previous sections, previous research has systematically demonstrated that autonomy frustration directly undermines psychological health and volitional control (Deci & Ryan, 2000; Vansteenkiste et al., 2020). Given its fundamental role in self-regulation and psychological need satisfaction, it is expected to exert the most potent effect on mental health outcomes. Intolerance of uncertainty, as a cognitive-affective bias, is anticipated to have a secondary but significant effect, amplifying anxiety and depressive symptoms through maladaptive cognitive responses (Carleton, 2016; Boelen & Reijntjes, 2009). Finally, perceived uncertainty, given its dependence on contextual variables and its lack of trait-like stability, is expected to have the weakest predictive power. While perceived uncertainty is conceptually linked to psychological distress, its predictive strength remains inconsistent across empirical studies. Given its explanatory nature and dependence on external contexts rather than

stable cognitive or dispositional factors, it will be introduced last in the analyses to assess its incremental contribution beyond trait-level predictors.

H2: Frustrated need for autonomy, intolerance of uncertainty, and perceived uncertainty, respectively, positively and significantly predict depression levels.

H3: Frustrated need for autonomy, intolerance of uncertainty, and perceived uncertainty, respectively, positively and significantly predict anxiety levels.

This hypothesis order aligns with theoretical perspectives emphasizing the primacy of fundamental psychological needs, the cognitive appraisal nature of uncertainty intolerance, and the situational specificity of perceived uncertainty.

Method

Participants

In line with the objectives of the present study, the sample consists of university students continuing their education in Türkiye. The study sample consists of 421 university students aged between 19 and 25 years ($M = 21.88$; $SD = 1.05$). In the sample, 72% were female ($n = 303$), 27.8% were male ($n = 117$), and 0.2% ($n = 1$) did not specify their gender. Among the participants, 19.7% ($n = 83$) reported relocating due to the COVID-19 pandemic, 26.1% ($n = 110$) reported having no face-to-face interaction with their social circle, 38.2% ($n = 161$) stated that they communicated with their social circle daily through social media and phone, and 60.5% ($n = 253$) shared their living space with someone else.

Instruments

In this framework, the study utilized the "Basic Psychological Needs Satisfaction and Frustration Scale" to evaluate participants' frustrated autonomy needs, "Intolerance of Uncertainty Scale - Short Form" to measure participants' tolerance towards uncertainty, the "Perceived Uncertainty Scale" to assess how uncertain they perceive the current situation, the "Depression, Anxiety, Stress - 21 Scale" to determine their levels of depression and anxiety, and demographic information was collected through a demographic information form. An informed consent form was obtained from all participants before the study.

Basic Psychological Needs Satisfaction and Frustration Scale

This 25-item self-report scale, developed by Chen et al. (2015), was adapted into Turkish by Selvi and Bozo (2020). The scale items are rated on a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree) and comprise six dimensions, each consisting of four items, measuring both the satisfaction and frustration of autonomy, relatedness, and competence needs. In the present study, analyses were conducted using the four items assessing the frustrated need for autonomy, focusing specifically on its sub-dimensions (e.g., "I feel that I am forced to do many things that I would not prefer to do."). The Turkish adaptation of the scale demonstrated validity and retained structural characteristics similar to the original version. Cronbach's alpha coefficient for the frustrated need for autonomy subscale was reported as .74 in the adaptation study, while in the current study, McDonald's omega coefficient was calculated as .77.

Intolerance of Uncertainty Scale - Short Form

This scale, originally developed by Freeston et al. (1994) and shortened by Carleton and colleagues (2007), was utilized to gauge participants' levels of intolerance towards uncertain situations. The 12-item scale is scored on a 5-point Likert scale (1: Not at all characteristics of me; 5: Entirely characteristic of me) and evaluates participants' tolerance of uncertainty in uncertain situations (e.g., "When it's time

to act, uncertainty paralyzes me"). The scale includes two subdimensions: prospective anxiety and inhibitory anxiety. The Turkish adaptation of the scale was conducted by Sarıçam et al. (2014), with a calculated internal consistency coefficient of .88. In this study, the McDonald's omega internal consistency coefficient was found to be .90.

Perceived Uncertainty Scale

Developed by Çavdar, Konukoğlu, and Boyacıoğlu (in preparation for publication), this scale was used to measure participants' perception of the current circumstances as uncertain. The scale consists of 12 items scored on a 5-point Likert scale (1: Strongly disagree; 5: Strongly agree) and is divided into two dimensions: central uncertainty (e.g., "In light of the current circumstances, the future feels highly uncertain to me.") and environmental uncertainty (e.g., "Given the impacts of climate change and environmental pollution, it is difficult to predict what kind of world we will inhabit in the future."). Items in the central uncertainty dimension measure situations that substantially affect an individual's life and are perceived as occurring within a relatively near time frame and are clearly experienced in daily activities. Conversely, items in the environmental uncertainty dimension pertain to circumstances that indirectly influence individuals' lives, are perceived to lie farther on the temporal horizon, and hold significance within a broader intellectual context. In this study, the McDonald's omega internal consistency coefficient was found to be .86.

Depression, Anxiety, Stress - 21 Scale

Developed by Lovibond and Lovibond (1995) and adapted into Turkish by Sarıçam (2018), this scale was used to assess depression, anxiety, and stress levels. The scale consists of 21 items (7 per subdimension) scored on a 4-point Likert scale (0 = Never; 3 = Always) and includes subdimensions for depression (e.g., "I experienced a profound sense of having no expectations."), anxiety (e.g., "I had tremors in my body (e.g. in my hands).") and stress. In accordance with the research objectives, the focus was placed on the depression and anxiety dimensions of the scale. Internal consistency coefficients for the Turkish adaptation were reported as .87 for depression, and .85 for anxiety. In this study, McDonald's omega internal consistency coefficients were found to be .89 for the depression dimension and .85 for the anxiety dimension.

Data Collection and Procedure

Ethical approval for the research was obtained from Dokuz Eylül University on November 10, 2021 (Approval No: E-87347630-659-140129). Data collection was conducted through online platforms between May and November 2022, a period during which Türkiye had transitioned mainly from emergency pandemic restrictions to a "living with COVID-19" phase. Thus, participants' perceptions of uncertainty and autonomy frustration likely reflect more stable, chronic pandemic-related stressors (e.g., ongoing economic volatility, hybrid learning formats) rather than immediate crisis responses. In order to evaluate the proposed relationships, correlation and hierarchical regression analyses were conducted utilizing the relevant modules of Jamovi 2.3 software. Prior to conducting these analyses, assumption tests were carried out to prepare the data for analysis. The subsequent section will provide a comprehensive overview of the analyses performed.

Results

Correlation Analysis Results

Correlation analyses were first conducted to examine the relationships between the study variables (see Table 1). The results indicate positive and significant relationships between the variables, consistent with the hypotheses. As shown in Table 1, depression was positively and significantly related to the

other study variables ($.265 \leq r \leq .653$, $p < .001$). Similarly, anxiety levels were positively and significantly correlated with the other variables ($.231 \leq r \leq .441$, $p < .001$). In other words, the first hypothesis of the study was supported. Increased levels of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy were positively and significantly associated with higher levels of depression and anxiety.

Table 1

Pearson Correlation Coefficients for Research Variables

	<i>M (SD)</i>	1	2	3	4	5
1. Depression	1.08 (.71)	—				
2. Anxiety	.79 (.63)	.65***	—			
3. Intolerance of uncertainty	3.21 (.74)	.33***	.37***	—		
4. Perceived uncertainty	4.10 (.53)	.26***	.23***	.27***	—	
5. Frustrated need for autonomy	3.52 (.79)	.52***	.44***	.34***	.38***	—

Note. *** $p < .001$

Hierarchical Regression Analyses

To identify the variables predicting depression and anxiety levels among university students living in Türkiye, a four-step hierarchical regression analysis was conducted. Before performing the analyses, the assumptions for hierarchical regression were checked. To evaluate the assumptions of hierarchical regression, tests for normality (Kolmogorov-Smirnov and Shapiro-Wilk), multicollinearity (VIF and Tolerance), and homogeneity of variance (Breusch-Pagan and Levene's) were conducted. Specifically, the Kolmogorov-Smirnov and Shapiro-Wilk tests were used to assess the normal distribution. The Kolmogorov-Smirnov result indicated $p > .05$, but the Shapiro-Wilk test yielded $p < .001$. In addition, examination of Q-Q plots and histograms showed that the assumption of normality was largely satisfied. To assess potential multicollinearity among the independent variables, VIF (Variance Inflation Factor) and Tolerance values were inspected. All variables had VIF values below 10 and Tolerance values above 0.1, indicating an absence of problematic multicollinearity. Although Levene's test supported the homogeneity of variance ($p > .05$), results from the Breusch-Pagan test ($p < .001$) suggested heteroskedasticity. Consequently, hierarchical regression analyses were performed using robust standard errors (HC3) approach. The variables were entered into the analysis based on theoretical and logical reasoning. In the first step, gender was included as a control variable to account for its potential influence on the analyses. The second variable included the frustrated need for autonomy, as it has been consistently linked to psychological health. In the third step, intolerance of uncertainty was added, followed by perceived uncertainty in the final step. Since the examination of perceived uncertainty was conducted from an exploratory perspective, it was incorporated into the analysis in the final step, considering the methodological approach of hierarchical regression analysis. Consequently, to investigate the effects on depression and anxiety, variables were entered into the analysis in a stepwise manner: gender was included in the first step, followed by frustrated need for autonomy in the second step, intolerance of uncertainty in the third step, and perceived uncertainty in the final step. The analyses were initially performed to identify the predictors of depression levels, followed by an examination of the variables predicting anxiety levels.

A hierarchical regression analysis was conducted to examine the predictors of depression, including gender, frustrated need for autonomy, intolerance of uncertainty, and perceived uncertainty. In the first step, gender was entered as a control variable. The model did not explain a significant proportion of the variance in depression scores, $R^2 = .000$, $F(1, 418) = 0.037$, $p = .848$. Gender was not a significant predictor ($\beta = .021$, $p = .856$). In the second step, frustrated need for autonomy was added to the model,

which resulted in a significant increase in explained variance ($\Delta R^2 = .267$, $\Delta F(1, 417) = 152.19$, $p < .001$). The overall model was significant, $R^2 = .267$, $F(2, 417) = 76.12$, $p < .001$. Frustrated need for autonomy was a strong predictor of depression ($\beta = .518$, $p < .001$), whereas gender remained non-significant ($\beta = .087$, $p = .387$). In the third step, intolerance of uncertainty was included, further improving the model's explanatory power ($\Delta R^2 = .029$, $\Delta F(1, 416) = 16.90$, $p < .001$). The overall model remained significant, $R^2 = .296$, $F(3, 416) = 58.31$, $p < .001$. Both frustrated need for autonomy ($\beta = .458$, $p < .001$) and intolerance of uncertainty ($\beta = .179$, $p < .001$) were significant predictors of depression, whereas gender remained non-significant ($\beta = .097$, $p = .327$). In the final step, perceived uncertainty was added to the model. However, it did not significantly contribute to the explained variance in depression scores ($\Delta R^2 = .003$, $\Delta F(1, 415) = 1.94$, $p = .165$). The final model accounted for $R^2 = .299$, $F(4, 415) = 44.32$, $p < .001$. Frustrated need for autonomy ($\beta = .439$, $p < .001$) and intolerance of uncertainty ($\beta = .169$, $p < .001$) remained significant predictors, whereas perceived uncertainty was not a significant predictor ($\beta = .063$, $p = .188$). This hierarchical regression analysis suggests that frustrated need for autonomy and intolerance of uncertainty are significant predictors of depression, whereas gender and perceived uncertainty do not contribute significantly.

Table 2

Hierarchical Regression Analysis of the Depression Model

Step	Variable	B	95% CI		SE	β	R^2	ΔR^2
			LL	UL				
1	Constant	1.081	1.005	1.157	.041	-	.000	.000
	Gender	.015	-0.137	0.167	.082	.021		
2	Constant	-.555	-0.824	-0.286	.112	-	.267	.267
	Gender	.062	-0.069	0.192	.071	.087		
	Frustrated need for autonomy	.467	0.393	0.541	.033	.518		
3	Constant	-.918	-1.234	-0.603	.147	-	.296	.029
	Gender	.069	-0.059	0.197	.070	.097		
	Frustrated need for autonomy	.413	0.336	0.491	.035	.458		
	Intolerance of Uncertainty	.173	0.090	0.256	.046	.179		
4	Constant	-1.170	-1.645	-0.695	.240	-	.299	.003
	Gender	.085	-0.045	0.215	.072	.119		
	Frustrated need for autonomy	.395	0.314	0.477	.036	.439		
	Intolerance of Uncertainty	.163	0.079	0.247	.047	.169		
	Perceived Uncertainty	.085	-0.035	0.206	.065	.063		

The second hierarchical regression analysis was repeated with anxiety level as the dependent variable (see Table 3). In the first step, gender was entered as a control variable. The model accounted for a small but significant proportion of the variance in anxiety scores, $R^2 = .012$, $F(1, 418) = 4.96$, $p = .027$. Gender was a significant predictor ($\beta = -.241$, $p = .025$), indicating that males reported slightly lower anxiety scores compared to females. In the second step, the frustrated need for autonomy was added to the model, which resulted in a significant increase in explained variance ($\Delta R^2 = .187$, $\Delta F(1, 417) = 97.14$, $p < .001$). The overall model was significant, $R^2 = .198$, $F(2, 417) = 51.62$, $p < .001$. Frustrated need for autonomy was a strong predictor of anxiety ($\beta = .433$, $p < .001$), whereas gender was no longer a significant predictor ($\beta = -.186$, $p = .060$). In the third step, intolerance of uncertainty was included, further improving the model's explanatory power ($\Delta R^2 = .053$, $\Delta F(1, 416) = 29.70$, $p < .001$). The overall model remained significant, $R^2 = .252$, $F(3, 416) = 46.70$, $p < .001$. Both frustrated need for autonomy ($\beta = .351$, $p < .001$) and intolerance of uncertainty ($\beta = .245$, $p < .001$) were significant predictors of anxiety, whereas gender remained non-significant ($\beta = -.172$, $p = .076$). In the final step, perceived

uncertainty was added to the model. However, it did not significantly contribute to the explained variance in anxiety scores ($\Delta R^2 = .000$, $\Delta F(1, 415) = 0.203$, $p = .652$). The final model accounted for $R^2 = .252$, $F(4, 415) = 35.01$, $p < .001$. Frustrated need for autonomy ($\beta = .345$, $p < .001$) and intolerance of uncertainty ($\beta = .242$, $p < .001$) remained significant predictors, whereas perceived uncertainty was not a significant predictor ($\beta = .021$, $p = .632$). This hierarchical regression analysis suggests that frustrated need for autonomy and intolerance of uncertainty are significant predictors of anxiety, whereas gender and perceived uncertainty do not contribute significantly. These findings highlight the importance of psychological needs and cognitive styles in understanding anxiety.

Table 3

Hierarchical Regression Analysis of Anxiety Model

Step	Variable	B	95% CI		SE	β	R^2	ΔR^2
			LL	UL				
1	Constant	.757	0.690	0.823	.033	-	.012	.012
	Gender	-.151	-0.284	-0.018	.067	-.241		
2	Constant	-.446	-0.693	-0.199	.101	-	.198	.187
	Gender	-.116	-0.237	0.004	.062	-.186		
	Frustrated need for autonomy	.343	0.275	0.412	.030	.433		
3	Constant	-.883	-1.169	-0.597	.126	-	.252	.053
	Gender	-.108	-0.224	0.009	.061	-.172		
	Frustrated need for autonomy	.278	0.208	0.349	.031	.351		
	Intolerance of Uncertainty	.208	0.133	0.283	.039	.245		
4	Constant	-.957	-1.389	-0.525	.203	-	.252	.000
	Gender	-.103	-0.221	0.015	.061	-.165		
	Frustrated need for autonomy	.273	0.199	0.347	.031	.345		
	Intolerance of Uncertainty	.205	0.129	0.281	.040	.242		
	Perceived Uncertainty	.025	-0.084	0.135	.052	.021		

The results of the hierarchical regression analyses indicated that perceived uncertainty did not exhibit significant explanatory power in either model. These findings suggest that the effect of perceived uncertainty on depression and anxiety may not be direct but rather mediated through frustrated need for autonomy and intolerance of uncertainty. Therefore, parallel mediation analyses were conducted to determine whether the impact of perceived uncertainty on depression and anxiety is indirect.

Parallel Mediation Analysis

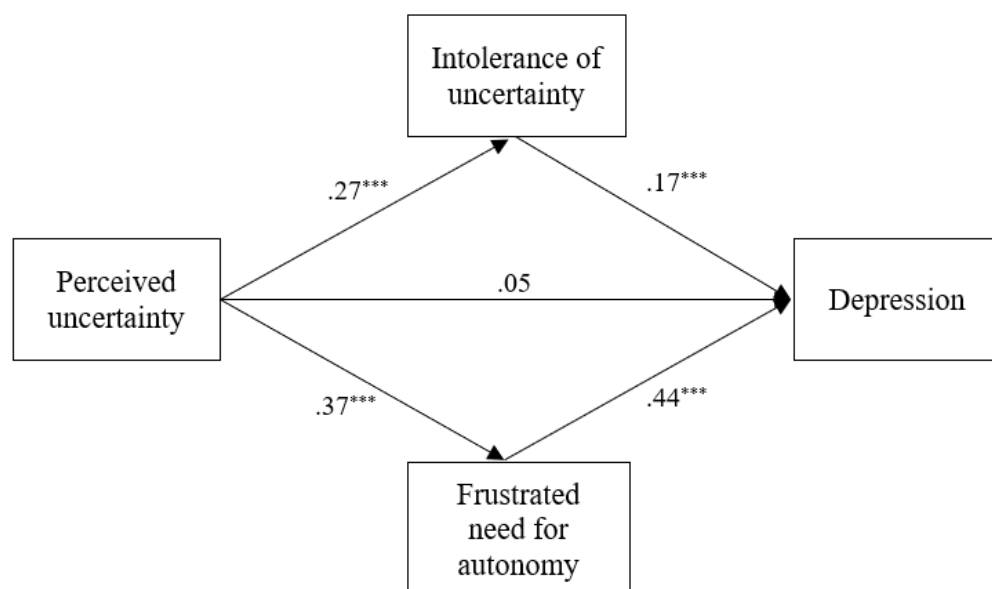
Mediation analysis was performed using the "jAMM" module (Gallucci, 2020) in the Jamovi software package, employing bias-corrected bootstrapping within the General Linear Model (GLM). In the analysis, perceived uncertainty was used as the predictor variable, while intolerance of uncertainty and frustrated need for autonomy were included as parallel mediators. The outcome variables, depression and anxiety, were examined separately to assess how the mediation effects influenced their relationships.

Firstly, an analysis was conducted on the depression model. A parallel mediation analysis was conducted to examine whether the frustrated need for autonomy and intolerance of uncertainty mediated the relationship between perceived uncertainty and depression. The results indicated that the total effect of perceived uncertainty on depression was significant, $\beta = .265$, $t(419) = 5.64$, $p < .001$. An examination of the mediational pathways revealed that the indirect effect of perceived uncertainty on depression through the frustrated need for autonomy was statistically significant ($\beta = .166$, $z = 6.30$, p

< .001). Similarly, intolerance of uncertainty served as a significant mediator ($\beta = .046$, $z = 3.21$, $p = .001$). In the first mediator model, perceived uncertainty was a significant predictor of frustrated need for autonomy ($\beta = 0.375$, $t(419) = 8.29$, $p < .001$). Likewise, perceived uncertainty was found to be a significant predictor of intolerance of uncertainty ($\beta = 0.272$, $t(419) = 5.79$, $p < .001$). When both mediators and the predictor were entered simultaneously into the whole model predicting depression, the direct effect of perceived uncertainty on depression was not significant ($\beta = 0.053$, $t(417) = 1.19$, $p = .234$). However, both mediators emerged as significant predictors of depression: Frustrated need for autonomy, $\beta = 0.442$, $t(417) = 9.66$, $p < .001$, and intolerance of uncertainty, $\beta = 0.169$, $t(417) = 3.83$, $p < .001$. The overall full model accounted for 30% of the variance in depression, $F(3, 417) = 59.50$, $p < .001$. These results indicate that perceived uncertainty influences depressive symptoms indirectly through both mediators rather than exerting a direct effect. In other words, higher perceived uncertainty is associated with increased levels of both frustrated need for autonomy and intolerance of uncertainty, ultimately leading to greater depressive symptoms (See Fig.1). The presence of significant indirect effects alongside a non-significant direct effect supports a full mediation model, emphasizing the critical role of these mediators in explaining the association between perceived uncertainty and depression.

Figure 1

Parallel Mediation Analysis for Depression



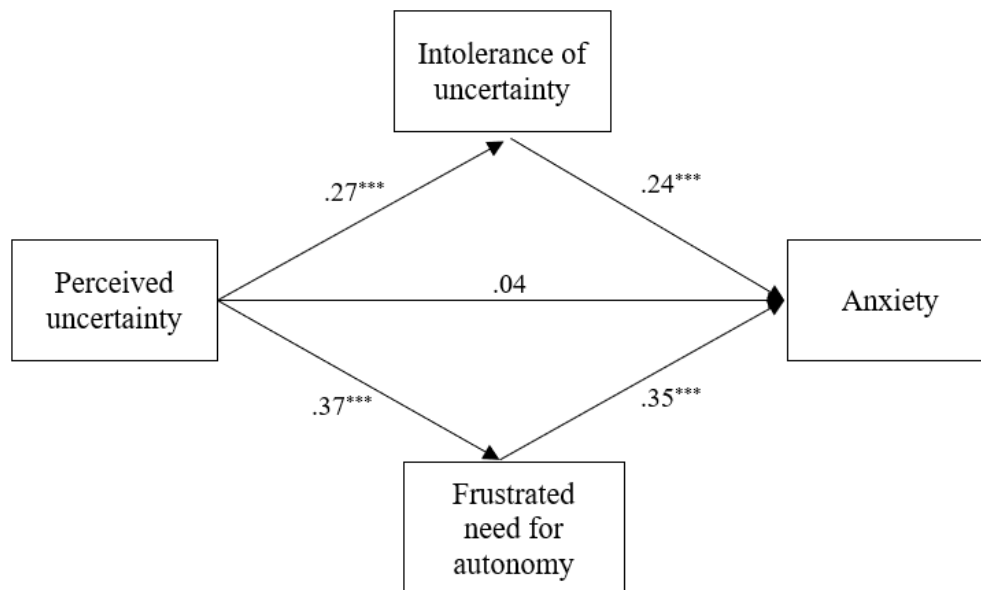
Note: *** $p < .001$. Path coefficients are standardized coefficients (β).

The same procedure was conducted for the anxiety model. A parallel mediation analysis was conducted to examine whether the frustrated need for autonomy and intolerance of uncertainty mediated the relationship between perceived uncertainty and anxiety. The total effect of perceived uncertainty on anxiety was significant, $\beta = .231$, $t(419) = 4.85$, $p < .001$. Assessment of the mediation pathways showed that perceived uncertainty influenced anxiety indirectly through the frustrated need for autonomy, with a significant indirect effect, $\beta = .130$, $z = 5.50$, $p < .001$ and also through intolerance of uncertainty, which was found to be a significant mediator $\beta = .066$, $z = 3.92$, $p < .001$. In the mediator models, perceived uncertainty significantly predicted the frustrated need for autonomy, $\beta = .375$, $t(419) = 8.29$, $p < .001$, and also significantly predicted intolerance of uncertainty, $\beta = .272$, $t(419) = 5.81$, $p < .001$. When both mediators and perceived uncertainty were entered simultaneously into the whole model predicting anxiety, the direct effect of perceived uncertainty on anxiety was not significant, $\beta = .035$, $t(417) = 0.76$, $p = .447$. However, both mediators emerged as significant predictors of anxiety:

frustrated need for autonomy, $\beta = .346$, $t(417) = 7.34$, $p < .001$, and intolerance of uncertainty, $\beta = .242$, $t(417) = 5.31$, $p < .001$. The whole model accounted for 24.9% of the variance in anxiety, $F(3, 417) = 46.20$, $p < .001$. These findings suggest that perceived uncertainty impacts anxiety through indirect mechanisms rather than directly affecting anxiety levels (See Fig.2). As in the depression model, the non-significant direct effect alongside significant indirect effects supports a full mediation model, reinforcing the crucial role of these mediators in elucidating the relationship between perceived uncertainty and anxiety.

Figure 2

Parallel Mediation Analysis for Anxiety



Note: *** $p < .001$. Path coefficients are standardized coefficients (β).

Discussion

The present study aimed to examine the predictive roles of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy on depression and anxiety among university students in Türkiye during the post-pandemic uncertain era. The findings of this study offer significant insights into the key factors influencing depression and anxiety levels among university students in Türkiye. Our findings indicate that while the frustrated need for autonomy and intolerance of uncertainty are robust predictors of both depression and anxiety, perceived uncertainty does not exhibit a direct effect. Instead, further mediation analyses revealed that perceived uncertainty influences psychological distress indirectly through its effects on both intolerance of uncertainty and frustrated need for autonomy. These results contribute to the extant literature by clarifying the differential roles of uncertainty constructs and highlighting the importance of basic psychological needs in mental health outcomes.

The strong impact of the frustrated need for autonomy on both depression and anxiety observed in the findings confirms the importance of autonomy, as highlighted by the Self-Determination Theory (Deci & Ryan, 2000). The frustration of autonomy needs appears to compromise volitional decision-making, leading to adverse mental health consequences. Our results are supported by previous research that has documented the detrimental impact of autonomy frustration on psychological functioning (Chen et al., 2015; Deci & Ryan, 2000; Kasser & Ryan, 1993; Vansteenkiste et al., 2020). Although the data for this study were collected during a period when people mainly had adapted to the pandemic, the discovery

that the frustrated need for autonomy predicts increased levels of depression and anxiety remains important. During the pandemic, many university students faced challenges in meeting their basic psychological needs due to restrictions on their education and social lives, leading to negative impacts on their mental health (Şakan et al., 2020; Vermote et al., 2022). The study findings align with existing literature, indicating that the frustration of autonomy needs among university students is a primary predictor of heightened depression and anxiety levels. This emphasizes the critical need to support students' autonomy to safeguard their mental health. Moreover, the emphasis on autonomy is particularly relevant in the context of Türkiye's collectivist culture, where the interplay between personal independence and social harmony can create unique challenges for emerging adults (İmamoğlu, 2003)..

The hierarchical regression analyses, which controlled for gender in the first step, demonstrated that gender initially exhibited a modest influence on anxiety; however, its effect was attenuated as other predictors were introduced. This finding suggests that while gender differences may be present in baseline analyses, the cognitive-affective processes associated with uncertainty and autonomy frustration predominantly drive the mental health outcomes observed in this sample. Moreover, the significant contribution of intolerance of uncertainty corroborates earlier research linking cognitive biases toward uncertainty with heightened anxiety and depression (Carleton et al., 2012; Boelen & Reijntjes, 2009; Rettie & Daniels, 2020). When faced with uncertainty, individuals may struggle to identify protective factors for their psychological health, particularly when frustrated psychological needs hinder their coping mechanisms. When combined with frustrated autonomy needs, university students facing academic uncertainties, changes in social relationships, and concerns about the future might experience more pronounced effects on their mental health.

A notable finding is that perceived uncertainty did not significantly predict depression or anxiety in this study. This outcome may reflect the situational and transient nature of perceived uncertainty compared to the more dispositional quality of intolerance of uncertainty. The lack of a significant effect of perceived uncertainty in this study may suggest that this variable is not as directly influential as others. To explore this further, we conducted parallel mediation analyses using bias-corrected bootstrapping. The results indicated full mediation, whereby perceived uncertainty affected both depression and anxiety indirectly through its positive associations with intolerance of uncertainty and frustrated need for autonomy. These findings suggest that the detrimental effects of uncertainty on mental health are primarily channeled through individuals' dispositional responses (i.e., intolerance of uncertainty) and the frustration of their basic psychological needs. This finding is consistent with the notion that uncertainty can indirectly affect mental health by impairing fundamental psychological processes (Li & Song, 2024; Sahib et al., 2024, Potterton et al., 2022). The integration of a mediation model represents a significant contribution to this study. By showing that the relationship between perceived uncertainty and mental health outcomes is fully mediated, our findings underscore the importance of targeting cognitive and motivational mechanisms in interventions. Specifically, strategies aimed at enhancing tolerance for uncertainty and bolstering autonomy-supportive environments may prove effective in mitigating depression and anxiety among university students.

Despite the strengths of our study, several limitations warrant mention. Upon reviewing the relevant literature, no studies have been identified that focus on how uncertain the current situation is perceived to be. In this respect, the present study has an exploratory nature. Additionally, university students, who are in a transitional developmental phase, may perceive sources of uncertainty differently. The measurement tool used in this study focused on participants' general perceptions of uncertainty. However, the specific sources of uncertainty or problems perceived by this particular developmental group may differ. Indeed, some studies have identified academic anxiety, family and relationship issues,

and academic success as key problem areas for university students (Köksal & Topkaya, 2021; Lassarre et al., 2003; McMillin et al., 2020). Therefore, the expected effects may not have been observed in this study. Additionally, the cross-sectional design precludes causal inferences regarding the observed relationships. Future research employing longitudinal designs would allow for a more precise determination of the temporal dynamics between uncertainty, autonomy frustration, and psychological distress.

Conclusion

In conclusion, our study contributes to the literature by clarifying the differential roles of perceived uncertainty, intolerance of uncertainty, and frustrated need for autonomy in predicting depression and anxiety among university students in Türkiye. The findings emphasize that interventions focusing on reducing uncertainty intolerance and enhancing autonomy support may be critical for improving students' mental health, particularly in times of global stress. Considering that being in an environment where the need for autonomy is supported has important consequences such as psychological health and academic success (e.g., Jiang & Tanaka, 2021; Mouratidis et al., 2017; Song et al., 2015), it is important and necessary for individuals to satisfy their need for autonomy independent of social constraints. Ensuring that individuals can satisfy their autonomy needs independently of social constraints is crucial for their psychological and academic development. Besides, the impact of perceived uncertainty on mental health can vary, with factors like resilience, support systems, and coping strategies influencing its effects. Future research should further investigate these mediating mechanisms while simultaneously elucidating the complex interplay between perceived uncertainty and individual differences in uncertainty tolerance, with particular emphasis on the broader cultural contexts in which these psychological processes occur in light of the contextual implications of the need for autonomy.

Compliance with Ethical Standards

Conflict interests

The authors have no competing interests to declare that are relevant to the content of this article.

Author contributions

This research and all its associated stages have been collaboratively conducted by the authors.

Ethical approval

The ethical approval for the study was granted by Dokuz Eylül University on 10.11.2021 (Approval Number: E-87347630-659-140129).

Informed consent

Informed consent was obtained from all individual participants included in the study.

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The Distinction Between Online Social Capital and Traditional Social Capital: A Bibliographic Comparison

Çevrimiçi Sosyal Sermaye ile Geleneksel Sosyal Sermaye Ayrımı: Bibliografik Bir Karşılaştırma

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Abstract

This study examines the conceptual distinctions between online social capital and traditional social capital. Articles indexed in the Web of Science were reviewed, focusing on these two forms of social capital. Using the VOSviewer software, network analyses were conducted, visually highlighting the conceptual differences between the two. Online social capital revolves around processes of accessing information and building extensive networks via digital platforms and social media, while traditional social capital is primarily grounded in physical communities and long-term relationships. This research sheds light on how digitalization is transforming social structures and the processes of social capital formation, providing key insights into the shifts brought by the digital age. Particularly in the post-COVID-19 era, the study emphasizes the growing role of online social capital, as the pandemic increased the reliance on digital platforms for social interaction and networking. These findings underline the importance of understanding both forms of social capital in a world increasingly shaped by technology and online connections.

Keywords: Online Social Capital, Social Capital, Bibliography, Network.

Öz

Bu çalışma, çevrimiçi sosyal sermaye ile geleneksel sosyal sermaye arasındaki kavramsal ayrımları incelemektedir. Web of Science endeksinde yer alan makaleler, çevrimiçi ve geleneksel sosyal sermaye kavramları üzerine taranmış ve analiz edilmiştir. VOSviewer programı kullanılarak ağ analizleri yapılmış ve iki kavram arasındaki farklar görsel olarak ortaya konmuştur. Çevrimiçi sosyal sermaye, dijital platformlar ve sosyal medya aracılığıyla bilgiye erişim ve geniş sosyal ağlar kurma süreçlerini ifade ederken, geleneksel sosyal sermaye daha çok fiziksel topluluklar ve uzun süreli ilişkiler üzerine kuruludur. Bu çalışma, dijitalleşmenin toplumsal yapı üzerindeki etkilerini ve sosyal sermaye oluşturma süreçlerindeki dönüşümleri anlamak açısından önemli bulgular sunmaktadır. Özellikle COVID-19 pandemisi sonrasında çevrimiçi sosyal sermayenin artan rolü vurgulanmaktadır. Pandemi, dijital platformların sosyal etkileşimdeki önemini artırmış ve çevrimiçi sosyal sermayenin gelişimini hızlandırmıştır. Bu bulgular, teknoloji ve çevrimiçi bağlantıların toplumsal sermaye üzerindeki rolünü daha iyi anlamak için önemli ipuçları sunmaktadır.

Anahtar Kelimeler: Çevrimiçi Sosyal Sermaye, Sosyal Sermaye, Bibliografi, Ağ.

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The Distinction Between Online Social Capital and Traditional Social Capital: A Bibliographic Comparison

This study aims to examine the concepts of online social capital (OSC) and traditional social capital (SC) in depth, highlighting how social relationships have transformed in a digitalized world. As digitalization accelerates, the way individuals build, maintain, and utilize social capital has undergone significant changes (Yang et al., 2024). While traditional SC is primarily based on face-to-face interactions and long-term relationships within physical communities, OSC emerges through digital platforms, enabling broader but weaker social connections. Understanding these distinctions is critical for evaluating how digitalization reshapes societal structures and influences access to social resources (Xiao, 2024).

This research seeks to answer the following question: How does online social capital differ from traditional social capital, and in what ways do these two forms of social capital intersect? By identifying these differences and overlaps, the study aims to contribute to both theoretical discussions and practical applications of social capital in digital and physical contexts. Recognizing these distinctions is crucial in various domains, including community building, political participation, economic activities, and well-being. For instance, while traditional SC has been associated with trust-based relationships that facilitate cooperation, OSC provides new opportunities for information exchange, digital activism, and global networking. However, the implications of these structural differences on social cohesion, resilience, and economic outcomes remain an open question, making this research particularly relevant (Lautier, 2016; Tripp et al., 2024).

By employing a bibliometric analysis of Web of Science (WOS) indexed articles, this study identifies the key themes, methodologies, and theoretical frameworks used to study both OSC and SC. Through network analysis using VOSviewer, it visually demonstrates the conceptual distinctions and intersections between the two forms of social capital. This methodological approach allows for a systematic and data-driven exploration of how OSC and SC have been conceptualized in academic research, shedding light on evolving trends in the field.

Recent studies have emphasized the increasing role of OSC, particularly after the COVID-19 pandemic, as physical interactions diminished and digital platforms became crucial for maintaining social relationships (Barrios et al., 2021). In this period, OSC facilitated community support, digital collaboration, and new forms of social participation. However, the long-term impact of this shift on social cohesion, trust, and economic engagement remains a subject of academic inquiry.

The significance of this research lies in its ability to provide a comprehensive framework for understanding the evolution of social capital in the digital age. While traditional SC remains relevant in fostering trust and cooperation within local communities, OSC introduces a new paradigm that expands social networks across digital platforms. By identifying the conceptual and empirical distinctions between these two forms of social capital, this study contributes to the ongoing discourse on how digitalization reshapes social structures and interactions. These insights are essential for policymakers, researchers, and practitioners seeking to navigate the complexities of social capital in both physical and digital environments (Portes, 1998).

This study is the conclusion of the week and it makes clear the division between OSC and the traditional SC which is one of the main reasons why the digital world impacts the social relationships (Nowland et al., 2018; Ohara et al., 2024). Individuals are able to exchange SC when using OSC in virtual settings, where it is much easier to acquire a number of connections, i.e. SC, while traditional SC must be formed through relationships with local people and in a long-term way (Li & Chen, 2023). The fact that it has this feature is particularly essential because it denotes a radical change in the way social capital is

created and preserved in today's society. The move from strong ties, which have always been SC's backbone, to weak ties, which are the trademark of OSC, opens space for serious social cohesion, trust, and collective action (Nowland et al., 2018).

One of the important questions in the literature is if this change is a shift in the concept or if it is a fragmentation of social capital theory. Is the emergence of OSC a source of confusion in the field or does it give us a background of how social capital changes over time? The paper presents a view of reality that concepts like OSC and SC are not conflicts but they should complement instead of contrast. Although traditional SC is still the one that ensures the spirit of trust and provides close-knit communities, OSC acts as a channel for adding new relationships, sharing documents, and organizing large-scale collaboration. Nonetheless, the predominance of weak ties in the social capital making process may have adverse effects on community resilience, long-range social support, and the collective action sustainability.

In the next research, it will be necessary to find out whether OSC is indeed a paradigm shift in social capital theory or it just reflects the adaptation to technological change. The inquiry into the history of social capital would serve to clarify if the coming of OSC is indicative of a larger redefining of social capital, or it is just a linearly growing of the current framework. The new projects should look into the effects of OSC on trust building, networks' stability, and institutional connections, particularly in the areas of economic development, political participation, and social mobility.

This study has the value of presenting the fact that while the introduction of OSC complicates the comprehension of social capital, it also permits its use as a heuristic to analyze how digitalization affects societal relationships. Theoretical confusion rather than ambiguity, in fact, this shift is the sign of social capital's flexibility as reshaped by changing social structures and technological advancement. The continual rise of digital spheres and the combination of strong and weak ties, local and global networks, physical and virtual interactions will hence be essential to steer our future social capital.

Literature Review

Online Social Capital

The concept of OSC has necessitated a reevaluation of the SC framework due to the rapid development of technology and the internet. Initially, SC was defined by sociologists and political scientists in the early 20th century as the benefits and resources individuals and groups obtain through their social networks (Coleman, 1988; Granovetter & Swedberg, 2018). In the 1990s, Robert Putnam's work highlighted the influence of SC on societal structures, emphasizing that the concept is shaped by social networks, trust, and norms of reciprocity. However, with the emergence of the internet, researchers began to explore how SC evolves in the online world and how digital networks affect this concept.

The term "online social capital" first gained attention in 1996, through the studies of Wellman and colleagues, which examined the internet's effects on social networks. They argued that the internet is not just a technological tool but also a platform for forming both strong and weak ties, creating new social networks (Wellman et al., 1996). These studies demonstrated that the internet has the potential to expand individuals' social relationships and that online connections can be as valuable as those in the physical world. The impact of the internet on SC has become more apparent, particularly with the widespread use of social media and online communities.

Williams (2006) conceptualized OSC and advanced this field of study by developing the OSC Scale, which measures the social ties individuals form in online environments. Williams's research examined OSC in two dimensions: bridging social capital and bonding social capital. Bridging social capital allows access to diverse information and resources through weak ties, while bonding social capital

offers emotional support and solidarity through strong ties (Granovetter, 1973; Putnam, 2000). Williams's scale has highlighted the significant role of SC not only in offline but also in online contexts (Williams, 2006).

With the rise of social media, OSC has attracted more scholarly attention. Ellison et al. (2007) found that platforms like Facebook facilitate the development of bridging social capital by giving users access to information and resources through weak ties. Social media platforms enable users to communicate with individuals they might not otherwise reach, thus broadening their SC (Burke et al., 2010). Additionally, online communities and virtual networks help maintain and strengthen strong ties between individuals, ensuring both access to information and emotional support (Haythornthwaite, 2002).

Research on how SC has evolved in online environments reveals several key differences between online and traditional SC. While traditional SC is typically built on geographic and physical proximity, OSC transcends these boundaries, allowing for the formation of more diverse and heterogeneous networks (Norris, 2002). This capacity to connect across distances, especially in terms of bridging social capital, enables individuals to access information and resources previously beyond their reach (Putnam, 2000; Williams, 2006).

OSC has become a crucial tool for understanding the economic, social, and emotional impacts of connections formed in the digital world. The conceptual development initiated by Wellman's (1996) studies has been expanded upon by Williams's (2006) scale and Ellison and colleagues' (2007) research within the context of social media. The transformative effects of digital communication tools on social capital have led to increasing recognition of the importance of OSC in the social sciences.

OSC, as Williams (2006) noted, retains the concepts of bridging and bonding social capital, even in virtual environments. Bridging social capital increases access to information and resources through weak ties across large and diverse networks, while bonding social capital provides emotional support through strong ties (Granovetter, 1973; Putnam, 2000; Williams, 2006). Ellison et al.'s (2007) work on Facebook demonstrates the significant impact of social media on the development of bridging social capital. Their study shows how OSC can expand through weak ties, enabling individuals to connect with different communities and gain access to valuable information and opportunities. Similarly, Burke et al. (2010) found that social media platforms enhance users' SC networks, promoting information exchange within these networks. These findings underscore the broader reach and diversity of OSC compared to physical-world SC.

The development of OSC has accelerated, particularly with the widespread adoption of social media platforms. Social media facilitates access to vast information networks through weak ties, while also supporting the maintenance of strong ties (Kim & Fernandez, 2023). This dual function demonstrates that OSC is not only about information sharing but also plays a vital role in maintaining emotional support systems. Weak ties help support broad social networks, while strong ties reinforce more personal and intimate relationships (Mumcu, 2021).

Another important aspect of OSC is its capacity to transcend geographic and social boundaries. Norris (2002) points out that online networks connect individuals from diverse demographic and cultural backgrounds, making SC networks more heterogeneous. This diversity offers significant advantages in terms of access to information and resources. Additionally, Williams's (2006) OSC Scale is widely recognized as a critical tool for measuring how SC operates in online settings. The scale has been frequently used to understand how SC forms and develops in digital contexts.

In conclusion, the literature on OSC illustrates that the concept of SC has been reshaped in digital environments. The weak and strong ties individuals form through online networks help us understand the new dynamics of SC in the digital world (Mumcu et al., 2023). Social media and digital

communication platforms allow individuals to access information and resources previously beyond their reach, positioning OSC as distinct from traditional SC (Norris, 2002; Skoric et al., 2009).

Social Capital

SC is a widely discussed concept in literature, referring to the resources that individuals and groups obtain within social networks. Early theorists such as Bourdieu (1986) and Coleman (1988) linked SC to the benefits and opportunities gained through social relationships. However, in the last decade, the scope of SC has expanded to include digitalization, health, and gender issues.

Recent studies have delved deeper into the economic, health, and social impacts of SC. For instance, Grootaert and Van Bastelaer (2002) argued that SC is a critical component in development processes, particularly in improving community welfare in low-income countries. Modern economic research continues to link SC with economic development and social resilience (Dasgupta & Serageldin, 2000; Mumcu, 2022).

In the health field, contemporary research has shown that SC significantly influences individuals' physical and mental well-being. Ehsan and De Silva (2015) found that SC improves health outcomes at the community level and strengthens individuals' overall health. Particularly during the pandemic, SC was observed to reinforce interpersonal support networks and facilitate access to healthcare services (Borgonovi & Andrieu, 2020). These studies demonstrate that SC impacts not only social relationships but also health and quality of life.

The relationship between gender and SC has also become a focus of recent research. Bezanson (2006) explored how gender inequalities affect the accumulation of SC, arguing that women may have more limited access to SC networks compared to men. However, more recent studies suggest that digital platforms and social media can mitigate some of these inequalities. For example, Hampton et al. (2011) noted that digital environments help women expand their SC, offering a critical perspective on how gender is being restructured in digital contexts.

The most recent studies on SC also examine how digitalization has impacted this concept. Dolfisma and Verburg (2005) investigated the role of SC in the digital economy and discussed how online networks increase bridging social capital. Social media platforms enable individuals to access broader social networks, thus facilitating the accumulation of SC and accelerating information exchange (Tufekci, 2017). Additionally, the digital transformation triggered by the pandemic has shown how SC is strengthened through digital networks, enhancing community resilience in times of crisis (Putnam et al., 2004) ¶.

Furthermore, the impact of SC on urban planning and community resilience has been explored. McGuirk and Dowling (2007) emphasized that SC is a crucial tool for enhancing the resilience of urban communities, helping cities improve their ability to cope with crises. In this context, SC is seen not only as a means of providing individual benefits but also as a factor that supports collective action and resilience within communities (Mishchuk et al., 2023).

In conclusion, SC is considered a critical resource in areas such as social resilience, economic development, health, and gender equality. Contemporary research emphasizes its role in improving the quality of life for individuals and communities while examining how digitalization and gender dynamics affect the concept from a broader perspective. SC continues to be a key structural element in modern societies at both individual and community levels.

Theoretical Framework: Online and Traditional Social Capital

Social capital (SC) has long been studied in sociology, political science, and economics as a key concept explaining how individuals and groups access resources through social networks. Traditionally, SC has been associated with strong ties, face-to-face interactions, and trust-based relationships, which foster cooperation, economic development, and community resilience (Bourdieu, 1986; Coleman, 1988). However, with the increasing influence of digitalization and online communication, the concept of Online Social Capital (OSC) has emerged, reflecting how social interactions and network formations have been redefined in digital environments (Ellison et al., 2007; Williams, 2006). This section explores the economic, spatial, cultural, and political dimensions of SC and OSC, as well as the critical perspectives regarding the potential weakening of SC due to digitalization. Additionally, the concept of Hybrid Social Capital (HSC) is discussed to examine whether OSC replaces or complements traditional SC.

One of the fundamental distinctions between SC and OSC lies in their economic implications, particularly in trust-building and transaction costs. Traditional SC has been essential for fostering trust-based economic exchanges, reducing transaction costs, and enabling business partnerships, credit access, and investment collaborations within strongly connected communities (Putnam, 2000). In contrast, OSC operates in decentralized, algorithm-driven digital economies, where weak ties, reputation systems, and platform-mediated interactions play a crucial role in shaping trust (Tapscott & Williams, 2008). While OSC provides greater accessibility to economic opportunities, it also introduces new vulnerabilities, such as fraud risks, misinformation, and the instability of weak-tie networks. Future research should explore whether OSC effectively substitutes traditional trust networks or whether it creates new forms of economic fragility.

SC has traditionally been place-bound, relying on geographic proximity, community engagement, and neighborhood-based trust (Woolcock, 2001). Local interactions have historically strengthened communal solidarity and played a key role in rural and urban development. However, OSC transcends physical space, forming borderless, globally dispersed digital networks (Wellman et al., 1996). While this expansion increases access to diverse information sources and global collaborations, it also raises concerns regarding weaker community ties and declining local engagement. The question remains whether OSC serves as a complementary extension of SC or contributes to the erosion of localized social capital.

The impact of OSC on political participation, social movements, and civic engagement is another key area of theoretical debate. Traditional SC has been fundamental in grassroots activism, democratic participation, and trust-based institutional engagement (Hampton, 2003). In contrast, OSC has transformed political engagement by facilitating digital activism, online petitions, and large-scale virtual mobilization (Tufekci, 2017). However, critics argue that weak-tie networks in OSC result in short-lived engagement, reducing long-term community cohesion and democratic stability. The concept of Hybrid Social Capital (HSC) emerges here as a middle ground, questioning whether traditional SC disappears in digital spaces or is merely enhanced and expanded through digital tools. Future research should assess whether OSC enhances or weakens institutional trust and sustainable civic participation.

A major criticism of OSC is its over-reliance on weak ties, which some argue leads to a less stable and less effective form of social capital (Granovetter, 1973). While traditional SC is rooted in deep, trust-based relationships that support long-term collaboration and community resilience, OSC consists of short-lived, large-scale but weaker social connections. Digital platforms facilitate quick mobilization but often lack the depth and continuity required for sustained collective action (Nowland et al., 2018). The critical debate remains whether the predominance of weak ties in OSC signals a structural

weakening of SC or whether it represents an adaptation toward more flexible, global, and rapidly evolving social capital models.

By incorporating economic, spatial, cultural, and political perspectives, this study strengthens the theoretical framework of SC and OSC. Understanding these distinctions is essential for assessing the long-term impact of digitalization on social structures, economic transactions, and political engagement. Future research should investigate whether OSC represents a fundamental paradigm shift in social capital theory or simply an evolutionary adaptation to technological advancements. As digital connectivity continues to redefine social interactions, the relationship between strong and weak ties, local and global networks, and physical and virtual interactions will play a crucial role in shaping the future of social capital.

Method

This study adopts a qualitative research approach, utilizing content analysis as the primary method. Content analysis is a systematic technique used to uncover meaning and patterns within texts (Krippendorff, 1980). In the context of this research, content analysis is employed to examine the terms "social capital" (SC) and "entrepreneurship" in the titles and abstracts of articles from the (WOS) database, with the aim of identifying key concepts associated with these terms.

Sample

The study is structured as a bibliographic review, systematically analyzing data derived from a comprehensive literature review (White et al., 2006). Bibliographic reviews are an effective method for evaluating published works on a specific topic, identifying the main themes, trends, and gaps in the literature (Tranfield et al., 2003).

This study is concentrating on the words OSC and SC that have been used in the titles and abstracts or keywords of the articles. As a part of the dataset's robustness measure, it has been decided to include solely articles that were published in English and have been classified as scientific journals (Zhu & Liu, 2020). The sample for this study consists of articles published in the globally recognized (WoS) index, selected for its validity and credibility. The (WoS) database is renowned for indexing high-impact journals, making it a reliable source for bibliometric analyses (Visser et al., 2021). However, it's important to note that WOS's coverage is more selective compared to other databases. For instance, Scopus and Google Scholar offer broader journal and publication diversity. Scopus encompasses a wider range of journals, including regional and lower-impact publications, while Google Scholar includes non-academic content, which may affect data reliability (Falagas et al., 2008). Therefore, to maintain academic rigor and focus on high-quality publications, this study exclusively utilized the WOS database.

To provide a contemporary and relevant perspective, this study focused on articles published in the past 10 years (2014-2024). Although both SC and OSC have longer academic histories, the distinction between the two has become more pronounced in recent years due to the rapid acceleration of digitalization, the widespread adoption of social media, and the increasing importance of online communities. The impact of the COVID-19 pandemic further amplified the relevance of online social capital, as physical interactions decreased and digital platforms became primary spaces for social networking and collaboration (Barrios et al., 2021). Given these recent developments, limiting the analysis to the past decade allows for a more focused and updated examination of how OSC and SC have evolved and diverged in the digital age. Only English-language scientific papers with relevant titles were included in the review.

The process of compiling keywords that were taken out of the articles was effectively done including merging synonymous and redundant terms into coherent lists. Upon receiving the final keyword lists, the researcher together with two experts of the fields of Economics and Administrative Sciences validated the lists (Bryman & Cramer, 2012; Patton, 2014). The methodological framework, which is strengthened by these two interconnected samples. This framework not only provides a broader perspective on online social capital but also social capital based on conceptual and thematic distinctions.

This research methodology involved highly systematic steps that were designed to ensure accurate analysis of the data along with reliable results.

Procedure

- **Searches in WOS Journals:** For the first sample, the searches were executed in journals that are recorded in the WOS database, based on the exact keywords. By this process, the study retrieves 19,784 articles on the traditional social capital. The second sample of searches occurred in journals that are enrolled in the same database, being sought with the identical keywords. Thus, it managed to generate a total of 3,791 articles.
- **Keyword Consolidation:** Similar keywords were accepted and clustered into coherent, unified lists with the help of a thesaurus file for minimizing redundancy (e.g., combining "family firms" and "family business") (Van-Eck & Waltman, 2023). In this phase, there were 113 mergers for traditional social capital and 145 mergers for online social capital.
- **Keyword Extraction:** From the recognized articles, keywords were extracted and classified. In the end, this step was the source for the identification of 34,963 keywords for traditional social capital and 7826 keywords for online social capital literature.
- **Co-Occurrence Analysis:** The VOSviewer program was utilized in generating the keyword co-occurrence lists. A co-word analysis (a text-mining technique) makes it feasible to exhibit the relationships among the keywords and establish the structural reasoning. This technique presents how many pairs of keywords commonly occurring in the database thus interportal their thematic links (Narong & Hallinger, 2023).
- **Analysis of Data and Displaying the Results:** The VOSviewer program was essential for the analyzing and interpreting the data received. By means of this software, the associations among the keywords were elucidated, verbal structures were created, and the prominent topics in each sample were easily revealed to the audience.

This structured procedure minimizes any possible conceptual and thematic misinterpretations of traditional social literature and online social capital literature and their critical part in comparative analysis by providing precious insights.

Data Collection Instruments (Web of Science)

WOS or Web of Science is a well-known database maintained by Clarivate Analytics that substantially affects the academic world. It includes high-quality, peer-reviewed scholarly outputs in various disciplines, such as social sciences, natural sciences, and humanities, making it a source of reputable and comprehensive material for data collection and analysis (Pranckutė, 2021). WOS is characterized by selective journal criteria applied strictly to include only reliable and significant journals. It has a database with over 21,000 titles and millions of records from various fields, making it one of the most extensive databases. The extensive range of WOS allows users to have access to a wide array of literature that in turn, helps in detailed data collection (Testa, 2009). One of the advantages of the WOS is that it provides a great search option. The researchers can make targeted searches with keywords, titles, abstracts, and citations that help them to restrict their dataset with a specific theme or bibliometric studies. Moreover, literature citation tools in WOS facilitate editing citation trends, indicating

prominent literature, and assessing the effect of the research (Mongeon & Paul-Hus, 2016). WOS also works with bibliometric software such as VOSviewer; it enables researchers to explore co-citing patterns, keyword networks, and publication trends. Through this way, WOS serves as a valuable gain for the scientometric studies, especially the ones focused on the comparative or the cross-disciplinary research (Van-Eck & Waltman, 2010). WOS is a comparative study tool that can also be used in data collection. It allows researchers all over the world to map problems, subjects, and gaps in various fields and in different areas, and thus makes it possible for them to do cross-field studies, for instance, discussing institutional theories and other concepts in global versus local settings. All in all, the WOS is one of the most complete dedicated platforms available for academic studies and for this reason is one of the absolute best. Its huge database, excellent searching tools, and accomplished analytical instruments all serve as irreplaceable reasons to be in the position they are in, i.e., the best scholarly data gathering and processing tool.

Data Analysis

The biggest achievements come from the systematic comparison and keyword analysis of the traditional social capital and online social capital literature. The network maps were obtained by the addition of the keywords that have been found in at least 5 studies only (Van-Eck & Waltman, 2010). The core part of this project was the application of VOSviewer software which happens to be a powerful and user-friendly tool for bibliometric analyses. VOSviewer made it possible to illustrate and visualize the connections and frequencies of keywords which in turn were heuristics offered to the researchers about the conceptual and structural patterns of the fields analyzed. The two tools primarily created network maps for the main keywords that were related to both the traditional social capital as well as online social capital. These diagrams made it easy to observe both the conceptual deviations and parallels between the two fields along with temporal, thematic, and structural characteristics (Leydesdorff & Rafols, 2009). The analysis also consisted of a straightforward comparative study of the most significant keywords identified for each idea.

Co-occurrence analysis is a bibliometric technique that uses keywords to identify the relations between terms within a specified set of publications. This technique reveals the thematic structure of a research field, lays out the key areas of focus, and brings to light the trends which are on the rise. VOSviewer, which is the software tool that is predominantly used in bibliometric mapping, is very suitable for performing co-occurrence analyses since it visualizes connections between terms in an intuitive and systematic manner (Van-Eck & Waltman, 2010). In this study, the co-occurrence analysis was primarily used as the main method for exploring the thematic and conceptual relationships within the datasets.

Keywords were included in the network maps if they appeared in at least five papers for OSC and 25 papers for SC, ensuring robust data for analysis (Van-Eck & Waltman, 2010). In bibliometric analyses using VOSviewer, selecting appropriate threshold values is crucial for balancing the inclusion of significant terms and managing data complexity. For example, setting a threshold ensures that only terms appearing a minimum number of times are included in the analysis, which helps in focusing on the most relevant keywords and relationships. This approach aligns with methodologies in similar studies, where thresholds are set to balance the inclusion of meaningful data and the clarity of the visualized networks (Martins et al., 2024).

By concentrating on the terms that are tied together in many instances in the titles, abstracts, and keywords of articles, we were able to map the intellectual structure of the research fields under investigation. The analysis was carried out for datasets sourced from WOS respectively to juxtapose the global views of social capital. The co-occurrence technique permitted the systematic differentiation of thematic clusters and the prominent concepts that formed the basis for the comparative evaluation. VOSviewer has the co-occurrence function which gives researchers the opportunity to evaluate how

frequently specific terms get together in the title, abstract, or keywords of the published research articles. By mapping these relationships, the tool creates network visualizations that display clusters of related terms. These clusters represent distinct thematic areas within the dataset that will help researchers to identify the major research topics, knowledge gaps, and propose future research areas (Perianes-Rodriguez et al., 2016). For instance, clusters produced through co-occurrence analysis would show whether the field in question is pre-occupied primarily with foundational concepts or if it drifts into applied and interdisciplinary topics. A factor that is a plus point for VOSviewer is its ability to accommodate extensive data sets, additional its strength in analyzing detailed bibliographic databases like WOS or Scopus. The software employs a unified distance-based mapping approach, consequently, terms that frequently appear together are kept nearby in the real-world network (Waltman et al., 2010). This gives a clear and understandable structure of relationships between terms and thus gives more value to the researchers who are conducting their analysis with themes or the comparison of the studies.

In conclusion, co-occurrence analysis using VOSviewer was the basis of this study and it facilitated the elaborate study of the thematic structures within the WOS datasets. By visualizing and quantifying the relationships between the terms, it provided insights into their development, concentration, and interconnections in each dataset. This approach was useful to make a solid comparison of the global perspectives on social capital an online social capital. Theory, presenting a full understanding of its thematic and contextual dimensions.

Findings

The findings obtained within the scope of the research are presented separately below, under the categories of SC and OSC.

Social Capital

In this study, a search was conducted in the WOS database using the keyword "social capital." The research focused on English-language scientific articles published from the beginning of 2014 onwards. Based on these criteria, a total of 23,328 articles were identified. The sample for this study was composed of articles in which a keyword appeared at least 25 times. Within the universe of these articles, there were a total of 34,963 keywords, and the identified sample articles yielded 275 unique keywords.

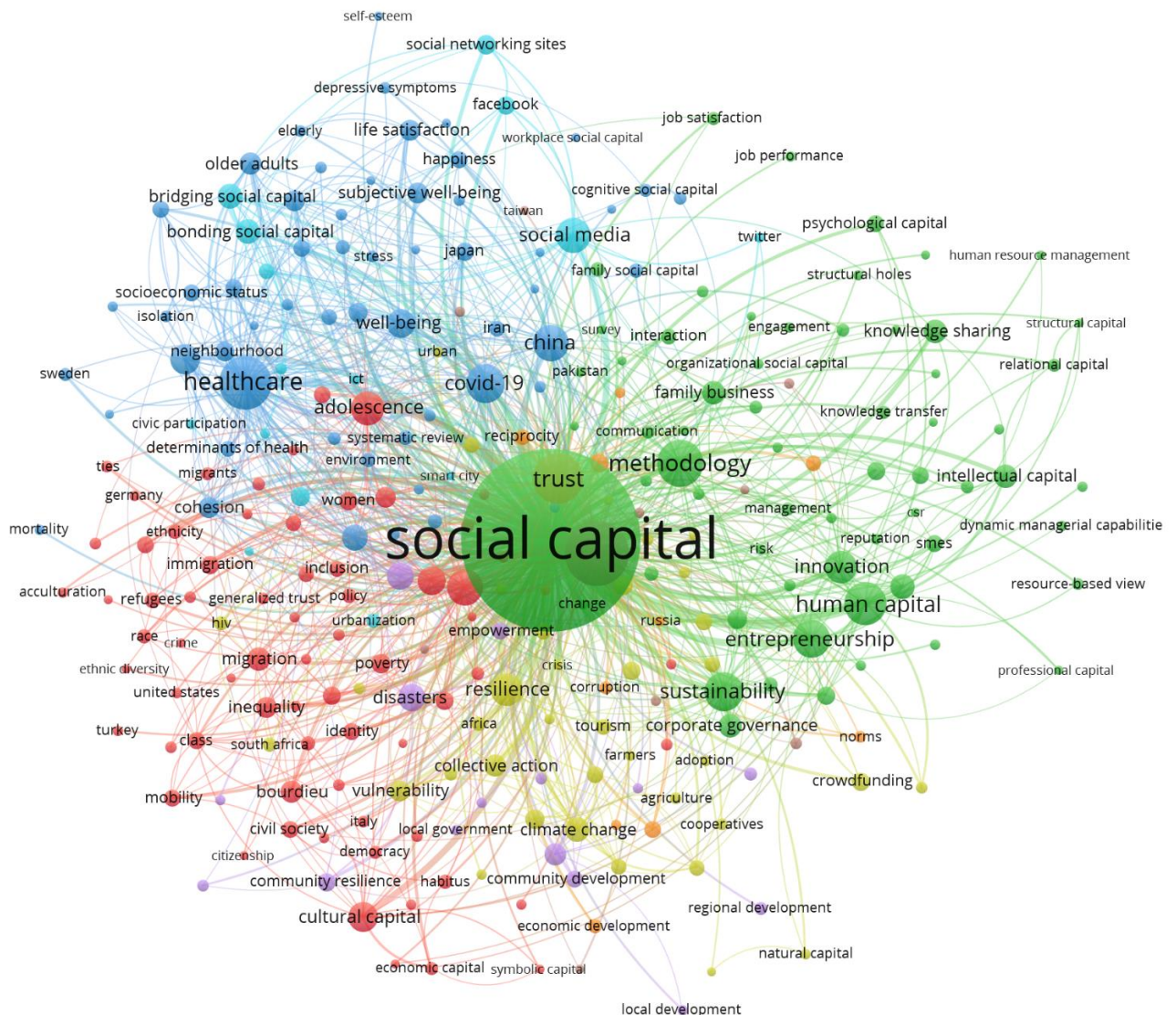
A thorough literature-based review was conducted, resulting in the creation of network maps and keyword lists. First, based on the keyword lists obtained, network maps were generated. The first of these, the SC network map, is presented below.

The concepts associated with SC can be observed on the network map based on their proximity to the central concept and the clusters they form. This map highlights the terms related to "social capital" and illustrates the connections between them. At the center of the visualization is "social capital," and other key concepts are connected to it. This representation allows us to analyze prominent topics within the SC literature and the relationships between these topics.

One of the most notable connections is the strong link between "social capital" and "networking." This reflects the emphasis in the literature on the impact of SC on networking. Networking is one of the key dimensions of SC, and it is strongly linked to other sub-dimensions. Other significant connections include concepts such as *healthcare*, *trust*, *methodology*, *human capital*, *COVID-19*, *sustainability*, *entrepreneurship*, and *education*. These concepts form the core of the SC literature, frequently appearing in network analyses.

Figure 1

Social Capital Network



The network map also highlights the geographical distribution of the SC literature. The keyword *China* appears most frequently, followed by other countries such as *India*, *Indonesia*, *Australia*, *Iran*, *Africa*, *Vietnam*, *Sweden*, *Mexico*, *Poland*, *South Korea*, *Europe*, *Nigeria*, *Canada*, *Spain*, *Latin America*, *Pakistan*, *Malaysia*, *Chile*, *Kenya*, *Turkey*, *Hong Kong*, *Sub-Saharan Africa*, *Germany*, *United States*, and *Taiwan*. Understanding the socio-economic conditions and cultural factors in these regions is critical for understanding how SC is shaped globally.

In conclusion, this network map sheds light on the key concepts within the SC literature and their interconnections, emphasizing the need for further in-depth research on these topics. The findings provide valuable insights for future research on SC and contribute to enriching the existing literature. A more detailed analysis of the frequency of these concepts will be provided following the keyword table.

In this study, a keyword analysis was conducted to understand the prominent concepts in the SC literature and the relationships between these concepts. The analysis was based on data from articles published in English over the last 10 years in the WOS database. The aim was to identify the most frequently used keywords related to SC and examine their distribution across the literature.

Keyword analysis is a valuable tool for revealing the thematic structures of a particular field. This analysis of the SC field aims to identify the conceptual trends in the literature, which topics are emphasized more, and which concepts hold a central position. Additionally, it offers an assessment of areas within the SC literature that remain underexplored or insufficiently addressed.

Table 1

Social Capital Keyword List

Keywords	Occurrences	Total link strength	The percentage within all keywords
Networking	1175	2187	5%
Healthcare	799	1559	3%
Trust	710	1471	3%
Methodology	608	993	3%
Human capital	507	1035	2%
Covid-19	439	797	2%
Sustainability	437	683	2%
Entrepreneurship	406	753	2%
Education	383	697	2%
China	375	645	2%
Social media	343	635	1%
Adolescence	316	632	1%
Resilience	306	586	1%
Innovation	298	515	1%
Support	252	558	1%
Cultural capital	245	508	1%
Gender	242	533	1%
Well-being	242	524	1%
Community	220	483	1%
Disasters	205	409	1%
Participation	192	447	1%
Climate change	179	340	1%
Bridging social capital	174	393	1%
Bonding social capital	170	382	1%
Performance	170	306	1%
Knowledge sharing	162	245	1%
Family business	161	287	1%
Migration	159	303	1%
Corporate governance	157	249	1%
Intellectual capital	154	289	1%
Bourdieu	146	244	1%
Older adults	145	325	1%
Rural development	143	204	1%
Collective action	136	253	1%
Subjective well-Being	132	271	1%
Cohesion	131	321	1%
Employment	130	241	1%
Depression	121	313	1%
Vulnerability	121	228	1%
Inequality	120	272	1%
Life Satisfaction	118	270	1%

Note: The table above presents the top 1% of keywords that appear most frequently. The complete list of keywords is provided as an appendix.

In this study, the keywords that stand out in the SC literature, specifically those in the top 1% in terms of frequency, were presented to examine their prevalence and interrelations. The data reveal the distribution of SC-related keywords in the literature and the connections between these keywords.

According to Table 1, the keyword "networking" appears 1,175 times, making it the most frequently used term in the literature. Its prominence is further highlighted by its presence in 5.04% of all studies, underlining the importance of this concept in SC research. Following this, the keywords *healthcare* (799), *trust* (710), *methodology* (608), *human capital* (507), *COVID-19* (439), *sustainability* (437), *entrepreneurship* (406), *education* (383), *China* (375), *social media* (343), *adolescence* (316), *resilience* (306), *innovation* (298), *support* (252), *cultural capital* (245), *gender* (242), and *well-being* (242) were also closely associated with SC.

These keywords highlight the importance of networks in the context of SC. The high association of "networking" with SC, appearing 1,175 times, emphasizes the role of cultural and economic factors, as well as the importance of the context in which OSC processes occur.

These findings demonstrate the wide scope of research in the field of SC and show that social, economic, cultural, and regional dynamics are central to the literature. The prominence of these keywords indicates the focal points of SC research and highlights potential areas for future studies.

Online Social Capital

In this study, a search was conducted in the WOS database using the keyword "social capital." The research focused on scientific articles written in English and published since the beginning of 2014. Based on these criteria, a total of 19,784 articles were identified. The sample for this study consisted of articles in which a keyword appeared at least five times. Within this body of articles, there were a total of 4,926 keywords, and 266 keywords were identified from the sample articles.

As a result of the literature-based review, network maps and keyword lists were created. Based on the keyword lists obtained, the first of these network maps, the SC network map, is presented below.

As seen in the network map, the number of studies associated with the concept of OSC is significantly more limited compared to research on SC. The topics examined together with OSC are displayed on the network map according to their proximity to the central concept and the clusters they form.

The network map above illustrates the key concepts in the literature surrounding OSC and their relationships. In this visualization, OSC is positioned at the center, with various connected concepts radiating from it. This depiction helps us understand the breadth of the OSC literature and the diverse research themes within this area.

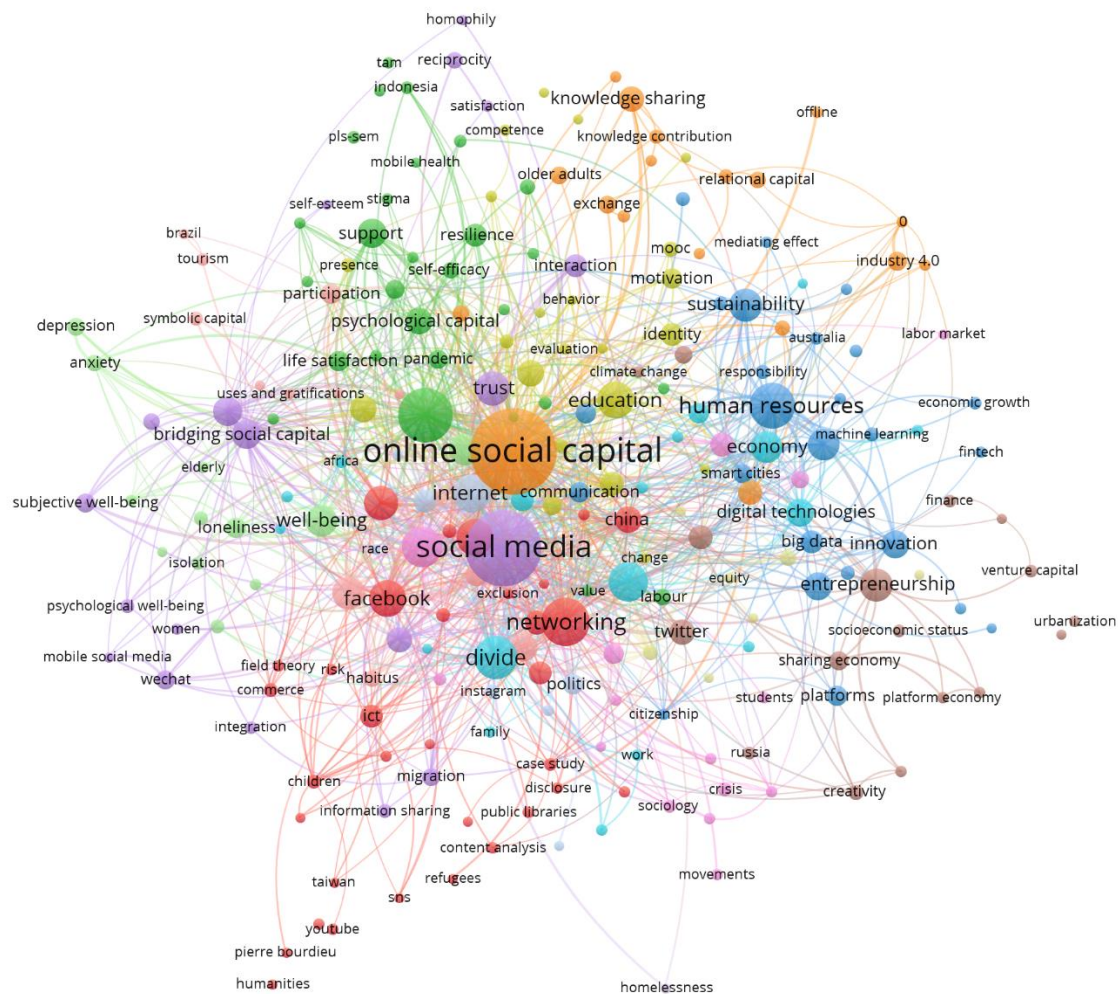
One of the most prominent concepts in the network is SC. The strength of the relationship between SC, which is integral to the term OSC, is evident from the clustering shown on the map. Additionally, significant clusters include concepts such as *social media*, *networking*, *human resources*, and *COVID-19*. Detailed examinations of the frequency of these concepts will follow the keyword table.

This network map demonstrates the expansive range of the OSC literature and shows that research in this field spans various themes. The visualization also provides valuable insights into the core concepts and their relationships within the OSC literature.

In conclusion, this network map highlights the key themes emerging in OSC research and reveals the relationships between these themes, emphasizing the depth and breadth of the OSC literature. These findings offer significant insights for future research on OSC and contribute to the further development of the literature in this field.

Figure 2

Online Social Capital Network



In the analysis, the keyword "online social capital" was used a total of 4,926 times. This study presents the most frequently occurring concepts in the OSC literature, specifically focusing on those that fall within the top 1% of all occurrences. The data reveal the distribution of keywords related to OSC in the literature and the connections between these keywords.

According to **Table 1**, the term "social capital" was used 869 times, making it the most frequently associated concept with OSC, representing **18%** of all instances. This highlights the significance of the concept in the literature. Following this, other terms associated with OSC include *social media* (261 times, 5%), *COVID-19* (136 times, 5%), *networking* (102 times, 2%), *human resources* (94 times, 2%), *divide* (85 times, 2%), and *adolescence* (74 times, 2%).

These keywords emphasize the importance of networks within the context of OSC. The frequent association with terms like *social capital* and *social media* aligns with the etymological foundation of OSC. Additionally, the presence of *COVID-19* in the top three terms underscores the recent pandemic's impact on online processes and networks.

These findings suggest that research in the field of OSC focuses significantly on social, economic, cultural, and regional dynamics. The prominent keywords identified in the literature provide valuable insights into the central themes of OSC research and highlight potential areas for future investigation.

Table 2*Online Social Capital Keyword List*

Keywords	Occurrences	Total link strength	The percentage within all keywords
Social capital	869	1437	18%
Social media	261	552	5%
Covid-19	136	239	3%
Networking	102	190	2%
Human resources	94	176	2%
Divide	85	186	2%
Adolescence	74	174	2%
Digitalisation	71	144	1%
Internet	67	172	1%
Methodology	60	119	1%
Facebook	60	160	1%
Education	60	147	1%
Trust	55	110	1%
Social networking	53	140	1%
Cultural capital	51	109	1%
Sustainability	49	83	1%
Entrepreneurship	49	91	1%
Healthcare	47	70	1%
Economy	47	62	1%
Well-being	44	112	1%
Digital transformation	44	72	1%
Support	40	85	1%
Bridging social capital	39	100	1%
Bonding social capital	38	108	1%
Innovation	37	69	1%
Digital technologies	36	64	1%
Crowdfunding	36	63	1%
Inequality	35	76	1%
Psychological capital	34	53	1%
Mental health	34	88	1%
China	34	45	1%
Community	32	45	1%
Knowledge sharing	31	52	1%
Twitter	29	58	1%
Civic engagement	29	74	1%
Intellectual capital	28	46	1%
Media	27	63	1%
Higher education	27	53	1%
Collaboration	27	56	1%
Technology	26	66	1%
Ict	25	57	1%
Bourdieu	25	77	1%

Source: Prepared by the author

Note: The table above presents the top 1% of the most frequently repeated keywords. The complete list is provided as an appendix.

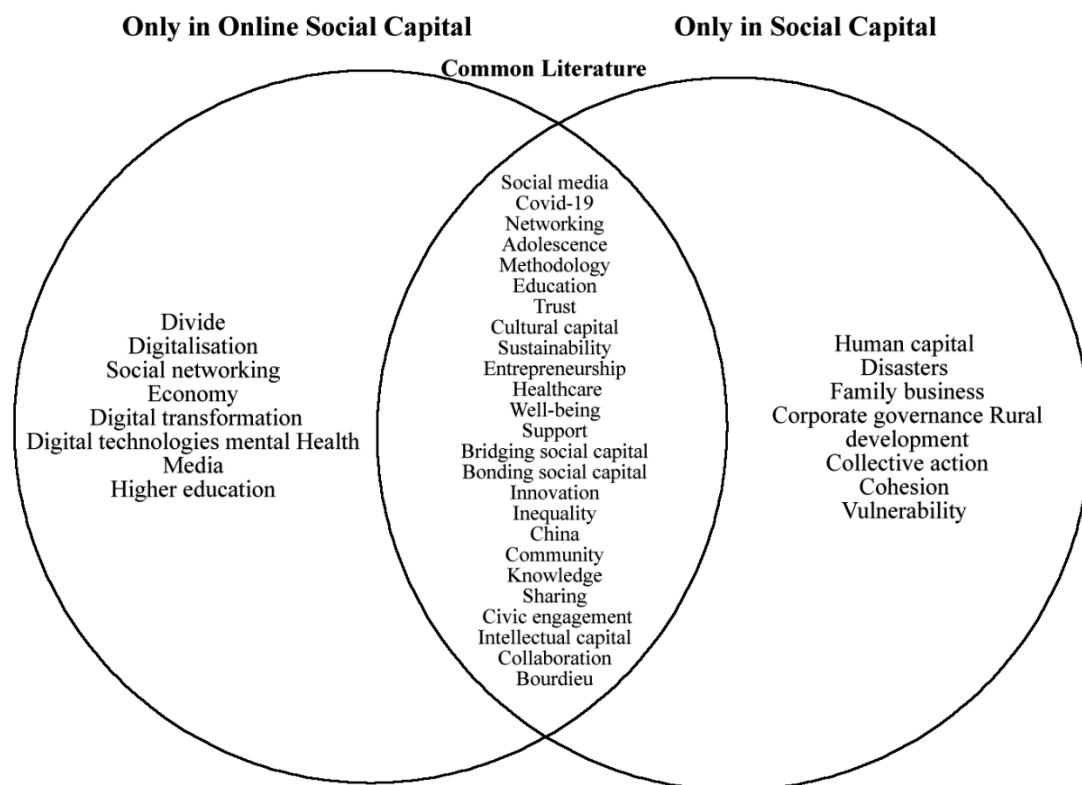
Analysis of the Differences Between Online Social Capital and Social Capital

In this study, a three-level comparison was conducted between the keywords used in the literature on OSC and traditional SC. This comparison was made among keywords that appear with at least 1% frequency for each concept. The purpose of this analysis was to understand how each concept is employed in different contexts, revealing the theoretical and practical areas where these keywords are concentrated.

By comparing these keywords, the study aimed to identify the distinctions and overlaps between the two forms of SC, helping to elucidate how OSC and SC are applied across various fields. This comparison also highlights the evolving nature of SC in the digital age, as OSC introduces new dimensions that were not prominent in the traditional SC literature.

Figure 3

Keyword Comparision



As shown in **Figure 3**, the analysis of differences between OSC and social capital (SC) was conducted across three levels:

First Level: The first comparison involved concepts that are used alongside OSC but are absent from SC. These terms primarily relate to digitalization and online platforms. Notable terms include *divide*, *digitalization*, *social networking*, *economy*, *digital transformation*, *digital technologies*, *mental health*, *media*, and *higher education*. These concepts frequently appear in the context of OSC but are less common in SC literature. They reflect the new dynamics of capital creation that arise through social ties and networks formed in digital environments. These terms emphasize the transformative impact of digitalization on social interactions and underscore the potential of online platforms to foster SC.

Second Level: This comparison focuses on concepts shared between both fields, reflecting the similarities between OSC and SC. The shared keywords include: *social media*, *COVID-19*, *networking*, *adolescence*, *methodology*, *education*, *trust*, *cultural capital*, *sustainability*, *entrepreneurship*, *healthcare*, *well-being*, *support*, *bridging social capital*, *bonding social capital*, *innovation*, *inequality*, *China*, *community*, *knowledge sharing*, *civic engagement*, *intellectual capital*, *collaboration*, and *Bourdieu*. These terms capture fundamental concepts such as social relationships, trust, community ties, and collaboration. Especially important are *bridging social capital* and *bonding social capital*, which explain how social bonds are formed and maintained in both contexts.

Third Level: The final comparison examines concepts present in SC but not in OSC. These terms are primarily found in traditional SC theory and are associated with community-based relationships and face-to-face interactions. These terms include: *human capital*, *disasters*, *family business*, *corporate governance*, *rural development*, *collective action*, *cohesion*, and *vulnerability*. These concepts highlight the application of SC in the physical world and its impact on communities. Notably, terms like *human capital* and *corporate governance* are key to understanding the role of SC in economic development and governance processes.

This three-level comparison clearly illustrates the differences and overlaps between OSC and SC. While OSC, driven by digitalization, represents a dynamic, technology-supported network structure, SC is rooted in local communities, face-to-face interactions, and long-term relationships. This analysis provides significant insights into how each concept is shaped through different social ties and networks.

Conclusion

This study thoroughly examines the conceptual and thematic differences between SC and OSC by comparing the relevant literature in both fields. In particular, several key concepts were identified as unique to the OSC context, providing critical insights into the transformative effects of the digital age on social relationships. Terms such as *divide*, *digitalisation*, *social networking*, *economy*, *digital transformation*, *digital technologies*, *mental health*, *media*, and *higher education* highlight how OSC diverges from traditional SC.

The term *divide* reflects the inequalities and disparities in access to technology and digital resources, a significant issue in OSC that does not appear in traditional SC discussions (DiMaggio & Hargittai, 2001). OSC requires individuals to engage in social networks via digital platforms, but the digital divide can restrict such participation (Dijk van Jan, 2012; Lythreath et al., 2022). This highlights how a lack of access to digital technologies can negatively impact one's ability to build OSC.

Both *digitalisation* and *digital transformation* explain the impact of technological advancements on how social bonds and relationships are formed. Traditional SC builds through face-to-face interactions and physical networks, whereas digitalisation shifts SC creation to digital platforms (Castells, 2011). This transformation removes barriers of time and space, allowing individuals to participate in social networks across different geographies.

Social networking refers to the formation of broad networks through social media and other digital platforms. This is particularly significant for OSC, as platforms like social media enable individuals to form weak ties and quickly access information (Ellison et al., 2007). In contrast, traditional SC is more reliant on strong ties and local communities, while online social networks foster broader and more diverse connections (Granovetter, 1973).

The terms *economy* and *digital technologies* further illustrate the economic aspect of digitalisation and the role of technology in shaping SC. While traditional SC operates within physical business networks

and local economies, OSC facilitates access to economic opportunities through digital platforms (Tapscott & Williams, 2008).

Mental health and *media* emphasize the psychological and social effects of interactions in digital environments. Continuous connection in digital spaces, particularly on social media, can have both positive and negative effects on mental health (Twenge et al., 2018). While traditional SC relies more on face-to-face support, OSC includes the ability to receive support from digital communities.

Finally, *higher education* reflects the importance of digital educational platforms in OSC. With the rise of digital technologies, education has moved online, creating new dynamics in the formation of SC (Selwyn, 2014).

Each of these concepts illustrates how OSC differs from traditional SC. The expansion of networks, rapid access to information, and the shift of interactions to virtual environments define the unique dynamics of OSC. Traditional SC, by contrast, is more reliant on local, physical bonds, while OSC supports a broader network structure and rapid information sharing via digital platforms. In this regard, OSC plays a crucial role in understanding the new social relationships and capital formation processes brought by the digital age.

The study also explored terms frequently used in the traditional SC context but less so in the OSC domain. These terms, including *human capital*, *disasters*, *family business*, *corporate governance*, *rural development*, *collective action*, *cohesion*, and *vulnerability*, tend to focus on physical, local, and long-term social bonds. They are more common in discussions of traditional SC because they are tied to community-based, economic, and governance processes.

For instance, *human capital* plays a vital role in social and economic development, as social networks help individuals convert their human capital into economic and social benefits (Coleman, 1988). However, this concept appears less frequently in the OSC context, where weak ties and digital skills are often more relevant (Williams, 2007).

Disasters highlight the role of traditional SC in fostering community solidarity and cooperation during crises (Aldrich & Meyer, 2015). In OSC, the potential for physical cooperation and support in disaster scenarios is limited, as digital platforms are less suited to managing such situations effectively.

Family business and *corporate governance* illustrate how SC influences economic development. In family businesses, SC strengthens through trust and cooperation among family members, while in corporate governance, it is supported by trust between leaders and employees. These concepts are less emphasized in OSC, which tends to build on weaker and more transient ties (Nahapiet & Ghoshal, 1998).

Rural development is another concept that demonstrates the strong impact of community-based SC. SC contributes to rural development processes by supporting collaboration and knowledge sharing among communities, which helps boost local economies (Woolcock, 2001). However, SC in the context of rural development is often based on physical communities, and OSC tends to be less effective in these local bonds. Since OSC is typically built on weak ties that operate within a broader digital network, it has a more limited role in the physical solidarity and resource-sharing processes that are essential for rural development.

Collective action and *cohesion* are concepts that explain the capacity of communities to act collectively and maintain unity within social structures. Collective action holds an important place in SC theory because it enables communities to come together for common goals (Ostrom, 2000). Cohesion refers to the strengthening of social ties during these cooperation processes. In the context of traditional SC, these concepts are more often associated with physical communities and face-to-face interactions, while

in OSC, there is less emphasis on such strong cooperation and cohesion processes. This is because the weak ties formed on digital platforms are generally short-term and temporary.

Vulnerability refers to the susceptibility of individuals or communities to social, economic, and environmental threats. SC plays a critical role in increasing the resilience of vulnerable communities (Adger, 2003). However, in the context of OSC, the processes of coping with such vulnerabilities are more limited. Digital platforms may not effectively provide sufficient support to communities, especially in situations requiring access to physical resources. Traditional SC, on the other hand, offers a stronger mechanism of solidarity and support in this regard.

In conclusion, these concepts are more closely related to physical, local, and long-term social bonds and are less emphasized in the context of OSC. OSC, while creating fast and broad social networks through digital platforms, is more rooted in strong community ties and face-to-face interactions in traditional SC. This shows that social bonds in the digital world do not align with traditional SC concepts and have a different structure.

This study has highlighted the divergent aspects of OSC and traditional SC. Although OSC is conceptually rooted in traditional SC, it has evolved into a distinct structure within the context of the digital world and social processes. Digital networks and online platforms constitute the core elements of OSC in terms of access to information and the establishment and expansion of social ties. While traditional SC relies more on local, face-to-face interactions, OSC operates through global-scale networks (Yang & Hanasono, 2023). This study emphasizes the unique structure of OSC and demonstrates its critical role in understanding the rapidly changing dynamics of the digital age.

In conclusion, the widespread adoption of digital technologies has significantly transformed the structure of SC. OSC enables individuals to expand their social networks through digital platforms, while also transcending geographical boundaries in a way that traditional SC cannot, offering broader access. This phenomenon reveals new pathways for building SC, particularly in areas such as access to economic opportunities and political participation (Bian & Zhang, 2023).

Traditional SC remains more tied to the physical world and is defined by strong community bonds. However, with the rapid spread of digitization, it has become inevitable for physical social bonds to also be supported by digital platforms. The integrated structure of OSC and traditional SC plays a crucial role in solidarity and cooperation processes within communities, especially during crises.

The findings of this study offer many potential areas for future research. Issues such as the digital divide and the impact of OSC on social inequalities require deeper investigation. Additionally, the transformative effects of digital technologies on social participation and political processes are important topics for further research. Future studies are likely to provide a deeper understanding of how social relationships evolve in digital environments by examining the unique dynamics of OSC. Specifically, the examination of digital divides, the societal impacts of digitization, and power dynamics within digital networks will be crucial for exploring the significance of this concept in the digitization process. OSC goes beyond traditional SC and has the potential to illuminate new challenges and opportunities in the digital world.

The present study is an extensive report that concentrates on the distinction between online social capital (OSC) and traditional social capital (SC) in their theoretical and practical contexts. While on the one hand, the former provides quick and virtually no limits socialization through virtual platforms, on the other hand, the latter is the only way to go with the strong, trustful ties in physical localities. This separation of the two has far-reaching consequences in many areas, specifically in crisis management, economic resilience, and political engagement.

SC, which depends on strong relations and local trust, has long been instrumental in dealing with disasters and other emergency situations. Besides, those communities that have high SC, usually, work together more collectively to increase the resource-sharing, cooperating, and mutual aides of their people during some crises. At the same time, the growing prevalence of OSC also brings to the forefront the question of whether digital platforms can not only add to but also take the place of these traditional networks. There are new avenues for research to look into such as the role of digital communities in disaster relief and whether OSC can balance the loss of face-to-face trust networks in high-risk environments through their functioning.

As opposed to this, the economics and business environment might turn out to be more advantageous with OSC, especially in contexts that are highly affected by the issue of information imbalance and uncertainty in the building of trust. The old SC that is mostly linked with the interpersonal and long-term relationships, has a fundamental role in economic collaboration. Interestingly, the internet and gig economies that come with the digital economy make use of OSC by providing the alternative trust of algorithmic trust, reputation systems, and decentralization networks. The future studies should scrutinize whether OSC enhances the decrease in transaction costs or rather it waters the ground for the emergence of new vulnerabilities, particularly in the instances where a weak tie is the key decision-making level.

Furthermore, political and civic engagement is another most relevant and contentious aspect. While SC has been seen traditionally as a way to create grassroots activism, community organizing, and democratic participation with OSC creating a channel for mass organization through digital activism, online petitions, and viral movements. Not weak ties in OSC are the only reason for short term and a lack of long run collective action but also they are one of the worries about the consequences on society and environmental issues of ethical dilemmas in the future. The future studies are to provide answers to the questions about whether OSC will be the kind of extra power for civic engagement and democratic participation or on the contrary will play the negative role in them.

Historically considered, rather than a theoretical friction, the birth of OSC ought to be seen as one of the parts making up the movement of social capital theory's evolutionary path. The same way SC was revolutionized by the decentralizing of sharing from the towns' social bonds to the urban ones, the current context where digital technology is sorting out various social capital forms is both a gift and a burden. The questions of whether OSC represents a radical overhaul of social capital theory, or serves as merely an adaptive extension of its original form will be tackled in future research.

In the final analysis, the present work underscores the importance of undertaking more research on how SC and OSC function, either in conjunction or antagonistically, in the different settings of society. Therefore, the recognition of this shift will be a valuable asset for policy formulation, economic infrastructure development, and society planning as digital networking is continuously reshaping social relationships with a special emphasis on the current day era.

This study has underlined the most important differences and similarities that are between online social capital (OSC) and traditional social capital (SC). Nonetheless, it is important first to talk about the reasons for the differences they are contextualizing which in turn can help to clarify the differences.

For example, the close relationship that exists between SC and "networking" and "trust" is due to the inherent reality of traditional social capital. SC is the product of long-term, trust-based relationships that make it easier for people to cooperate and to take action together in a given community (Putnam, 2000). The trust is so much involved here in the building of social networks by people which then, in turn, results in both social networks' invariability (Coleman, 1988). Networking, which is the principal

part of SC, provides people with access to social resources, thereby creating conditions for both economic and social development (Bourdieu, 1986). The continuous presence of these concepts in SC books comes in line with the previous findings demonstrating the significance of interpersonal collaboration in the formation of dense social networks (Granovetter, 1973).

However, OSC's association with "divide" and "digital transformation" also mirrors the transformation of structures carried out due to digitalization. The digital divide, which is the mechanism bringing on such conditions, would refer to the dissimilarities in the ways people use digital technology thus might affect machinery utilization of OSC (DiMaggio & Hargittai, 2001). The appearance of this keyword in the OSC-related literature indicates concerns over the imbalance of technological resources and access (Dijk van Jan, 2012). Like this, the digital transformation that we experience has shifted from normal, human-to-human, to the virtual, technology-mediated social connections (Kandampully et al., 2022). Thus this development has completely changed the ways people meet and build connections, now they can do it in a more distant but weaker manner (Williams, 2006).

The Covid-19 pandemic scenario on the changing process from SC to OSC should put in the context about this again another crucial point. Covid-19 was the reason for the extraordinary decrease in the physical social interactions that led the way to the digital platforms as the primary social networking area (Barrios et al., 2021). The results of the pandemic have been observed that because of the social media and digital communities these platforms have been used the most to keep the social relations, to exchange information and to support trade and industry (Borgonovi & Andrieu, 2020). But this pathway has its own staff as well, for example, the mentioned of the weakening of Trust plus, Social Capital and the long-term effect it will do on social nets (Nowland et al., 2018). Despite the fact that OSC was the one that was doing pretty much great in problems when people were not able to go out and touch different things, it is doubted whether it can acquire enduring social capital at the same level as traditional SC (Ellison et al., 2007).

To cut the story short, the regional and cultural issues have had an encouraging role in the rising of OSC. The impact of digitalization on social capital is different in different societies because they are different in terms of internet access, digital literacy, and culture which decides the mode of online communication. In the West, OSC is often linked to a professional network and economic opportunities, while in Asia, it is usually more about community support and social cohesion (Kim & Fernandez, 2023). In addition, in the case of the less developing countries, the digital divide can hinder the OSC expansion, whereas in the web developed areas it is the digital media which as secondary instrument deliver the OSC (Lythreathis et al., 2022).

The findings lead to the aforementioned point of view for the transformation of social capital during the digital age. Further, research should also deal with how digitalization restructures societies such as OSC being a complementary and ancillary or a different kind of concept apart from SC. Also, the probing be that no measure on how long the OSC will influence on trust, social cohesion, and economic participation will prove it a main societal aspect.

The distinction between social capital (SC) and online social capital (OSC) has often been framed as a binary opposition, suggesting that SC belongs to traditional, trust-based networks while OSC is a digitally mediated construct that redefines social interaction. However, findings from this study challenge the notion that these two forms of social capital are fundamentally separate. Instead, the evidence suggests that SC and OSC exist along a fluid continuum, where digitalization has reconfigured rather than replaced traditional social capital.

Rather than treating OSC as an entirely new paradigm, it is more accurate to consider it as an adaptive extension of SC, shaped by the affordances of digital technologies. The emergence of digital platforms

has expanded the reach of social networks, enabling weaker but more diverse connections, faster information diffusion, and new forms of economic and civic participation. Yet, at its core, OSC retains key elements of traditional SC—trust, reciprocity, and shared norms—albeit manifested in different modalities.

Importantly, OSC does not exist in a vacuum. The strength of OSC is often dependent on pre-existing SC structures. For instance, offline relationships frequently serve as the foundation for online interactions, while online networks can reinforce or extend trust built in physical communities. This interdependence suggests that rather than replacing SC, OSC functions as a complementary mechanism that can either strengthen or, in some cases, weaken traditional social bonds, depending on how it is utilized.

Given this interdependent relationship, future research should move away from static categorizations of SC and OSC and instead investigate how they interact, merge, and transform within different contexts. Instead of treating SC and OSC as separate domains, future studies should develop integrated models that examine the conditions under which digital interactions enhance or erode traditional social capital. Longitudinal studies are needed to examine whether and how individuals shift between SC and OSC across different life stages, socio-economic conditions, or technological advancements. The role of digital platforms in shaping OSC also deserves further scrutiny. How do platform algorithms, AI-driven content curation, and digital gatekeeping affect the formation and maintenance of online social capital? Studies should analyze whether algorithmic influence enhances social cohesion or exacerbates echo chambers and digital divides.

The ways in which SC and OSC interact are not uniform across societies. Comparative research is needed to explore how cultural norms, political structures, and economic conditions shape the balance between traditional and online social capital. Are collectivist cultures more resistant to OSC-driven social transformations than individualist societies? Current research often focuses on the quantity of connections in OSC, but future studies should develop metrics to assess the depth and quality of online social ties. How does online trust compare to offline trust in long-term relationship building? Can weak digital ties transition into strong, meaningful social capital over time?

By shifting the research focus from whether SC and OSC are distinct to understanding how they interact and evolve, scholars can develop a more nuanced and dynamic framework for analyzing social capital in the digital age. Rather than viewing OSC as a disruptive force that undermines SC, future research should explore the conditions under which digitalization enhances, complements, or challenges traditional forms of social capital.

Compliance with Ethical Standards

Ethical Approval

Ethical approval for this study is not applicable.

Author Contributions

The author confirms the sole responsibility for the following: study conception and design, data collection, analysis, writing, and revision of this article.

Declaration of Conflicting Interests

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Traces of Secularization in George Orwell's *Animal Farm* and *1984*

George Orwell'in *Hayvan Çiftliği* ve *1984* Adlı Eserlerinde Sekülerleşme İzleri

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Abstract

Literary works, which are independent of the concepts of time and space, are among the most effective tools that reflect, transmit, and analyze social change and present it back to society. Religion, on the other hand, draws attention both because it is one of the most frequently addressed subjects of literary works and because it is one of the values that have suffered the most from change. The transition from traditional society, where religious values and institutions were highly influential and important, to modern society, especially with the emergence of parameters such as industrialization, urbanization, scientific and technological developments and capitalism, has led to significant and radical changes in the understanding of the phenomenon of religion. Secularization, which is defined as the loss of significance, power, and visibility in everyday life of the supernatural realm, the sacred in its more comprehensive form, religion, religion-like structures, religious beliefs, and religious teachings, is one of the most noticeable changes in relation to religion, both in terms of society and the individual. As a result, this study, which is a literature review on both secularization and the two books in question, aims to show how the secularization theory, which has effects on both individuals and society, can be seen in *1984* and *Animal Farm* by George Orwell.

Keywords: Modernization, Secularization, George Orwell, 1984, *Animal Farm*.

Öz

Zaman ve mekân kavramlarından bağımsız olan edebi eserler, toplumsal değişimi yansıtan, aktarımını sağlayan ve analizini yaparak tekrar topluma sunan en etkili araçlardır. Din ise hem edebi eserlerin sıklıkla ele alınan konuları arasında yer alması hem de değişimden en fazla nasibini alan değerlerden biri olması nedeni ile dikkat çekmektedir. Dinî değer ve kurumların son derece etkili ve önemli olduğu geleneksel toplumdaki, özellikle sanayileşme, kentleşme, bilimsel ve teknolojik gelişmeler, kapitalizm gibi parametrelerin ortaya çıkışı ile modern topluma geçiş, din olgusu anlayışı üzerinde belirgin ve köklü değişimlerin oluşmasına yol açmıştır. Hem toplumsal hem bireysel anlamda, geçmişle şu an kıyaslandığında, doğaüstü olarak nitelenen alanın, daha kapsamlı şekliyle kutsalın, dinin, din-benzeri yapıların, dinî inanışların ve öğretilerin önem yitirmeleri, güç kayıpları, saygınlıklarının belirgin bir şekilde azalması ve gündelik yaşamda görünürlüklerinin neredeyse yok olması şeklinde tarif edilen sekülerleşme ise din ile ilgili görülen en belirgin değişim olarak tartışma konularının başında yer almaktadır. Dolayısıyla hem sekülerleşme hem de söz konusu iki edebi eserle ilgili literatür taramasının yapıldığı bu çalışma, bireysel olduğu kadar toplumsal etkileri de kaçınılmaz bir şekilde görünür olan sekülerleşme teorisinin, George Orwell'in *1984* ve *Hayvan Çiftliği* adlı eserlerindeki yansımalarını ortaya koymayı amaçlar.

Anahtar Kelimeler: Modernleşme, Sekülerleşme, George Orwell, 1984, *Hayvan Çiftliği*.

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Traces of Secularization in George Orwell's *Animal Farm* and *1984*

With the existence of human beings, the concept of believing in beings that they think is stronger than themselves in every aspect, in the sense of "sublimation-obedience", has started to draw attention day by day. Therefore, religion or religious values have always taken place in people's lives from past to present. In this long process, society inevitably affected religious values, and religious values affected society. As the wind of change increasingly influenced both, people observed the course of daily life shifting in different directions. In this context, in the transition process from traditional society to modern society, change has become very different and effective in all areas, especially religion and religious values.

The society, which started to industrialize with the industrial revolution, with scientific and technological developments, reason and mind coming into the forefront, urbanization, the increase and diversification of education and health opportunities, etc. with these developments, has begun to adopt and carry the characteristics of modern society. Because of the change and transformation from traditional to modern, the innovations brought by modernity and incorporated into daily life have sparked big changes and transformations in many areas and things. While religion, religious values and the sacred are an extremely dominant power on both the society and the individual, the effect of the modern perception on the sacred, which permeates the lives with the change felt in every aspect at all points, has been made visible both individually, socially, and institutionally, with secularization theories consisting of different views of the names known as the founders of sociology.

Secularization theories, at the end of a long process, have taken their place in the top ranks among the topics discussed intensively in the sociology literature. People thought that religion would go away over time as the supernatural started to be affected by change. These ideas were popular in the early stages of secularization. In the later period, with the continuation of the phenomenon of religion and the emergence of new religions, desecularization theories have been produced and discussed. However, in this respect, theories put forward by sociologists who adopt the views that these theories are incomplete in some respects, which are also called eclectic paradigm by blending and accepting both paradigms, and which carry the views that secularization and desecularization processes are lived together and are still being experienced, have revealed that secularization theories are handled comprehensively and multidimensionally.

In the context of wide scope and multidimensionality, the change seen in the religious field has affected many fields, while literature has been one of the most affected fields. From past to present, the literary world has used the concept of religion as the main theme of many studies. The purpose of this study is to ascertain how secularization is reflected in *Animal Farm* and *1984* by George Orwell, which depict the gradual waning of religious beliefs and their eventual extinction, depending on the existence of mutual interaction. Sociologists who perceive certain shortcomings in these theories have developed "eclectic paradigms." These paradigms integrate and acknowledge both secularization and desecularization processes, maintaining the belief that they occur simultaneously and continue to do so. These paradigms have shown that secularization theories are comprehensive and multidimensional.

Methodology

The purpose of this paper is to discuss the insights of secularization theory in two major works of George Orwell: *Animal Farm* and *1984*. The analysis will trace how Orwell condemns manipulation of religious and secular ideational structures for control of society through completely pure and strict totalitarian rule. The research methodology will integrate literary analysis, theoretical exploration of the concept of secularization, and comparative analysis of Orwell's works.

The first part of the methodology involves the theoretical framework of secularization with a specific exploration of the relationship between secularization and power. By concentrating on Orwell's political beliefs and secularisation, the second part of the methodology will examine the relationship between secularization and literature with the involvement of Orwell's own ideological position. Orwell was a vocal critic of both religious dogma and the rise of secular totalitarian ideologies, especially in light of his experiences with Soviet communism, fascism, and the political climate of his time. Thirdly, the literary analysis section will handle characterization, symbolism, themes and plot development in accordance with the references and examples in the novels. The final component of the methodology is a comparative analysis of how both religious and secular ideologies are used as tools of oppression in Orwell's novels. For this comparative analysis, resistance and rebellion, social and individual impacts, and ideological control will be the special points to search for.

In the end of this paper, it is aimed to show how *Animal Farm* and *1984* can be seen to show the dangers of secularized forms of ideological control by putting together what we have learned from the literary analyses, the secularization theory, and Orwell's own criticism of ideology. The conclusion will highlight Orwell's fundamental observations about the fragility of freedom and the perils of religious and secular dogma in the context of totalitarianism. So, this method combines three different areas: a literary analysis, a theoretical perspective, and the historical background in order to come up with a more complex way to understand Orwell's works that criticize secularization and the control of ideology.

On Secularization

Renaissance, which literally means "rebirth" or "resurrection", between the 14th and the 17th century, after the Middle Ages in Europe, refers to a process in which renewal and change movements and initiatives in the fields of politics, culture, economy, science, art, architecture and education are observed and their effects and results spread from Italy to the whole world (Burke, 2000). According to some social scientists, this process, which completely encompasses all aspects of social life, is the most important series of events that started the secularization process for the Western World. In particular, bringing ancient classical works to society through translation, the rise of modern science and technology in the process, economic development, the sprouting of rational thought and similar social changes naturally resulted in the emergence of views in the direction of secularization by causing a change in perceptions about the phenomenon of religion. However, some social scientists, who claim that the process started at a later date, drew attention to the Enlightenment period (Toulmin, 2002) and tried to reveal the relationship between the Enlightenment process, where the authority of the Catholic Church began to weaken, and the secularization process. Immanuel Kant, John Locke, Rene Descartes, Denis Diderot, Montesquieu, Jean-Jacques Rousseau, Voltaire, and David Hume, who are among the first representatives of the Age of Enlightenment, expressed their philosophical views on religion-society relations as well as on many other issues. Therefore, according to some social scientists, the beginning of secularization debates dates back to the Enlightenment period.

The Thirty Years' War, which started as a result of the religious problems between Catholics and Protestants in Europe, ended with the Treaty of Westphalia (Gross, 1948), which was strongly accepted as the starting point of the secularization process. Why has such a view become dominant in the academic community? First of all, considering the thesis that modernization and secularization are parallel to each other, that is, secularization is seen with modernization, and there is an increase in secular life with the spread of modern life, The Treaty of Westphalia, which is accepted as the beginning of the modern age, directly affects the secularization thesis with its results. This agreement also plays a crucial role in secularization by addressing and resolving religious issues. In this period when the importance of the sacred began to decline (Esposito, 2000), it is possible to say that secularization

theories became controversial. Therefore, secularization, which originally meant the transfer of religious property to civil or state ownership, began to be the subject of debate for many sociologists with the Treaty of Westphalia signed as a result of the Thirty Years' War. Secularization, which means the transfer of the Church lands to the states in the institutional sense, has come to refer to a process where the religious influence on the government, institutions, ideas and behaviors has decreased and the trust in worldly values and assets for these areas has increased (Gay, 1992).

For many years the meta-narrative in the social scientific analysis of religion has been the paradigm of secularization. People who wrote about society and did scientific studies believed that religion would become more and more marginal in modern societies and would become an unnecessary "thing" in time. Many believed that differentiation would bring about a general decline in religion. Religion, which was at the center of society and even everything else, would become a private matter, which could at best find a place in the center of man. Science would replace religious beliefs and even Auguste Comte, who had the status of a scientist, would declare himself the 'prophet' of the 'Religion of Humanity' (Comte, 1852) that he would establish. However, scientists and sociologists who predicted the collapse of religious organizations in the future and emphasized that religious values would lose importance also constituted a substantial number. For example, for Engels and Marx, religion prevents people from realizing and comprehending the facts, legitimizes the authority of the ruling class and suppresses the uprising of the lower classes (Pollack, 2015).

In the historical process, secularization has become more visible with some parameters and the deep views of some leading social scientists. It is possible to say that these parameters emerged as a result of the change-transformation that became evident with some turning point historical events. In this context, in order to talk about the theory of secularization, it is necessary to accept that religious institutions and values were more influential and prestigious in the past. All Abrahamic religions, including Islam, and religious-like formations (Ertit, 2019), possess multidimensional discourses about this world. Thus, by comparison, it is generally believed that religion and religious institutions in the pre-modern period had much greater power than in the modern or even post-modern period. It is noteworthy that the secularization debates continue in a multi-faceted and multi-dimensional way with the developments that cause religions, religious institutions and values to lose their current power.

Many thinkers continued to share their views on secularization with society, with the developments of the Age of Enlightenment, which ignited the fuse of secularization in Western geography both as a process and as a thesis. For example, in 1843 in his work *On the Jewish Question*, "The true religious/Christian state is not the state that defends or adopts Christianity, but the state that is secular." With his explanation, Marx managed to draw attention to his views on religious values. By saying "Religion is the opium of the society" (Marx, 2009), Marx, who handles religion with a functionalist approach, refers to the class system. Marx views secularization as a consequence of alienation. Emphasizing that workers are alienated from the work they do, the products they produce, themselves and other people in the capitalist system (Chadwick, 1975), Marx believes that over time, the class order forms the basis of the social structure and only when a classless structure is achieved in the social order, religion will no longer be needed, religions will disappear, and therefore secular societies will form. It is at the core of Marx's theory of alienation (Marx, 1967) that the social life in Marx's imagination can be reached when the masses learn the source of social distress, and when false consciousness is replaced by class consciousness. After all the alienated person's problems end, they won't need a comforting religion.

In his book called *The Protestant Ethic and the Spirit of Capitalism* (1905), Weber stated that industrial capitalism, which is expressed as the accelerator of secularization (Ertit, 2019), was born and developed with the Protestant Ethic. Weber views working in the Protestant faith and striving to excel in his

profession as the most important form of worship. Therefore, the expectation of the capitalist system is that people work hard, spend less and ensure capital accumulation; in the Protestant faith, on the other hand, professionally, it is to do the best one can do, to work hard, and thus to fulfill the requirements of his faith. Therefore, for Weber, the religion-capitalism interaction started with the Protestant belief leading the economy and continued with the capitalist order's influence on the Protestant belief system. Believing that the "iron cage" (Weber, 2003), which consists of the rules that all humanity is subject to and must comply with, will lead people to rational thinking and that "the world will be disenchanted" with rational thought, Weber stated that he expects a secular society in the new modern world that has emerged (Weber, 2015).

The French sociologist Durkheim predicted that religion would collapse over time, especially in the Western geography, at first, but he was not far from the view that sacred values could manifest in different ways in the eyes of society. According to Durkheim, there is a social evolution from primitive society to modern society (Durkheim, 1984), so it is expected to see secular values in modern societies. Religious values are extremely important for people with mechanical solidarity and undifferentiated functions in primitive societies. In modern societies where population growth, scientific-technological developments and organic solidarity are seen, religious values lose importance for people with differentiated functions, and different religious values gain importance. For Durkheim, religion and religious values, traditionally known, no longer have much to contribute to modern societies intellectually, morally or socially. For this reason, traditional religion faces death, but the sacred remains. According to Durkheim, who approached the secularization process from a different angle and offered a different interpretation, we certainly live in a more secular age, but this age is definitely not an age that is purified from sanctity.

When it comes to secularization theory, it is impossible not to mention Peter L. Berger. Although he stated that his initial thoughts were falsified (Berger, 2007) and that religiosity increased in contrast to secularization, his first views on secularization are extremely important and it can be said that these views changed the course of secularization debates. Berger thought that modernization in the 1960s brought about secularization and that religions would lose their social power over time. He defined secularization as "the process by which social and cultural sectors are removed from the dominance of religious institutions and symbols" (Berger, 1967). Berger, who claimed that industrialization and scientific thought led to secularization, started to adopt the view that religions did not disappear, on the contrary, became more vividly visible due to the formation of new religious forms all over the world towards the end of the 90s (Berger, 1999).

Another name to be mentioned related to secularization is Bryan R. Wilson. Pointing to the processes of social differentiation, societalization and rationalization as the main reasons for the losses experienced from the perspective of religion and religious values, Wilson also includes the emergence of new religious movements among the secularization indicators. According to Wilson, social differentiation means that religion loses its pre-existing decisive influence on other institutions such as the economy, science and family, these institutions get rid of the supremacy of religion and gain functionally increasing autonomy (Wilson, 1982). Explaining the societalization process as the transition from the local community to the large-scale society seen in social organization, Wilson stated that secularization and moral collapse would come with this process. Finally, rationalization is the pursuit of social goals intended for all institutions without recourse to supernatural values. If rational thought is valid for every part of the society and every institutional structure, then it is possible to talk about a secular society. Wilson emphasized that the rationalization process removes religious expression from having a transcendent importance for the lifestyle of the society (Wilson, 2016).

In *God is Dead: Secularization in the West*, Steve Bruce showed an approach to secularization in the light of quantitative data, arguing that the importance given to religion and religious values was greatly exaggerated in the past (Bruce, 2002). Bruce uses current data to show that traditional religious beliefs are also on the decline. He asserts that this is due to the fact that a smaller number of individuals are participating in the Church (which has an institutional significance) and attending its ceremonies than in the past. However, pointing out that it does not seem possible for a new belief system to replace traditional beliefs, Bruce emphasized that Great Britain is a country that is secularizing day by day. In the Orthodox model of secularization, Bruce argues that once a religion is weakened by modernization, it is doomed to disappear because widespread ideologies are very difficult to pass on to future generations.

Some people think of secularization as a change in culture brought about by the rise of reason. The success of science in the modern world, in contrast to superstitions that are common in traditional societies, is maximized in different ways. In simpler terms, secularization, which symbolizes the transition from societies in which religion, religious values, religious institutions and symbols are considered extremely important, to societies where religion, religious values, religious institutions and symbols are considered less important or completely unimportant, becomes widespread as a result of evaluating various events in personal and social life mostly from a utilitarian point of view, not from a religious point of view. Therefore, in order to be able to talk about a secular society, all personal and social events must be free from religious thoughts, norms and values. In fact, sociologists who have encountered such societies over time, and particularly literary writers, have begun to incorporate secularization indicators into their works, expressing their diverse perspectives on the concept, as it is fundamental to this study (Hammond, 1985).

Since the subject is interesting, the process is long and still ongoing, it has become inevitable to put forward different opinions. In this context, although the views on secularization differ within themselves, both antitheses have been produced against the secularization thesis and these new theses have different views within themselves. As a result, while the secularization thesis is referred to individual, organizational, institutional, social and internal ways, the anti-thesis produced also led to the secularization theory being called classical secularization theory, desecularization and eclectic paradigm. In this study, since literary works will be discussed in the context of secularization theory, it will be sufficient to mention classical secularization theory, which is considered as the core of secularization theory.

In general terms, secularization, which is defined as a tendency to move away from sacred values and supernatural powers, the world's beginning to lose its magic and the increase in the level of social rationality, refers to the situation where religion loses its importance in daily life by becoming ineffective over time, and the dominance of science and reason with technological developments (Kirman, 2011). With the modernization, religion has moved away from being a value and way of thinking that directs daily practices, especially in European countries and in countries such as Canada, the USA, Australia, and New Zealand, and has turned into another item that can be chosen and consumed. In summary, it is modernization that restricts religious control in non-religious areas and prevents any religious belief from being the dominant culture and expression tool in society (Ertit, 2014). Therefore, according to the classical secularization theory, modernization is responsible for entering the secularization process.

Classical secularization theory is based on the thesis that scientific and technological developments along with modernization have a negative effect on the importance and acceptance of religion in society. This thesis is also based on differentiation theory. The main premise of the classical secularization theory has been rational thought, which stands out with the comparison of science and religion, with

the claim that the importance of religion in modern societies weakens compared to previous periods, pre-modern cultures give more importance to religion, religious values, and the sacred than modern ones. Rationality, which emerged as the main reason for the observed decline in religious control over both individual and social behavior, led to the development of a tendency towards establishing cause-effect relationships. Along with empirical thought, rationality has prevented religion, religious values or the sacred from completely influencing or dominating social life (Durkheim, 2010). Scientific and rational thought, which has become widespread with the developments in the fields of transportation and communication in the globalizing world, has become the strongest 'branch' to which the secularists hold on, although it is said that "Science and religion do not conflict, on the contrary, one supports the other." As a matter of fact, scientific thought has taken the place of religious thought in institutional and administrative sense.

The Relationship between Literature and Secularization: Secular Approach to Orwell's *1984* and *Animal Farm*

It is a well-known fact that there is a strong relationship between literature and religion because literature is a kind of international messenger which carries all cultural phenomena from generation to generation all over the world. Thanks to literary works from different cultures, we can read and learn a great many approaches to life, events, culture, and religion. In fact, religion is an important part of culture, and while studying a literary work, it cannot be thought to handle cultural issues without mentioning religion. As Harris highlights, "Because religion is such an integral part of cultures all over the world, it is no surprise that much of literature includes strong religious connotations. Whether or not a reader considers himself or herself religious, there is no denying the pervasive nature of human religion in all aspects of society." (Harris, 2018). This section of the paper will analyze religion in Orwell's two masterpieces, *Animal Farm* and *1984*, in the context of secularization.

Secularization, which once marked an age of belief, had its effects on all institutions, cultural values, and, naturally, literature throughout the process. Studying Orwell's works from secular point of view will enable us to take an interdisciplinary approach to Orwell and his works as this study requires not only information about Orwell's religious life, whether he reflected it on these works or not and how he did it, but also background knowledge about Orwell's time, society, social, political and cultural structures and his own experiences with all these.

As a modernist author, he was born in India, 1903 and died in UK, 1950. In spite of his short life, he succeeded to produce quite many works in different fields. George Orwell was a novelist, journalist, essayist and critic whose real name was Eric Arthur Blair. According to some sources, he preferred using his pseudonym George Orwell because he wanted "partly to avoid embarrassing his parents, partly as a hedge against failure, and partly because he disliked the name Eric, which reminded him of a prig in a Victorian boys' story". Although he was born in India and spent his early years there during the time of British colonial rule, he preferred to continue his life in England to be able to receive education. During his lifetime, George Orwell witnessed and participated in significant historical and political events, such as the Spanish Civil War (1936-1939) and World War II. In the Spanish Civil War, he volunteered to fight as a member of a left-wing militia, where he was wounded. During World War II (1939-1945), Orwell worked for the BBC and also contributed to various publications. His experiences in these events influenced his later political and literary views.

Not surprisingly, Orwell did have some exposure to religion during his lifetime. He was baptized in the Church of England as a child, which was a common practice in Britain during his time. But he is not widely known for having a strong religious affiliation or a particularly religious life. In fact, he is often seen as a figure who was critical of organized religion and more inclined towards secular humanism and skepticism: "Orwell hated all 'isms' because each was inevitably dominated by intellectuals. For

Orwell the most important “ism” of his day was socialism. His form of democratic socialism, he said, was rooted in the values of ordinary working-class communities not in any top-down ideology.” (Ingle, 2017). Orwell's writings, especially his essays and novels, often contain themes that are critical of authoritarianism, totalitarianism, and the abuse of power. He was known for his strong belief in individual freedom and the importance of truth and honesty, often in opposition to oppressive regimes and institutions, including religious ones. In his works, Orwell occasionally touched on religious themes and references, but they were not central to his overall philosophy or writing. He was more concerned with political and social issues, as well as the power dynamics within societies.

In relation to all these facts about Orwell, his masterpieces *Animal Farm* and *1984* present unique opportunities for a secular perspective. A secular approach to these well-known dystopias centers on their political, social, and philosophical themes, examining the dangers of totalitarianism, the erosion of individual freedoms, the use of propaganda, and the importance of resistance and rebellion. These works serve as cautionary tales about the abuse of power and the consequences of a loss of personal autonomy and moral integrity in a secular context. In the following part of this paper, two novels will be handled from secular perspective separately according to the points they include about the absence, destruction and disappearance of religion because of different reasons.

***Animal Farm* in a Secular Context**

One of the best allegorical novels in the world classics list, *Animal Farm* portrays a community governed by pigs, representing the society who are under the dominance of Stalin's totalitarian regime following Russian Revolution. In this masterpiece, animals are chosen to represent some political and social figures. Just to give some short background information about the main characters in the novel, Napoleon, based on Joseph Stalin, is the pig leader of *Animal Farm* after the Rebellion and he uses military force to dominate the other animals and show his power. Snowball, the other pig who wants to take the control of the farm from Napoleon, is based on Leon Trotsky with his eloquent, passionate, intelligent and less subtle and devious manners. Squealer is another pig who supports Napoleon by using rhetoric and language to twist the truth and maintain social and political control, delivering speeches about fake success stories. Old Major, inspirational source and real leader of rebellion, is a boar whose vision of socialist utopia reminds Karl Marx and Lenin. Boxer is a strong, dedicated and loyal cart-horse and he works only for the ideals of *Animal Farm*. Moses is the tame raven who spreads stories of Sugarcandy Mountain, the paradise to which animals supposedly go when they die. Moses has a tiny role in the novel but it is the only character who is into a religious duty and the critics assume that Orwell uses him to explore how communism exploits religion as something with which to pacify the oppressed.

Religion as a Tool for Oppression

In the book *Animal Farm*, George Orwell makes a satire of the Russian Revolution as well as the rise of the Soviet Union that follows. The pigs, who stand in for the ruling class, use many methods in order to subdue the other animals. This manipulation is aided by many small factors, and the most notable is religion, or more accurately, absence of religion.

Moses the raven preaches about a perfect place called the Sugarcandy Mountain which serves to illustrate how religion can be used to pacify the oppressed. Initially, the pigs turn him away, as they know his tales could serve to sidetrack the other animals from their current suffering and lower their appetite for insurrection. However, when the pigs become powerful and the condition of the animals worsens, they allow Moses to come back as they know he will pacify the restless masses with his death-for-a-better-life teachings: “Their lives now, they reasoned, were hungry and laborious; was it not right and just that a better world should exist somewhere else?” (Orwell, 2021). That sublime burden of

religion for the shoulder of the oppressed will only work to those with power, the bourgeoisie, in Orwell's estimation of religion in that it is like opium.

Given that it suggests that religion takes people's minds away from the tangible realities of existence, it is understandable why Orwell's portrayal of Moses is devoid of religious undertones: "A new class system is born based on biological inequality, its commandments issued not by the sugar-candy religion of the preaching raven Moses, but by the intellectual religion of Science (Lenin's 'scientific socialism')" (Kirschner, 2004). At first, it is the ruling class pigs who tolerate Moses and his stories of Sugarcandy Mountain as they are profitable to them. Moses ensures that the animals remain complacent and not likely to revolt by providing them with the hope of a different and better world somewhere. In this case, it is in line with the reasons why Orwell denounces religion as something which seeks to maintain order instead of leading to anything like real enlightenment or even liberation.

The Danger of Ideological Dogma

In the allegorical novella *Animal Farm*, a group of farm animals rises in rebellion against their human farmer, ideologically based on the establishment of a just society for all animals. However, as the leadership assumes a higher status, the pigs become just as oppressive as the humans they have replaced. Though it was more secularly deeper in meaning, the novella is often regarded as a satire upon the Russian Revolution and the rise of Stalinism thereafter.

One of the key secular themes of *Animal Farm* is rejection of ideological dogma. Napoleon and the rest of the pigs utilize the concept of "animalism" to further hoodwink the other animals. Over time, animalism becomes a means of manipulation rather than staying true to its roots, which called for equality and the well-being of all living things. They justify their actions on the principles of Animalism-the Seven Commandments. This is a form of ideological manipulation, akin to the distortion of religious doctrine for the benefit of the powerful.

Orwell's ire extends beyond political ideologies to any system that demands blind faith. The farm animals-primarily the pigs, but most especially the industrious horse named Boxer-repeat the phrases with blind confidence, such as "Napoleon is always right." Similar to religious fanatics, blind confidence in leaders incorporates followers who accept beliefs without scrutiny. Unquestioning belief-whether in a political or religious system-can result in the decline of individual freedom and the emergence of dictatorship. "It had become usual to give Napoleon the credit for every successful achievement and every stroke of good fortune" (Orwell, 2021). This is Orwell's salient secular thesis.

As Harris states, it may seem irrelevant to read *Animal Farm* from a perspective related to religion but it contains quite many messages about the importance but the (almost) absence of religion in such a fictional setting: "At first read, *Animal Farm* might not seem to reference Christianity and religion in general. Religion was a huge part of life for the proletariat Orwell is referencing, though, and the animals of *Animal Farm* have a complicated relationship with religion despite the fact that it is not explicitly outlined." (Harris, 2018). The secular analysis emphasizes how the pigs' rise to power and the corruption of their ideals parallels the historical events of the Russian Revolution and the subsequent emergence of a totalitarian regime under Stalin. The novel serves as a critique of authoritarianism and the abuse of power, irrespective of religious beliefs.

1984 in a Secular Context

In *1984* George Orwell portrays a dystopian world in which the Party strives for total loyalty and devotion from individuals as a matter of state. In sustaining the Party's dominance, besides the use of physical force, there is also psychological control and distortion of any ideology that threatens its rule, including religion.

In 1984, the omnibenevolent, omnipresent Party's philosophy replaces God with the Party in what is clearly an extreme example of secularism. History and language are a few of the domains totalitarian power exercises control over. Concepts such as 'Newspeak' and 'doublethink' are even employed to bombard and control people's minds. The leader who abides by a little image and wishes and enforces love and loyalty is Big Brother, who is in this case treated as a god. Instead of the institutions championing spiritual beliefs and practices, such as religion, which seeks worship of the people in a god, the Party seeks allegiance through lies, terror, and a complete absence of Truth.

In line with the author's mindset, Big Brother, Godlike, is the only creator in 1984: "Oceanic society rests ultimately on the belief that Big Brother is omnipotent and that the Party is infallible" (Orwell, 2000). Considering the characters in Oceania reside in a secluded society, they are not under the impression that there is a deity answering the problems of how harmony, independence, and happiness do emerge or what makes it so systematic since they were living in a life that was like living in a cage, and could not see any indications of such remarkable harmony.

Orwell incorporates his own thoughts into this literature; hence within its pages one finds the author's image of the totalitarian regime. The organization that rules the society in 1984 is called the Party and it does not practice any religion. However, it makes one believe in its ideologies without any questions. Religious institutions have been outlawed. In their place, instead of a more civilized approach to people, actual ideology took upon itself the function of coercion more than any controlled religion ever had.

The Secular Struggle against Totalitarianism in 1984

The critique of Orwell on authoritarianism is extended in 1984 into a nightmarish future when the supremacy was established, not by religion, but by the State. Big Brother's Party purges all individual ideas and beliefs that could undermine his authority, expecting from its people complete allegiance and obedience. In this universe, Orwell explores secularism as the negation of every form of political, religious, or ideological order that gives birth to rigid beliefs and stifles free thought, rather than a denial of religion altogether.

In this regard, the protagonist of the novel, Winston Smith, personifies the resistance of the human spirit to any kind of oppression in the name of freedom and truth. His is a secular struggle because it is anchored on a carnal yearning for personal freedom and pursuit of the truth, bereft of conviction in faith either in religion or spirit. "What most afflicted him with the fence of nightmare was that he had never clearly understood *why* the huge imposture was undertaken. [...] He took up his pen again and wrote: I understand HOW: I do not understand WHY." (Orwell, 2000). Central to secular humanism is the concept of objective reality, which the Party directly and through institutions like the Ministry of Truth-which rewrites continuous history-challenges.

How Orwell exposes the dangers of utter domination and the centrality of intellectual freedom in 1984 serves as a perfect example of his secularism. Instead of being anti-religious, the Party is eliminating religious institutions because it cannot accept any other authority or conviction. As Orwell sees it, the totalitarian state is a god unto itself in that it demands the same unflinching loyalty and faith that more conventional religions often do. This might be best said by the character Big Brother-the central figure of the Party's cult-like adoration-is omnipresent and omnipotent, much as is a god.

The Secularization of Power and Truth

The post-apocalyptic novel 1984 explores the more detailed functioning of totalitarian rule. In this world, every single aspect of daily life is dictated by the Party, headed by the shadowy figure of Big Brother. If the Party had the power to distort truth and delete any historical fact that does not fit into the particular reality they want to create-a reality in which the idea of objective truth would simply have no meaning-then the Party held absolute totalitarian control over their population.

Orwell explores the secularization of power in his masterpiece. The Party is in power, but its authority does not rest on religious authority or divinity. It is the Party's power to distort and alter language, history, and concepts that sustains them. This is perhaps encapsulated best by the concept of "doublethink," or the ability to maintain two contradictory points of view simultaneously. Nor does the Party lean on religious fundamentalism to enforce absolute loyalty.

It also criticizes how secular ideologies that demand equal measures of loyalty could replace religious authority in totalitarian states. In a totalitarian state, the Big Brother character is an all-knowing, omnipresent secular god. Slogans like "War is Peace" and "Freedom is Slavery" resemble theological paradoxes, meant to destroy free thinking. Or, at least, Orwell's secular argument in the novel is that one can have no hold on any objective reality whatsoever in a state-controlled society. Resistance to the powers that be is all but impossible.

In *1984*, the churches are either unavailable or too inappropriate for their purpose. Only two references to the church are made in the setting of the dystopian novel, once in the rhyme which Mr. Charrington partly remembered and O'Brien completed, and secondly, when Julia prepares the meeting place for the second time after the trip. It is only a vague memory in each of these references, and literally removed from the daily lives of society, where churches are referred to in rhymes, having names such as bells:

‘Oranges and lemons,’ say the bells of St Clement’s,
‘You owe me three farthings,’ say the bells of St Martin’s,
‘When will you pay me?’ say the bells of Old Bailey,
‘When I grow rich,’ say the bells of Shoreditch (Orwell, 2000).

A crucial topic to cover when examining the work from a secular perspective is why the government wants to eradicate the religious issue from Oceania. The government should be the only authority in order to control society, and this authority should make people feel powerless. People feel strong spiritually and may rebel against the government's persecution if they continue to believe in a creator and a religion. People become more emotionally and spiritually robust when they believe in a creator and a religion. The government destroys religious components like churches and shrines because it is aware of this dangerous circumstance. In reference to the churches, it would not be incorrect to say that the atomic bombs and battles demolished the churches and, consequently, their religion, depriving the people of Oceania of any form of religious belief. The dominance of the government causes Oceania's culture to lose faith in religion, as Julia and Winston show by having sex in the church. After all of these terrible occurrences in Oceania, the scene and the physical state of the churches now clearly demonstrate the rejection of institutionalized religion:

During the month of May there was only one further occasion on which they actually succeeded in making love. That was in another hiding-place known to Julia, the belfry of a ruinous church in an almost-deserted stretch of country where an atomic bomb had fallen thirty years earlier. It was a good hiding-place [...] (p. 117).

Animal Farm and *1984* are examples of Orwell's secular critique of dogma and authority. Those in power within these worlds are comprehensively corrupted as there is no ethical or divine check on their power. Orwell's portrayal of how values may be so easily corrupted in the pursuit of power depicts his pessimism regarding human nature.

Secular themes in these narratives highlight the risks of living a life in a society where the political expedient takes precedence over moral and ethical motivations. In *Animal Farm*, the pigs behave selfishly, while the foundational ideals of the revolution—equality, justice, and freedom—are

systematically destroyed. In *1984*, the struggle for power by the Party has left individuals disarrayed and bereft, repressing even the truth itself.

Conclusion

In conclusion, George Orwell's *Animal Farm* and *1984* are incredibly deep analyses of the process of secularization and how - through the decline in the habit of religion and the growth of the habit of secularist ideologies - that could take hold and bend society to their will. First, in *Animal Farm*, Orwell examines how the use of religion-Moses and his fables about Sugarcandy Mountain-appropriates the rule of the higher class to tranquilize the oppressed. The lack of firm religious values enables the pigs to take advantage of the animals in a similar way that totalitarian regimes use ideological dogma, replacing religious belief as a means of subduing the masses. The novel illustrates how ideological systems, like religious doctrines, can be twisted and distorted to serve the ends of those in power and develop a form of servitude as manipulative as religious exploitation.

Similarly, *1984* dives deeper into what happens as a result of a completely secular state, where the Party takes the place of religion and morality with an omnipresent, god-like figure known as Big Brother. Orwell depicts a world in which religious structures have been eliminated, and the Party has a certain level of control over truth, language, and thought paralleling the function of religion in a theocratic society. Yet, this secular dominance leads not to freedom or enlightenment but to oppression and the erasure of individuality. In Orwell's emphasis, through the rebellion of the protagonist Winston against this totalitarian regime, the importance of intellectual freedom and truth in resisting oppressive forces-both religious and secular dogmas-is brought to the fore.

Both novels reveal Orwell's critique of totalitarianism from a secular viewpoint. The political and ideological structures hereinafter come to replace the traditional religious structures but retain similar mechanisms of control. It would appear that Orwell's works suggest that while religion can indeed function as a manipulative tool of oppression, it is equally possible for secularist ideologies to ossify into dogma, corrupt, and thus repressive. Ultimately, Orwell emphasizes how any system, religious or secular, that relies on blind faith and obedience will pose a risk, while sharpness of mind and individual liberty function as a check on totalitarianism. Orwell took a secularist stance in the sense that in his critique of power, control, and freedom's fragility in the modern world; he provided an enduringly perspicacious critique.

Compliance with Ethical Standards

Author Contributions

The authors contributed equally to all steps of manuscript.

Competing Interests

The authors declare that they have no competing interests.

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Analysis of the Causality between Airline Price Index and Dollar and Oil Prices

Havayolu Fiyat Endeksi ile Dolar ve Petrol Fiyatları Arasındaki Nedensellik Analizi

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Abstract

The Airline Price Index is a stock market index that monitors the stock prices of companies within the airline industry, reflecting the overall value of these airline companies. This index is an important tool for assessing the financial health, economic status, and market performance of the airline industry. This study aims to explore the causal relationships between the Airline Price Index (AIR), the Dollar Index (DXY), and Oil Prices (OIL), thereby contributing to a deeper understanding of the dynamics influencing the airline industry. In this study, a number of different Granger causality tests are employed, including the Granger causality test, the Fourier Toda-Yamamoto causality test, the Fourier Standard Granger causality test, and the Fourier Toda & Yamamoto test, as well as the cumulative frequency test and the Hatemi-J (2012) causality analysis. These are used to examine the causality relationship between AIR, OIL and DXY. The results of the analysis indicate that the expected causality relationship from OIL to AIR is not supported by the entire analysis method. In contrast, the Granger causality test results indicate that there is a unidirectional causal relationship from AIR to OIL and DXY. Furthermore, the results of the Fourier-Toda-Yamamoto and Fourier standard Granger analyses are consistent with one another. Considering these findings, it can be concluded that there is bidirectional causality between DXY and AIR. The findings of the Fourier-Toda & Yamamoto (cumulative frequency) analysis indicate the presence of a causality relationship from AIR to OIL and DXY. These findings are consistent with the results of Granger causality tests.

Keywords: Airline Index, Oil Prices, Dollar Index, Causality, Asymmetric Causality.

Öz

Havayolu Fiyat Endeksi, havayolu sektöründeki şirketlerin hisse senedi fiyatlarını izleyen ve bu havayolu şirketlerinin genel değerini yansıtan bir borsa endeksidir. Bu endeks, havayolu endüstrisinin mali sağlığını, ekonomik durumunu ve piyasa performansını değerlendirmek için önemli bir araçtır. Yakıt maliyetleri, havayolları için en önemli operasyonel giderlerden birini temsil eder ve yakıt fiyatları ile havayolu performansı arasında potansiyel bir ilişki olduğunu gösterir. Bu çalışma, Havayolu Fiyat Endeksi (AIR), Dolar Endeksi (DXY) ve Petrol Fiyatları (OIL) arasındaki nedensel ilişkileri araştırmayı ve böylece havayolu endüstrisini etkileyen dinamiklerin daha iyi anlaşılmasına katkıda bulunmayı amaçlamaktadır. Bu çalışmada, Granger nedensellik testi, Fourier Toda-Yamamoto nedensellik testi, Fourier Standart Granger nedensellik testi ve Fourier Toda & Yamamoto testinin yanı sıra kümülatif frekans testi ve Hatemi-J (2012) nedensellik analizi de dahil olmak üzere bir dizi farklı Granger nedensellik testi kullanılmıştır. Bunlar AIR, OIL ve DXY arasındaki nedensellik ilişkisini incelemek için kullanılmıştır. Analiz sonuçları, OIL'den AIR'e doğru beklenen nedensellik ilişkisinin tüm analiz yöntemi tarafından desteklenmediğini göstermektedir. Buna karşın, Granger nedensellik testi sonuçları AIR'den OIL ve DXY'ye doğru tek yönlü bir nedensellik ilişkisi olduğunu göstermektedir. Ayrıca, Fourier-Toda-Yamamoto ve Fourier standart Granger analizlerinin sonuçları birbiriyle tutarlıdır. Bu bulgular göz önünde bulundurulduğunda, DXY ile AIR arasında çift yönlü nedensellik olduğu sonucuna varılabilir. Fourier-Toda & Yamamoto (kümülatif frekans) analizinin bulguları AIR'den OIL ve DXY'ye doğru bir nedensellik ilişkisinin varlığına işaret etmektedir. Bu bulgular Granger nedensellik testlerinin sonuçları ile tutarlıdır.

Anahtar Kelimeler: Havayolu Endeksi, Petrol Fiyatları, Dolar Endeksi, Nedensellik, Asimetrik Nedensellik.

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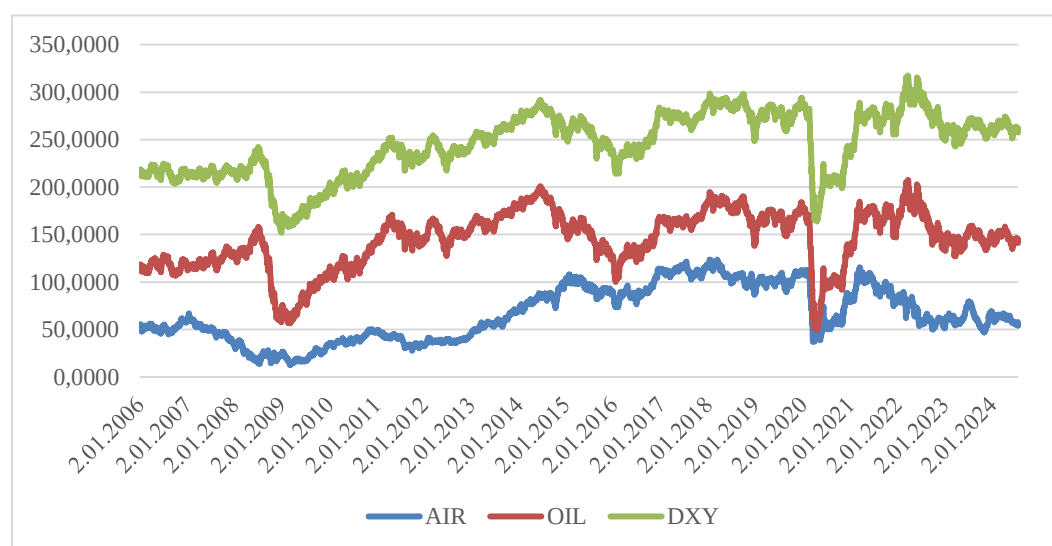
Analysis of the Causality between Airline Price Index and Dollar and Oil Prices

Among the various expenses faced by airlines, labour and jet fuel emerge as the two most significant cost drivers. Historically, labour has constituted the largest portion of an airline's overall costs. However, there has been a notable shift in this balance, with jet fuel increasingly becoming the largest cost. The rise in the cost of jet fuel has been accompanied by a notable increase in price volatility. This has resulted in not only a significant rise in fuel costs as a percentage of total expenditure, but also a marked acceleration in the growth of fuel expenditure in both nominal and real terms (Turner & Lim, 2015). Given the significant role that fuel prices play in the cost structure of airlines, fluctuations in these prices have a direct impact on the profitability, pricing strategies and overall performance of the industry. The price of fuel is set in U.S. dollars on a global scale. Consequently, the dollar index, which indicates the strength or weakness of the dollar relative to other currencies, will also exert an influence on fuel prices. These facts provide insights into the potential causal relationships between fuel prices, the dollar index, and the airline price index. It is reasonable to posit that an increase in the price of oil will have a negative effect on the price of airline stocks. This is because an increase in fuel prices will result in higher operational costs for airlines, which will in turn lead to a decline in the value of airline shares. The extent of the change in airline share prices is contingent upon the proportion of airline costs represented by the price of oil (Kristjanpoller & Concha, 2016).

The global economy has experienced a series of exceptional periods of expansion and contraction over the past decade. Periods of exceptional economic expansion have been succeeded by severe crises (Shehzad et al., 2020). These cycles of high volatility have a differential impact on each market, with the fuel and financial markets being particularly susceptible. The production and price of fuels have reached unprecedented levels, with repercussions across different markets and sectors (Peng et al., 2020). The financial market has been subjected to numerous assaults as a consequence of global events and has also played a pivotal role in this tumultuous period. Furthermore, technological advancement has facilitated the acceleration and expansion of transactions, thereby enabling speculation and capital investment across diverse sectors (Sukharev, 2020). Figure 1 presents a graphical representation of the relationship between the airline index, oil prices and the dollar index.

Figure 1

AIR, OIL, DXY volumes (2006-2024)



Source: Thomson Reuters, 2024

Figure 1 illustrates the temporal evolution of three distinct variables. The airline index has demonstrated a general upward trajectory since 2006, although it did experience a significant decline in 2020. This period also coincides with the global impact of the SARS-CoV-2 pandemic, which had a detrimental effect on the airline industry. While there has been a degree of recovery since that time, it is acknowledged that the global level has not yet returned to its previous position. The orange line, which represents oil prices, also demonstrates a comparable degree of volatility. In 2008, the price of oil reached its highest point, after which it declined sharply. In 2020, a notable decline was once again observed, followed by a subsequent recovery. These fluctuations are typically contingent upon global economic conditions and the equilibrium between supply and demand for oil. The DXY is a measure of the relative strength of the US dollar against other major currencies. The chart demonstrates that this index demonstrated greater stability than the other two variables, yet still exhibited a notable decline in 2020. Subsequently, the index exhibited a rapid recovery, attaining a higher level than that observed prior to the decline. In conclusion, the chart illustrates the influence of global occurrences in 2020 on these three variables. While sectors such as AIR and OIL exhibited substantial declines, the DXY index demonstrated greater resilience and a more rapid recovery. In general, the declines and rises occurred in parallel during the period under observation.

The existing literature includes studies that examine the relationship between airline stock prices and various macroeconomic variables. In these studies, the relationships between airline stock prices and oil prices and gold prices (Kaya, 2021), between airline stock returns and fuel price fluctuations (Kristjanpoller & Concha, 2016), and between airline stock prices and oil prices (Saleh, 2012; Kathiravan et al., 2019; Asadi et al., 2023) have been examined. Furthermore, additional studies have been conducted which examine the relationship between the Transportation Index and variables such as oil, exchange rate change and GDP (Zelka & Yıldırım, 2022). Another area of study is the relationship between exchange rate, interest rate and stock index (Alıcı, 2020). Similar studies have been conducted in other industries. For example, Ruan et al., (2016), Xu et al., (2022) and Chen et al., (2023) examine the relationship between the Baltic Dry Index, a widely used measure of maritime transportation costs, and crude oil prices. Bai & Koong (2018) concentrate on the interrelationship between real oil prices, exchange rate fluctuations and stock market returns.

While there are studies in the literature that examine the causal relationships between selected variables, there is a dearth of research that investigates the interconnections between AIR, OIL, and DXY simultaneously, particularly with the inclusion of the airline index as a direct variable. In light of the aforementioned information, the objective of this study is to elucidate the causal relationships between the AIR, OIL and DXY. In order to achieve this, the causality tests that are most commonly used in the literature are employed, and the results are then interpreted in comparison.

This study has the potential to contribute to the existing literature in terms of the time period it covers and the number of observations used. The existing literature has examined the relationship between the stocks of one or more airlines and oil prices. This study, unlike the studies in the literature, examines the relationship between the Airline Price Index, which represents a significant portion of airlines, and oil prices. In addition, it contributes to the literature in terms of integrating the dollar index into the Airline Price Index. To the best of our knowledge, no previous study has examined the causal relationships in a holistic manner by integrating the dollar index and oil price variables together. In this context, this study aims to fill the gap in the existing literature by offering a new perspective that facilitates a deeper understanding of the connections between macroeconomic variables through the integration of a new variable.

This study, which employs an empirical methodology to examine the causal relationship between AIR and OIL and DXY, is divided into four sections. In the second section, the existing literature on this

subject is reviewed in order to contextualise the present study. The third section comprises a description of the data, variables and methods employed in the study. The fourth section presents the empirical findings, which test the causality between variables. The final section presents the conclusions and recommendations pertaining to the research.

Literature Review

This study examines the causal relationship between AIR and OIL and DXY. The literature is divided into two sections. In the initial phase of the study, a comprehensive review was conducted to identify studies that analyse airline stocks from diverse perspectives. This study is therefore expected to fill this gap in the existing literature. In the second part of the literature, studies examining the relationship between stock market index, dollar index and oil prices are presented in a table (see Table 1). As illustrated in table, a considerable number of studies in the existing literature examine the relationship between the stock market index and the dollar index and oil prices. On the other hand, our review of the literature did not find any study analysing the relationship between the airline index and the dollar index and oil prices in terms of causality. Therefore, this study is expected to make a valuable contribution to the existing literature.

In their study of investor confidence in airline stocks, Goh & Rasli (2014) employed the CAPM beta and event study methodologies to examine the confidence placed in the shares of Air Asia and Singapore Airlines during the Asian crisis that spanned from 2007 to 2009. The study yielded the conclusion that investor confidence in Air Asia was higher. Additionally, the study revealed that Air Asia's stock return is less susceptible to adverse stock market conditions. Kristjanpoller & Concha (2016) investigated the correlation between the stock returns of 56 airlines affiliated with the International Air Transport Association (IATA) and traded on the stock exchange and the change in WTI crude oil prices using the GARCH model for the period between January 2008 and October 2013. The findings of the study indicate that daily fluctuations in oil prices exert a positive influence on the performance of airline stocks. Yun & Yoon (2019) investigated the relationship between the stock prices of airlines in China and South Korea (Korean Air, Asiana Airlines, Air China and China Eastern Airlines) and international crude oil prices (WTI, Brent, Dubai) utilising the VAR-GARCH-BEKK model based on data spanning from 03.09.2007 to 14.08.2017. The return spillover effect between the variables is analysed with the Vector Autoregression (VAR) model, whereas the volatility spillover effect is analysed with the generalized autoregressive conditional heteroscedasticity-based exponential generalized autoregressive conditional heteroscedasticity model. The findings of the study indicate that the stock prices of small airlines in South Korea and China exhibit heightened sensitivity to fluctuations in oil prices. Furthermore, it was determined that the stock prices of airlines in China are more susceptible to fluctuations in oil prices. Kathiravan et al., (2019) investigated the relationship between the stock price of six Indian airlines (Air India, Go Air, IndiGo, Jet Lite, Jet Airways and Spice Jet) and the global crude oil price (Brent, Dubai and WTI). The study employed Granger causality analysis based on data spanning from 1 January 2007 to 30 November 2018. Consequently, the researchers concluded that there is a causal relationship between oil prices and airline stocks. In their study, Alici & Sevil (2020) investigated the relationship between the stock prices of 28 airline companies and their internal financial factors, including total assets, financial leverage, acid-test ratio, operating profit margin, and beta value. They employed panel data analysis and panel VAR analysis methods based on data from 2005 to 2018 to examine these relationships. The panel data analysis revealed that the total assets factor exerts a positive influence on airline stock prices, whereas the financial leverage factor exerts a negative influence. The panel VAR causality results indicate a bidirectional relationship between the total assets variable and the airline stock price. Conversely, the results demonstrate a unidirectional causality between the beta value and the acid test ratio variables and the stock price. Özdurak (2020) examined

the effect of crude oil price on Turkish Airlines and Pegasus Airlines stock prices and BIST transport index. VAR-VECH-TARCH models were used in the study and daily data between 02.01.2015 and 03.06.2020 were taken as basis. According to the results of the study, there is no return spillover effect between crude oil prices and airline stock prices. In addition, the volatility spillover effect between crude oil prices and airline stock returns is more pronounced than the return spillover effect. Killins (2020) examined the relationship between stock returns of railways and airlines in Canada and the USA and oil price movements based on the period between 2000:01-2018:08. Fama-French 5-factor model was used in the study. As a result of the study, it was found that railways in Canada and airlines in the United States were negatively affected by the price increase in WTI (West Texas Intermediate). It is also observed that airlines' stock returns respond asymmetrically to oil price fluctuations and that information about oil price movements diffuses over time.

Mollick & Amin (2021) conducted an analysis of the relationship between seat occupancy growth rate and oil price return (WTI) and airline stock returns of 33 airlines in the US. The analysis was based on data from 1990 to 2019 and employed the Fama–French 5-factor model. The study revealed that an increase in seat occupancy growth rate and airline stock returns is associated with a positive effect on airline stock returns, whereas an increase in oil prices is associated with a negative effect on stock returns. Kang et al., (2021) employed the Structural Vector-Autoregressive (SVAR) model to analyse the impact of oil prices and economic policy uncertainty on stock returns in the US air transportation sector, utilising both industry-level and firm-level data. The analysis is based on data from the period 1985 to 2017. The findings of the study indicated that the rise in oil prices and economic policy uncertainty had a detrimental impact on the stock returns of airline companies in the US, both at the industry level and the firm level. In a study conducted by Jeon (2021), the impact of tourism uncertainty, including economic policy uncertainty (EPU) and travel crises caused by epidemics and terrorism, on airline stocks in Korea was examined over the period 2001-2018. The application of the Quantile Regression (QR) method revealed that EPU and travel crises had a detrimental impact on the valuation of airline stocks in Korea. Kaya (2021) analysed the relationship between the stocks of Turkish Airlines and Pegasus Airlines and gold prices, exchange rate and oil prices. The study was based on daily data between 26.04.2013-03.02.2021 and analysed using the Hatemi-J (2012) asymmetric causality test. As a result of the study, it was determined that there is a significant asymmetric causality relationship from selected macroeconomic variables to stocks. Atems (2021) investigated the effects of shocks in the global crude oil and US jet fuel markets on the US airline industry by separating demand and supply shocks. In the study, the Structural Vector Autoregressive (VAR) method was used based on the data between 2000:1 - 2019:12. According to the findings, it is determined that jet fuel demand shocks have positive effects on the US aviation industry, but the effects of jet fuel supply shocks are generally negative.

Dar (2022) employed the wavelet methodology to investigate the potential sustainable relationship between oil prices and the stocks of three Indian airlines (Interglobe Aviation, Jet Airways and Spicejet) traded on the Indian stock exchange. The study yielded no evidence of a sustainable relationship between crude oil prices and airline stocks over the long term. Guliyev (2022) investigated the relationship between the stock prices of airline companies in Turkey and the stock prices of US and European airline companies. In the study, the researchers employed the techniques of Cointegration Analysis and Causality Tests, specifically the Toda & Yamamoto Granger Causality Test and the Flexible Toda & Yamamoto Causality Test, based on the daily closing stock price data between 2016:01-2020:06. The results of Maki's (2012) cointegration test with multiple unknown structural breaks indicate the existence of a long-run relationship. Furthermore, a unidirectional causal relationship is identified from the US and European airline markets to the Turkish airline market, while a bidirectional causal relationship is observed between the US and European airline markets. Hoş & Özbek (2022) employed the volatility

spillover effect between Brent oil prices and airline stock returns using the Diagonal VEC-GARCH method based on the data for the period 29.07.2013-31.10.2022. As a result of the study, it is found that there is a significant volatility spillover from Brent oil volatility to Aegean, AirFrance, Lufthansa, Turkish Airlines and Pegasus Airlines. In their 2022 study, Horobet et al., (2022) examined the relationship between oil price risk and the stock prices of 25 passenger airlines and 5 cargo airlines. In the study, a panel ARDL model and PMG estimator were employed based on data from 2007 to 2020. The study revealed that the stock prices of airline companies were adversely impacted by oil price risk. Asadi et al., (2023) employed the ARMA-MFE model to examine the relationship between the Brent oil price and the stocks of eight airline companies, utilising data from 27.04.2007 to 01.07.2021. The study's findings indicate that short-term (daily) fluctuations in oil prices exert a negative influence on airline stock returns, whereas long-term (weekly) oil price changes exert a positive influence. Furthermore, low-cost carriers are more susceptible to fluctuations in oil prices. Felix et al., (2023) analysed the impact of various futures instruments against oil price risk on the stock returns of 22 Asia Pacific airline companies in the time period covering 2010:09 - 2019:09. Accordingly, fixed effect panel and quantile regressions were used. According to the findings, oil price risk has negative effects on airline stock returns. In addition, it is concluded that gold futures have an effective hedging feature on airline stock returns compared to oil and VIX futures in mitigating oil price risk. Choi & Choi (2023) aimed to present a model that predicts the stock price of American Airlines (AA). In this context, the oil price data between 04.01.2016-14.04.2023 is taken as a basis. LSTM (Long Short-Term Memory) method was used by determining the economic and technical information of oil as a feature. As a result of the analyses, the MSE (Mean Squared Error) value for American Airlines stock closing price forecasts was 0.00049.

The impact of economic factors, including global energy prices, the Brent crude oil price, the BIST100 index, the price of gold, the USD exchange rate, and inflation, on the stock prices of Turkish Airlines was examined by Akusta (2024) over the period between November 2011 and July 2023. The study employed the Autoregressive Distributed Lag (ARDL) method to ascertain whether there were statistically reliable and significant links between THY's stock price performance and economic factors. Yüzbaşıoğlu (2024) examined the relationship between the stock prices of Turkish and some European airlines (Turkish Airlines, Air France, Swiss International Air Lines, Lufthansa, KLM Royal Dutch Airlines, Finnair, Aegean Airlines) and the fluctuations in crude oil prices using the ARDL method based on data from the period 2012 to 2022. The study revealed a statistically significant cointegration relationship between the fluctuations in crude oil prices and the stock prices of airline companies. Cai et al., (2025) investigated the effects of oil price shocks on both the return and volatility of aviation stocks. Generalized Forecast Error Variance Decomposition (GFEVD) method was used in the study and the data between 2005:11-2023:09 were taken as basis. According to the findings, economic activity shocks have a greater impact on airline stock returns than other oil price shocks. Ullah et al., (2025) analysed the volatility spillover relationship between oil returns and airline sectors in G2 economies (China and the United States) in the context of three major crisis events: US-China trade tensions, COVID-19 and Russia-Ukraine conflict. Based on daily data from January 2014 to November 2023, the analysis was carried out using asymmetric DCC-GARCH, BEKK-GARCH and continuous wave fit analysis methods. According to the analyses based on the GARCH model family, it is found that the G2 airline industries are based on past volatility and oil market fluctuations have a long-term impact on the aviation industry.

Although previous studies have examined the relationships between oil prices, currency indices, and airline indices using causality tests, these analyses have primarily been conducted at a bilateral level, such as DXY-OIL, DXY-stock prices, or OIL-stock prices. To the best of our knowledge, no prior research has simultaneously investigated the causality among DXY, OIL, and AIR within the same

framework. This study addresses this gap by exploring the tripartite causal relationships among these variables, providing a more comprehensive understanding of their interconnected dynamics. Moreover, by utilizing a daily dataset and an extended time period, our analysis offers a more granular perspective, contributing to the literature beyond standard bilateral causality assessments.

Data and Methodology

The objective of this study is to examine the causal relationship between the Airline Price Index (AIR), the Brent Crude Oil (OIL) price, and the Dollar Index (DXY). The study employs data from the variables on a daily basis, spanning the period between 2 January 2006 and 19 July 2024. The study employed a total of 4,840 observations for each series. The data employed in the study were sourced from the Thomson Reuters Refinitiv database. To ensure consistency in the study, multiple causality analyses were employed. In this context, the Granger causality test, the Fourier-Toda-Yamamoto causality test, the Fourier standard Granger causality test and the Fourier-Toda-Yamamoto test (cumulative frequency) were employed. Furthermore, the asymmetric causality test proposed by Hatemi-J (2012) was employed to investigate the causal relationship by decomposing the positive and negative shocks in the series, thereby elucidating the impact of positive or negative shocks in the series.

In order to examine the causality relationship between the variables and to correctly identify this relationship, it is also necessary to examine the stationarity of the series. As stated by Brooks (2008), a stationary series must exhibit a constant mean, variance, and autocovariance. Prior to commencing the causality analyses, the stationarity of the series is evaluated, that is to say, whether the series contain unit roots. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, which are the most commonly employed unit root tests, were employed in the stationarity analysis. The ADF test is a parametric unit root test, whereas the PP test is a non-parametric test (Phillips & Perron, 1988; Zelka & Yıldırım, 2022).

Similar methods were used to confirm the model's accuracy, and the relationship between the variables was tested this way. Granger causality analysis is a frequently used and useful model that enables the determination of causality between series. Furthermore, it should be noted that Granger causality analysis requires the series to be stationary at the same level. Additionally, the result obtained may vary according to the lag length initially selected (Yılancı & Bozoklu, 2014; Kiracı, 2019). This requirement and the model's inability to overcome situations with structural breaks are the weaknesses of the model. While ignored structural breaks may cause misspecification in the test model of Granger causality, the Fourier form is helpful in testing for smooth structural change in a VAR model, increasing test reliability under nonlinearity (Enders & Jones, 2015). In the Froudier-Toda-Yamamoto causality analysis, the validity of the causality analysis was supported by the internal detection of structural changes and their incorporation into the model (Emek, 2024). In contrast, Fourier standard Granger causality analysis represents an enhanced iteration of the Granger causality analysis, as it facilitates the estimation and incorporation of previously undocumented structural breaks into the model (Enders & Jones, 2015). The Fourier Toda-Yamamoto cumulative frequency test was developed as a useful model that eliminates the issues that may arise from unit root and cointegration tests in Granger causality analyses (Zapata & Rambaldi, 1997; Kazak, 2023). The Hatemi-J causality analysis, which is another method employed in the study, is a useful model in terms of distinguishing between cumulative negative and cumulative positive shocks and facilitating the examination of asymmetric causality (Büberkökü & Şahmaroğlu, 2016).

Table 1

Studies Analysing the Relationship between Stocks and Dollar Index and Oil Prices

Authors	Period	Index	Variables	Methodology	Causality
Seshaiah & Behera (2009)	02.01.1991-12.12.2007	Indian stock market prices (BSE Sensex)	Exchange rates Crude oil prices	Engel-Granger cointegration test	Crude oil price $\Rightarrow$ BSE Sensex Exchange rates $\Rightarrow$ BSE Sensex
Gazel (2016)	2006:M01-2016:M02	BIST100	Gold Price	Granger causality test	Gold Price $\Rightarrow$ BIST 100
Jain & Biswal (2016)	2006–2015	BSE Sensex 30	Gold price Crude oil prices USD/INR exchange rate	Krystou–Labys non-linear causality test	BSE Sensex30 $\Leftrightarrow$ Gold price Crude oil price $\Rightarrow$ INR Crude oil price $\Rightarrow$ BSE Sensex 30
Kendirli & Çankaya (2016)	04.01.2000-30.04.2015	BIST 100 XULAŞ	Crude oil prices	Granger causality test	BIST 100 $\Rightarrow$ Oil price BIST 100 $\Rightarrow$ XULAŞ XULAŞ $\Rightarrow$ Oil price
Coşkun et al., (2016)	2005:M01-2015:M09	BIST (Istanbul stock exchange index)	Interest rate Exchange rate Exports Imports Industrial production index Gold price	Granger causality test	BIST $\Rightarrow$ Industrial production index BIST $\Rightarrow$ Export BIST $\Rightarrow$ Import Exchange rate $\Rightarrow$ BIST
Sandal et al., (2017)	2005:M01-2015:M12	BIST 100	Crude oil prices Gold prices	Granger causality test	Gold prices $\Rightarrow$ BIST 100
Bakhsh & Khan (2019)	1997:M09-2018:M04	Pakistan stock index	Gold price Crude oil price Exchange rate	Granger causality test	Exchange rate $\Rightarrow$ Stock index Crude oil price $\Rightarrow$ Exchange rate Gold price $\Rightarrow$ Exchange rate
Kiracı (2020)	03.01.2000-24.07.2018	XULAŞ	Dollar index (DXY) Oil price (PETRL)	Granger causality test Hatemi -J (2012) asymmetric causality test	DXY $\Rightarrow$ XULAŞ XULAS ⁺ $\Rightarrow$ DXY ⁺ PETRL ⁻ $\Rightarrow$ XULAS ⁻ PETRL ⁺ $\Rightarrow$ XULAS ⁺ DXY ⁻ $\Rightarrow$ XULAS ⁻
Alıcı (2020)	04.07.2006 - 31.12.2019	XULAS BIST 100	Exchange rate Interest rate	Toda-Yamamoto causality test Hatemi -J (2012) asymmetric causality test	Exchange rate $\Rightarrow$ BIST 100 Exchange rate $\Rightarrow$ XULAŞ DKUR ⁺ $\Leftrightarrow$ BIST100 ⁺ DKUR ⁻ $\Leftrightarrow$ BIST100 ⁻ XULAS ⁻ $\Rightarrow$ DKUR ⁻ FAİZ ⁺ $\Rightarrow$ BIST 100 ⁺
Ocaklı (2020)	2000:M01-2019:M12	BIST 100	Gold price Oil price	Granger causality test	BIST 100 $\Rightarrow$ Gold price Gold price $\Rightarrow$ Oil price

Table 1 (continue)*Studies Analysing the Relationship between Stocks and Dollar Index and Oil Prices*

Authors	Period	Index	Variables	Methodology	Causality
Ali et al., (2021)	2003:M01-2018:M12	KSE 100 index	Oil prices Gold prices Foreign exchange rate	Pairwise Granger causality test	KSE 100 $\Rightarrow$ Exchange rate Oil price $\Rightarrow$ Gold price
Demirkale & Can (2021)	2008:M01-2020:M12	BIST tourism index	Interest rate Oil price USD/TL	Granger causality test	Interest rate $\Leftrightarrow$ BIST tourism
Kelesbayev et al., (2022)	2016:M01-2021:M06	Kazakhstan stock exchange (KASE) Real exchange rate	Brent crude oil prices	Granger causality test	Real exchange rate $\Rightarrow$ KASE closing price Oil price $\Rightarrow$ Real exchange rate
Zelka & Yıldırım (2022)	2002/Q1-2020/Q4	BIST transportation index	GDP Exchange rate Brent oil price	Granger causality test	Oil price $\Rightarrow$ GDP GDP $\Rightarrow$ BIST transportation index Exchange rate $\Rightarrow$ BIST transportation index
				Hsiao causality test	GDP $\Rightarrow$ BIST transportation index Exchange rate $\Rightarrow$ BIST transportation index Oil price $\Rightarrow$ BIST transportation index
Tuna (2022)	11.03.2020-13.09.2021	BIST 100	Oil price Gold price VIX index	Toda-Yamamoto causality test	Oil price, $\Leftrightarrow$ BIST 100 Gold price $\Leftrightarrow$ BIST 100 VIX index $\Leftrightarrow$ BIST 100
Hawiwika et al., (2022)	2016:M01 - 2021:M04	Indonesia composite index (ICI)	Brent oil prices Gold prices Exchange rates (USD/IDR)	VECM model Granger causality test	ICI $\Rightarrow$ Exchange rate
Soyu-Yıldırım (2023)	1997:M02-2022:M09	BIST tourism index	VIX (Volatility index) GEPU index Brent oil index Dollar index	Fourier TY causality analyses	Dollar index $\Rightarrow$ BIST tourism
				Fractional Fourier TY causality analyses	VIX $\Rightarrow$ BIST tourism index Dollar index $\Rightarrow$ BIST tourism index BIST tourism index $\Leftrightarrow$ Brent oil index BIST tourism index $\Leftrightarrow$ GEPU index
Das (2023)	1.04. 2013 - 30.09.2022	Indian stock market	Crude oil price Exchange rates	Pairwise Granger causality test	Exchange rates $\Leftrightarrow$ Crude oil price Sensex $\Leftrightarrow$ Crude oil price Sensex $\Leftrightarrow$ Exchange rate
Coşkuner & Özer (2024)	2010:M01-2021:M12	BIST 100	Exchange rate Inflation	Granger causality test	BIST100 $\Rightarrow$ Exchange rate BIST 100 $\Rightarrow$ Inflation
Sizer (2024)	2003: Q1-2023: Q3	BIST 100	Exchange rates (USD) Gold prices (GOLD) Interest rates (INT)	Hatemi-J (2012) asymmetric causality test	BIST100 ⁺ $\Rightarrow$ GOLD ⁺ USD ⁻ $\Rightarrow$ BIST100 ⁻ INT ⁻ $\Rightarrow$ BIST100 ⁻

Some important changes that could lead to structural breaks have occurred during the study period. The mortgage crisis that started in the USA in 2008 later turned into a global financial crisis, wars in different parts of the world, and travel restrictions imposed due to the COVID-19 pandemic that started at the end of 2019 are some of the events that are estimated to have had a significant impact on air transportation. Therefore, employing a Granger causality analysis, which does not handle structural breaks well, is not enough, and it would be helpful to use the Fourier models.

Under the condition of nonlinearity of data and possible structural breaks, all three of Fourier models are useful. With the Fourier causality approach, it is possible to accurately predict the number of breaks, the form, and the date of breaks and to continue the analysis accordingly (Enders & Jones, 2015). The Fourier Standard Granger causality test is similar with Fourier causality but enhances traditional Granger causality by allowing smooth nonlinear break. The cumulative frequency approach of Fourier is helpful in modelling structural breaks with the ability to capture them without requiring prior knowledge about numbers, dates, and forms of breaks (Nazlioglu et al., 2016). As mentioned above, The Hatemi-J causality analysis is beneficial because it distinguishes between cumulative negative and cumulative positive shocks and facilitates the examination of asymmetric causality (Büberkökü & Şahmaroğlu, 2016).

Within the scope of the study, structural breaks were detected using the Akaike Information Criterion. Since models that take structural breaks into account were used, the problems caused by structural breaks in this data set were resolved with Fourier models. The period in which daily data for the variables in the study data set could be reached constitutes the analysis period.

A brief explanation of the methods given below.

Granger (1969) Causality Test

Granger causality analysis is used to test whether the information in one variable series can be estimated using the information in another variable series. Granger (1969) explains y_t as an exogenous variable and z_t as an endogenous variable if y_t is the cause of z_t . The F-statistic is used to test whether the hypothesis H_0 , which states that there is no causality between the variables, is accepted (Zelka & Yıldırım, 2022). The equation used for Granger causality analysis is given below, where T is the time value and p is the number of unknown parameters (Zelka & Yıldırım, 2022).

$$F(p, T - 2p - 1) = \frac{\sum_{i=1}^T \hat{\mu}_{2t}^2 - \sum_{i=1}^T \hat{\mu}_{1t}^2 / p}{\sum_{i=1}^T \hat{\mu}_{1t}^2 / (T - 2p - 1)}$$

Prior to conducting a Granger causality analysis, it is essential to ensure that the series in question is stationary at the requisite level and that the appropriate lag length has been determined. The effects of negative and positive shocks in the series included in the analysis are considered to be the same in the analyses performed with this method, which may lead to misleading results (Yılancı & Bozoklu, 2014; Kiracı, 2019).

Fourier Toda–Yamamoto Causality Test (Enders & Jones, 2015)

In the Fourier Toda–Yamamoto causality test, it is recommended that, following the determination of appropriate lag length and frequency values, the hypotheses, which states that there is no causality

relationship between the variables and is to be tested using the F-test statistic (Konat, 2021; Nazlioglu, 2016).

Fourier Standard Granger Causality Test (Enders & Jones, 2015)

Enders & Jones (2015) integrate Gallant's (1981) Fourier methodology with the conventional Granger causality assessment to develop a model that permits the representation of structural breaks through the utilisation of a few low-frequency components, even in the absence of prior awareness of structural breaks.

Fourier Toda & Yamamoto Test - Cumulative Frequency (Nazlioglu et al., 2016)

Toda and Yamamoto (1995) eliminate the test problems in Granger causality analysis according to the power and size characteristics of unit root and cointegration tests. They provide a useful method by ignoring stationarity mismatch or cointegration, which are problems encountered in Granger causality analysis (Zapata & Rambaldi, 1997; Kazak, 2023). The single-frequency Toda–Yamamoto test is the preferred option when the number of samples is approximately 50, whereas the cumulative frequency Toda–Yamamoto test is deemed more reliable when the number of samples is 100 or greater (Gormus et al., 2018).

Hatemi-J (2012) Causality Test

In the Hatemi-J (2012) test and the Toda-Yamamoto (1995) causality test, the level value of the series is taken into account. However, in the Hatemi-J causality analysis, the asymmetric causality relationship between the variables is permitted, that is, the cumulative negative and cumulative positive shocks belonging to the original series can be separated from each other, allowing for an examination of whether an increase in one variable causes an increase in another, and a decrease in one causes a decrease in the other (Büberkökü & Şahmaroğlu, 2016).

Empirical Findings

In this study, the Granger (1969) causality test, the Fourier Toda-Yamamoto causality test (Enders & Jones, 2015), the Fourier Standard Granger causality test (Enders & Jones, 2015), the Fourier Toda & Yamamoto test - cumulative frequency (Nazlioglu et al., 2016) and the Hatemi-J (2012) causality analyses were employed to investigate the causal relationship between the Airline Price Index (AIR) and Brent Crude Oil (OIL) and the Dollar Index (DXY). In the context of causality analysis, it is essential to ascertain whether the series in question are integrated at the same level. In this context, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests, which are widely used in the literature, were employed to ascertain the stationarity of the variables.

The descriptive statistics of the variables are presented in Table 2. The mean value of the Airline Price Index is 66.678, with a maximum value of 123.65 and a minimum value of 12.700. The lowest recorded value of the Airline Price Index was observed during the 2008-2009 global financial crisis. The highest value of the Airline Price Index is observed in 2018, which precedes the outbreak of the global pandemic caused by the SARS-CoV-2 virus. Brent Crude Oil is a significant determinant of global oil prices. The data for this variable exhibits a maximum value of 143.60 and a minimum value of 5.620. The highest value of Brent Crude Oil was reached in July 2008. In March 2022, the value approached the maximum value. The lowest value was reached in 2020, when production activities were almost entirely halted due to the global impact of the SARS-CoV-2 pandemic. The maximum value of the Dollar Index was 125.12, while its minimum value was 81.348. The Dollar Index reached its lowest point in 2011, when

the US Federal Reserve maintained interest rates at 0.25%. It can be observed that the Dollar Index reached its highest level in late 2022 as a consequence of the Federal Reserve's recent interest rate hike, which was implemented in order to control the rising inflation that was caused by the global pandemic of Coronavirus.

Table 2

Descriptive Statistics

	AIR	OIL	DXY
Mean	66.678	77.791	100.776
Median	60.480	74.925	102.648
Maximum	123.65	143.60	125.12
Minimum	12.700	5.620	81.348
Std. Dev.	28.761	25.100	10.702
Skewness	0.1212	0.1749	-0.0296
Kurtosis	1.8233	2.2214	1.6960
Jarque-Bera	291.09	146.92	343.61
Probability	0.0000	0.0000	0.0000
Observations	4840	4840	4840

Table 3

Unit Root Test Results

	ADF - Test Statistics (Level)		ADF - Test Statistics (1st Difference)	
	Constant	Constant and Trend	Constant	Constant and Trend
AIR	-1.6453	-1.6956	-67.6749*	-67.6708*
OIL	-2.3255	-2.3666	-66.9627*	-66.9559*
DXY	-1.0419	-3.0451	-69.0607*	-69.0648*
	PP - Test Statistics (Level)		PP - Test Statistics (1st Difference)	
	Constant	Constant and Trend	Constant	Constant and Trend
AIR	-1.7559	-1.8535	-3.4315*	-67.7378*
OIL	-2.3255	-2.3666	-3.4315*	-66.9396*
DXY	-1.039	-3.0431	-3.4315*	-69.0634*
	KPSS - Test Statistics (Level)		KPSS - Test Statistics (1st Difference)	
	Constant	Constant and Trend	Constant	Constant and Trend
AIR	4.3396	1.1584	0.0975*	0.0741*
OIL	0.8539	0.5595	0.0574*	0.0561*
DXY	6.4726	0.6335	0.1411*	0.0636*

Table 3 presents the results of the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP), and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root tests. The results indicate that all variables are non-stationary at their level values. Consequently, the stationarity of the series was reassessed by taking the first difference of the variables. Based on these recalculations, it can be concluded that the series became stationary after the first difference was applied.

Table 4 presents the results of the causality analysis. The Airline Price Index is a stock market index that tracks the stock prices of companies in the airline transport industry and thus represents the total value of airline companies. This index may be regarded as a valuable indicator for gauging the collective financial and economic standing, as well as the market performance, of the airline transport industry. One of the most significant operational expenses for airlines is fuel costs. It may therefore be expected that there is a relationship between fuel prices and airline performance. Nevertheless, a multitude of factors influence the stock index. The findings of the analysis indicate that there is no causal relationship between oil and airline prices, contrary to the expectation based on the entire analysis method. The results of the Granger causality test indicate that AIR is the Granger cause of OIL and DXY. The results of the Fourier-Toda-Yamamoto and Fourier standard Granger analyses are in accordance with one

another. It can be demonstrated that there is a bidirectional causality relationship between the US dollar exchange rate (DXY) and the airline index (AIR), as well as between the AIR and the DXY.

Table 4

Causality Test Results

Causality test				Test stat.	p-value
Granger causality	OIL	⇒	AIR	14.768	0.2540
	DXY	⇒	AIR	13.058	0.3650
	AIR	⇒	OIL	32.915	0.0010
	AIR	⇒	DXY	66.749	0.0000
Fourier Toda–Yamamoto	OIL	⇒	AIR	14.803	0.2520
	DXY	⇒	AIR	32.883	0.0010
	AIR	⇒	OIL	13.008	0.3680
	AIR	⇒	DXY	67.029	0.0000
Fourier Standard Granger	OIL	⇒	AIR	14.432	0.2740
	DXY	⇒	AIR	33.609	0.0010
	AIR	⇒	OIL	12.91	0.3760
	AIR	⇒	DXY	67.589	0.0000
Fourier Toda & Yamamoto (cumulative frequency)	OIL	⇒	AIR	8.683	0.2760
	DXY	⇒	AIR	2.296	0.3170
	AIR	⇒	OIL	27.888	0.0000
	AIR	⇒	DXY	62.17	0.0000

Table 5

Hatemi-J (2012) Asymmetric Causality Test Results

Direction of Causality			MWALD Stat	Bootstrap Critical Values		
				1%	5%	10%
<i>OIL</i> ⁺⁺	⇒	<i>AIR</i> ⁺⁺	4.582	9.827	5.859	4.551
<i>DXY</i> ⁺⁺	⇒	<i>AIR</i> ⁺⁺	9.099	8.233	6.023	4.476
<i>AIR</i> ⁺⁺	⇒	<i>OIL</i> ⁺⁺	0.343	9.159	5.629	4.420
<i>AIR</i> ⁺⁺	⇒	<i>DXY</i> ⁺⁺	0.868	11.052	6.362	4.769
<i>OIL</i> ⁻⁻	⇒	<i>AIR</i> ⁻⁻	4.419	12.62	8.468	6.428
<i>DXY</i> ⁻⁻	⇒	<i>AIR</i> ⁻⁻	11.685	8.546	5.779	4.497
<i>AIR</i> ⁻⁻	⇒	<i>OIL</i> ⁻⁻	10.379	11.032	7.341	6.196
<i>AIR</i> ⁻⁻	⇒	<i>DXY</i> ⁻⁻	2.332	8.939	5.847	4.667

The study also encompassed an investigation into the impact of cumulative positive and negative shocks on the variables. In this context, the results of the asymmetric causality analysis conducted by Hatemi-J (2012) are presented in Table 5. The results of the analysis indicate the presence of a unidirectional causality relationship from positive shocks in OIL to positive shocks in AIR at the 10% significance level. At the 1% level of significance, a unidirectional causality relationship is observed, whereby positive shocks in DXY lead to positive shocks in AIR. Furthermore, at the same level of significance, a unidirectional causality relationship is identified from negative shocks in DXY to negative shocks in AIR. Ultimately, the results of the analysis indicate that there is a unidirectional causality relationship from negative shocks in AIR to negative shocks in OIL at the 5% significance level. The occurrence of sudden developments (shocks) in global markets has the potential to exert an influence across a range of sectors. A number of factors, including war, pandemic, fluctuations in oil supply, interest rate decisions by central banks, and market intervention, can simultaneously influence a range of variables. In this context, it is anticipated that shocks in the markets will have an impact on variables. The results of the study offer substantial evidence that the DXY and AIR variables interact in an asymmetric causality relationship, as evidenced by the analysis of the causality relationship.

Discussion

The findings of this study elucidate the causal relationship between the airline index (AIR), the dollar index (DXY) and oil prices (OIL). A comparison of the findings with those of similar studies in the literature reveals both consistency and the contribution of this study to the existing literature. Firstly, the relationship between oil prices and the airline index has been the subject of extensive examination in the existing literature. Kilian & Park (2009) demonstrate that the real stock returns in the United States exhibit divergent reactions contingent on whether the surge in oil prices is driven by supply or demand forces. This study lends further support to this finding by demonstrating that fluctuations in oil prices exert a Granger causality relationship on AIR. Similarly, Bagirov & Mateus (2019) conducted an analysis of the impact of oil prices on firm markets and stocks, and their findings indicated that changes in energy costs have a direct impact on sectoral performances. Asadi et al., (2023) evaluate the link between airline stock returns and fuel prices based on airline business models, emphasising that the business model may play an important role in this relationship and that low-cost airlines are more sensitive to changes in oil prices. Yun & Yoon (2019) posited that the impact of crude oil prices on industries is contingent upon the level of dependence on crude oil within each sector. They further emphasised that the airline industry, which bears a significant portion of its costs in fuel, is particularly susceptible to fluctuations in crude oil prices. The related research indicated that the stock prices of small airline companies exhibit a relatively stronger response to changes in oil prices. The results of our study also demonstrate the impact of oil price shocks on the airline index.

The discovery of a bidirectional causal relationship between the U.S. dollar index and the airline industry index represents a significant contribution to the existing literature on this topic. Oum & Yu (1998) highlight those fluctuations in exchange rates exert a considerable influence on the cost structure of airline companies, with this impact being particularly pronounced for firms engaged in international operations. The existence of a bidirectional causality relationship indicates that the airline industry is not only affected by changes in the dollar exchange rate, but also that the performance of the airline industry can affect the dollar exchange rate. Kang et al., (2021) corroborate the assertion that the escalation in oil prices, economic uncertainty and volatility in jet fuel prices exert a considerable negative influence on the tangible stock returns of airlines at both the sector and the firm level. Alici (2024) identifies a significant relationship between the dollar exchange rate and oil price variables and the stock prices of airline companies. In the separate causality analyses conducted for each airline in the study, it was observed that the dollar exchange rate was the cause of stock prices for nine airlines. In the case of two airlines, there is evidence of bidirectional causality. The present study offers a more comprehensive insight into the interaction between the exchange rate and the airline index, conceptualising this relationship as bidirectional.

Furthermore, the financial performance of the airline sector during periods of crisis is corroborated by the findings of this study. For example, Maneenop & Kotcharin (2020) examined the impact of the Covid-19 pandemic on airline companies and concluded that crisis periods make the financial vulnerabilities of companies more apparent. The findings of our study indicate that positive and negative shocks during crisis periods (such as the global financial crisis, the impact of the SARS outbreak, and the Russia-Ukraine conflict) give rise to significant causal relationships within the sector. This finding corroborates the assertion that the airline sector is particularly susceptible to substantial economic and political shocks, as emphasised by Sobieralski (2020). Concurrently, substantial fluctuations in oil prices give rise to considerable cost constraints within the sector, as evidenced by historical precedent (Wang & Gao, 2020).

The results of the Hatemi-J (2012) asymmetric causality test also indicate that shocks have asymmetric effects on the airline index. In particular, the observation that the effects of positive and negative shocks

are in opposite directions suggests that the vulnerabilities and recovery processes of the sector may vary depending on the type of shock. This finding is consistent with the results of previous studies that have examined the financial performance of airline companies during periods of crisis. For instance, as indicated in the IATA (2020) report, the abrupt declines and subsequent recovery processes of the global pandemic in the airline industry have exhibited notable variations contingent on the specific type of external shock. The findings of our study align with those of previous research on crisis phases and exogenous shocks.

The impact of changes in oil prices on the airline industry is clear. Fluctuations in oil prices can directly affect the operational costs of airline companies and put pressure on ticket prices and profitability. This situation can be more pronounced, especially for airlines with higher operational costs. In addition, the relationship between oil prices and the airline index emphasizes the importance of airline companies using fuel price protection strategies (hedging) in risk management. Therefore, it is strategically important for airlines to take measures to stabilize energy prices in addition to protection strategies. For investors, the future performance of stocks in the airline industry can be examined based on the relationship between exchange rates and oil prices. Especially for airlines operating internationally, changes in the dollar index can affect stock performance.

The airline industry is significantly impacted by fluctuations in oil prices, which can have significant implications for financial planning and risk management. The bidirectional causality between the U.S. dollar index and the airline index indicates that exchange rate fluctuations affect airline financial performance and the overall health of the airline sector. This is particularly relevant for international operations, where firms must consider exchange rate dynamics when making strategic decisions. The strong causal relationship between oil prices and airline stocks underscores the need for robust risk management strategies, integrating both currency exchange rates and oil price trends to mitigate financial risks. Policymakers should consider exchange rate interventions or fuel price stabilization mechanisms to reduce cost pressures on airlines during economic uncertainty. Financial regulators and central banks should also consider the aviation sector's vulnerabilities when designing macroeconomic policies.

Conclusion

The objective of this study is to elucidate the causal relationship between the airline index, the dollar index and oil prices. The study employs data from the variables on a daily basis, spanning the period between 2 January 2006 and 19 July 2024. Accordingly, 4,840 observations of each series were subjected to analysis. The study employed a range of causality tests, including the Granger causality test, the Fourier-Toda-Yamamoto causality test, the Fourier standard Granger causality test, and the Fourier-Toda-Yamamoto test (cumulative frequency) causality tests. The current study is different from similar studies in the literature and is expected to contribute to the literature. The study employed daily data for each series, which allowed for a greater number of observations and more robust results. Finally, the study employed multiple causality analyses with different econometric backgrounds.

The results of the Granger causality analysis indicate that AIR is the Granger cause of OIL and DXY. Furthermore, the outcomes of the Fourier-Toda-Yamamoto and Fourier-standard Granger analyses were found to be concordant with one another. The results of both analyses indicate the presence of a bidirectional causality relationship between DXY and AIR, as well as between AIR and DXY. The findings of the Fourier Toda & Yamamoto (cumulative frequency) analysis indicate the presence of a causality relationship from AIR to OIL and DXY. These findings are consistent with the results of the Granger causality test. In light of these findings, it can be concluded that the results of the causality analysis are generally consistent with one another. The bidirectional causality between the airline index

and the foreign exchange index stems from the direct impact of exchange rate fluctuations on the financial structure of airline companies. Changes in exchange rates affect the costs (e.g. fuel, leasing and maintenance expenses) and revenues of airline companies, thereby fluctuating stock prices. Moreover, the main reason for the causality from oil prices to the airline index is that fuel costs are one of the largest operational expenses for airlines. Increases in oil prices can negatively affect market values by reducing the profitability of companies.

The findings of the asymmetric causality analysis conducted by Hatemi-J (2012) indicate that there is a unidirectional causal relationship between positive shocks in OIL and positive shocks in AIR at a 10% significance level. Furthermore, the results indicate a unidirectional causality from positive shocks in DXY to positive shocks in AIR at the 1% significance level. In addition, at the 1% significance level, a unidirectional causality relationship is identified from negative shocks in DXY to negative shocks in AIR. The impact of economic crises and geopolitical events on the sector is related to the tendency of investors to avoid risky assets in times of uncertainty, with the airline industry being highly sensitive to demand fluctuations. Large-scale shocks, such as global financial crises and pandemics, directly affect the revenues and operations of the airline industry, leading to significant fluctuations in market values.

In consideration of the findings, several policy and strategic implications can be proposed. In view of the bidirectional causality between the airline index and the dollar index, it is recommended that airline companies and policymakers closely monitor currency fluctuations and hedge against exchange rate risks in order to maintain financial stability. Furthermore, the identified causality from oil prices to the airline index suggests that fluctuations in global oil prices significantly impact airline stock performance. It is therefore recommended that airlines implement effective fuel hedging strategies and explore alternative energy sources in order to mitigate risks associated with oil price volatility. Furthermore, the results highlight the impact of economic crises and geopolitical events on the airline industry. Consequently, policymakers and relevant stakeholders within industry are compelled to formulate more resilient financial strategies and establish contingency plans to ensure the sustainable growth of the aviation sector.

There are some limitations to this study. Although the Airline Price Index (AIR) includes many airlines, the findings cannot be generalized to all airlines, as each has a unique financial structure and operates within different market dynamics. Consequently, policy implications may vary across airlines. Additionally, the Airline Price Index (AIR) does not encompass the stock prices of all airlines. Repeating the analysis for a broader range of airlines, including state-owned carriers and those not publicly traded, may yield different results. Therefore, this study acknowledges these limitations while striving to maximize the insights derived from the available data.

Compliance with Ethical Standards

Ethical Approval

Ethics committee approval is not required for this study.

Author Contributions

The contributions to the manuscript are as follows: M.Y. was responsible for the Introduction and Data Collection, and contributed to Writing – Original Draft Preparation and Writing – Review and Editing. C.A. contributed to the Literature Review, Writing – Original Draft Preparation, and Writing – Review and Editing. K.K. handled the Empirical Findings, Discussion, and Formal Analysis, and contributed to Writing – Original Draft Preparation and Writing – Review and Editing. A.Z. contributed to the Methodology, Writing – Original Draft Preparation, and Writing – Review and Editing.

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Redefining Spaces for Youth: Libraries as the New Social Hubs

Gençler İçin Alanların Yeniden Tanımlanması: Yeni Sosyal Merkezler Olarak Kütüphaneler

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Abstract

Libraries are increasingly being recognized not only as academic spaces but also as "third places" that support socialization, personal development, and well-being—particularly for young people. This study examines the multifaceted role of libraries in the lives of young people, emphasizing their function beyond education to include spaces for relaxation, cultural participation, and interpersonal interaction. The research specifically focuses on how libraries are experienced and perceived by young individuals aged 18 to 30 who are active library users in Istanbul. Designed as a qualitative study, data were collected through in-depth interviews with participants, whose narratives were audio-recorded, transcribed, and thematically analyzed using MAXQDA (2024 version). The findings highlight the crucial role of libraries in supporting both educational achievement and social connectivity among youth. Based on these insights, the study argues for the redesign of library spaces to better meet the evolving needs of young people—particularly in terms of digital infrastructure, social interaction areas, and cultural programming. The study underscores the importance of public policies that promote the transformation of libraries into multifunctional, inclusive environments that contribute to youth development. In doing so, libraries can enhance social cohesion, support personal growth, and improve quality of life within communities.

Keywords: Youth Studies, Libraries, Third Spaces, Qualitative Research.

Öz

Kütüphaneler, günümüzde yalnızca akademik mekânlar olarak değil, aynı zamanda gençlerin sosyalleşme, kişisel gelişim ve iyi oluş süreçlerini destekleyen "üçüncü mekânlar" olarak da giderek daha fazla önem kazanmaktadır. Bu çalışma, kütüphanelerin gençler için çok yönlü işlevini incelemekte; eğitimin ötesinde, dinlenme, kültürel katılım ve kişilerarası etkileşim alanları olarak üstlendikleri rollere odaklanmaktadır. Araştırma, İstanbul'da aktif olarak kütüphane kullanan 18-30 yaş arası genç bireylerin kütüphane deneyimlerini ve bu mekânlara yönelik algılarını merkezine almaktadır. Nitel bir araştırma olarak tasarlanan çalışmada, veriler derinlemesine görüşmeler yoluyla toplanmış; görüşmeler ses kaydıyla belgelenmiş ve deşifre edilen veriler MAXQDA (2024 sürümü) programı kullanılarak tematik analiz yöntemiyle değerlendirilmiştir. Bulgular, kütüphanelerin gençlerin hem akademik başarılarını hem de sosyal bağlarını desteklemede önemli bir rol oynadığını ortaya koymaktadır. Bu bağlamda çalışma, kütüphanelerin dijital altyapı, sosyal etkileşim alanları ve kültürel programlar gibi çeşitli ihtiyaçlara cevap verebilecek şekilde yeniden tasarlanması gerektiğini vurgulamaktadır. Araştırma, kütüphanelerin gençlerin gelişimine katkı sağlayan çok işlevli ve kapsayıcı mekânlara dönüştürülmesini destekleyen kamu politikalarının önemine dikkat çekmektedir. Bu dönüşüm sayesinde kütüphaneler, topluluklar içinde sosyal bağları güçlendiren, bireysel gelişimi destekleyen ve yaşam kalitesini artıran önemli aktörler haline gelebilir.

Anahtar Kelimeler: Gençlik Çalışmaları, Kütüphaneler, Üçüncü Mekan, Niteliksel Araştırma.

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Redefining Spaces for Youth: Libraries as the New Social Hubs

Spaces carry different meanings for individuals, groups, and communities. This study examines libraries as spaces for social interaction, cultural capital, and civic engagement, extending beyond their traditional functions of knowledge acquisition, reading, and research. Libraries are defined as "third places"—spaces where individuals spend time outside of home and work, forming social connections and expressing themselves. In this context, libraries have evolved into important venues where young people not only access academic information but also engage socially, interact, and strengthen community bonds.

The aim of this research is to investigate the factors influencing the transformation of libraries into third places through young people's library usage. When assessed in terms of social practices and the meanings attributed to spaces, libraries emerge as crucial environments for supporting youth civic participation and personal development. The study focuses on understanding how young people perceive and use libraries not just as educational tools, but as third places that provide opportunities for social and cultural interaction. In other words, the central focus of the research is on how young people use libraries and the social, cultural, and educational impacts libraries have on them. Additionally, the study explores how libraries support youth participation and personal growth, how current policies shape this process, and the expectations young people have regarding libraries. A key question of the study is whether libraries can serve as an intermediary space to foster young people's social engagement.

Historically, libraries have held significant value for societies. This study argues that, in the context of the digitalization of access to information and integration with artificial intelligence, libraries should become spaces that offer not only educational resources but also social interaction and personal development for young people. Libraries are increasingly recognized not only as academic tools but as social spaces where young people can strengthen social ties, express themselves, and contribute to their personal growth. Therefore, public policies aimed at youth well-being should approach library design with this perspective, as it could positively influence the social cohesion of young people. The study aims to contribute to the literature and provide insights for policymakers by examining youth policies, library usage, and the concept of third places together.

As of 2023, according to statistics released by the Presidential National Library, there are a total of 627 university libraries in Turkey, including 477 state and 150 foundation university libraries. The number of registered members in university libraries has increased by 5.3%, reaching 4,199,285, while the number of people benefiting from public libraries has increased by 25.3%, reaching 33,561,919, compared to the previous year (<https://data.tuik.gov.tr/Bulten/Index?p=Kutuphane- Istatistikleri-2023-53655>, Update Date: 10.12.2024). These data indicate that libraries are not only spaces for acquiring knowledge but also important public spaces for civic engagement. As libraries continue to shape social life in urban areas and serve people of various age groups, they provide more spaces for social activities and interactions, especially as young people increasingly utilize libraries.

In this context, the research questions are as follows:

- How do young people use libraries as third places, and how do they evaluate the social, cultural, and educational opportunities these spaces offer?
- How do libraries support youth civic participation, personal development, and social interaction, and how do current youth policies interact with these processes?

Libraries as Third Places: A Social and Cultural Perspective

The concept of "third places," as introduced by sociologist Ray Oldenburg in 1989, has been widely discussed in sociological and cultural studies. Oldenburg defines third places as public spaces that exist outside the home (the "first place") and the workplace or school (the "second place"), where individuals voluntarily engage in social interactions, strengthen community ties, and spend leisure time. These spaces are critical for fostering social connections and supporting a vibrant public life, offering a place for individuals to meet, converse, and interact beyond the confines of their private and professional lives.

According to Oldenburg (1989), third places play a crucial role in maintaining healthy social structures. These environments offer opportunities for people to establish relationships, create shared meanings, and engage in cultural and social activities. The most typical examples of third places include cafés, parks, public libraries, and other public gathering spaces. These spaces transcend social boundaries, uniting individuals from diverse socio-economic, cultural, and professional backgrounds, and often providing a sense of belonging and community (Purnell, 2015). As comfortable and inviting spaces, third places are essential for both individual well-being and societal cohesion, as they help improve mental health, promote safety, and foster a sense of community (Mehta & Bosson, 2010; Kuno, 2011).

Within the context of libraries, the notion of third places is particularly relevant. Recent trends show that libraries are transforming from places primarily focused on the pursuit of knowledge into venues for social engagement, identity formation, and the strengthening of social connections, especially among youth. Libraries provide a unique environment where both academic and social lives converge, offering opportunities for young people to engage in meaningful social interactions, develop their sense of self, and establish ties with others (Golten, 2019).

Libraries serve not only as knowledge hubs but also as vital social spaces where individuals can build relationships, engage in cultural activities, and develop a sense of community. Especially in urban settings, they offer safe and accessible environments that support young people's social development and participation (Hernon & Matthews, 2011).

Libraries are especially important as third places for university students. Waxman et al. (2007) describe libraries as third places that enable students to socialize, relax, and experience social diversity. These spaces support more than just academic development; they also provide opportunities for students to engage in social interactions, participate in cultural activities, and foster a sense of community (Bosman & Dolley, 2019). In this way, libraries contribute to the creation of a safe, comfortable environment where social bonds are strengthened and community ties are reinforced. Libraries today are valued not only as academic resource centers but also as spaces that foster personal development, cultural engagement, and social interaction. Especially for young people, they offer a balanced environment that supports both focused study and meaningful social experiences (Lippincott, 2007; Oldenburg, 1989). Thus, libraries act as dynamic third places that strengthen social ties while supporting academic achievements. However, the role of social interaction in library settings can sometimes have mixed effects on productivity. Some studies have found that socializing in libraries can reduce focus and efficiency, especially when students are distracted by others (Cohen, 2010). On the other hand, many individuals report that studying alone in libraries is more productive, suggesting that personal study environments often foster greater concentration (Guthrie & Wigfield, 2000). Nevertheless, solitary study can lead to feelings of loneliness, which may reduce engagement with the library (Buldaç & Kalay, 2023; Vårheim, 2012).

In addition to providing quiet study environments, libraries also offer spaces that encourage collaboration and interaction. The design of libraries plays a crucial role in promoting these interactions. As noted by Kneebone (2017) the quiet zones in libraries have a positive impact on academic performance by minimizing distractions. The integration of digital infrastructure in libraries, such as providing access to fast internet and digital resources, is increasingly important for meeting the diverse needs of users. The physical environment of libraries is another critical factor that impacts user satisfaction and engagement. Furthermore, accessibility is a key consideration for libraries, particularly in large cities where space limitations can impact the user experience. Studies suggest that 24-hour access to libraries is crucial for students and academics, who often require flexible access to library resources (Yılmaz, 2003). In addition, the safety of the library's surrounding environment can influence users' engagement with the library, and libraries that are integrated with natural surroundings tend to have positive effects on both physical and psychological well-being (Kaplan & Kaplan, 1989).

As public spaces, libraries serve as meeting points where people learn about others who may be different from themselves. Aabø et al. (2010) suggest that libraries function as safe, neutral spaces where people are exposed to the complexities of multicultural society and have opportunities to learn about cultural diversity. In the digital age, libraries have expanded their role as third places by offering online platforms for social interaction. Digital media and internet access allow libraries to extend their reach beyond physical spaces, providing users with virtual spaces for engagement, interaction, and learning (Vårheim, 2012). This shift has further enhanced libraries' role as third places, particularly for young people who are increasingly integrated into the digital world. Libraries not only support the acquisition of knowledge but also facilitate social ties, cultural participation, and personal development. The digital transformation of libraries has become especially evident during the COVID-19 pandemic, when libraries shifted to online platforms to continue supporting education and research while physical spaces were closed. This digital shift has reinforced libraries' role as centers for learning and social interaction, demonstrating their adaptability in a rapidly changing world (Özgüven & Beygirci, 2022). Moreover, the integration of cyber-physical systems in libraries has made information access faster and more efficient, contributing to the growing importance of digital spaces for knowledge exchange (Kavak, 2023). Designing library spaces that encourage social interaction is essential for promoting community engagement. Eyüboğlu and Zorlu (2021) examine the balance between personal space and territoriality in libraries, arguing that designs that facilitate more relaxed and open social interaction are critical. Furthermore, an ergonomic and accessible library design can make it easier for users to engage socially, strengthening the library's role as a third place (Gedikçi Öndoğan, 2018; Yıldız, 2019). Libraries are multifaceted spaces that contribute to the social fabric of society by encouraging interaction, fostering cultural ties, and supporting community development. They are not merely repositories of information but serve as essential places where individuals strengthen their sense of belonging, build social capital, and contribute to the community's cultural and social growth (Kurlgan & Meriç, 2019; Acartürk & Akkaya, 2022; Wojciechowska, 2021). Libraries support both the academic and social needs of young people, helping them balance their intellectual pursuits with their need for social engagement and relaxation (Bayter, 2018; Baker, 2019).

To provide a clearer understanding of the diverse roles that libraries play, the wide range of functions attributed to them in the literature can be grouped under a few overarching categories. These include academic support, such as access to resources and quiet study environments; social interaction, encompassing opportunities for collaboration, communication, and community-building; cultural engagement, through programs, events, and inclusive spaces; and technological adaptation, including digital infrastructure and hybrid spaces. Organizing the literature along these themes helps to reduce repetition, clarify the multifaceted nature of libraries as third places, and highlight the evolving

expectations of young users. This structured approach also aligns more clearly with the study's aim of examining how libraries can meet both the academic and social needs of youth in contemporary contexts.

Method

This study is qualitative research conducted with young individuals aged 18-30 living in Istanbul who are active library users. The aim of the research is to understand how young people use libraries as "third places" and how these spaces contribute to their social, cultural, and personal development. The participants' experiences, their views on library use, and their social interactions were explored in depth.

The age group of 18-30 represents a period in young people's lives characterized by both intense academic activity and social development, making it an ideal cohort to explore the social and cultural impacts of libraries. Participants were selected using a purposive sampling method, a qualitative sampling strategy that ensures the selection of individuals who meet specific criteria aligned with the research purpose. Accordingly, young individuals who actively use libraries and engage in social interactions within these spaces were chosen. Although the participants' demographic characteristics, such as age, gender, and socio-economic status, varied, no significant differences in the use of libraries were observed based on these factors. Therefore, demographic details regarding age or gender differences were not specifically highlighted in the analysis, as they did not emerge as relevant variables for the study's objectives. All participants were individuals who regularly used the library and participated in social interactions there.

The data collection process was conducted through semi-structured in-depth interviews. This method allows participants the flexibility to freely express their thoughts while also providing a structured framework for gathering information related to specific themes pertinent to the research. The interviews were conducted face-to-face and lasted approximately 45-60 minutes each. During the interviews, participants were asked about their library usage habits, reasons for visiting the library, experiences of social interactions within the library, the role of libraries as "third places," and how these spaces contribute to their social and cultural development. Additionally, the participants were questioned about how the time spent in the library contributed to their social relationships, personal development, or participation in cultural activities.

After the data collected through audio recordings were transcribed, the analysis was conducted using the MaxQda Analysis Program. The analysis focused on how participants used libraries as social spaces, the forms of social interactions that took place, and the impact of libraries on personal development. These themes were examined considering the research questions, with the goal of richly reflecting the participants' experiences related to their use of libraries.

Before conducting the interviews, ethical approval was obtained from the Social and Human Sciences Research Ethics Committee of Istanbul University-Cerrahpaşa. Informed consent was obtained from all participants prior to the interviews. The study was then carried out using qualitative methods. The primary aim of the research is to explore the relationship between young people's non-academic motivations for visiting libraries and their social participation. Through this examination, the contribution of libraries to young people's social engagement will be discussed. Ethical principles were followed throughout the research process: participants' identities were kept confidential, and written consent was obtained for all interviews. Participation was voluntary, and measures were taken to ensure that participants did not experience any harm during the research process.

Results

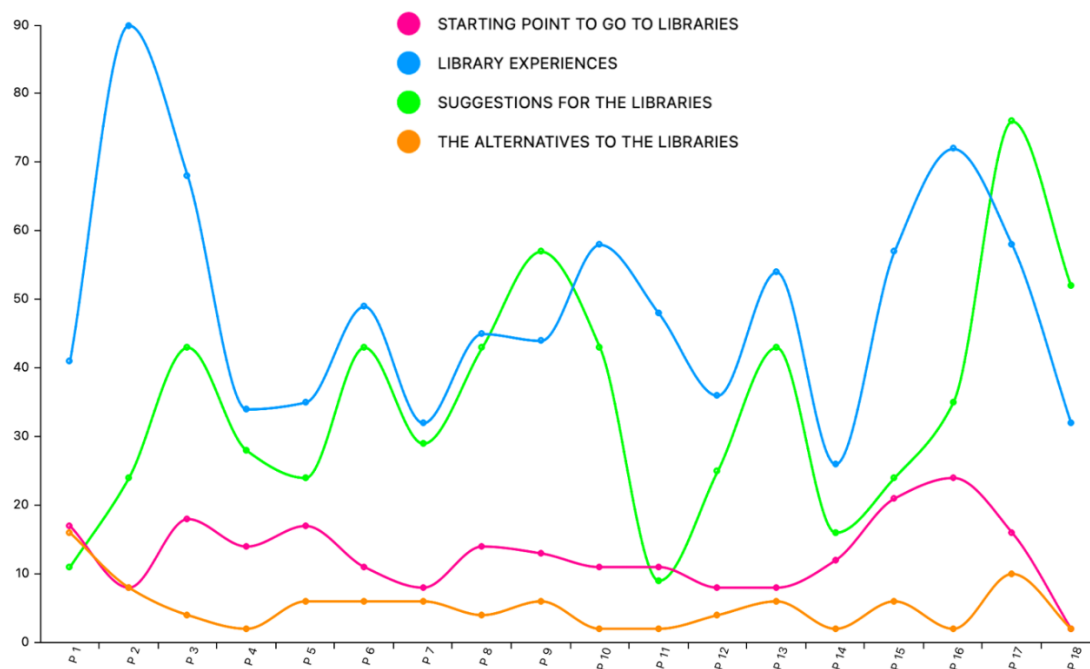
The Findings section includes both visual representations and graphs derived from the analysis of the collected data, as well as tables containing participant quotations. These elements collectively present the key results of the study, highlighting the various themes and patterns that emerged regarding how young people use libraries as "third places" and how these spaces contribute to their social, cultural, and personal development. The data analysis reveals the ways in which libraries serve as social hubs for interaction, learning, and growth, offering insights into the participants' experiences and perspectives.

The thematic analysis of the interviews conducted as part of the study revealed four main themes. These themes were developed by focusing on participants' discussions regarding their motivations for visiting libraries, their activities within library spaces, their suggestions for improving libraries, and the alternative spaces that might fulfill similar functions.

Graphic 1 presents the narrative intensity of each participant within the main themes, highlighting the extent to which individual participants engaged with each thematic area.

Graphic 1

The Distribution of Four Main Themes According to Participant Profiles

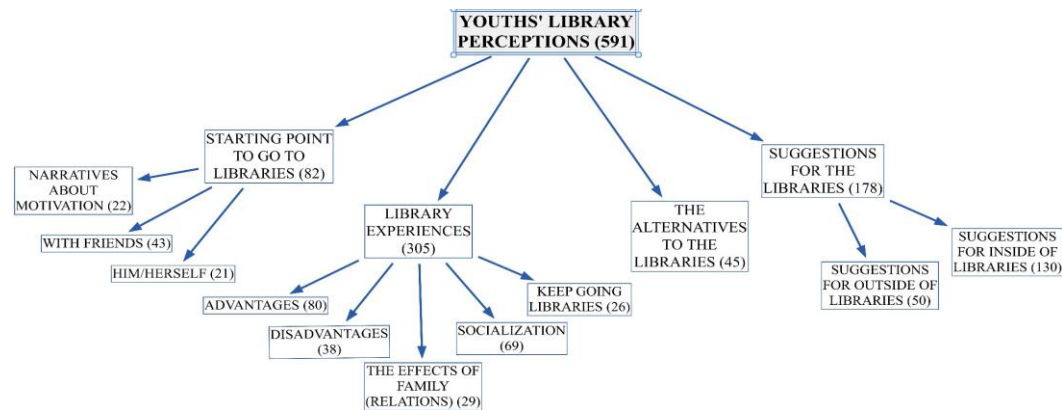


The progression of the four main themes across the 18 interviews conducted in the study is illustrated in Graphic 1. The theme *the alternative to the libraries* is characterized by a similar density of responses across participants, but it is less frequently discussed compared to the other themes. A similar trend is observed in the *starting point to go to libraries* theme, where participants P15 and P16 provide more detailed narratives compared to the others. On the other hand, the themes *Suggestions for the libraries* and *Library experiences* show the highest narrative density, with notable variations in the intensity of responses across participants. While the themes *the alternatives to the libraries* and *starting point to go to libraries* exhibit similar levels of narrative intensity among participants, the themes *Suggestions for the libraries* and *Library experiences* contain narratives where participants express differing opinions and are not in agreement with each other.

The four main themes, along with their associated sub-themes (except alternatives to libraries), are illustrated in Figure 1. Subthemes related to *Alternatives to libraries* are also included and visualized separately (Figure 2).

Figure 1

Hierarchical Code-Subcode Model

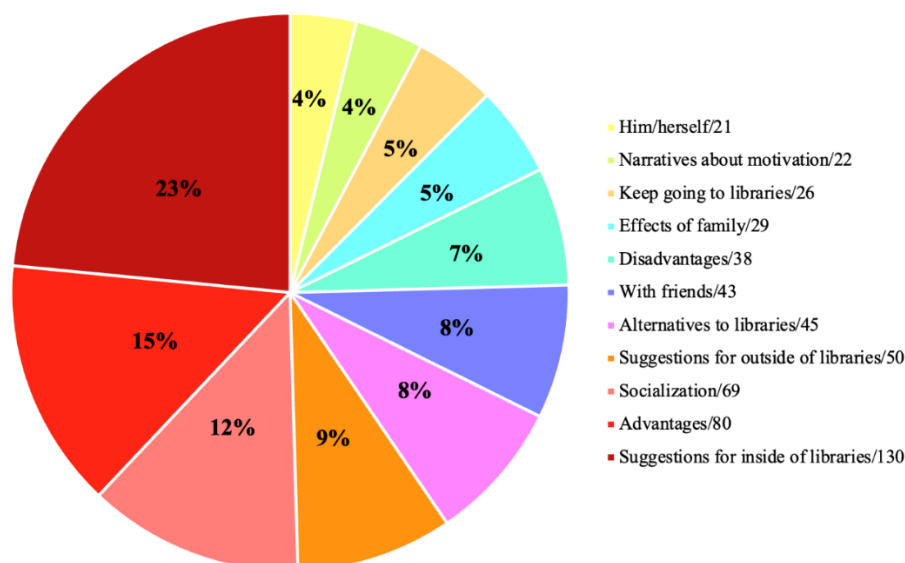


As seen in Figure 1, the study is organized around four main themes. The *Starting point to go to libraries* theme includes narratives regarding the motivations for going to the library, specifically the reasons participants go alone or with friends. The distinction between going alone and going with friends can be explored in the context of socialization processes related to library use. The second main theme is *Library experiences*. This theme encompasses subthemes such as the advantages and disadvantages of libraries, their relation to socialization processes, the influence of family, and the perception of continuing or discontinuing library visits. The *Suggestions for the libraries* theme focus on the interior design of libraries and outdoor planning. Subthemes related to *Alternatives to libraries* are also included and visualized separately (Figure 2)

Graphic 2 illustrates the intensity of sub-themes that emerged during the coding of the interviews conducted in the study.

Graphic 2

Youths' Library Perceptions



As seen in Graph 2, the most frequent responses concern the interior design of libraries, with 23% of participants offering suggestions for improvements. These suggestions include ideas on layout, facilities, ambiance, and resources, indicating that young people are particularly invested in enhancing the library environment. The second most common response (14%) focuses on the advantages of libraries, such as access to knowledge, quiet study areas, and free resources, although this is less emphasized compared to suggestions for improvement. Socialization emerged as another key theme, with 12% of respondents highlighting the role of libraries as spaces for social interaction. A smaller portion (9%) suggested changes to outdoor library spaces or surrounding areas, pointing to the need for greater community engagement. Similarly, 8% of responses mentioned alternative study or social spaces outside libraries, like cafes or parks, indicating a shift toward informal environments. Another 8% noted the importance of being at the library with friends, reinforcing the social nature of library use. On the other hand, 7% of participants pointed out library disadvantages, such as outdated facilities or lack of resources for social activities. Family influence (5%) and personal motivations (4%) were also noted, suggesting that family attitudes and individual goals shape library use. Finally, 1% of respondents discussed the influence of social relationships on library attendance.

Overall, the findings suggest that young people perceive libraries not only as academic spaces but also as venues for social engagement. The desire for improved interior spaces (23%) and the importance of social interactions (20%) highlights a demand for more modern, flexible environments. As libraries face competition from alternative spaces like cafes and parks, they may need to adapt by integrating more collaborative and informal spaces. Family influence and personal motivations also play a role in library use, pointing to opportunities for libraries to engage both young people and their families in shaping library services.

Figure 2 is a code matrix that illustrates how young people's perceptions of libraries are shaped across different categories and how libraries compare to alternative social spaces.

Figure 2

Code Matrix of The Alternatives to the Libraries

Code System	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11	P 12	P 13	P 14	P 15	P 16	P 17	P 18
YOUTHS'S LIBRARY PERCEPTIONS																		
THE ALTERNATIVES TO THE LIBRARIES																		
cafes																		
places for socialization																		
student stations																		
parks																		
culture centers																		
green places																		
malls																		

In terms of alternative spaces and the preferences of young people, most participants indicated a preference for socializing spaces (e.g., places where young people gather) as alternatives to libraries (P1-P8, P13, P15, P16, P17). However, some participants (P3, P4, P10, etc.) did not prefer these alternatives. Cafés were observed to be the most chosen alternative spaces. From P1 to P17, the majority of participants mentioned that cafés function as social spaces. Only participant P18 stated that they preferred not to use cafés as an alternative to libraries.

The "student stations" category received very few responses. Most participants (P2-P18) did not consider or use student stations as alternative spaces. Parks, on the other hand, emerged as an alternative space for some young people (P5, P7, P12, P15), although they were generally less

preferred (P1, P3, P4, P6, P8, etc.). Responses regarding cultural centers were also quite low (P13, P18), suggesting that cultural centers are not particularly appealing as alternatives to libraries for young people. Shopping malls were identified as an alternative to libraries by some participants (P3, P6), but this option was also generally less favored. Green spaces were chosen as an alternative by a few participants (P2, P5), but the overall trend remained low.

Social spaces outside of libraries, especially cafés, emerged as the primary alternatives preferred by young people. This indicates that young people do not view libraries solely as places for obtaining information or studying; rather, they also seek spaces for social interaction. Cafés, in particular, are seen as a crucial alternative for socializing. The reason young people may prefer cafés could be their ability to create social environments, relax, and spend time with friends. Spaces like parks and cultural centers, which can offer more opportunities for social interaction and cultural activities, were less preferred. This suggests that young people's interest in such spaces is not yet strong enough to compete with alternatives like cafés.

Understanding why young people prefer social spaces outside of libraries is crucial for developing spaces and public policies that meet their expectations. Transforming libraries into more social and dynamic environments could better address young people's needs. The perceptions young people have regarding alternative social spaces outside of libraries provide valuable insights for the development of libraries and youth policies. Libraries can be reimagined not only as places for information gathering but also as dynamic spaces where young people can engage in social interaction.

The data derived from the word cloud (Figure 1) highlight young people's perceptions and priorities regarding libraries and social interaction. This cloud can help us understand which themes are more prominent and how the social, cultural, and practical aspects of library experiences are shaped.

Figure 3

Word Cloud of Most Repeated 40 Words



Words (can be seen in Figure 1) such as socialization and friend suggest that young people view libraries as spaces for social interaction and that spending time with friends is a priority for them. Terms like group and interaction further reinforce the desire for social gatherings and engagement. Words such as student, university, and youth indicate that libraries are primarily important as social and academic spaces for students. Meanwhile, terms like education and seminar emphasize the educational role of libraries, though these are less frequent compared to the social aspects.

Regarding alternative spaces and locations, words like café, mall, and green reveal that young people consider these places as alternatives to libraries for socializing, indicating that there are other spaces they prefer for social interactions outside of libraries. Libraries are not just viewed as spaces for academic purposes but also as social meeting points. Expressions such as option and place reflect the desire for libraries to offer various choices and spaces. Words like comfortable, silent, and clean emphasize the importance of physical comfort in libraries, showing that a quiet and clean environment is valued by students. The word safe also highlights the significance of safety as a key theme.

In terms of advantages and disadvantages, the words advantage and disadvantage suggest that participants reflected on both the positive and negative aspects of libraries. Words like annoyed and crowded imply that libraries can sometimes be perceived as crowded and potentially uncomfortable spaces. Regarding family influence and social dynamics, terms such as family and culture provide clues about how family and cultural values shape young people's library use. In the area of access and transportation, the word transportation reveals challenges young people face in terms of reaching libraries, which could signal a need for libraries to be made more accessible. On the other hand, words like tea, coffee, and soup indicate that young people associate time spent in libraries with social, relaxing activities such as drinking tea or coffee.

The data from the word cloud illustrate that libraries are not only spaces for academic use but also crucial environments for social interaction, meeting friends, and relaxation. Young people tend to view libraries as comfortable and safe spaces, but they can also perceive them as crowded and occasionally uncomfortable. Alternative spaces outside libraries, such as cafés or parks, are also popular, suggesting that libraries need to diversify their role as social spaces. Practical and cultural factors, such as transportation and family influence, are significant elements affecting library usage. This implies that libraries should evolve to meet the broader social needs of young people, ensuring both accessibility and a more dynamic, welcoming environment.

Table 1 presents participants' reflections on the perceived advantages of going to the library alone or with friends, highlighting the differing impacts on social interaction, motivation, and study efficiency.

In Table 1, participants discuss various advantages of going to the library with friends. The most notable benefits include social support, motivation, and information sharing. Going to the library with friends can sometimes serve as an opportunity for socializing or relaxing, rather than focusing on studying. Specifically, working in groups provides opportunities for mutual assistance and sharing. On the other hand, many participants believe that going alone is more beneficial in terms of productivity. Going solo, particularly, enhances focus and minimizes distractions. This helps participants work more efficiently. Additional advantages of going alone include the ability to set one's own study schedule and work at one's own pace. These factors are seen as positive aspects of studying alone in the library.

Table 2 illustrates participants' diverse perceptions regarding the continued use of libraries, their advantages and disadvantages, family influences, and the role of libraries as spaces for both academic work and social interaction.

Table 1*Going to Libraries*

With Friends	By him/herself
"One advantage is being with friends I enjoy, sharing memories with them in a space. It's comforting to be with someone familiar in the library's crowd. We are social beings, and it's reassuring to be constantly in communication with others" (P1).	"I went alone because I needed to focus. The library was the place where I could ensure a quiet environment, and going alone made my work more productive" (P2).
"An advantage is that working in a group ensures discipline. When I'm alone, I often lack motivation and tend to quit easily" (P4).	"The library is, in my opinion, an environment where one can go alone. It's a quiet place, and we should study individually in our own space" (P3).
"When I went with my friends, we could easily exchange information and share notes" (P5).	"When you're with friends, they might call you for a break or distract you. Maybe they've finished their work, but you might not be done yet. Going alone allows you to stay focused" (P8).
"I wasn't really a frequent library user on my own. Usually, my friends wanted to go, and I accompanied them. They encouraged me, and I realized it was beneficial for me too" (P14).	"Going alone is more efficient and consistent in terms of studying" (P12).
"The advantage of going with others is having someone to consult when I face difficulties, which makes me feel more at ease" (P15).	"When I went alone, I set a time limit for myself, and my break times were fixed. But when I went with friends, they'd get bored, want to leave, or suggest taking a break. The break never ended. That's why I preferred going alone" (P13).
"Being with friends makes it easier to relax, although it can be distracting. It's challenging but also fun—it motivates you" (P16).	"When I go alone, I don't take many breaks and can work continuously" (P16).
	"I preferred going alone because it helped me stay focused on my studies. That's why I chose to go alone" (P17).

Table 2*Library Experiences*

Code	Narrative
Continuing to Use the Library	"I can't really define this in terms of age or a specific time frame" (P1).
	"I think I will definitely use it throughout my academic life. In the future, if I have a task that requires working on a desktop or if I need a book later on..." (P3).
	"I don't plan on using the library once I start my career, after I finish the exam period" (P4).
	"I can't set a limit for this; I plan to go as much as I can. There probably won't be a boundary for me" (P11).
	"You don't need to limit yourself; you can go whenever. I don't think there will ever be a time when I feel like I <i>must</i> go to the library. You can go for simple things or even just to relax" (P16).

Table 2 (continue)*Library Experiences*

Code	Narrative
Disadvantages	"Some libraries close at 5:30 PM. For example, the library in the district where I live closes at 5:30 PM and is also closed on weekends. I believe the lack of the concept of a 24/7 library, as opposed to traditional library hours, is a disadvantage." (P2)
	"Of course, since I plan to go to the library in advance, I wake up early and need to go early because it tends to get crowded." (P8)
	"I had to wait in line. I wouldn't want that to happen again, so I think a larger library with more capacity and well-organized rest periods would be better." (P9)
	"If I were to criticize, I would prefer it if the library were quieter and more peaceful, with fewer people. Larger libraries are nicer in that sense, but when there are too many people, my concentration tends to get distracted. Someone moves, someone speaks, or a phone rings..." (P11)
	"The fact that libraries are often crowded, with poor ventilation and an imbalance in temperature, makes staying at home seem like a more logical choice." (P12)
Advantages	"I used to look for a library with a large number of books, but now, since I have a phone and a computer at hand, I see the library more as a calm environment and a place to study." (P2)
	"In a home environment, you're alone, and sometimes, the motivation to study just disappears. External noises, being near the TV, or other devices can cause you to lose focus. For example, while studying at a desk at home, the door might suddenly be knocked, or you might go to the bathroom and end up watching TV for five minutes, or people passing by create noise..." (P3)
	"A nice thing about the library is that there are constant refreshments; water is free, and the toilets are very accessible on every floor, so we can get what we need without losing focus on our studies." (P5)
	"The library is better because there are other people working there, which motivates you to work more efficiently and stay focused. Your attention is rarely distracted. Even when it is, you look at the desk next to you, and you see someone else working just as focused, which encourages you." (P8)
	"We wanted to study in fresh air. Sometimes, we even studied in the library garden.
	"Honestly, we enjoyed going to the library." (P16)
	"Absolutely, all your needs should be met in one place. It's not just about studying, but the library should also provide a social space." (P17)
	"For example, if I want to meet my friends but also need to study, you become more productive there because you've gone for a purpose, and your mind is set on that." (P18)

Table 2 (continue)*Library Experiences*

Code	Narrative
Effect of family	"When I say I'm preparing or going to the library, the technical details such as 'What time will you be back?' or 'Which library are you going to?' are usually enough. These are the kinds of practical details that my family finds sufficient." (P2)
	"It would seem like I was going to socialize or for some other purpose, not to study. My family would react that way." (P8)
	"I used to say I was constantly going to the library, but my family didn't find it convincing. They would ask, 'You're going to the library? Or are you actually going out?' It didn't seem believable to them, but I really was going to the library." (P13)
	"My family wanted me to stay at home. Since I stayed out until late hours, they preferred that, but they also supported me. They didn't say anything because I had become accustomed to going to the library, and this process continued." (P16)
	"From my father's perspective, it's a negative thing. He prefers me to study at home. He doesn't want me to go out too much." (P17)
Socialization	"Especially, as I mentioned, when I go to the library alone and my friends are not there, there are times when, inevitably, I end up greeting the people sitting around me at the table. Later, when we go outside to relax, we can also establish a social atmosphere.
	Since many people around us share this view, I can say that libraries are an important space for socialization, especially for those who are also looking to interact." (P1)
	"Yes, it provides that. When people see others studying in the same way, it increases their internal motivation. As for socializing, for example, during a meal break, they might eat with someone else who is also studying, or they might start a conversation. Perhaps, they will see the same book being read by someone else... The library offers such opportunities. It creates a space where people can meet others with similar goals." (P2)
	"Libraries do provide spaces where people can socialize. Since the age groups of the people who go to the library are often very close to each other, and most of them have similar purposes for going there, it becomes easier for people to socialize and talk to each other." (P3)
	"I think it does provide that. When I go, I don't smoke, but I see smokers exchanging cigarettes and lighters, and conversations often arise from that. People ask about each other's studies, and you might ask 'Which school are you at?' or 'What's your department?' This creates opportunities for social interaction because we share common topics." (P4)
	"In big cities, having such libraries in central locations and offering libraries with different concepts motivates us more. For smaller cities, of course, it's an important detail, and libraries are always crucial, but in big cities, it's not just a desire—it's an actual need." (P5)
	"As they say, getting to know one person can lead to meeting many others. The concept of networking works exactly like this." (P12)

As seen in Table 2, some participants indicated that they may not continue using libraries in the future as they associate them with educational processes, while others stated that there are no limits to library use due to the comfort they provide. The themes related to the disadvantages of libraries focus on unconscious users, inadequate capacity, overcrowding, library hours, and interior design. In contrast, the advantages highlight themes such as comfort, focus, productivity, socialization, access to resources, and social interaction. Family perspectives include both positive and negative reactions. Families may respond positively by providing support and mindful supervision, but they may also express concerns about security, discomfort with time spent outside, or inhibiting socialization.

Many participants noted that libraries offer opportunities for socialization, in addition to being places for studying. Socialization occurs in various forms, such as meeting new people while studying or conversing with others during breaks. For instance, some participants mentioned that greetings, opportunities for making friends, and even group work are possible in the library. In these environments, the presence of people with similar goals can lead to collaboration or even friendships. Moreover, some libraries offer social moments, such as lunch breaks or opportunities for tea or coffee, which further enhance socialization. These interactions often take the form of brief conversations with people sitting nearby or studying together. Such interactions typically develop through repeated encounters with familiar faces. Particularly in university libraries, social bonds among students often form through shared courses or exams. Furthermore, individuals who regularly visit the library may develop closer relationships by helping each other or discussing questions.

Table 3 presents participants' suggestions regarding both the interior and exterior design of libraries, reflecting their expectations for more functional, comfortable, and technologically equipped spaces.

As seen in Table 3, participants' suggestions for both the interior and exterior of libraries emphasize technological advancements and digitalization, card-based access systems and secure areas, functional and comfortable spaces, the need to simultaneously provide personal and public areas, reliable infrastructure services such as lighting, soundproofing, and electrical systems, 24/7 availability, designated break areas, services like photocopying, hygiene standards, workspaces catering to diverse needs, accessibility, and the inclusion of food and beverage facilities.

Table 4 summarizes participants' preferences for alternative spaces that integrate both study and socialization, highlighting their desire for more flexible, interactive, and nature-integrated environments beyond traditional library settings.

As seen in Table 4, participants indicated that they preferred spaces where they could combine both their study and socialization needs. While they acknowledged that libraries traditionally provide study areas, alternative spaces can also meet these needs. Generally, although libraries offer conventional educational and work environments, alternative spaces play an important role in addressing the needs of young people. Areas such as book cafés, student stations, and cultural centers offer more flexible, social, and productive work environments. Additionally, nature-integrated spaces, such as libraries located by the sea or surrounded by trees, are highly desired by young people. These environments allow students to engage in social interactions while studying and provide opportunities for relaxation. When describing alternatives, participants emphasized the fusion of physical and digital spaces, open areas, the integration of cultural activities with libraries, the balance between socialization and tranquility, and the improvement of study spaces.

Table 3*Suggestions for the Libraries*

Code	Narrative
Inside	"Some libraries have good photocopiers, while others lack them entirely. It's frustrating when you have to go from one used bookstore to another or wander around a library looking for a photocopy service. These technical aspects should be properly addressed." (P2)
	"What bothers me most in a library is its lack of technology. Being disconnected from technology is a major issue for me. Additionally, overcrowding and the lack of space between tables make me uncomfortable. A nice view from the library is also essential." (P3)
	"I would prefer a library with more comfortable chairs and desks. The current furniture is often too hard, and long hours of study can cause discomfort or pain. Libraries should offer a softer, more comfortable environment." (P6)
	"I would prefer a bit more personal space, a distance that respects people's privacy. When studying with others, I would appreciate a layout that provides a comfortable social space without intruding on personal boundaries." (P7)
	"During breaks, I would like to have areas where I can relax or engage in activities. For example, a nice lounge area or even an outdoor park would make the library more inviting." (P9)
	"While the idea of unlimited tea is nice, many libraries lack designated spaces for drinking it. You're given tea, but you end up having to drink it at your table, which can be annoying." (P10)
	"Libraries could organize events to encourage socializing, such as weekly draws or trivia contests. These activities would motivate people and provide opportunities for social interaction." (P10)
	"Libraries should be open 24/7." (P13)
	"Not everyone goes to libraries just to study. Separate, isolated areas could be created for those studying, where distractions are minimized." (P13)
	"I would design a library not just for studying, but as a social space for young people to relax, engage, and enjoy themselves. It should be a place where even children would feel drawn to spend time." (P15)
Outside	"Instead of granting café licenses to coastal areas, library permits could be considered." (P2)
	"The places we frequently visit are those that are easily accessible." (K 3)
	"Sometimes, libraries can feel too confining, with the silence and stillness being overwhelming. The rapid breathing of people can make the environment suffocating. Therefore, open spaces are more enjoyable, especially when the weather is warm." (P4)
	"I imagine a library not as a concrete building but one set amidst greenery, offering a more comfortable environment for both studying and socializing. My ideal library would be away from crowds, in a peaceful area. Additionally, since my neighborhood is not very safe, my family is often concerned when I go out." (P6)
	"The proximity to public transport is key. A location near a coastal area, where one can walk and sit under a tree to read, or visit a nearby restaurant or café, would make the library more accessible. Such areas encourage people to engage in various activities together." (P13)
	"I imagine such spaces as being somewhat distant from the hustle and bustle of life, a more secluded area. Psychologically, I prefer these kinds of settings, which is why I would want it to be located there." (P14)

Table 4*Alternatives to Libraries*

Narratives
"I mentioned student stations. Although these are not officially classified as libraries, they do contain certain corners designated as book collections. However, as I said, they are not recognized as libraries. Nevertheless, they are important spaces for students, offering opportunities for both studying and socializing. Quiet areas for studying are particularly crucial." (P1)
"I believe there should be a library that overlooks the sky, set amidst greenery. It could be located by the seaside, easily accessible at least. A beautiful, spacious, clean, hygienic library with trees, a view of the sky, and situated by the beach." (P2)
"I believe that studying could be done in the food courts of shopping malls. In fact, if study areas were incorporated into shopping malls, with libraries included, it would be a great addition." (P3)
"A place referred to as a 'book café' allows for a more comfortable environment where you can either study or engage in conversations, as well as attend to other tasks. Even if I can't go to libraries, I plan to use these book café-style spaces." (P6)
"Meeting, for example, on the beach or in parks could be an option." (P7)
"Book cafés, for me, are places where I feel more at ease, with soft music playing and a more pleasant atmosphere being created." (P9)
"Other municipalities' cultural centers could also be an option, where lessons are offered. After the lesson, you can stay there and continue studying. They may also allow you to use a classroom for studying during your break." P 13)
"There could also be places that offer a study environment while allowing for activities like picnics." (P17)

Discussion

The experience of beginning to visit the library often dates to the early years of schooling, particularly middle and high school, for many participants. It has been observed that most participants' stories of starting to use the library stemmed from academic needs such as studying and exam preparation. This aligns with literature that considers libraries as important learning environments and tools that contribute to academic success for young people (Lippincott, 2007; Hernon & Matthews, 2011). Over time, however, the use of libraries has expanded beyond purely academic purposes to include social and personal development, emphasizing the multifaceted role of libraries. The habits of young people in using libraries as a space outside of academic study provide opportunities for social interaction and cultural participation.

Friends were found to play a significant role in the decision to visit the library, both positively and negatively. Positive influences include social support, motivation, and information sharing, highlighting the library's role as a "third place" where young people find opportunities for social interaction and collaboration (Oldenburg, 1989). Group study can strengthen social bonds among peers while also supporting academic success. The coming together of a group facilitates mutual help and the sharing of knowledge. However, there are also negative effects associated with visiting the library with friends. Socializing can sometimes lead to a loss of focus and reduced productivity, disrupting the quiet, concentration-friendly environment that libraries provide. It is emphasized that while libraries offer social interaction, they must also provide suitable spaces for individual study (Cohen,

2010). Balancing these elements can enhance the effectiveness of library use. Many participants reported that visiting the library alone was more productive, as it increased focus and prevented distractions. This finding supports the idea that individual study environments may be more effective, especially for young people (Guthrie & Wigfield, 2000). Working alone provides individuals the opportunity to study at their own pace and promotes a more independent learning process. This can have a positive impact on individuals who prefer solitude in a liberated social space (Hernon & Matthews, 2011). However, there are some drawbacks to visiting the library alone. Feelings of loneliness and a lack of social interaction can decrease participants' desire to visit the library. Social interaction and time spent with friends can make libraries more appealing to young people, supporting the view that libraries serve not only as academic spaces but also as social meeting points (Vårheim, 2012).

Participants' preferences for libraries as study environments are often driven by their search for quiet, distraction-free spaces. The observation that libraries are viewed as more effective study spaces due to the avoidance of distractions at home aligns with the findings of Şeşen (2019), who found that the quiet environments in libraries have a positive impact on students' academic success. Furthermore, participants use the library not only for educational purposes but also for personal development and hobbies. Some participants indicated that their need for the library would decrease once they transition to their professional lives. Kutluca and Yalman (2016) observed that, in professional life, individuals tend to prefer digital resources, which may lead to a decline in the use of physical libraries. This finding reflects how technology has changed individuals' methods of accessing information. The majority of participants, however, emphasized that libraries contribute to learning at all stages of life, not just during education. A similar perspective is supported by Vadeboncoeur & Padilla Petry (2017), who found that libraries provide valuable spaces not only for education but also for lifelong learning and community development.

Participants also noted that space constraints in libraries, especially in large cities, can pose significant problems. Baker (2019) suggested that increasing library capacity could improve the user experience. Some participants pointed out that the accessibility of libraries and their limited opening hours were concerns. A proposal for 24-hour libraries aligns with Yılmaz (2003), who examined how library access and continuity impact user satisfaction. He emphasized that constant access to libraries is particularly crucial for university students and academics. Participants also reported that the physical conditions of libraries were generally inadequate, with specific complaints about ventilation and temperature inconsistencies. The digital infrastructure of libraries also needs to be strengthened. Fast internet connections and access to computers are especially crucial for online education and research. According to Kutluca and Yalman (2016), enhancing digital resources provides students and researchers with more effective opportunities for work.

In terms of safety, it is suggested that card-based entry systems be implemented to enhance security. The ergonomic design of workspaces can enhance productivity during prolonged use. Baker (2019) noted that ergonomic furniture prevents physical discomfort during long study sessions. Providing personal spaces also helps protect privacy, which aligns with the idea of offering distinct areas for individual study and group work. Proper lighting and the availability of electrical outlets on desks are also essential. Şeşen (2019) suggested that lowering noise levels in libraries can increase students' concentration and allow them to work more productively. Providing free photocopying services is also important, as it enables users to continue their research without additional costs. Chiu and Lee (2019) argued that libraries' refusal to charge extra fees for basic services increases user satisfaction. A spacious, hygienic, and comfortable physical environment is also crucial for long study sessions.

Having quiet, nature-integrated areas around libraries provides users with a peaceful environment in which they can both rest and study. Easy access to libraries via public transportation can also increase the number of users. Security concerns can influence the frequency of library visits. Altunbay & Uslu Üstten (2020) found that the safety of the surrounding area affects people's interest in libraries. Some participants suggested that libraries should be in peaceful, less crowded neighborhoods. Avaner (2018) highlighted that noise and crowds in large cities can negatively affect the library experience, while tranquil and natural areas offer more productive environments. Soylu and Medeni (2021) also noted that locating libraries in less dense areas can reduce social isolation and make them more accessible to local communities.

Libraries should not only serve as spaces for obtaining information but also as environments where social interaction increases. Libraries offering social spaces help communities build stronger connections. Common areas, cafeterias, and social lounges enable individuals to work in groups or participate in volunteer activities. Özden (2017) emphasized that social interactions, especially among students, encourage information sharing and collaboration. Libraries that offer spaces for cultural events not only support information acquisition but also foster cultural and artistic development. Yurtseven (2018) suggested that creating event spaces in libraries can increase community engagement and contribute to the revitalization of local culture. Additionally, libraries that provide relaxation areas help promote both physical and mental relaxation (Arıcı & Arısal, 2021). Social areas in libraries should include spaces for eating and resting, as these can help users spend longer periods in the library and improve their productivity. Yılmaz (2003) emphasized the importance of providing social spaces for users who engage in extended study sessions, as these spaces allow for both relaxation and social interaction.

Libraries must offer peaceful and quiet environments, particularly for those who prefer silent study. Abulude et al. (2024) found that libraries providing calm environments increase users' concentration. Some participants expressed a desire for spaces where they can study alone, highlighting the importance of privacy and a deeper study experience. Libraries should be places not only for information gathering but also for psychological relaxation and stress reduction (Kneebone, 2017). Such environments can help individuals feel more comfortable, especially during intense study periods. Motivation-boosting activities (such as free soup distribution) may also encourage library use. Kaplan and Kaplan (1989) argued that moral support boosts motivation during the educational process, making students more productive. Moving beyond traditional library concepts, it is recommended that libraries offer interactive and cultural activities. Kutluca and Yalman (2016) stated that libraries are not just places for storing information but also key centers for learning, interaction, and community development. Interactive spaces allow users to not only acquire knowledge but also engage in various social and cultural activities.

Modern libraries must evolve both physically and socially. Libraries are not just places for knowledge but also spaces where social interactions, psychological relaxation, and community bonding are strengthened. Designing libraries with these features, particularly with an understanding of the needs of young people, will encourage future generations to benefit from these environments and make them more integral parts of communities.

Conclusion

This study highlights that libraries serve not only as spaces for academic work but also as important "third places" where young people can socialize, relax, have fun, and engage in personal development. The multifunctional role of libraries is crucial in supporting both the educational success and the social connections of young people. Young individuals use libraries not only as places for information and

study, but also as opportunities for socialization, leisure, and participation in cultural activities. This shows that libraries play a unique and important role, different from schools or homes, in the social lives of young people.

To further strengthen the functions of libraries, physical spaces need to be more user- friendly, ergonomic, and accessible. A good library should not only offer quiet study areas but also provide spaces for social interaction, cultural events, and relaxation. Additionally, improving digital infrastructure, increasing internet access, and providing technological tools will particularly facilitate young people's access to information.

As a public policy, it is essential to recognize the multifunctional roles of libraries and reshape these spaces to better support both the academic and social development of young people. In this context, libraries should evolve from being places that simply provide information resources to becoming "open spaces" where young people can freely spend time, socialize, engage in personal development, and strengthen social bonds. Diversifying library services and equipping these spaces with more youth-centered activities will not only contribute to the cultural and social fabric of society but also enhance the quality of life for individuals.

Compliance with Ethical Standards

Ethical Approval

Ethical approval was received from the Research Ethics Committee of Social and Human Sciences at İstanbul-Cerrahpaşa University (21/11/2022 number: 2022/409).

Author Contributions

The conceptualization, methodology, data analysis, writing of the original draft and editing were performed T.C. H.D was involved in methodology, data collection, data analysis and editing.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Workforce in Green Transformation: Perspectives of Employees in Environmentally Friendly Sectors on Green Human Resources Management

Yeşil Dönüşümde İşgücü: Çevre Dostu Sektörlerde Çalışanların Yeşil İnsan Kaynakları Yönetimine Bakışı

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Abstract

This qualitative study explores the perceptions of employees working in environmentally friendly sectors, focusing on the opportunities and challenges related to green transformation. It aims to uncover the effects of the rapidly expanding green job market on employees, alongside the benefits and risks they perceive. Employing a phenomenological qualitative design, the research involved employees from 14 distinct positions within green companies located in Ankara's Çankaya and Yenimahalle districts. Data were gathered using a semi-structured interview form comprising eight questions. The findings highlight that Green Human Resources (GHR) practices enhance employees' sense of environmental responsibility and positively influence job satisfaction. Participation in sustainability projects has fostered stronger commitment among employees, while training programs have been instrumental in enhancing skills and raising environmental awareness. The study concludes that environmentally friendly projects significantly boost employee motivation and job satisfaction. However, to ensure the long-term sustainability of these initiatives, it is crucial to raise public awareness, strengthen governmental support, and implement cost-reduction strategies. Overall, the research underscores the importance of adopting a comprehensive perspective towards experiences in green sectors and emphasizes the necessity of integrating sustainability policies into business processes for the future of the business world.

Keywords: Green Human Resources Management, Sustainability, Green Workforce, Working Life.

Öz

Bu nitel çalışma, çevre dostu sektörlerde çalışanların yeşil dönüşümle ilgili fırsat ve zorluklara yönelik algılarını analiz etmeyi amaçlamaktadır. Araştırma kapsamında, hızla büyüyen yeşil işlerin çalışanlar üzerindeki etkileri ile onların algıladığı fayda ve risk unsurlarını ortaya koymak hedeflenmiştir. Fenomolojik nitel desene sahip olan araştırma, Ankara'nın Çankaya ve Yenimahalle ilçelerinde bulunan yeşil şirketlerde, 14 farklı pozisyonda istihdam edilen çalışanların katılımıyla gerçekleştirilmiştir. Veriler, sekiz sorudan oluşan yarı yapılandırılmış görüşme formu aracılığıyla toplanmıştır. Verilerin analizinde Yeşil İnsan Kaynakları (YİK) uygulamalarının çalışanların çevresel sorumluluklarını artırarak iş tatminine olumlu katkı sağladığı görülmüştür. Çalışanların sürdürülebilirlik projelerine katılımı, işlerine olan bağlılıklarını güçlendirmiştir. Ayrıca, eğitim programlarının çalışanların becerilerini geliştirmek ve çevresel farkındalıklarını artırmak açısından önemli bir rol oynadığı belirlenmiştir. Araştırmanın sonucunda, çevre dostu projelerin çalışan motivasyonu ve iş tatmini üzerinde olumlu etkiler yarattığı tespit edilmiştir. Ancak, bu projelerin sürdürülebilirliği için toplum bilincinin artırılması, devlet desteklerinin güçlendirilmesi ve maliyetlerin azaltılmasına yönelik adımlar atılması gerektiği sonucuna varılmıştır. Çalışma, çevre dostu sektörlerdeki deneyimlerin daha geniş bir perspektifle ele alınması gerektiğini ve sürdürülebilirlik politikalarının iş süreçlerine entegrasyonunun, geleceğin iş dünyası için vazgeçilmez olduğunu ortaya koymaktadır.

Anahtar Kelimeler: Yeşil İnsan Kaynakları Yönetimi, Sürdürülebilirlik, Yeşil İşgücü, Çalışma Hayatı.

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Workforce in Green Transformation: Perspectives of Employees in Environmentally Friendly Sectors on Green Human Resources Management

The world is raising a silent scream with its depleting natural resources every passing day, and some resources are being lost irreversibly. For many years, the echoing calls of scientists and environmentally friendly organisations have shown that our planet is sounding the alarm and inviting humanity to take action for a sustainable future. Accordingly, sustainability has now become one of the primary goals in our lives.

The concept of sustainability first emerged at the 1972 United Nations Environment Conference (Tıraş, 2012, p. 23). Companies that offer high levels of welfare with low environmental damage and use economic resources at an optimum level offer ideal economic sustainability (Gedik, 2020, p. 210). Sustainability goals such as protecting ecosystems, combating climate change and using natural resources efficiently have become not only an environmental imperative but also a critical element for economic and social progress. In this context, the green transformation process includes restructuring economic activities with an environmental sustainability perspective (Daly, 2005, p. 34; Hart, 1997, p. 67; Jabbour & Santos, 2008, p. 53).

Green transformation, which focuses on the environmental dimension of sustainability, has emerged as a concept that needs to be addressed from environmental, social and economic perspectives (Daly, 2005, p. 2). While eliminating the climate crisis and ecological imbalances lies at the origin of the concept, the collaboration of international organisations, governments, business life and non-governmental organisations plays an important role in this quest. (Renwick et al., 2013, p. 4).

Green transformation has become a philosophy of life rather than just a concept, and this general situation has deeply affected working life. How to close the labour shortage that occurred with the new economic system established to reduce the impact of environmental problems without harming the environment has also taken its place among the leading issues. In work-life, where we deeply feel the traces of green transformation; naturally, the workforce has been reshaped with new norms. The new management process called green human resources management refers to integrating sustainable business strategies into the human resources dimension (Baş & Kesen, 2024, p. 175; Sharma and Gupta, 2015, p. 825). Green human resources management covers a wide area, from increasing the environmental awareness of employees to implementing policies that encourage behavioural changes in line with sustainability goals (Renwick et al., 2013, p. 6). Sustainable human resources management aims to simultaneously achieve both institutional goals and sustainability of human resources in the long-term work process through current and planned human resources strategies. (Ehnert, 2009, p. 74; Müller-Christ & Remer, 1999, p. 76)

Economic stability is necessary to preserve future generations' valuable resources (Tooranloo et al., 2017, p. 13). Economic sustainability, on the one hand, affects company achievement; on the other hand, it appears as a significant factor determining this achievement. Therefore, it requires a meticulous analysis of the internal and external environments (Porter & Kramer, 2011, p. 64). The impact of our daily activities on the environment and the apparent fact that natural resources are rapidly depleting have directed not only individuals but also institutions to environmentally friendly practices (Mehta & Chugan, 2015, p. 74). Companies that do not provide the value they deserve to human resources, which have been the most important resource of businesses for many years, may face the risk of being eliminated from the competitive environment of their operating sector. In order to eliminate the disadvantage at this point, it has become necessary to provide the necessary importance to human resources and improve them (Acar, 2021, p. 349).

Sustainable human resources management includes a management approach that should not be considered as a short-term strategy and is effective in all departments of the company. First of all, it is expected that a roadmap analogous to the company's vision, mission, goals, and strategies will be drawn, and progress will be made in this direction. Human resources managers should be effective throughout the process to define the company's sustainability strategy and ensure its integration among all stakeholders (Özgül & Gürol, 2019, p. 113). In this context, it is of utmost importance in terms of environmental policies that businesses adopt digital documentation systems in line with sustainability principles, implement strategies that increase energy efficiency, encourage public transportation, diversify and develop recycling processes, and adopt more effective methods in waste management (Elkington, 1997, p. 85).

This study aims to deeply analyse the perceptions of employees operating in environmentally friendly sectors regarding the opportunities and challenges related to the green transformation process within the scope of green human resources management practices. In this context, how employees' experiences, motivations, and job satisfaction in the green transformation process are shaped will be evaluated, particularly within the scope of rapidly growing green jobs.

Materials & Methods

Research Method

The interpretative phenomenological qualitative study method was used in the research (Creswell, 2013, p. 83; Merriam & Tisdell, 2015, p. 25; Saldana, 2011, p. 7; Van Manen, 1990, p. 362). An inductive approach was used in analysing the data obtained (Creswell, 2014, pp. 234-235). In this context, the research aimed to examine the concept of "Green human resources practices" in depth.

Participants of the Research

There is no definite rule regarding the number of participants in qualitative research, and the sample size varies depending on the research's purpose, design, and data collection method (Tracy, 2019, p. 138). However, in the literature, there are different numbers ranging from 3-4 to 19 participants who are interested in and experienced with the concept being investigated in phenomenological studies (Creswell, 2013, pp. 76-77; Lapan et al., 2012, p. 90; Thomas & Pollio, 2002). In this context, in parallel with the purpose of this study, people working in different positions in green companies related to the subject investigated were included in the scope of the research. The employees were determined by using the purposeful and snowball sampling method among the people working in different positions in green companies located in Ankara Çankaya and Yenimahalle Districts. When the obtained data reached saturation, the research was completed with 14 employees. In this context, the purposive sampling criteria are listed below;

- Working in green companies that stand out with their environmentally friendly practices in the Çankaya and Yenimahalle districts of Ankara Province,
- Having command of environmental management systems,
- Having at least 3 years of experience in the field,
- Having at least one year of experience with "Green Human Resources Management" (GHRM) practices,
- Being willing to participate in the research.

Data Collection Tools

A semi-structured interview questionnaire consisting of eight questions was used to collect research data. Questions deemed necessary were asked according to the course of the interview within the framework of the researched concept of “Green Human Resources Practices”.

Collection of Data

The study is a qualitative research conducted in two central districts of Ankara between December 8, 2024 and January 8, 2025. In order to conduct the study, ethics committee approval was received from the Health Sciences University Trabzon, Faculty of Medicine Scientific Research Ethics Committee, dated 05.11.2024 and numbered 2024/11.

A qualitative research approach was adopted, and semi-structured, face-to-face interviews were conducted. Prior to the interviews, participants were provided with a “Participant Information and Consent Form,” and their written consent was obtained. The form included information on the study's purpose, scope, and researcher details.

The interviews were scheduled according to the participants' availability and were conducted at their workplaces during time slots they selected. Audio recordings were made with participants' permission. Each interview lasted approximately 30 minutes. The interview form consisted of introductory questions related to participants' professional background, followed by eight open-ended questions designed in alignment with the study's objectives. The questions were developed through a literature review and expert consultation.

During the data analysis process, both descriptive analysis and content analysis methods were employed in combination. Within the scope of descriptive analysis, the data obtained from the interviews were categorized and summarized according to predefined themes. Subsequently, through content analysis, recurring expressions, patterns, and concepts were identified, and the sub-dimensions of the themes were elaborated. For instance, participants' frequent emphasis on the issue of “insufficient human resources” was descriptively presented under the theme of “institutional resource shortage,” while content analysis was used to explore how this issue affected their work motivation. By integrating these two methods, both the surface structure of the data and the deeper layers of meaning were revealed.

Analysis of Data

Content analysis and descriptive analysis were used inductively to analyse the data obtained from the interviews. Content analysis is an analysis technique that aims to reveal the meaning found in the data in a more concise approach. In other words, content analysis aims to reveal a “broad perspective” from the available data. Descriptive analysis aims to explain the phenomenon under investigation by presenting the critical statements obtained as a result of the interviews in the form of quotations (Erdoğan et al., 2014, p. 154).

Role of the Researcher

The researcher has been actively involved in social policy and human resources management. The researcher, who holds a PhD in labour economics and industrial relations, aimed to conduct a comprehensive analysis of green human resources practices.

Validity and Reliability of the Research

In order to ensure the validity of the research data, an independent researcher transcribed and compared the obtained audio recordings. The coding was done and checked using Nvivo 10 software. For the reliability of the research, the transcribed text was shared with the participant, and content approval was obtained. The relationships between the coding and themes were checked conceptually by the researcher.

Findings

The average age of the participants in the study was 41.36, and the gender distribution was determined as 57.14% male and 42.86% female. Regarding education level, 64.29% of the participants had a bachelor's degree, 28.57% had a master's degree, and 7.14% had an associate's degree. When the occupational distribution is examined, 21.43% are senior managers, 21.43% are engineers, 21.43% are general managers, 7.14% are unit managers, 7.14% are unit supervisors, 7.14% are sales managers, 7.14% are sales representatives, and 7.14% are sustainability consultants.

Table 1

Socio-Demographic Characteristics

No	Gender	Age	Marital Status	Education Level	Professional Status/Position	Work Experience (Years)
1	Male	45	Married	Associate Degree	Unit Manager	20
2	Male	38	Married	Bachelor degree	Sales Representative	14
3	Male	47	Married	Bachelor degree	Sales Manager	25
4	Female	28	Single	Bachelor degree	Sustainability Consultant	4
5	Female	32	Married	Master's Degree	Senior Manager	8
6	Female	50	Married	Master's Degree	Senior Manager	26
7	Female	41	Married	Bachelor degree	Senior Manager	18
8	Female	31	Married	Bachelor degree	Unit Supervisor	7
9	Female	36	Married	Bachelor degree	Engineer	11
10	Male	45	Married	Bachelor degree	Engineer	23
11	Male	47	Married	Bachelor degree	Engineer	24
12	Male	46	Married	Master's Degree	General Manager	22
13	Male	38	Married	Bachelor degree	General Manager	15
14	Male	55	Married	Master's Degree	General Manager	32

Table 2*Interview Themes and Frequencies*

Themes	Sub-Themes	Source (n)	Reference (n)
Contribution to Employees	Job satisfaction and motivation enhancing effects.	7	12
	The effect of environmental awareness on employee behaviours.	5	8
	The meaning of active participation in environmental projects.	4	6
Policy Challenges	Customer resistance and price perception.	6	9
	Difficulties in the adaptation process of employees.	5	7
	Difficulties caused by technical infrastructure and cost.	4	6
The Role of Projects	Increasing environmental awareness through collaboration with society.	6	10
	Employee participation in recycling projects.	4	6
	Impact of social awareness and social responsibility projects.	5	8
Technical and Communication Skills	The role of technical knowledge in environmental projects.	5	9
	The importance of persuasion and communication skills in environmentally friendly practices.	6	10
	The contribution of data analysis and analytical thinking to sustainable projects.	5	8
Organizational Culture	Long-term benefits of an environmentally conscious business culture.	7	11
	The impact of business culture on employee engagement and job satisfaction.	6	9
	An environmentally friendly business culture increases a company's reputation and social value.	5	7

Table 3*Most Frequently Used Words*

Word	n	Weighted (%)
Environment	102	3,05
Sustainability	78	2,33
Recycling	65	1,94
Employee	58	1,73
Green	51	1,52
Education	48	1,43
Customer	46	1,35
Awareness	38	1,13
Project	34	1,02
Participation	27	0,81

Theme 1. Contribution to Employees

Green Human Resources practices have positively affected job satisfaction by increasing employees' environmental awareness. Employees have stated that these policies have increased their motivation and even positively affected their daily lives. However, human resources management processes have been found to be demanding. Increasing awareness of environmentally friendly practices among employees increases job satisfaction and also positively affects personal life. In this context;

"Thanks to Green Human Resources policies, my environmental awareness has increased, and this has improved not only my business life but also my daily life; now I can recognise my contribution to the environment more clearly, and I find my job more meaningful." (Male, 45)

"The fact that the company I work for is involved in environmentally sensitive projects has connected me more to my job because this job is not only a place where I make a living but also an area where I contribute to the world." (Male, 47)

"GHR practices allow me to find meaning in my job, and taking an active role in environmental projects both motivates me and increases my professional satisfaction. Of course, I must say that it takes extra time" (Female, 28)

This findings indicates that environmentally friendly policies can add meaning to employees' work when aligned with their personal values.

Theme 2. Policy Challenges

It was determined that various challenges were encountered during the integration of environmentally friendly policies into business processes. Participants stated that customers increased resistance to environmentally friendly practices because they found sustainable products to be high-cost. Regarding this finding;

"It is not always easy to explain the long-term benefits of sustainability to customers who find the prices of environmentally friendly products high; some are reluctant to be convinced." (Female, 31)

"When trying to explain recycling practices, it was sometimes difficult for me to argue against the indifference of employees and customers because people were reluctant to change their habits." (Female, 32)

"One of the toughest challenges in sustainable projects is that the initial costs of these applications are high, and the results are not clear in the short term." (Male, 36)

These findings indicate that the adoption of environmentally friendly policies is hindered by customers' perception of high costs and resistance to behavioral change.

Theme 3. The Role of Projects

Recycling projects and awareness campaigns carried out within the scope of cooperation were found to be effective in spreading environmental awareness. Employees stated that participating in these projects made them more committed to their jobs. Participants stated that participating in recycling projects and taking part in social awareness campaigns provided them with personal satisfaction. Employees stated that these projects were not limited to environmental contributions only but also strengthened team spirit and loyalty in the workplace. In this context;

“Conducting joint recycling projects with the local community has made the company’s environmental contribution visible, and being a part of this process has made me a more conscious individual. Social cooperation projects make me very happy.” (Female, 28)

“Participating in zero waste projects not only fulfils my responsibilities at work but also makes me feel like I am directly contributing to the environment. We have many initiatives within the scope of reducing our carbon footprint” (Male, 50)

“Projects carried out to create environmental awareness have strengthened not only employee loyalty but also team spirit in the workplace.” (Female, 41)

These findings reveal the potential of social and environmental projects to strengthen employee motivation and company image.

Theme 4. Technical and Communication Skills

The necessity of technical knowledge, analytical thinking and effective communication skills to be successful in environmentally friendly projects has come to the fore. Participants emphasised the importance of a person’s persuasiveness as well as technical knowledge in spreading environmental awareness.

“I used my communication skills to explain the value of environmentally friendly products because it is necessary to convince customers not only with price but also with environmental contributions. Price is just a number for customers who have environmental awareness.” (Female, 45)

“Developing innovative solutions in sustainability projects, as well as presenting these solutions effectively and spreading environmental awareness, is critical in my job. If you cannot convey the significance of the work you do, your project does not mean anything.” (Male, 45)

“In addition to good technical knowledge, it is not possible to be successful in this sector without persuasiveness because sustainability is not only a technical process but also a social process.” (Female, 32)

These findings indicate that, in environmentally friendly projects, technical knowledge as well as effective communication and persuasion skills are considered critical for success.

Theme 5. Business Culture

An environmentally friendly business culture has enabled companies to provide long-term environmental and social benefits. Employees have stated that this type of business culture increases their individual commitment and job satisfaction. An environmentally friendly business culture has been shown to impact increasing employee job satisfaction and commitment strongly. Participants have stated that this type of culture can potentially increase not only the individual level but also the company’s reputation and social benefit. The adoption of this business culture by employees to achieve long-term environmental goals has created a strong team bond within the company.

“Environmentally friendly work culture not only provides economic but also social and environmental benefits, creating a more meaningful atmosphere at work and connecting me to my job. I have always been sensitive about the environment.” (Female, 46)

“Contributing to the company’s sustainability vision is not only professional but also personal, which is great. It is also very critical in instilling corporate culture to employees.” (Female, 38)

“Green Human Resources practices not only help us achieve our environmental goals but also increase harmony and loyalty within the team.” (Male, 54)

These findings indicate that employee commitment and motivation are enhanced by an environmentally friendly organizational culture.

Discussion

The findings of this study revealed that environmentally friendly human resources practices generate multidimensional impacts on employees. Under the theme of contribution to employees, it was observed that green policies increased environmental awareness and added meaning to employees' work. Participants perceived these policies as effective not only in a professional context but also in their personal lives, which strengthened their motivational value. These results are in line with studies by Leavy (2017) and Tracy (2019), which suggest that sustainability practices aligned with personal values positively influence job satisfaction.

The second theme, policy challenges, pointed to both structural and behavioral barriers in the implementation of green practices. In particular, customer resistance, high cost perceptions, and employees' reluctance to change existing habits were found to undermine the sustainability of these practices. These challenges reflect broader issues identified in institutional reports such as those by the European Commission (2020) and the World Bank (2021), which emphasize the role of public acceptance in the success of sustainability policies. In this regard, the achievement of environmental goals appears to depend not only on technical capacity but also on cultural and economic perceptions.

The role of projects was also emphasized through the active participation of employees in environmental and social initiatives. Such involvement was found to enhance not only job performance but also the sense of organizational belonging. Reuse within production processes is seen as a significant alternative (Yavuz, 2010), and was frequently supported in green projects. Collaborations with local communities and participation in recycling and awareness campaigns helped employees perceive themselves as meaningful contributors, thus reinforcing the importance of corporate social responsibility at the individual level.

The theme of technical and communication skills highlighted the need to combine environmental knowledge with effective communication strategies in the execution of sustainability initiatives. Participants stressed that success in these projects depended not only on technical expertise but also on the ability to communicate persuasively. This finding supports the perspective that sustainability must be addressed as both a technical and social process. Accordingly, it is recommended that training programs be structured to include both technical and foundational communication components.

In his work *The Wealth of Nations* (1776), Adam Smith emphasised that every business within the capitalist order should balance both ethical values and profit targets (Smith, 1776, p. 456). Within the framework of the concept of ethical investment that emerged towards the end of the 20th century, corporate sustainability aims to create long-term value by addressing the social, environmental and economic responsibilities of businesses with a holistic approach (Porter & Kramer, 2011, p. 62). Building a business culture around ethical values can contribute not only to the individual level but also to the potential of increasing the reputation and social benefit of the business.

Finally, under the theme of organizational culture, it was found that integrating environmentally conscious values into corporate culture produced positive outcomes in terms of employee commitment and job satisfaction. Participants noted that an environmentally focused corporate identity strengthened

not only individual engagement but also the public image of the organization. This supports Porter and Kramer's (2011) assertion that sustainability has the potential to generate competitive advantage. It can be concluded that building a values-based organizational culture may be a key determinant of long-term success.

Overall, the findings show that green human resources practices foster diverse outcomes in organizational commitment, motivation, environmental awareness, and corporate responsibility. However, for these practices to be sustainable, comprehensive efforts are needed in strategic communication, structural support, and cultural transformation.

Conclusion

This study examined the experiences of individuals working in environmentally conscious sectors and evaluated the effects of human resources management practices on work processes and employee satisfaction. Given that institutional policies exert a direct influence on individuals, the distinction between individual and organizational factors is sometimes difficult to delineate (Şen & Uğrak, 2024, p. 3159). Possessing a job that allows an individual to sustain their life, or feeling a sense of gratitude toward one's current position, can be associated with significant impacts on both social and professional aspects of life (Uğrak, et al., 2025, p. 102). In recent years, green human resources practices have become a prominent topic within the broader context of sustainability. These practices not only enhance employees' environmental responsibility in the workplace but also improve job satisfaction through elements such as flexible working hours and environmental training. Although the procedures related to environmental activities and processes may initially be perceived as increasing operational costs, they are observed to strengthen corporate reputation and improve employee commitment in the long term.

While technical expertise is essential in environmental projects, it has been understood that effective communication and persuasion skills are also critical for success. Therefore, training programs should be redesigned to include both technical and social competencies. Furthermore, an environmentally oriented organizational culture has been shown to positively influence employee loyalty and corporate image. Integrating such a culture into strategic documents, and actively considering environmental responsibility in recruitment and reward systems, is vital for achieving long-term sustainability goals. In general, the successful implementation of green human resources practices requires not only technical infrastructure but also a holistic approach that encompasses social, cultural, and managerial support mechanisms aimed at empowering employees.

In conclusion, the effective implementation of environmental projects is likely to depend not solely on individual efforts, but on a comprehensive approach supported by social and institutional cooperation. The findings of this study suggest that evaluating the experiences of those working in eco-conscious sectors from a broader perspective, and integrating sustainability policies into business processes, may become one of the indispensable directions of the future of work.

Compliance with Ethical Standards

Ethical Approval

In order to conduct the study, ethics committee approval was received from the Health Sciences University Trabzon, Faculty of Medicine Scientific Research Ethics Committee, dated 05.11.2024 and numbered 2024/11.

Author Contributions

The author confirms the sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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The Port of Suakin in the Late 19th Century: Trade and Politics

19. Yüzyılın Sonlarında Sevakin Limanı: Ticaret ve Siyaset

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Abstract

Suakin, a strategically significant port on the Red Sea, came under the Ottoman control without direct military confrontation following Yavuz Sultan Selim's conquest of Egypt in 1517. Strategically located, it became a key hub for the Ottoman trade and especially in the 19th century, a focal point of colonial competition. The opening of the Suez Canal in 1869 changed trade dynamics and increased British influence in the region. Britain has now begun to pursue a proactive policy in the region. Although the Ottoman presence in Suakin and the entire Abyssinian geography effectively ended with the British occupation of Egypt in 1882, relations with the region, which was officially considered Turkish territory, continued in some way until 1917. This study focuses on the strategic significance of the Port of Suakin, a key maritime hub that has retained its geopolitical relevance from the Ottoman period to the present. Suakin's role as a major center of trade in the Red Sea positioned it at the intersection of global economic and political transformations, particularly during the era of European colonial expansion. The research examines the policies pursued by the Britain to assert its influence in Sudan and the broader region, with a particular focus on the instrumentalization of trade as a mechanism for political and territorial consolidation. Furthermore, the study assesses the interplay between trade, diplomacy, and military intervention in shaping Suakin's historical trajectory, offering insights into the dynamics of colonial competition and the long-term implications of the British policies for Sudanese sovereignty.

Keywords: Ottoman Empire, Red Sea, Suakin Port, Sudan, Britain

Öz

Kızıldeniz'de stratejik açıdan önemli bir liman olan Sevakin, Yavuz Sultan Selim'in 1517'de Mısır'ı fethetmesinin ardından doğrudan askeri bir çatışma olmadan Osmanlı kontrolüne girdi. Stratejik bir konuma sahip olan Sevakin, Osmanlı ticaretinin önemli bir merkezi ve özellikle 19. yüzyılda kolonyal rekabetin odak noktası haline geldi. 1869'da Süveyş Kanalı'nın açılması ticaret dinamiklerini değiştirdi ve bölgedeki İngiliz etkisini artırdı. Büyük Britanya artık bölgede proaktif bir politika izlemeye başladı. Sevakin'deki ve tüm Habeş coğrafyasındaki Osmanlı varlığı, 1882'de İngilizlerin Mısır'ı işgaliyle fiilen sona ermesine rağmen, resmen Türk toprağı olarak kabul edilen bölgeyle ilişkiler 1917'ye kadar bir şekilde devam etti. Bu çalışma, Osmanlı döneminden günümüze jeopolitik önemini koruyan Sevakin Limanı'nın stratejik önemine odaklanmaktadır. Sevakin'in Kızıldeniz'deki önemli bir ticaret merkezi olarak rolü, onu özellikle kolonyalist devletlerin genişlemesi döneminde küresel ekonomik ve politik dönüşümlerin kesiştiği noktaya yerleştirdi. Araştırma, İngiltere'nin Sudan'daki nüfuzunu arttırmak için izlediği politikaları inceliyor ve özellikle ticaretin politik ve bölgesel konsolidasyon mekanizması olarak araçsallaştırılmasına odaklanıyor. Sevakin'in tarihsel gelişimini şekillendirmede ticaret, diplomasi ve askeri müdahale arasındaki etkileşimi değerlendiren bu çalışma, sömürgeci rekabetin dinamikleri ve İngiliz politikalarının Sudan egemenliği üzerindeki uzun vadeli etkileri hakkında fikir vermektedir.

Anahtar Kelimeler: Osmanlı Devleti, Kızıldeniz, Sevakin Limanı, Sudan, İngiltere

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The Port of Suakin in the Late 19th Century: Trade and Politics

Throughout history, the city of Suakin has been one of the important economic, religious and political centers on the African coast of the Red Sea. In addition to being the last point where trade caravans coming from the interior of Africa reached the sea, it was also the gateway to the sea for the north-south trade between Abyssinia and Egypt. With the spread of Islam in the region, the Port of Suakin became the starting point of the pilgrimage route of African Muslims, and this caused the place to be given religious importance (Nour, 2006, p. 7). The Port of Suakin was also used by Ethiopian Christians on pilgrimages to Jerusalem. Therefore, it was also of great religious importance to Christians. The pilgrims continued to use this route until the 16th century (Peacock, 2012, p. 30).

In the 10th and 11th centuries, the most important stop on the Red Sea in trade with India was the Port of Suakin. Suakin, which maintained this feature in later periods, was a stopover point for ships travelling to and from Egypt via the Gulf of Aden (Peacock, 2012, p. 30). Suakin gained even more importance after the Mamluks took over the region in 1265. During this period, ivory, gum and slaves were regularly sent to Egypt from the interior of Sudan. It is known that the Mamluk sultans also made efforts to develop this trade (Bloss, 1936, p. 281, 282).

Commercial activity in the Port of Suakin intensified from the beginning of the 15th century. This was due to the increasing wealth of Egypt, which increased its trade relations with India, Ceylon and China (Peacock, 2012, p. 31; Bloss, 1936, p. 283). Although the Mamluks tried to carry out this trade via the Indian Ocean and the Gulf of Aden through the Port of Jeddah, they were unsuccessful. It is known that there were plenty of merchants who used the Port of Suakin as a base for trade to India during this period (Peacock, 2012, p. 31). In addition, after the destruction of the northern port of Aydhab by the Mamluk Sultan Baybars around 1428-29, Suakin became the most important port on the western coast of the Red Sea. In the following period, it became one of the main centers of trade with Egypt, Arabia and Yemen. It also continued to be an important route for pilgrims (Bloss, 1936, p. 285).

Two developments in the 16th century caused significant changes in the Red Sea ports. The first was the Portuguese discovery of the Cape of Good Hope which resulted in the shift of the Indian trade route to this region, and the second was the Ottoman conquest of Red Sea ports such as Jeddah, Suakin and Massawa (Bloss, 1936, p. 281, 282). As part of their strategy to control trade in the Indian Ocean, the Portuguese began to seek ways to enter the Red Sea in the late 15th century. To this end, they attempted to take control of the Aden region but were unsuccessful. In the early 16th century, the Red Sea and the Port of Suakin came under direct Portuguese influence. After the siege operation they carried out in 1513, they built forts in Suakin and Massawa in 1517, aiming to establish a permanent presence in these regions, but were unsuccessful. It can be thought that the main aim of the Portuguese Red Sea policy was to capture the Red Sea coast and Mecca in cooperation with the Christian Abyssinian Kingdom. However, according to some historians, these expeditions of the Portuguese were exploratory activities aimed at getting to know the Red Sea ports and understanding the situation of the Muslims in the region (Nour, 2006, p. 9; Peacock, 2012, p. 32).

While these developments were taking place on the Red Sea coasts, the Mamluk Sultanate, which dominated the region at the same time, was under threat from the Ottoman Empire coming from the north. The Ottomans, who won the war against the Egyptian forces in 1517, managed to dominate Egypt and the entire domain ruled by the Mamluks. It is understood that the local emirs who governed Suakin during the Mamluk period recognized the Ottoman sovereignty as a strong Islamic state during the period when the Ottoman fleet descended to the Red Sea, and fought against the Portuguese (Nour, 2006, p. 15).

Although this region came under the Ottoman rule in 1517, the first data regarding its actual inclusion in the Ottoman administrative system dates to 1554. Therefore, there is no enlightening information about the early periods of the Ottoman rule in Suakin. It is understood that the Turks fought for dominance over the Suakin Port and trade during this period since it is known that the Portuguese were trying to remove the Turks from the region in cooperation with the King of Abyssinia at that time (Alvares, 1881, p. 185, 186, 352).

After the Ottomans established the Yemen Province and settled well on the Red Sea coast, they became more interested in the western coast of the Red Sea and East Africa. In 1525, the Ottoman navy eliminated the bases established by the Portuguese and established complete dominance in the region. However, the struggles with the Portuguese continued in the following period. During the reign of Süleyman the Magnificent, the Habeş Province was established in 1555 with its center in Suakin, and Özdemir Pasha was appointed as the governor. Until his death (1560), Özdemir Pasha tried to cut off the Abyssinian Kingdom's connection to the sea by extending the Ottoman rule southwards along the western shores of the Red Sea. His son Osman Pasha, who succeeded him, fought for the dominance of especially the coastal areas and ports as his father (Orhonlu, 1996a, p. 363, 364).

The city of Suakin was located on an island of the same name, very close to the coast. In the second half of the century, it came under threat from the local tribes of the Func Sultanate. These tribes, who did not recognize the Ottoman sovereignty, besieged Suakin from time to time and made the administration very difficult. The Func threat continued in the late 16th century. Although the Ottomans maintained their rule in Suakin during this period, they were unable to stabilize it, since communication between Suakin, which was geographically very distant, and the imperial center was very difficult. For instance, a correspondence with Istanbul could only reach its destination in 5-6 months. Undoubtedly, this situation made it very difficult to establish the authority in Suakin. In the following period, the Ottoman authority in Suakin could only be established as a result of cooperation with the local tribes (Peacock, 2012, p. 37).

Although the center of the Habeş Province was moved to Massawa in the 17th century, the rulers generally continued to live in Suakin. However, some territories were lost during this period and the territory of the Habeş Province shrank. The customs revenues of the ports decreased even further. The revenues obtained were mostly spent on wars with local powers to maintain state authority (Nour, 2006, p. 26).

In the 18th century, the province's income fell even further, and it fell far short of meeting its own expenses. Due to this and other internal and external issues, the Ottoman Empire's interest in the Habeş Province also decreased. In addition, during this period, the Red Sea lost its status as a closed inland sea in the hands of the Ottoman merchants and was opened to world trade. As a result, the pressure of European states seeking commercial and political supremacy in the region increased. All these developments brought about a number of administrative changes. In 1701, the Habeş Province was administratively removed from its status as an independent province and incorporated into Jeddah Province (Nour, 2006, p. 30, 31).

In the 19th century, the Habeş Province, which was mostly administered by local administrators, had a district governor attached to Jeddah, albeit symbolically. With Mehmed Ali Pasha taking over the administration in Egypt in 1804 and expanding his influence southward along the Red Sea coast in 1821, Massawa and Suakin began to gain importance again. The administration of these two ports and revenues were given to Mehmed Ali Pasha by the Ottoman administration. Thus, the lands of the Habeş Province began to be administered de facto by the Governor of Egypt on behalf of the Ottoman Sultan. As such, the Ottoman administration began to be called "*et-Türkiyye es-Sabıka*" (previous Turkish administration) (Nour, 2012, p. 118). Meanwhile, the competition between the King of Abyssinia, who

was cooperating with European states, and the Ottomans over the ports of Suakin and Massawa was increasing. After the death of Mehmed Ali Pasha, these two ports, which were connected to Jeddah, were returned to Egyptian administration in 1865. The opening of the Suez Canal in 1869 changed all balances in the region. The Abyssinia region, centered on Suakin and Massawa, became the scene of struggles for dominance between the Ottomans, Egypt, England, Italy and France after this date. As a result, England invaded Egypt in 1882 and landed troops on the coast of Sudan. Italy, on the other hand, settled in the regions of today's Somalia, Eritrea and Djibouti. Efforts to re-establish the Ottoman dominance in the region were fruitless. Thus, the Ottoman period in Sudan effectively ended. However, the Ottomans never accepted this situation and always stated that Egypt, Sudan and the Red Sea coasts were legally theirs. Although some relations were established with Abyssinia, which it considered a vassal during World War I, these relations were completely severed in 1917 (Orhonlu, 1996a, p. 366, 367).

The Port of Suakin could not handle the commercial load of the Red Sea in the early 20th century. As the Red Sea, especially after the opening of the Suez Canal, was well integrated into world trade and became one of the most important transit routes for international ships. For this reason, a new port, Port Sudan, was opened 30 km north of Suakin in 1905. The Port of Suakin remained idle. The historical city and port on Suakin Island have remained to the present day in ruins (Bloss, 1936, p. 271, 272)

This study focuses on the trade conducted via Suakin Port in the late 19th century and the Red Sea policy conducted by England via Suakin Port and all of Sudan. Unlike the existing studies in the literature, firstly, detailed information has been provided about the trade volume of Suakin Port in the late 19th century, import and export products, ships and countries trading via Suakin Port. The focus is particularly on England's place in this trade. Then, the process of England's commercial activities starting to produce policies in Suakin and all of Sudan and eventually dominating the region was examined. Ottoman Archive documents, trade statistics from the end of the 19th century obtained from Foreign Office documents in the British Archives and research works on the subject constitute the main sources of the study.

Method

This study employed the document and source analysis method. The underlying data for the study were collected through a comprehensive review of primary and secondary sources. The primary source materials consisted primarily of correspondence between the British Foreign Office and its consulates in various countries, including consular reports. These documents, published in the "Parliamentary Papers of the House of Commons," provided detailed statistical data on the commercial landscape of the Port of Suakin and the Sudan region. Complementing this primary source analysis, a comprehensive review of the existing academic literature on the subject was conducted to contextualize the findings and identify relevant research. The archival documents were subjected to both descriptive and contextual analysis. The findings from these analyses were then interpreted within the framework of cause-effect relationships and synthesized in relation to the central research topic.

Suakin Port as a Trade Centre

The basic economic order of the Ottoman Empire was based on the provinces' economic self-governance and the transfer of surplus income to the central treasury. The revenues of the Abyssinia region, which was organized as a province after entering Ottoman rule, were never at a level that would be self-sufficient. However, the Port of Suakin was always seen as an important base by the Ottoman administrators, both commercially and strategically. For this reason, immediately after entering Ottoman rule, efforts were made to increase the port's income. The port was expanded, its business volume increased, and thus the development of trade was aimed (Bloss, 1936, p. 289).

Suakin was also the gateway to the sea for the Func Sultanate, which was located a little further inland. There was a trade cycle that was generally based on the exchange method and was based on grain and textile products. The lands of the Func were very fertile and had very large agricultural areas and gardens. The wheat and food needs of the Habeş Province were generally met from the Func region and this trade was carried out through the Suakin Port (Orhonlu, 1996b, p. 74). Evliya Çelebi, who came to the region in 1672, confirmed this situation in his travel book and said of Suakin: “... *it has no vineyards, gardens or orchards. However, it is a very valuable place as it is the port of the provinces of the kingdoms of Funcistan, Zencistan and Dumbistan in these regions*”. The Frenchman Poncet, who arrived in Suakin in 1699, also mentioned the importance of Suakin Port and mentioned that it was the loading center for the merchants of Sennar, the center of the Sultanate of Func, which had fertile lands (Peacock, 2012, p. 40).

Towards the end of the 18th century, the increasing importance of the Red Sea in international trade revived the Port of Suakin to some extent. However, the real revival occurred in the early 19th century when Mehmet Ali Pasha took over the administration in Egypt and began to control the Red Sea coast. During this period, the people of Suakin, who made their living mostly through trade, were at the center of a trade network established to transport goods coming from the interior of the continent to the Ports of Mocha, Hudeyde on the opposite coast, and the Port of Alexandria in Egypt. The cattle needs of the Hejaz region in particular were met through the Port of Suakin (Nour, 2006, p. 28, 29).

In the second half of the 19th century, the increase in British commercial activities in the Sudan region had a positive effect on the trade of Suakin and other Red Sea ports. The most traded products were ivory, gum, oil, coffee, camels, ostrich feathers, cotton and gold. These products were sent to Europe via Egypt, and to the Arabian Peninsula and India via Suakin Port (Nour, 2006, p. 129).

Suakin Port Traffic and Ships Coming to Suakin

Suakin Port was one of the most important ports for Europeans in the colonial competition of the 19th century. For this reason, especially towards the end of the century, it was the scene of increasing commercial and political conflicts among the Ottoman, Egyptian administrations, and other European states, especially Britain.

The most important source available on the commercial statistics of Suakin Port is the British consular reports covering the period between 1886 and 1898.ⁱ According to these reports, a total of 744 ships arrived in Suakin Port, 462 in 1885, 162 in 1886 and 120 in 1887. It is noteworthy that there was a noticeable decrease in the number of ships coming to the port in these three years. In order to further elaborate on the subject, more detailed data on the countries of origin of the ships arriving in 1886 and 1887 are given in Table 1.

Table 1

Ships Arriving in 1886 and 1887 in Suakin Port

1886			1887		
Country	Piece	Total	Country	Piece	Total
Egypt/Ottoman	70 (9 ships carrying troops)	162 (51 ships carrying troops)	Egypt/Ottoman	56 (3 ships carrying troops)	120 (31 ships carrying troops)
Britain	64 (36 ships carrying troops)		Britain	30 (22 ships carrying troops)	
Austria	20 (5 ships carrying troops)		Austria	24	
Italy	5 (all troop-carrying ship)		Italy	10 (6 ships carrying troops)	
Other	3 (all troop-carrying ship)				

Soruce: HCPP, Egypt, Trade and Commerce of Suakin, 1887, p. 1; 1888, p. 3.

As can be seen in the table, the majority of the ships arriving in Suakin Port were from Egypt, which came under the de facto British administration in 1882.ⁱⁱ This was followed by the ships belonging to British, French, Italian and Austrian companies. It is understood from the reports that all of the ships arriving in Suakin were steamers. This greatly reduced the competitiveness of the Ottoman ships, most of which were sailing vessels, and strengthened the hand of European states both commercially and politically, especially Britain. Moreover, as a result of the increasing political rivalry in the Sudan region towards the end of the century, a large number of military ships arrived in Suakin in addition to merchant ships. It is noteworthy that British ships sent troops to the region between 1884 and 1888 due to the Mahdi Revolt.ⁱⁱⁱ

In the 1890s, when the Mahdi Revolt and internal unrest continued throughout Sudan, Suakin Port traffic was becoming increasingly intense. During these dates, the Khedivial Company^{iv} brought mail to Suakin once every two weeks via Suez from Egypt and once a month from Aden. The company, which made its voyages to the ports of Jeddah, Suakin, Massawa and Hedaydah, was in great competition with the British Bombay and Persian Steam Navigation Company. It is possible to see the commercial weight of England in Suakin Port during this period. Ships belonging to British companies coming from England and India used Suakin Port as a transfer point. For example, ships bringing coal from England to Suakin loaded salt here to be taken to Bombay via the Gulf of Aden. Similarly, cargo ships coming from Bombay to Suakin would sail from there to England with another cargo. The British Bombay and Persian Steam Navigation Company was one of the leading companies operating between India and Suakin and England. It is also understood from the records that the Eastern Telegraph Company also visited Suakin Port starting from 1893. Due to the political developments in the region, military ships belonging to the British and Italian navies also came to Suakin Port in 1895 and 1896. While the number of British steamships that came to Suakin in 1890 was only 9, this number reached 44 in 1896. This situation shows that England's influence in Suakin Port and in the entire Red Sea was increasing. Steamships belonging to the Austrian Lloyd Company also brought cargo to Suakin Port every two months. In 1898, when British companies took over the operations of the Egyptian Khedive mail steamers, the ship operations between Egypt and Suakin were completely monopolized by the British (HCPP, Egypt, Trade and Commerce of Suakin, 1891, p. 2; 1892, p. 2, 3; 1893, p. 5, 6; 1894, p. 2; 1895, p. 4; 1896, p. 4; 1897, p. 5; 1899, p. 8).

In light of these data, it would not be wrong to say that the trade of the Port of Suakin was monopolized by the British in the late 19th century. The location of the Port of Suakin, located between Suez, the exit route from the Red Sea to the Mediterranean, and Aden on the route to India, explains the British interest in the port.

Suakin Port Export and Import by Products

The British traders in Sudan did most of their trade through Suakin. The goods exported by British merchants or their agents through Suakin Port included ivory, gum, Abyssinian coffee, gold from the Sennar region, cassia and ostrich feathers from the Kordofan and Darfur regions, cotton, sesame and oil from the Kassala region, and animal products. After arriving at Suakin Port, these goods were mostly sent to the Barbar and Kassala regions. With these activities of the British, trade in Suakin reached its peak between 1874 and 1883. The fact that the British preferred to trade Sudan and Abyssinia through Suakin rather than through Egypt also played a major role in this. In 1875, the trade volume of Suakin Port reached 1,000,000 pounds. The customs revenue was 60,000 pounds (Nour, 2006, pp. 132-134).

The British consular reports refer to the port of Suakin in 1883 as “the last year of Sudan's prosperity”. After this date, it is noted that Suakin's trade volume suddenly decreased. For example, while its exports in 1883 totaled 127,263 pounds, this figure dropped to 10,454 in 1884 and to 4,625 a year later. It could not reach its former level for a long time. Likewise, there was a significant decline in imports from

Suakin Port. While imports in 1883 were 288,054 pounds, this figure fell to 123,359 pounds in 1884. The total volume of trade, which was 415,317 pounds in 1883, was 133,813 pounds a year later (HCPP, Egypt, Trade of Suakin, 1895, p. 7).

The main reasons for this dramatic contraction in the trade volume of Suakin Port, especially on the export side, were internal problems. Political instability due to the Mahdi Revolt against the British and the resistance of Osman Dikne, who led this uprising in Suakin, brought trade in the region almost to a standstill. This also led the British to take more military measures in the region and Suakin Port hosted more military ships than merchant ships. In 1889, with the withdrawal of Osman Dikne, trade began to pick up again. In that year, the total volume of trade increased from 106,219 pounds to 209,422 pounds compared to the previous year (HCPP, Egypt, Trade of Suakin, 1890, p. 1, 2, 4).

Although there was a relative increase, the disorganization in trade activities continued in the following years due to the famine. During this period, the increase in imports in parallel with the food demand in the region is noteworthy. In 1890, imports increased from 164,790 pounds to 197,359 pounds compared to the previous year. Exports, on the other hand, raised by only 10,000 pounds (HCPP, Egypt, Trade of Suakin, 1891, p. 4, 5).

After 1892, although there was a revival in trade, especially with the interior, political instability and security problems continued to negatively affect trade. The trade volume of Suakin Port also fluctuated during this period. Entering the 1900s far from its former prosperity, Suakin Port remained idle with the opening of Port Sudan in 1905.

By observing Table 2 for the export items from Suakin Port, it is clear that one of the important export products was gum. The highest quality gum traded was Kordofan gum, which was sent to England from Suakin Port. These gums, which were classified according to their hardness and color in England, were used in the chemical, garment and lacquer industries (HCPP, Egypt, Trade of Suakin, 1893, p. 3). Although cotton production in the hinterland of Suakin, especially in Tokar, was quite low, and in some years was interrupted, it was among the export products of Suakin Port. The cotton produced was of very low quality and was exported to Egypt and India without being cleaned and to other countries as cleaned cotton (HCPP, Egypt, Trade of Suakin, 1891, p. 3; 1893, p. 4, 5). In addition to these, animal skins, ivory, ostrich feathers, mother-of-pearl and senna were the main export items from Suakin Port. It is noteworthy that the export products were generally non-productive products collected from nature, animal products and minerals. The export of textile products, which started in 1896, shows that the cotton grown in this period was gradually transformed into manufactured products.

Imports, on the other hand, were quite rich in terms of product variety and much higher in value than exports. Among the British-origin products arriving at Suakin Port, only coal came directly from England, the others via Egypt. Wheat, rice, flour and garments came from India under the British control. Some other products were transported from various European ports, especially Trieste, by the ships of the Khedive and Lloyd companies (HCPP, Egypt, Trade of Suakin, 1890, p. 2).

The first import items were clothing and textiles. These products, which came from India and were transported by British ships via Bombay, were intended to meet the basic clothing needs of the people of the region. Other important import products were cereals and cereal products (barley, rice, dourra^v, flour, etc.), livestock, liquor and dates. Live animals were usually imported from Egypt, Jeddah and Barbar, while dates were imported from Jembo and the Persian Gulf (HCPP, Egypt, Trade of Suakin, 1890, p. 2). There is a marked decline in liquor imports from 1886 onwards. In the 1890s, it decreased further. The reason for this was that liquor imports were restricted and authorized. The small amount of imports was only used to produce alcoholic beverages for the military and civilian Europeans in the region (HCPP, Egypt, Trade of Suakin, 1893, p. 3; 1897, p. 3).

Table 2*Exports from Suakin Port between 1883-1890*

Product	Value by Years (Pound)															
	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Gum	56.609	2.414	2	1.500	5.000	15	-	2.681	16.043	43.796	56.855	39.320	61.711	27.347	29.793	29.434
Cotton	40.432	1.045	13	500	-	-	-	-	-	6.258	4.040	-	-	778	2.443	1.062
Hides-Leather-Skin	5.760	1.453	2.941	1.600	1.100	970	2.151	1.167	288	359	418	667	993	1.159	861	776
Ivory	-	-	-	-	1.050	-	1.868	20.836	399	2.715	4.357	12.765	1.002	435	684	2.348
Ostrich feather	-	-	-	-	144	95	-	335	1.018	883	249	-	-	-	-	-
Mother-of-pearl	-	-	-	-	2.900	2.870	2.141	1.883	3.157	5.098	2.557	3.857	4.064	3.501	3.521	5.679
Senna	-	-	-	-	-	-	-	561	4.466	5.681	2.337	2.283	1.293	2.241	3.472	1.497
Dourra	-	-	-	-	-	-	-	-	-	-	-	2.982	6.350	1.355	4.616	9.683
Tobacco	-	-	-	-	-	-	-	-	-	-	-	931	851	1.386	2.066	3.020
Date	-	-	-	-	-	-	-	-	-	-	-	-	1.096	722	1.382	1.106
Textile products	-	-	-	-	-	-	-	-	-	-	-	-	-	8.656	7.380	5.200
Silver	-	-	-	-	-	-	19.764	25.384	10.401	260	-	2.596	-	-	-	-
Other articles	24.462	5.123	1.669	4.700	1.510	774	18.703	1.535	1.151	2.214	4.465	12.717	9.325	5.818	9.936	5.845
Total	127.263	10.454	4.625	8.300	11.704	4.724	44.632	54.382	36.923	67.264	75.278	78.118	86.685	53.398	66.154	65.650

Source: HCPP, Egypt, Trade of Suakin, 1887, p. 2; 1888, p. 3; 1889, p. 3; 1890, p. 4; 1891, p. 5; 1892, p. 5; 1893, p. 14, 15; 1894, p. 8; 1895, p. 9, 1896, p. 8, 1897, p. 9, 10; 1899, p. 11, 12.

Table 3*Imports from the Port of Suakin between 1883-1890*

Product	Value by Years (Pound)															
	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Clothing-Textiles	204.261	19.508	7.794	7.000	31.900	20.000	36.516	38.579	58.465	57.910	59.604	43.352	51.141	26.057	20.968	51.955
Dorra-Barley	5.069	14.598	6.912	24.500	32.000	35.000	43.084	65.650	30.510	26.109	16.701	25.741	28.555	14.362	10.148	39.310
Cattle-Sheep and Goats	-	4.258	13.567	11.000	1.322	7.100	4.559	3.774	7.171	5.497	2.390	1.081	516	1.099	683	330
Liquors	6.882	7.119	21.806	6.000	2.160	2.640	2.083	1.207	1.557	2.675	997	1.675	1.541	2.466	3.219	4.591
Beans and lentils	-	-	-	-	-	-	1.079	2.014	2.207	1.755	898	680	237	353	348	453
Coal	-	-	-	-	-	-	7.640	4.737	7.111	1.327	4.172	5.842	3.865	9.037	5.200	769
Date	-	-	-	-	-	-	6.752	5.121	5.278	5.077	4.150	4.515	3.755	2.372	3.017	3.793
Flour	-	-	-	-	-	-	10.380	13.540	11.875	5.468	6.209	4.524	3.967	6.714	4.171	10.530
Fat	-	-	-	-	-	-	7.698	8.509	5.121	6.068	2.958		1.501	3.563	2.955	4.792
Petroleum	-	-	-	-	-	-	537	94	1.188	178	893	615	196	1.177	414	622
Food-Beverage-Other supplies	-	-	-	-	-	-	8.294	2.002	7.238	7.288	5.781	3.158	7.979	7.306	8.972	21.706
Rice	-	-	-	-	-	-	11.041	9.568	4.896	5.087	3.500	3.914	1.722	2.953	1.930	5.856
Drugs-Dyes-Perfumes	-	-	-	-	-	-	514	2.747	3.338	2.397	1.107	5.400	7.127	3.678	1.035	3.352
Soap	-	-	-	-	-	-	506	2.137	2.335	3.663	1.336	1.433	881	905	1.403	2.408
Spices	-	-	-	-	-	-	2.015	878	330	648	213	-	-	-	-	-
Straw	-	-	-	-	-	-	1.051	629	1.045	1.107	523	-	-	-	-	-
Sugar	-	-	-	-	-	-	5.648	12.970	5.634	3.108	4.866	-	-	-	-	-
Timber-Sandal Woods	-	-	-	-	-	-	746	475	1.759	4.780	936	-	-	1.235	637	334
Sesame-Sesame Oil	-	-	-	-	-	-	-	2.932	2.900	319	205	-	-	-	-	-
Tobacco	-	-	-	-	-	-	-	2.217	3.905	2.625	2.656	8.738	10.470	10.268	9.691	13.667
Fancy goods, cutlery etc.	-	-	-	-	-	-	-			773	785	7.805	687	7.825	10.008	8.263
Vegetables-Fruits	-	-	-	-	-	-	-	586	830	2.405	1.970	1.032	35	1.453	604	931
Mother-of-pearl	-	-	-	-	-	-	-	-	-	-	-	3.644	3.829	3.938	2.788	2.462
Other articles	71.842	77.876	126.271	47.000	26.900	36.836	14.647	16.993	11.975	13.332	13.755	13.319	7.201	3.404	2.654	1.434
Total	288.054	123.359	176.350	95.000	94.282	101.576	164.790	197.359	176.668	160.227	136.605	139.325	135.205	110.165	90.845	177.558

Source: HCPP, Egypt, Trade of Suakin, 1887, p. 2; 1888, p. 4; 1889, p. 3; 1890, p. 4; 1891, p. 4; 1892, p. 4; 1893, p. 12, 13; 1894, p. 4, 5; 1895, p. 6; 1896, p. 6, 7; 1897, p. 7, 8; 1899, p. 10.

An examination of the goods entering and leaving the port of Suakin demonstrates that", it is seen that some products such as mother-of-pearl, dates, tobacco and dourra are included in both import and export items. This situation is due to Suakin being an important transit port of the Red Sea. The products brought here by ship were sent to other regions by ships. In fact, it is stated in the sources that half of the total imports were transit products (HCCP, Egypt, Trade of Suakin, 1899, p. 4).

Slave trade was an important part of the trade conducted through Suakin Port. The ports of Suakin and Massawa were the center of the slave trade through the Red Sea. The prohibition of the slave trade via the Nile River in the 1860s due to British pressure shifted the route to the Red Sea and this situation brought the ports of Suakin and Massawa, which were under the Ottoman Empire at the time, to the forefront (Zengin, 2018, p. 20). The fact that the letters of the Governor of Egypt refer to the ports of Suakin and Massawa as "*the gateway of the black slave trade*" (Nour, 2006, p. 100) shows that the slave trade was identified with these two ports.

In the late 19th century, there was a significant increase in the slave trade. In this period, when only Suakin came to the fore with an annual slave market of 2,000-3,000 people, (Peacock, 2012, p. 43) Britain was the country that had a say in both the administration and trade of the Sudan region (Nour, 2006, pp. 132-134). Contrary to their previous policies, the British occupiers of Sudan saw slavery and the slave trade as necessary and essential for their economic and military activities. They began to argue that the relationship between master and slave should not be interfered with if both parties consented. Undoubtedly, the main concerns here were to prevent possible reactions against the British occupation and to provide cheap labor to be employed in agriculture, especially in cotton production (Zengin, 2018, p. 225, 226).

Exports and Imports of Suakin Port by Country

As mentioned earlier, global trade, which was constantly developing on the axis of colonialism, included the Red Sea ports in its system in the 19th century. Britain's perception of the Red Sea as a highly strategic region for the security of its Indian colonies led to the development of a British-led trade in the ports in this region. Especially in the second half of the century, Britain, which settled in the Sudan region, increased its commercial activities here and gained commercial supremacy in the Red Sea. Therefore, during this period, the influence of Britain in the trade carried out through Suakin gradually increased. It reached its highest level after Egypt came under British rule. Although there was not much direct trade with the ports of Britain during this period, it can be said that British companies managed a large part of the trade in Suakin Port when considered together with India, which was a British colony, and Egypt from 1882 onwards.

Table 3

Exports of Suakin Port between 1890-1898 by Country (Pounds)

Countries	Years							
	1890	1891	1892	1893	1894	1895	1896	1898
Britain	17.125	5.352	21.887	30.771	20.178	20.320	14.703	22.184
India	29.960	10.405	13.280	12.277	6.247	3.440	1.355	-
Egypt/Ottoman	872	4.034	9.283	1.729	15.352	16.105	16.045	24.598
Ottoman (Directly)	152	10	15	-	-	-	785	-
Austria	2.345	14.659	17.468	22.026	25.796	35.605	18.788	16.914
France	-	168	197	491	-	-	-	-
Massawa	-		1.034	1.693	-	-	-	-
Other Countries	1073	163	31	57	10.542	11.215	1.722	1.954

Source: HCCP, Egypt, Trade of Suakin, 1887, p. 2; 1888, p. 3; 1889, p. 3; 1890, p. 4; 1891, p. 5; 1892, p. 5; 1893, p. 14, 15; 1894, p. 8; 1895, p. 9, 1896, p. 8, 1897, p. 9, 10; 1899, p. 11, 12.

When the exports from Suakin are examined, it is seen that Egypt is categorized separately in British documents. Although officially under the Ottoman Empire, Egypt, which was de facto autonomous and under British administration since 1882, had an increasing trade with Suakin. Apart from Britain, India and Egypt, the largest exports from Suakin were to Austria. Despite being legally an Ottoman territory, exports from Suakin to other Ottoman ports were quite limited. In the trade carried out through the port of Jeddah on the opposite coast, it is seen that while goat skins and feathers were initially exported from Suakin to the Ottoman Empire, in the following years, mother-of-pearl, cereals, textiles and cotton were exported, albeit to a lesser extent. Gum, ivory, mother-of-pearl, animal skins, cotton, and, for a certain period, large quantities of silver were exported to Britain and its colonies, which received the largest share of the Suakin trade.

Table 4

Imports of Suakin Port between 1890-1898 by Country (Pound)

Countries	Years							
	1890	1891	1892	1893	1894	1895	1896	1898
Britain	8.421	13.471	21.471	14.963	23.460	23.182	20.163	21.432
India	42.171	63.071	62.275	50.629	60.460	57.623	44.320	69.850
Egypty/Ottoman	25.152	43.918	31.422	41.786	37.231	39.869	34.077	70.358
Ottoman (Directly)	47.425	30.109	19.749	7.492	9.488	7.212	4.520	
Austria	6.797	6.829	4.800	2.263	3.640	2.071	672	-
France	-	-	555	191	-	-	-	-
Massawa	3.618	1.771	2.350	1.003	-	-	-	-
Other Countries	-	-	1.505	1.004	5.046	5.248	6.413	15.918

Source: HCPP, Egypt, Trade of Suakin, 1887, p. 2; 1888, p. 4; 1889, p. 3; 1890, p. 4; 1891, s, 4; 1892, p. 4; 1893, p. 12, 13; 1894, p. 4, 5; 1895, p. 6; 1896, p. 6, 7; 1897, p. 7, 8; 1899, p. 10.

When the countries of imports are analyzed, it is seen that British India topped the list. In the early 1890s, imports from Egypt and other Ottoman ports were also significant. It is noteworthy that imports from Egypt increased considerably within a few years, while imports from other Ottoman ports declined and ended completely in 1898. This shows that Britain's dominance in the Egyptian, Sudanese and Red Sea trade was increasing. Suakin Port, which had a large hinterland inhabited by communities with a very low standard of living, was the most important gateway to this large market for British merchants. For this reason, most of the products imported from the port consisted of basic food and clothing. The Ottoman merchants also sold mainly food and textiles to Suakin through the port of Jeddah.

The Instrumentalization of Trade and British Domination of Sudan

Looking at the spheres of influence of Britain, a major player in overseas colonial policies, in the 19th century, it is not difficult to understand the reasons for its interest in the Red Sea: trade and politics. Two important developments played a major role in the prominence of the Red Sea ports in this period. First, Africa became one of the most important areas of the global colonial race as a source of raw materials and a market for manufactured goods, and the other was the opening of the Suez Canal in 1869. These two developments were enough to draw Britain's attention to the Red Sea both commercially and politically.

In the 19th century, Britain was engaged in a fierce struggle with the Ottoman Empire and local dynasties to capture the Red Sea trade and establish political dominance in the Red Sea. Britain's policy was based on maximizing commercial revenues from the Red Sea ports and dominating the Indian sea route, thus ensuring the security of its colonies. However, it is understood that the British considered

their political interests more important than commercial gain, that is, they used trade as a tool for their political interests. This is because the revenues of Suakin Port and other Red Sea ports were never in attractive amounts for the British. This is evident when the trade volume of Suakin Port is compared with the important ports of the Eastern Mediterranean. The trade volume of Mersin Port was 898,914 pounds in 1880, 1,000,173 pounds in 1899, and 1,413,754 pounds in 1903. The trade volume of the Port of Beirut in 1899 was 2,632,115 pounds. In 1907, the trade volume of the Port of Istanbul was 11,090,852 pounds, the Port of Izmir 7,837,000 pounds and the Port of Thessaloniki 3,856,335 pounds. In Suakin Port, on the other hand, the highest trade volume was 1,000,000 pounds in 1875, which dropped to 415,317 pounds in 1883 and did not reach these levels again in the following years (Uğuz, 2016, p. 357). These figures suggest that the British interest in this port went far beyond trade. Trade was used by the British as an important apparatus for establishing dominance in Suakin and the entire Red Sea.

The slave trade, one of the most important commercial activities in the Red Sea ports, was tried to be abolished by the British from the 1830s onwards. This prohibition, which was based on seemingly innocent and humanitarian grounds, was expressed as “*no state claiming to be civilized can practice, defend or perpetuate the slave trade, which is a crime against humanity*”. This British initiative had both economic and social consequences and brought about a number of reactions. With its policy of preventing the slave trade, Britain put pressure on the Ottoman Empire, Egypt, Sudan and Zangibar. In fact, the British pursued an interventionist policy under the pretext of abolishing slavery and used this situation as an excuse to interfere in the internal affairs of states. Taking their oppression to a higher level, they appointed Christian European officials, especially the British, as governors in Sudan and indirectly took control of the administration. As a result, Britain used the slave trade and the attempts to ban this trade as a tool to interfere in the internal affairs of the regions and countries in which it had interests, to exert pressure, and to intervene politically or militarily if necessary (Zengin, 2018, pp. 133, 134, 325).

The Ottoman-Egyptian rule over Sudan was replaced by the British occupation of Egypt in 1882. After this date, the British started to increase their influence in the region. However, due to the Mahdi uprising, the British policies on Sudan failed. Suakin became an important base in the Egyptian-British operations against the Mahdi uprising. Suakin was the center where military forces were sent during the operations (Özdağ, 2022, p. 56, 57).

The British failed against the Mahdi forces and had to evacuate Sudan in 1885. The place that the British did not abandon during this process and insistently held on to was Suakin. The reason is that Suakin was the gateway to Sudan for the British. In 1886, only Suakin had British presence on the Red Sea coast. 3500 British-Indian troops were stationed in Suakin against Osman Dikne's^{vi} forces. The city of Suakin was protected by the British navy. Osman Dikne was trying to capture his city of Suakin and the British were trying to hold it. The campaign against Osman Dikne was directed from the Egyptian-British garrison in Suakin, the center of the region (Özdağ, 2022, p. 131, 132, 161-169).

The great famine in Sudan in 1890 and the mismanagement of the British administrators in Suakin caused the tribes in the region to react. In response, the tribes were supported with British aid. In a telegram sent to the tribal leaders, the British government stated that all they wished was for the people to live in peace and for trade to revive. It also emphasized that they would continue to hold Suakin (Özdağ, 2022, p. 170). The British had played one of their most important trump cards, promising to revive trade in order to bind the tribes to them. This was a persuasive offer for the tribes who put their economic interests above all else.

After the withdrawal in 1885, Britain, which had increased its influence over Egypt, took action again in 1896 in order to complete its unfinished business and dominate Sudan. Britain, which managed the

economy of the region with its commercial activities, especially through Suakin Port, tried to increase its commercial and military effectiveness with the railway projects it implemented. The increasing importance of the Red Sea ports in world trade and the French colonial activities in Africa were the most important sources of motivation for the British policies in the Sudan region (Akalin, 2016, p. 137, 138).

In both operations, the British confronted the Ottoman Empire over their sovereignty over both Egypt and Sudan. It is understood that the Ottoman government was faced with a very difficult dilemma in the first operation organized by the British against the Mahdi forces. On the one hand, this operation, which took place in Egypt and thus in the Ottoman sovereign territory, could pave the way for the British to settle in Sudan. On the other hand, the example set by the Mahdi movement in the Arab geography under the Ottoman rule (especially in the Hedjaz) could have led to new revolts and major territorial losses. The Ottoman government preferred to support the policies of Britain and Egypt against the Mahdi movement. In this process, since it preferred to deal with the eastern side of the Red Sea rather than the western side, it could not take an effective position in the region when Sudan was evacuated at the end of the first operation (Özdağ, 2022, pp. 153-155). When the Egyptian forces evacuated Sudan in this process, the Ottoman, that is, “the Turkish period”, in the region *de facto* came to an end (Nour, 2012, p. 122). Consequently, this situation increased Britain's legitimacy and dominance in the Sudan region.

Although the British obtained the approval of the Khedive of Egypt for the second operation, the Ottoman Sultan objected to an operation in Sudan, which was officially part of the Ottoman Empire. The Sultan still had some influence over Egypt, albeit passive. Sudan, which was to be invaded, was inhabited by Muslims and was under the Caliphate. Therefore, the British were fear of the influence of the Caliph. For this reason, the British ambassador in Istanbul was asked to inform the Sultan that the expedition was for the security of Egypt and that the Khedive's authority in the region would increase (Özdağ, 2022, p. 179).

Despite the Ottomans' declaration that they would not approve an operation on Sudan, the British-Egyptian forces took action. Thereupon, the Ottoman Empire started negotiations with France, its biggest rival in Africa, in order to stop Britain. However, no result was obtained from this attempt. Thus, the Ottoman Empire's attempt to stop Britain through diplomatic means failed. The Ottoman Empire then considered sending Turkish troops to Suakin. It informed the Khedive of Egypt that military units known as the Hamidiye Regiments could take part in the operation. However, this offer was not accepted by the British. In fact, the Egyptian Khedive was not in favor of this either. He did not want the Ottoman presence in the Sudan region, especially Suakin. The tribal chieftains in Suakin were uncomfortable with the British presence in the region. The chiefs, who did not want to remain loyal to Caliph Abdullah, who replaced Muhammad Ahmed, wanted the Egyptian-Ottoman forces to dominate the region again. They conveyed this situation to Gazi Ahmed Muhtar Pasha, the Ottoman commander-in-chief in the region. Pasha reported to Istanbul that the tribes of the region would obey the Ottomans and requested a military operation to Suakin. However, the Ottoman rulers did not attempt such an operation as they thought that it was inappropriate to turn to Sudan while there was British rule in Egypt, and that Egypt should first be cleansed of the British (Özdağ, 2022, p. 160, 161). The Ottoman Empire was able to follow a passive policy due to its economic and political situation. It could not take action except for a few diplomatic initiatives. The lack of military capacity made it impossible to carry out any military operation on either Egypt or Sudan (Özdağ, 2021, p. 859). Nevertheless, the Ottoman Empire continued to regard the Red Sea as an inland sea. Until the collapse of the state, it struggled diplomatically and militarily to protect its rights in the region (Akalin, 2016, p. 146).

The Egyptian-British invasion of Sudan, which began in 1896 with the Dargala campaign, was completed in September 1898 with the Battle of Omdurman. In January 1899, the Treaty of Condominium was signed between Britain and Egypt and joint administration was introduced in Sudan. However, even though it was considered as a joint administration, this treaty gave much wider powers to the British (Nour, 2012, p. 123; Özdağ, 2021, p. 860). Thus, the British settled on the Sudanese coast and consolidated their Red Sea dominance. They became the most important power in the region both commercially and politically.

Conclusion

Suakin was not only an old trading port but also strategically important due to its location. This location had caused westerners, especially the Portuguese, to show interest in Suakin, especially since the discovery of the Cape of Good Hope. In parallel with the increase in colonial activities in the region in the following periods, Suakin was seen as an important base and center. For this reason, it became one of the important centers of political and military conflicts in the 19th century, when imperialist interest in Africa and Asia increased. Being on the pilgrimage route of African Muslims also increased the importance of Suakin.

It was inconceivable that the Red Sea ports would not share in the European-centered global trade based on the Industrial Revolution and its consequent colonialism. Indeed, the Red Sea and its environs were a crucial geography in terms of the security of the routes to India and other Asian colonies of Britain, which was defined as the empire on which the sun never set. This is also the reason why the British attached great importance to Suakin Port, located on the African shore of the Red Sea.

It is understood that the British interest in Suakin Port was based on political rather than commercial reasons. This is due to Britain had taken the Cape Colony (the region whose center is today's Cape Town) at the southernmost tip of Africa from the Netherlands with the Congress of Vienna in 1815. In the following years, it expanded its occupation towards the north. With the opening of the Suez Canal in 1869, Suakin became even more important both commercially and politically. In 1882, Britain brought Egypt under its rule, thus establishing dominance at the southern and northern ends of Africa. Of course, the ultimate goal was to capture the lands between these two ends. However, the French were also expanding their occupation in this region. The French advance into the Bahr el-Ghazal region at the southernmost tip of Sudan was unacceptable for Britain (Armaoğlu, 1997, p. 421-423). This is due to the routes to the Asian colonies, the lifeblood of Britain, would be threatened by the French. Therefore, Britain had to dominate the Sudan region, that is, the African shores of the Red Sea. Indeed, the establishment of dominance over these regions necessitated the strategic control of their ports. However, the fact that the Sudan region was Ottoman territory and France used this as a trump card pushed Britain to seek other means. First of all, by using its commercial influence, it started to control trade, especially in ports such as Suakin and Massawa. While doing so, on the one hand, it banned the slave trade, which had an important place in the economy of the region. The British, who gained military superiority in the Red Sea under the pretext of preventing the slave trade, strengthened their political influence and ensured the security of the Indian trade route and increased their influence in the regional trade.

After 1882, the Sudanese issue came to the fore, this time for the security of Egypt. Because the British believed that unless Sudan was controlled and Red Sea ports such as Suakin and Massawa were kept under control, Egypt and thus the shortest route to India could not be secured. For this reason, in order to be able to dispatch troops quickly when necessary and to facilitate control by land, work began in 1882 to build a railway line between Suakin on the Red Sea coast and Barbar on the banks of the Nile

River, yet this project was not completed (BOA, Y.PRK.PT. 2/66; BOA. Y.A.HUS, 178/80; BOA. Y.A.HUP. 178/45; BOA. Y.PRK.SNR. 1/69).

While this was happening in Egypt and Sudan, the Ottoman Empire had to follow a passive policy in the region due to its political, economic and military weakness. In the 19th century, as sailing ships were replaced by steamers, dependence on natural conditions decreased, voyage times shortened, and transportation capacities increased, which led to a fierce competitive environment. Undoubtedly, this situation whetted the appetite of the West, which was engaged in colonial activities in Asian and African countries. Westerners were engaged in an unprecedented struggle for new trade routes, new ports and new lands to exploit. It was already impossible for the Ottoman Empire, whose merchant fleet consisted mostly of sailing ships, to compete with Western trading companies in the Red Sea. Although the first domestic steamship was built in the Istanbul Shipyard in 1838, the transition from sailing ships to steamships was much slower than in Europe. For this reason, in the 19th century, foreigners became increasingly dominant in maritime transportation between the Ottoman ports. The Red Sea was dominated by Western trading companies, especially the British. The Ottoman trade in Suakin Port, which had previously been carried out through Egypt, was completely monopolized by the British after the Khedivial Company was taken over by the British. Even exports and imports from Suakin to other Ottoman ports began to be carried out by foreign ships. This meant that the commercial presence of the Ottoman Empire in Suakin and other Red Sea ports diminished considerably, if not completely ended by the end of the 19th century.

The policy of dominating Egypt and the Red Sea ports, and thus the security of the Indian route, was seen in Britain as a supra-political issue that “*no British government could gamble on*” (Armaoğlu, 1997, p. 424). It is clear from all these events that Britain's interest in Suakin Port was based on the political advantages it promised rather than the port's less than satisfactory commercial potential. In fact, Britain used trade as a tool to penetrate the region

Compliance with Ethical Standards

Ethical Approval

Ethics committee approval is not required for this study.

Availability of Data and Materials

Data will be made available on request.

Author Contributions

The author solely contributed to the conception and design of the study, data collection and analysis, as well as the writing and revision of the manuscript.

Declaration of Conflicting Interests

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Notes

ⁱ The correspondence between Britain and its consulates in different countries and the reports sent by the consulates were printed in 1854. In these Foreign Office documents published under the main title of *House of Commons Parliamentary Papers*, it is possible to find detailed statistical data on the commercial conditions of the Ottoman geography. Among these documents, it is possible to find information about the Port of Suakin in the sections of the *Diplomatic and Consular Reports on Trade and Finance, Egypt* published under the title *Trade of Suakin*. References to these reports will be given with the abbreviation *HCPP* (House of Commons Parliamentary Papers)

ⁱⁱ Egypt, which resembled a typical Ottoman province during the reign of Kavalalı Mehmet Ali Pasha, became an autonomous vassal state in 1866. The rule of Egypt was given to Ismail Pasha and his sons with the title of Khedive. Meanwhile, the Suez Canal, completed in 1869, was financed by European banks. Ismail Pasha, who had to borrow a lot of money from Western states, resorted to various remedies to get rid of the financial crisis. On the one hand, he increased the taxes levied on the people, and on the other hand, he sold his shares in the Suez Canal to Britain. However, these measures failed to prevent Egypt's financial bankruptcy and in May 1876, an administration of the *Duyun-ı Umuniye* (General Debt Administration) was established with the participation of the representatives of the creditor European states. Since the British were not satisfied with the measures taken, a "dual control" was established in November 1876 and two European inspectors general started to monitor the revenues and expenditures of Egypt. Later, European ministers were also appointed to the government. Dissatisfaction with European interference in Egypt's internal affairs and financial system led to the formation of the first nationalist groups in 1879. Following increasing tensions and nationalist revolts, Britain invaded Egypt in 1882. After this date, the Khedivate of Egypt became an administration nominally under Ottoman sovereignty but de facto under British patronage. See more, Görgün, 2004, pp. 569-575; Özçelik & Öztürk, 2021, pp. 477-494; Kızıltoprak, 2010.

ⁱⁱⁱ It was a religious-political uprising in Sudan led by Muhammad Ahmed that emerged against the Ottoman-Egyptian rule and then fought fiercely against the British occupation attempt. Initially religiously motivated, the Mahdism movement later evolved into a political one. Muhammad Ahmad, who proclaimed himself as the expected messiah, argued that religion should be practiced in a pure form as it was during the time of Prophet Muhammad. Despite being criticized by many sects and sheikhs for his different religious interpretations, Muhammad Ahmad managed to gather a large following behind him. However, Muhammad Ahmad's followers were not only religiously motivated. Those who were dissatisfied with the Ottoman-Egyptian rule and especially merchants who were against the prohibition of the slave trade rallied around Muhammad Ahmad. In addition, the British intervention in Sudan during this period caused all the peoples in and around Sudan to come together under the leadership of Muhammad Ahmad. Muhammad Ahmed, who managed to gain the support of many tribes that initially opposed him, became the most well-known name in Sudan after his victories against the British. The Mahdi movement in Sudan led to the emergence of a new political structure known as the Mahdi State between 1885-1898. See more, Özdağ, 2018, pp. 309-330.

^{iv} The Hidiviye Company was the continuation of the "Mecidiye Ferry Company" established in 1856. The name of the company was changed to "Egypt Aziziye Company" during the reign of Sultan Abdülaziz and to "Egypt Hidiviye Company" in 1871. After this date, the company was transferred to the Egyptian government and continued its voyages on the Gallipoli, Çanakkale, Lesbos, Izmir, Chios, Rhodes, Alexandria, Jeddah and Yemen lines. In 1898, despite the strong objections of the Ottoman Empire and the opposition of the Khedive, the steamers belonging to the company, the docks and the shipyards in Alexandria and Suez were sold to a British company by the decision of the Egyptian Council of Ministers on the grounds that it was making a loss. See more, Sarıyıldız, 2003, pp. 17-36.

^v Sorghum Vulgare is a type of cereal grain of the wheat family. It is used as human food and animal feed. See more, *Ticaret ve Ziraat Nezareti Mecmuası*, 30 Nisan 1329, p. 41.

^{vi} Osman Dikne belongs to the Dikne family residing in Sevakin and it is rumoured that they came here from Istanbul during the reign of Yavuz Sultan Selim. It is thought that he is a descendant of the levents (Ottoman naval soldier) who came from Istanbul to the Red Sea coast. His great-grandfather has the title of 'Turki'. His family is one of the well-established merchant families of Sevakin. In the second half of the 19th century, he was engaged in slave trade, which was a very profitable business. For this reason, he was closely followed by the British Ottoman-Egyptian administration, arrested and even his property was confiscated. Forced to leave Sevakin, Osman Dikne settled in Barbar, where he established his own headquarters. Osman Dikne, who swore allegiance to Muhammad Ahmed in the following period, was appointed as the emir of Eastern Sudan. Although it is not possible to say anything definite about the religious dimension of Osman Dikne's joining the Mahdi movement, it would not be wrong to say that his desire to regain his lost socio-economic power was at the forefront. See more, Özdağ, 2022, p. 128, 129.

The Effect of Psychological Capital, Job Satisfaction and Perceived Workload on Perceived Job Performance: A Tertiary Hospital Example

Psikolojik Sermaye, İş Tatmini ve Algılanan İş Yükünün Algılanan İş Performansına Etkisi: Bir Üçüncü Basamak Hastane Örneği

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Abstract

This study aims to examine the relationships between psychological capital, job satisfaction, perceived workload, and perceived job performance among healthcare workers. Additionally, it seeks to evaluate the impact of demographic and occupational factors on these variables. The study was conducted with 350 healthcare workers working in a tertiary hospital in Ankara. Data were collected through a survey method, with participants reached online (via Google Forms) and through face-to-face administration. The survey consisted of four sections: demographic and occupational characteristics, the Psychological Capital Scale, the Job Satisfaction Scale, and the Visual Analog Scale (VAS) measuring workload and job performance. Statistical analyses included the Mann-Whitney U test, the Kruskal-Wallis H test, Spearman correlation analysis, and hierarchical multivariate linear regression analysis. Psychological capital, job satisfaction, and perceived workload were found to significantly influence perceived job performance. Furthermore, job satisfaction was positively associated with both professional experience and educational attainment. In terms of control variables, male healthcare workers exhibited higher levels of psychological capital and perceived job performance than their female counterparts, while younger healthcare professionals demonstrated lower psychological capital. This study highlights the influence of psychological and organizational factors on job performance beyond the effects of demographic characteristics. Policies that enhance job satisfaction, strengthen psychological capital, and balance workload are crucial in improving job performance. Since the study is limited to a single hospital, its generalizability is restricted. Future research should include multiple healthcare institutions with larger sample sizes.

Keywords: Healthcare Workers, Psychological Capital, Job Satisfaction, Workload, Job Performance.

Öz

Bu çalışma, sağlık profesyonelleri arasında psikolojik sermaye, iş tatmini, algılanan iş yükü ve algılanan iş performansı arasındaki ilişkileri incelemeyi amaçlamaktadır. Ayrıca, demografik ve mesleki faktörlerin bu değişkenler üzerindeki etkisini değerlendirmeyi hedeflemektedir. Çalışma, Ankara'da bir üçüncü basamak hastanede görev yapan 350 sağlık profesyoneli ile gerçekleştirilmiştir. Veriler, çevrimiçi (Google Forms aracılığıyla) ve yüz yüze anket yöntemiyle toplanmıştır. Anket dört bölümden oluşmaktadır: demografik ve mesleki özellikler, Psikolojik Sermaye Ölçeği, İş Tatmini Ölçeği ve iş yükü ile iş performansını ölçen Görsel Analog Ölçeği (VAS). İstatistiksel analizler kapsamında Mann-Whitney U testi, Kruskal-Wallis H testi, Spearman korelasyon analizi ve hiyerarşik çok değişkenli doğrusal regresyon analizi uygulanmıştır. Psikolojik sermaye, iş tatmini ve algılanan iş yükünün, algılanan iş performansı üzerinde anlamlı bir etkisi olduğu belirlenmiştir. Ayrıca, iş tatmini mesleki deneyim ve eğitim düzeyiyle pozitif yönde ilişkilidir. Kontrol değişkenleri açısından bakıldığında, erkek sağlık çalışanlarının kadın meslektaşlarına göre daha yüksek psikolojik sermaye ve algılanan iş performansına sahip olduğu; genç sağlık çalışanlarının ise daha düşük psikolojik sermaye düzeylerine sahip olduğu saptanmıştır. Bu çalışma, demografik özelliklerin ötesinde, psikolojik ve örgütsel faktörlerin iş performansı üzerindeki etkisini ön plana çıkarmaktadır. İş tatminini artıran, psikolojik sermayeyi güçlendiren ve iş yükünü dengeleyen politikalar, iş performansını iyileştirmede kritik öneme sahiptir. Çalışmanın yalnızca tek bir hastaneyle sınırlı olması, genellenebilirliğini kısıtlamaktadır. Gelecek araştırmaların daha geniş örneklemlemlerle farklı sağlık kurumlarını kapsayacak şekilde tasarlanması önerilmektedir.

Anahtar Kelimeler: Sağlık Çalışanları, Psikolojik Sermaye, İş Tatmini, İş Yükü, İş Performansı.

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The Effect of Psychological Capital, Job Satisfaction and Perceived Workload on Perceived Job Performance: A Tertiary Hospital Example

Healthcare workers are crucial in protecting and improving public health, making their well-being essential for society. Factors such as job satisfaction, performance, and workload directly impact their professional and personal quality of life.

Job satisfaction is a multidimensional concept encompassing individuals' emotional and cognitive evaluations of their work. It is commonly defined as a positive emotional state that employees perceive as a result of their experiences within work processes. In another definition, job satisfaction is "employees' subjective thoughts or feelings regarding their working conditions and professional experiences" (Karaferis et al., 2022, p. 3). Recent literature presents various theoretical frameworks developed to explain the nature of job satisfaction. These frameworks consider factors such as individual needs, job characteristics, organizational variables, and the person-environment fit to account for the formation and consequences of job satisfaction.

Need-based theories argue that job satisfaction fundamentally stems from how much a job fulfills an individual's needs. Maslow's Hierarchy of Needs theory posits that the satisfaction of hierarchical needs—such as physiological necessities, safety, belongingness, esteem, and self-actualization—within the workplace significantly influences an individual's level of job satisfaction (McConnell & Metz, 2024, pp. 3-6). Herzberg's Two-Factor Theory, on the other hand, distinguishes between "motivational factors" (e.g., achievement, recognition, the nature of the work itself) and "hygiene factors" (e.g., salary, job security, working conditions). While the presence of motivational factors leads to satisfaction, the absence of hygiene factors results in dissatisfaction (Lee et al., 2022, pp. 14-15).

Another theoretical perspective, the Job Characteristics Theory, explains how the nature of work influences an individual's psychological state. Developed by Hackman and Oldham, this model identifies five core job dimensions that shape job satisfaction: skill variety, task identity, task significance, autonomy, and feedback. These dimensions facilitate the employee's perception of meaningfulness, responsibility, and knowledge of results, all of which contribute to higher levels of job satisfaction (Bukth & Fatima, 2024, pp. 1777-1778). The Expectancy Theory proposes that job satisfaction is rooted in individuals' beliefs about the likelihood that their efforts will lead to performance and that this performance will, in turn, result in desired outcomes. In this framework, employees who believe that their effort will yield the rewards they value are more likely to experience higher levels of satisfaction (Hasan et al., 2024, p. 102).

Equity Theory argues that individuals evaluate their workplace satisfaction by comparing the outcomes they receive relative to their inputs with those of others. Employees who perceive a fair balance between their contributions and rewards are more likely to feel satisfied. Conversely, perceived inequity may lead to dissatisfaction, decreased motivation, or even turnover (Tavoletti et al., 2023, p. 840). Affective Events Theory emphasizes that emotional responses to workplace events—whether positive or negative—can significantly influence job satisfaction. According to this theory, such events shape employees' emotional states, which in turn affect how satisfied they feel with their jobs (Brady & Prentice, 2025). In conclusion, job satisfaction emerges from the complex interplay of various individual and organizational factors. Theoretical frameworks provide a valuable foundation for understanding these dynamics and developing strategies to enhance workplace satisfaction.

Given the nature of the services and products they provide, healthcare institutions represent a critical context in which the characteristics and outcomes of job satisfaction theories are prominently observed. In this field, healthcare professionals' perceived job satisfaction has been shown to produce significant consequences across various domains. The well-being of healthcare workers indirectly affects the

quality of care provided to patients (Hall et al., 2016, p. 6; Karimi et al., 2021, p. 4). Enhancing these factors can improve healthcare services and support a more efficient and motivated workforce. Research indicates that higher job satisfaction among healthcare workers positively influences healthcare service quality (Halawani et al., 2021, p. 1880; Hoxha et al., 2024, pp. 14-15). Furthermore, studies have explored the relationships between job satisfaction and job performance (Mohammad & Wang, 2019; Platis et al., 2015) as well as job satisfaction and workload.

Psychological well-being is a key factor in the overall well-being of healthcare workers (Yıldırım et al., 2024; Zhang et al., 2024). The demanding nature of healthcare work, including high stress levels, burnout, emotional exhaustion, long working hours, and shift-based schedules, highlights the importance of psychological well-being (Townsend et al., 2023; Yuan et al., 2023). Healthcare workers rely on internal resources to maintain their psychological well-being and cope with workplace challenges (Aydın & Demir, 2023). Among these, psychological capital is crucial in promoting resilience, sustaining hope, strengthening self-efficacy, and fostering an optimistic mindset (Luthans et al., 2006; Luthans et al., 2015).

Psychological capital (PsyCap) is conceptually rooted in positive organizational behavior (POB), which emphasizes the measurable, developable, and manageable aspects of positive psychological states in the workplace (Luthans, 2002, p. 59). PsyCap is defined not merely as a fixed trait but as a state-like psychological resource that can be enhanced through targeted interventions. This distinguishes it from traditional personality traits by its malleability and responsiveness to training (Luthans et al., 2015).

PsyCap encompasses four essential psychological traits that individuals need for success and personal growth in their professional lives: Self-efficacy, hope, optimism, and resilience. Self-efficacy is the confidence an individual has in their capacity to complete particular tasks, while hope involves striving toward goals and finding alternative ways to achieve them. Optimism is the tendency to expect positive outcomes in the future and work toward achieving them, and resilience is the strength to recover rapidly from setbacks or tough situations (Luthans et al., 2006; Luthans et al., 2015).

Each component of PsyCap is grounded in well-established psychological theories. For instance, self-efficacy draws from Bandura (1997) social cognitive theory, emphasizing mastery experiences and personal agency. Hope is based on Snyder (2002) hope theory, which integrates pathway thinking (ability to find routes to goals) and agency thinking (motivation to use those routes). Optimism is informed by Seligman's attribution theory, which links explanatory styles to mental health and performance outcomes. Resilience, meanwhile, is influenced by developmental and clinical perspectives that define it as the capacity to rebound from adversity through adaptability and coping mechanisms (Tugade & Fredrickson, 2004). Importantly, these four elements synergistically interact to create a composite psychological resource that extends beyond the sum of its parts (Luthans, 2002; Luthans et al., 2006; Luthans & Jensen, 2005).

PsyCap does not function in isolation but acts as a dynamic buffer that helps individuals thrive under pressure and uncertainty, particularly in demanding work environments such as healthcare. These traits have been found to enhance job performance, satisfaction, and overall quality of life. Additionally, they contribute to more effective stress management and problem-solving in the workplace (Keçeci & Ugur, 2021; Luthans et al., 2005; Yıldırım et al., 2024).

PsyCap has been shown to play a significant role in various aspects of healthcare workers' work and the quality of healthcare services. It strengthens healthcare workers' ability to cope with stress and has been identified as a key factor in managing burnout (Xue et al., 2024). Additionally, while workload contributes to burnout, PsyCap serves as a protective factor in this context (Aydın & Demir, 2023; Slåtten et al., 2020; Zambrano-Chumo & Guevara, 2024). Employees with high PsyCap tend to adopt

problem-solving approaches when faced with challenges, enabling them to navigate difficulties more effectively (Slåtten et al., 2020). This talent, in turn, contributes to a more positive work environment and enhances the overall quality of healthcare services (Luthans & Jensen, 2005; Trinchero et al., 2019; Yuan et al., 2023). PsyCap is also important in enhancing job performance and job satisfaction in healthcare services. Studies have demonstrated its positive impact on job performance across all healthcare personnel (Amini, 2023; Saberfarzam et al., 2022; Saleh et al., 2020; Yıldırım et al., 2024) and specifically among nurses (Ali et al., 2021; Amini, 2023; Lee & Kim, 2023; Nasurdin et al., 2018). Similarly, PsyCap has been found to positively influence job satisfaction in healthcare workers (Abate & Mekonnen, 2021; Yıldırım et al., 2024), nurses (Lee & Kim, 2023; Maillet & Read, 2024; Zhang et al., 2024), and physicians (Fu et al., 2013). Moreover, significant findings in the literature highlight its role in improving both job satisfaction and job performance (Katebi et al., 2021; Platis et al., 2015).

Workload is defined as the total physical, cognitive, and emotional demands employees encounter during their professional duties. Various theoretical models have widely examined this concept, particularly within job stress, work design, and motivation. One of the most prominent models is the Job Demands–Resources (JD-R) model, which conceptualizes workload as a “job demand.” According to this framework, employees tend to experience elevated stress levels and diminished motivation when the workload is high and resources are insufficient. Conversely, if adequate support is provided, workload can contribute positively to performance (Li et al., 2025; Zhao & Liu, 2024).

The Job Characteristics Model (JCM) focuses on the structural aspects of work. According to this model, the stronger the presence of job features such as skill variety, task significance, and autonomy, the more meaningful employees perceive their work to be. This situation, in turn, makes the workload less stressful (Bukth & Fatima, 2024). Another relevant framework, the Job Demand–Control–Support (JD-CS) model, argues that employees’ control over their work and the social support they receive can mitigate the negative effects of workload. In other words, when individuals have a say in how they perform their tasks and feel supported, the adverse impact of workload is significantly reduced (Ramzani et al., 2024).

Finally, the Conservation of Resources (COR) theory conceptualizes workload as a threat to the loss of valued resources. When employees perceive a risk of losing time, energy, or social support, their stress levels tend to increase. Therefore, preserving and replenishing these resources are considered critical for effective workload management (Hobfoll, 1989).

These models approach workload not merely as the number of tasks assigned but within a multidimensional framework that includes employee perceptions, the level of support received, and the structural characteristics of the job. This perspective enables the design of healthier work environments at both individual and organizational levels.

Job performance refers to how effectively individuals fulfill their work-related tasks and responsibilities. Theoretically, it is shaped by several models that emphasize both personal and contextual factors. The Job Demands–Resources (JD-R) model suggests that performance is enhanced when job demands are balanced with adequate resources (Ramzani et al., 2024). Similarly, the Conservation of Resources (COR) theory argues that performance is influenced by preserving or losing personal and organizational resources (Hobfoll, 1989). The Expectancy Theory highlights that performance depends on the belief that effort leads to desirable outcomes (Ogundare & Omotosho, 2022). Collectively, these models show that job performance is not only about ability but also about motivation, resources, and support.

Workload is a critical factor influencing job satisfaction and job performance in healthcare services (Ahmad et al., 2019; Asamani et al., 2015; Gesare et al., 2024). Studies indicate excessive workload

negatively impacts job satisfaction and performance (Gesare et al., 2024). Additionally, excessive workload has been found to adversely affect healthcare workers' overall well-being beyond its impact on job performance (Ahmad et al., 2019). The literature highlights the interconnectedness of job satisfaction, workload, PsyCap, and job performance. These findings form the foundation of this study.

Although many studies have examined job satisfaction, workload, psychological capital, and job performance individually, limited research explores how these variables interact with one another, particularly in the healthcare context. Given the complex and demanding nature of healthcare work, understanding how these factors influence each other is essential for improving employee well-being and organizational outcomes. This study aims to address this gap by investigating how individual (sociodemographic characteristics), psychological (psychological capital and job satisfaction), and organizational factors (workload) are associated with perceived job performance among healthcare workers. Understanding these relationships is essential for gaining deeper insights into the workplace experiences of healthcare workers.

Method

This research was designed as a descriptive cross-sectional study. This study aims to identify the factors influencing healthcare workers' perceived job performance and examine their impact. Specifically, the study investigates how demographic, occupational, psychological, and organizational factors affect perceived job performance.

Research questions:

- How do demographic characteristics (age, gender) and occupational factors (profession, education level, years of experience, work schedule) influence healthcare workers' PsyCap, job satisfaction, perceived workload, and perceived job performance?
- What is the relationship between healthcare workers' PsyCap, perceived workload, job satisfaction, and perceived job performance?
- Do psychological and organizational factors significantly influence perceived job performance compared to demographic and occupational factors?

The following hypotheses were developed based on the theoretical framework and previous findings to explore these research questions and provide empirical evidence systematically.

H¹: There are statistically significant differences in psychological capital, job satisfaction, perceived workload, and perceived job performance across demographic (age, gender) and occupational (profession, education level, years of experience, work schedule) groups of healthcare workers.

H²: There are statistically significant associations between psychological capital, job satisfaction, perceived workload, and perceived job performance among healthcare workers.

H³: Psychological and organizational factors (psychological capital, job satisfaction, and perceived workload) significantly predict perceived job performance among healthcare workers beyond the influence of demographic and occupational variables.

Population and Sample

This study was approved by the Ethics Committee of Science, Mathematics, and Social Sciences at Çankırı Karatekin University, with the decision dated 27 June 2024 and meeting number 42. The study was conducted in a well-established tertiary-level hospital in Ankara, which was critical in selecting the research setting. As a tertiary care institution, the hospital provides highly specialized services across a wide range of medical disciplines, serving a large and diverse patient population. Its comprehensive

structure, encompassing nearly all major specialties, enables the employment of a multidisciplinary healthcare workforce, including physicians, nurses, technicians, and administrative staff. This diversity contributed to the hospital's suitability for investigating the relationships among psychological capital, workload, job satisfaction, and job performance in a heterogeneous healthcare context. The hospital's institutional scope and functional complexity also reflect typical conditions of high-demand medical environments, making it an appropriate setting for studying psychological and organizational factors that affect healthcare professionals' performance and well-being.

Inclusion Criteria:

- Actively working as a healthcare professional.
- Voluntarily agreeing to participate in the study.

Choosing not to participate was considered an exclusion criterion. The sample size was determined using the equal probability sampling method. As of 10 June 2023, the hospital's total healthcare workers was 3,216. The minimum required sample size was calculated as 343 participants to achieve a 95% confidence level. A convenience sampling approach was employed to select participants. Using the convenience sampling method, 350 healthcare professionals were included in the study. A convenience sampling method was used due to logistical constraints and the dynamic nature of shift-based hospital work.

Data Collection Tools

A survey form was used as the data collection instrument, consisting of three sections:

Demographic and Occupational Characteristics

The first section includes a demographic and occupational characteristics form developed by the researcher, comprising six questions (age, gender, profession, education level, years of experience, and work schedule).

Psychological Capital Scale (PCS)

The second section incorporates the Psychological Capital Scale developed by Luthans et al. (2005) and adapted into Turkish by Keçeci and Ugur (2021). The scale consists of four dimensions and 24 items: (Self-efficacy: Items 1, 2, 3, 4, 5, 6; Optimism: Items 7, 8, 9, 10, 11, 12; Psychological Resilience: Items 13, 14, 15, 16, 17, 18; Hope: Items 19, 20, 21, 22, 23, 24). Items 13, 20, and 23 are reverse-coded.

The Turkish adaptation of the Psychological Capital Scale was restructured by Keçeci and Uğur (2021). The Turkish adaptation by Keçeci and Ugur (2021) consists of the following dimensions: (Self-Efficacy: Items 1, 2, 3, 4, 5, 6, 11; Resilience: Items 7, 9, 14, 15, 17; Optimism: Items 12, 21, 22, 24). The scale follows a six-point Likert format. A cumulative score is obtained from the scale, ranging from 16 to 96. A higher score reflects a greater degree of psychological capital. This study utilized the structural model of the Turkish adaptation of the Psychological Capital Scale, developed by Keçeci and Uğur (2021).

Job Satisfaction Scale

The final section includes the Job Satisfaction Scale, originally developed by Brayfield and Rothe (1951), later shortened to a five-item version by Judge et al. (1998) and adapted into Turkish by Keser and Bilir (2019). The scale consists of five Likert-type items. Items 3 and 5 are reverse-coded. The scale generates a cumulative score ranging from 5 to 25, where higher scores indicate greater job satisfaction.

Visual Analog Scale (VAS)

Since the healthcare professionals in the study held different occupations and roles, the study aimed to measure their perceived workload and performance. A Visual Analog Scale (VAS) ranging from 1 to 10 points was utilized in this context. This approach is also expected to minimize response bias. Additionally, perceived workload and job performance are measured using Visual Analog Scale (VAS) questions, rated on a 0-10 scale. Higher scores indicate greater perceived workload and job performance.

Data Collection

Data was collected between 1 July and 30 September 2023 among healthcare workers who met the research criteria following the ethics committee's approval. The survey was administered online via Google Forms and face-to-face data collection methods. During this period, 271 surveys (77.4%) were collected online, while 79 surveys (22.6%) were obtained through face-to-face administration.

Data Analysis

Before conducting Confirmatory Factor Analysis (CFA) to assess the structural validity of the scales used in the study, the assumption of multivariate normality was evaluated using multivariate kurtosis and critical ratio (CR) values.

The analysis revealed that the PsyCap Scale did not meet the assumption of multivariate normal distribution, which is required for the Maximum Likelihood (ML) estimation method (Multivariate Kurtosis = 123.199; CR = 18.018). Therefore, CFA was performed using the Unweighted Least Squares (ULS) estimation method with bootstrapping at a 95% confidence interval.

On the other hand, the Job Satisfaction Scale met the assumption of multivariate normal distribution (Multivariate Kurtosis = 9.887; CR = 11.054), allowing the use of the Maximum Likelihood (ML) estimation method for CFA. CFA was conducted using AMOS 24 statistical software. Cronbach's Alpha and Composite Reliability (CR) coefficients were computed to evaluate the internal consistency of the scales (Karagöz, 2019; Kline, 2011).

Descriptive findings in the study are presented using frequency, percentage, minimum, maximum, mean, and standard deviation values. The assumption of normal distribution for parametric tests was assessed using the Kolmogorov-Smirnov test. Since the scale scores did not exhibit a normal distribution across groups (Kolmogorov-Smirnov; $p < 0.05$), nonparametric analysis methods were employed (Cronk, 2019; Denis, 2018). The Mann-Whitney U test was used to compare scale scores between two groups. The Kruskal-Wallis H test was applied for comparisons among three or more groups, followed by the Mann-Whitney U test with Bonferroni correction as a post-hoc test. Additionally, the relationships between continuous variables were analyzed using the Spearman correlation coefficient (Meyers et al., 2013).

A hierarchical multiple linear regression analysis was conducted to identify the factors influencing perceived job performance among healthcare workers. The hierarchical regression model consisted of two stages: Model 1 included demographic and occupational characteristics of the participants. Model 2 incorporated PsyCap, job satisfaction, and perceived workload as additional independent variables. All statistical analyses were performed using SPSS 26. A significance level of $p < 0.05$ was considered statistically significant.

Results

This section presents the research findings under three main headings: descriptive statistics, scale-related findings, and hypothesis analyses.

Descriptive Findings

Table 1 presents the demographic and healthcare occupational characteristics of healthcare workers.

Table 1

Healthcare Workers' Demographic and Occupational Characteristics (n=350)

Characteristics	n	%
Gender		
Male	122	34,86
Female	228	65,14
Age		
22-30 years	77	22,00
31-40 years	134	38,29
41-50 years	111	31,71
51 years and above	28	8,00
Educational Level		
High School	36	10,29
Associate Degree	37	10,57
Bachelor's Degree	161	46,00
Postgraduate Degree	116	33,14
Profession		
Other	29	8,29
Physician	61	17,43
Nurse	167	47,71
Administrative Staff	25	7,14
Technician	68	19,40
Years of Experience		
Up to 10 years	118	33,71
11-20 years	116	33,14
21 years and above	116	33,14
Work Schedule		
Daytime Only	210	60,00
Shift Work (Day/Night)	140	40,00
Total	350	100,00

As presented in Table 1, the study included 350 healthcare workers with a mean age of 38.33 years (± 8.73), ranging from 22 to 63 years. Participants varied in gender, education level, professional role, and work schedule. The mean duration of professional experience was 16.62 years (± 9.03), ranging from 1 to 40 years. Detailed demographic and occupational characteristics are summarized in Table 1.

Findings on Measurement Scales

Validity and Reliability Analyses

The Confirmatory Factor Analysis (CFA) for the Turkish adaptation of the Psychological Capital Scale (Keçeci & Uğur, 2021) was conducted using the Unweighted Least Squares (ULS) method (Multivariate Kurtosis = 123.199, CR = 48.018). The model fit indices demonstrated an acceptable fit to the data (CMIN = 154.50, DF = 101, CMIN/DF = 1.53, NFI = 0.981, GFI = 0.986, AGFI = 0.981, RFI = 0.978, SRMR = 0.049). The standardized factor loadings for the observed variables ranged

between 0.382 and 0.830, all statistically significant ($p < 0.05$), indicating a well-defined latent structure.

Similarly, CFA was performed for the Job Satisfaction Scale (Keser & Bilir, 2019) based on its unidimensional theoretical structure using the Maximum Likelihood (ML) estimation method (Multivariate Kurtosis = 9.89, CR = 11.05). The model fit indices indicated an excellent fit (CMIN = 3.18, DF = 5, CMIN/DF = 0.637, NFI = 0.996, GFI = 0.996, CFI = 1.00, IFI = 1.00, TLI = 1.00, RMSEA < 0.001, SRMR = 0.013). The standardized factor loadings for the observed indicators ranged between 0.421 and 0.983, all statistically significant. These results provide empirical support for the construct validity of the scales in the study.

Table 2

The Descriptive Statistics of The Research Scales (n=350)

Scales and Dimensions	Minimum	Maximum	Mean	Std. Deviation	Cronbach Alfa	Composite Reliability
• Self-Efficacy	17	42	35,48	5,26	0,912	0,913
• Resilience	10	30	24,69	3,77	0,830	0,835
• Optimism	8	24	17,41	3,35	0,695	0,691
Psychological Capital Total ¹	37	96	77,59	10,90	0,902	0,943
Job Satisfaction ²	5	24	16,06	3,98	0,841	0,852
Perceived Job Performance ³	1	10	7,94	1,76	VAS	VAS
Perceived Workload ⁴	1	10	8,29	1,86	VAS	VAS

Note. 1: (Keçeci & Ugur, 2021), **2:** (Keser & Bilir, 2019), **3,4:** VAS Scale (1-10)

Table 2 presents the descriptive statistics of the research scales. The self-efficacy scores ranged from 17 to 42, with a mean of 35.48 ± 5.26 . Resilience scores varied between 10 and 30, with a mean of 24.69 ± 3.77 . Optimism scores ranged from 8 to 24, with a mean of 17.41 ± 3.35 . The total psychological capital score, which includes self-efficacy, resilience, and optimism, ranged from 37 to 96, with a mean of 77.59 ± 10.90 . Job satisfaction scores were between 5 and 24, with a mean of 16.06 ± 3.98 . Perceived job performance and perceived workload were measured using a Visual Analog Scale (VAS) ranging from 1 to 10. The mean perceived job performance score was 7.94 ± 1.76 , while the mean perceived workload score was 8.29 ± 1.86 .

The reliability of the scales was evaluated through Cronbach's alpha and composite reliability coefficients. The self-efficacy dimension showed high reliability, with a Cronbach's alpha of 0.912 and a composite reliability of 0.913. The resilience dimension also demonstrated strong internal consistency, with a Cronbach's alpha of 0.830 and a composite reliability of 0.835. The optimism dimension had moderate reliability, with a Cronbach's alpha of 0.695 and a composite reliability of 0.691. The total psychological capital scale showed excellent internal consistency, with a Cronbach's alpha of 0.902 and a composite reliability of 0.943, indicating that the sub-dimensions had internal consistency. The job satisfaction scale also had high reliability, with a Cronbach's alpha of 0.841 and a composite reliability of 0.852.

Hypothesis Testing Results

Table 3 presents the distribution of psychological capital, job satisfaction, perceived job performance, and perceived workload scores across various demographic and occupational variables.

Table 3

Psychological Capital, Job Satisfaction, Perceived Job Performance, and Perceived Workload by Demographic and Occupational Characteristics (n=350)

Characteristics	N	Psychological Capital			Test P Value Post Hoc	Job Satisfaction			Test P Value Post Hoc	Perceived Job Performance			Test P Value Post Hoc	Perceived Workload			Test P Value Post Hoc
		Mean	SD.	Mean Rank		Mean	SD.	Mean Rank		Mean	SD.	Mean Rank		Mean	SD.	Mean Rank	
Gender																	
Male	122	80,38	9,30	201,34	U=10755	16,99	3,58	200,75	U=10827	8,25	1,41	190,75	U=12047	8,33	1,81	176,42	U=13796
Female	228	76,09	11,41	161,67	<0,001	15,57	4,10	161,99	0,001	7,77	1,90	167,34	0,035	8,27	1,89	175,01	0,897
Age Group																	
22-30 years ¹	77	73,81	10,23	137,04	H=15,526 0,001 1-2* 1-3**	15,12	3,98	150,21	H=6,313 0,097	7,40	1,59	138,62	H=15,526 0,002 1-2* 1-3** 1-4*	8,23	1,82	170,32	H=0,496 0,926
31-40 years ²	134	77,73	11,36	179,40		16,23	3,93	182,37		8,07	1,66	182,17		8,35	1,77	177,46	
41-50 years ³	111	79,59	9,84	192,77		16,52	3,80	183,91		8,05	1,88	184,99		8,29	1,99	178,26	
51 years and above ⁴	28	79,32	12,25	194,14		16,04	4,64	178,86		8,39	1,95	207,39		8,18	1,93	169,43	
Educational Level																	
High School ¹	36	75,08	10,69	151,63	H=6,962 0,073	14,56	3,50	136,24	H=11,052 0,011 3-4*	8,25	1,42	183,85	H=17,921 <0,001 3-4***	8,58	1,92	194,79	H=13,478 0,004 3-4**
Associate Degree ²	37	75,76	10,37	154,04		16,30	3,61	181,31		7,78	1,46	161,24		8,41	1,54	176,69	
Bachelor's Degree ³	161	79,17	10,62	189,33		15,91	3,82	168,46		8,29	1,65	197,04		8,60	1,63	189,94	
Postgraduate Degree ⁴	116	76,74	11,31	170,56		16,67	4,33	195,6		7,41	1,96	147,56		7,73	2,12	149,09	
Profession																	
Nurse ¹	167	76,95	10,54	167,72	H=9,091 0,059	15,62	3,96	163,22	H=9,645 0,047 PH>0,05	8,06	1,77	185,23	H=26,151 <0,001 1-3** 2-3***	8,66	1,68	194,97	H=24,505 <0,001 1-3** 2-3***
Technician ²	68	79,98	9,18	196,74		17,07	3,96	199,89		8,54	1,43	209,10		8,41	2,01	187,18	
Physician ³	61	74,97	12,21	156,25		16,66	3,82	193,16		7,18	1,68	127,12		7,48	1,87	128,66	
Other ⁴	29	78,24	12,03	181,90		15,38	3,12	154,79		7,69	1,58	150,43		8,00	1,67	152,76	
Administrative Staff ⁵	25	80,92	11,54	209,22		15,64	4,91	172,16		7,64	2,18	166,22		7,84	2,14	154,36	
Years of Experience																	
Up to 10 years ¹	118	73,54	10,68	138,17	H=28,363 <0,001 1-2** 1-3**	15,47	3,75	158,99	H=7,512 0,023 1-3*	7,52	1,61	145,89	H=16,115 <0,001 1-3**	8,30	1,92	177,47	H=1,290 0,525
11-20 years ²	116	78,34	10,43	181,05		15,81	4,21	173,04		8,05	1,95	188,02		8,49	1,56	181,55	
21 years and above ³	116	80,95	10,33	207,93		16,92	3,86	194,75		8,26	1,63	193,10		8,09	2,05	167,44	
Work Schedule																	
Daytime Only	118	73,54	10,68	138,17	U=13141,50	15,47	3,75	158,99	U=13038,50	7,52	1,61	145,89	U=13517	8,30	1,92	177,47	U=16461,50
Shift Work (Day/Night)	116	78,34	10,43	181,05	0,093	15,81	4,21	173,04	0,071	8,05	1,95	188,02	0,192	8,49	1,56	181,55	0,049

Note. U: Mann-Whitney U Test, H: Kruskal-Wallis H Test, Post-Hoc Analysis: Mann-Whitney U Test with Bonferroni Correction at a 95% Confidence Interval, ***p < 0.001, **p < 0.010, *p < 0.005.

Psychological Capital Scores

Statistically significant differences were observed in psychological capital scores based on gender, age group, and years of experience ($p < 0.05$). A statistically significant difference in psychological capital scores was found between genders ($U=10755$, $p < 0.001$), with male participants having a higher mean score (80.38 ± 9.30) compared to female participants (76.09 ± 11.41).

A statistically significant difference was also observed among age groups ($H=15.526$, $p=0.001$). Participants aged 22-30 years had a significantly lower mean psychological capital score of 73.81 ± 10.23 than that of participants aged 31-40 years (77.73 ± 11.36) ($p < 0.05$). Furthermore, participants in the 41-50 age group (79.59 ± 9.84) had significantly higher scores than those in the 22-30 age group ($p < 0.01$).

Similarly, a statistically significant difference was also observed based on years of experience ($H = 28.363$, $p < 0.001$). Participants with ≤ 10 years of experience had a significantly lower mean psychological capital score (73.54 ± 10.68) compared to those with 11–20 years of experience (78.34 ± 10.43 , $p < 0.01$). Furthermore, participants with more than 21 years of experience (80.95 ± 10.33) had significantly higher scores than those with ≤ 10 years of experience ($p < 0.01$).

Conversely, no statistically significant differences were found in psychological capital scores based on educational level, profession, or work schedule ($p > 0.05$). For job satisfaction scores, statistically significant differences were observed based on gender, educational level, profession, and years of experience ($p < 0.05$).

Job Satisfaction Scores

A statistically significant difference in job satisfaction scores was found between genders ($U=10827$, $p=0.001$), with male participants reporting a mean score of 16.99 ± 3.58 , compared to 15.57 ± 4.10 for female participants. A statistically significant difference was also observed based on educational level ($H=11.052$, $p=0.011$). Post-hoc analysis indicated that participants with a postgraduate degree (16.67 ± 4.33) had significantly higher job satisfaction scores than those with a bachelor's degree (15.91 ± 3.82 , $p < 0.05$). Additionally, years of experience demonstrated a statistically significant difference in job satisfaction scores ($H=7.512$, $p=0.023$). Employees with 21 years or more of experience had significantly higher job satisfaction scores (16.92 ± 3.86) compared to those with ≤ 10 years of experience (15.47 ± 3.75 , $p < 0.05$). A statistically significant difference was observed among professions in terms of job satisfaction scores ($H=9.645$, $p=0.047$). However, post-hoc analysis revealed no statistically significant pairwise difference ($p > 0.05$). No statistically significant differences were found in job satisfaction scores based on age group or work schedule ($p > 0.05$).

Perceived Job Performance Scores

Statistically significant differences were identified based on gender, age group, educational level, profession, and years of experience regarding perceived job performance scores ($p < 0.05$). A statistically significant difference in perceived job performance scores was found between genders ($U=12047$, $p=0.035$), with male participants reporting a higher mean score (8.25 ± 1.41) compared to female participants (7.77 ± 1.90). Additionally, age groups exhibited statistically significant differences in perceived job performance scores ($H=15.526$, $p=0.002$). Participants aged 22-30 years had a significantly lower mean score (7.40 ± 1.59) compared to those aged 31-40 years (8.07 ± 1.66 , $p < 0.05$), 41-50 years (8.05 ± 1.88 , $p < 0.01$), and 51 years and above (8.39 ± 1.95 , $p < 0.05$). A statistically significant difference was also observed based on educational level ($H=17.921$, $p < 0.001$). Participants with a bachelor's degree (8.29 ± 1.65) had significantly higher perceived job performance scores than those

with a postgraduate degree (7.41 ± 1.96 , $p < 0.001$). A statistically significant difference was found based on profession ($H = 26.151$, $p < 0.001$). Technicians had the highest perceived job performance score (8.54 ± 1.43), which was significantly higher than that of physicians (7.18 ± 1.68 , $p < 0.01$) and participants in other professions (7.69 ± 1.58 , $p < 0.001$). Lastly, years of experience demonstrated statistically significant differences in perceived job performance scores ($H = 16.115$, $p < 0.001$). Participants with ≤ 10 years of experience had a significantly lower mean score (7.52 ± 1.61) compared to those with 21 years or more of experience (8.26 ± 1.63 , $p < 0.01$). No statistically significant differences were found in perceived job performance scores based on work schedules ($p > 0.05$).

Perceived Workload Scores

Regarding perceived workload scores, statistically significant differences were observed based on educational level, profession, and work schedule ($p < 0.05$). A statistically significant difference was found in perceived workload scores based on educational level ($H = 13.478$, $p = 0.004$). Participants with a bachelor's degree (8.60 ± 1.63) reported significantly higher perceived workload compared to those with a postgraduate degree (7.73 ± 2.12 , $p < 0.01$). A statistically significant difference in perceived workload scores was observed across professions ($H = 24.505$, $p < 0.001$). Nurses reported the highest perceived workload score (8.66 ± 1.68), which was significantly greater than that of physicians (7.48 ± 1.87 , $p < 0.01$). Moreover, technicians (8.41 ± 2.01) had significantly higher perceived workload scores compared to physicians ($p < 0.001$). A statistically significant difference was also found based on work schedule ($U = 16461.50$, $p = 0.049$). Working in shifts (8.49 ± 1.56) reported significantly higher perceived workload than working only during the daytime (8.30 ± 1.92). Conversely, no statistically significant differences were found in perceived workload scores based on gender, age group, or years of experience ($p > 0.05$).

Statistically significant differences were observed in psychological capital, job satisfaction, perceived workload, and perceived job performance across various demographic (e.g., age, gender) and occupational (e.g., profession, education level, years of experience) groups ($p < .05$), indicating that healthcare workers' background characteristics influence key psychological and organizational outcomes. Therefore, H_1 was supported.

Table 4

Correlation Analysis of Demographic, Psychological, and Work-Related Variables (n=350)

Variables		2	3	4	5	6
1. Age	r	0,924	0,231	0,124	0,188	-0,028
	p	<0,001	<0,001	0,020	<0,001	0,601
2. Years of Experience	r		0,277	0,124	0,207	-0,010
	p		<0,001	0,020	<0,001	0,855
3. Psychological Capital Total	r			0,355	0,406	0,022
	p			<0,001	<0,001	0,681
4. Job Satisfaction	r				0,266	-0,147
	p				<0,001	0,006
5. Perceived Job Performance	r					0,372
	p					<0,001
6. Perceived Workload	r					
	p					

Note. r: Spearman Correlation Coefficient

Table 4 presents the correlations among the study variables. A statistically significant very strong positive correlation was found between age and years of experience ($r = 0.924$, $p < 0.001$). Psychological capital exhibited a statistically significant moderate positive correlation with job satisfaction ($r = 0.355$,

$p < 0.001$) and perceived job performance ($r = 0.406$, $p < 0.001$). A statistically significant weak positive correlation was observed between job satisfaction and perceived job performance ($r = 0.266$, $p < 0.001$). Perceived job performance and perceived workload demonstrated a statistically significant moderate positive correlation ($r = 0.372$, $p < 0.001$). Additionally, a statistically significant weak negative correlation was found between job satisfaction and perceived workload ($r = -0.147$, $p = 0.006$). No other correlations were statistically significant ($p > 0.05$).

Correlation analyses revealed that psychological capital was positively associated with job satisfaction and job performance. In contrast, job satisfaction was positively related to performance and negatively associated with perceived workload. Additionally, perceived workload positively correlated with perceived job performance ($p < .01$). These findings provide empirical support for H₂.

Hierarchical Regression Analysis Results

In Table 5, a hierarchical regression analysis was conducted to identify the factors influencing perceived job performance.

Table 5

Hierarchical Regression Analysis Results for Perceived Job Performance (n=350)

Dependent Variable: Perceived Job Performance					
Model	Independent Variables	B	SE_B	β	ΔR²
1	(Constant)	6,417	0,663	-	0,097***
	Age	0,026	0,011	0,127*	
	Gender (Male)	0,382	0,208	0,104	
	Doctor (Reference)	-	-	-	
	Nurse	0,914	0,284	0,260**	
	Technician	1,165	0,333	0,263**	
	Administrative Staff	0,282	0,419	0,041	
	Other	0,481	0,420	0,076	
	Educational Level	-0,076	0,112	-0,040	
	Work Schedule (Shift)	-0,204	0,197	-0,057	
2	(Constant)	0,027	0,811	-	0,257***
	Age	0,012	0,009	0,058	
	Gender (Male)	0,006	0,180	0,002	
	Doctor (Reference)	-	-	-	
	Nurse	0,433	0,249	0,123	
	Technician	0,590	0,288	0,133*	
	Administrative Staff	-0,023	0,362	-0,003	
	Other	0,112	0,361	0,018	
	Educational Level	-0,201	0,097	-0,106*	
	Work Schedule (Shift)	-0,108	0,169	-0,030	
	Psychological Capital	0,049	0,008	0,302***	
	Perceived Workload	0,240	0,043	0,253***	
	Job Satisfaction	0,126	0,022	0,285***	

Note. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

In the first model, demographic and occupational variables were used as independent variables, while psychological and organizational variables were added in the second model. The hierarchical regression analysis confirmed no multicollinearity issue among the independent variables ($VIF < 10$; Tolerance > 0.20). Additionally, no autocorrelation was detected among the independent variables (Durbin-Watson

= 1.787). The regression model applied to assess the perceived performance levels of healthcare workers was found to be statistically significant (Model 1: $F = 4.556$, $p < 0.001$; Model 2: $F = 16.776$, $p < 0.001$).

In the first model, age, gender (male), occupational group, educational level, and shift work schedule were included as independent variables. The model explained 9.7% of the variance in perceived job performance ($R^2 = 0.097$, $p < 0.001$). The results indicated that age had a positive and statistically significant relationship with perceived job performance ($B = 0.026$, $p = 0.042$, $\beta = 0.127$). Compared to doctors, being a nurse ($B = 0.914$, $p = 0.004$, $\beta = 0.260$) and being a technician ($B = 1.165$, $p = 0.003$, $\beta = 0.263$) had a positive and statistically significant relationship with perceived job performance. However, gender ($B = 0.382$, $p = 0.083$, $\beta = 0.104$), administrative staff ($B = 0.282$, $p = 0.419$, $\beta = 0.041$), other occupational groups ($B = 0.481$, $p = 0.376$, $\beta = 0.076$), educational level ($B = -0.076$, $p = 0.528$, $\beta = -0.040$), and shift work schedule ($B = -0.204$, $p = 0.298$, $\beta = -0.057$) did not show a statistically significant relationship with perceived job performance.

In the second model, psychological capital, perceived workload, and job satisfaction were added as independent variables. Adding these variables to the model accounted for 25.7% of the variance in perceived job performance ($R^2 = 0.257$, $p < 0.001$), increasing the total explained variance of 33.2%. Psychological capital ($B = 0.049$, $p < 0.001$, $\beta = 0.302$), perceived workload ($B = 0.240$, $p < 0.001$, $\beta = 0.253$), and job satisfaction ($B = 0.126$, $p < 0.001$, $\beta = 0.285$) were all found to have positive and statistically significant relationships with perceived job performance. Additionally, the educational level had a negative and statistically significant relationship ($B = -0.201$, $p = 0.038$, $\beta = -0.106$). Compared to doctors, being technicians had a positive and statistically significant relationship with perceived job performance ($B = 0.590$, $p = 0.047$, $\beta = 0.133$). However, the effect size decreased compared to the first model. In contrast, age ($p = 0.201$), gender ($p = 0.731$), administrative staff ($p = 0.419$), other occupational groups ($p = 0.376$), and shift work schedule ($p = 0.534$) did not exhibit a statistically significant relationship with perceived job performance.

In the hierarchical regression analysis, psychological capital, job satisfaction, and perceived workload were all found to be statistically significant predictors of perceived job performance, accounting for a substantial proportion of the variance beyond demographic and occupational variables ($R^2 = .332$, $p < .001$). Accordingly, H_3 was confirmed.

Discussions

This study aims to identify the factors influencing perceived job performance among healthcare workers and to examine the impact of these factors. Additionally, it evaluates healthcare workers' psychological capital, job satisfaction, perceived workload, and job performance in terms of their demographic and occupational characteristics. The findings suggest that job satisfaction, perceived workload, and psychological capital may play a more significant role in explaining perceived job performance than demographic and occupational characteristics. Furthermore, differences were observed in psychological capital, job satisfaction, perceived workload, and perceived job performance levels based on demographic and occupational characteristics.

This study determined that male healthcare workers have statistically significantly higher levels of psychological capital than females. In their study on nurses, Zhang et al. (2022) found that while psychological capital levels did not differ by gender among specialist nurses, a gender-based difference was observed in general nurses. Similarly, Alan et al. (2022) did not identify gender differences in psychological capital in a study on nurses. The lack of gender differences in psychological capital in the studies by Zhang et al. (2022) and Alan et al. (2022) might be due to the low representation of male nurses in their samples. Additionally, this study found that younger healthcare workers have statistically significantly lower psychological capital levels than older professionals. Another supporting finding is

the statistically significant positive relationship between job satisfaction, professional experience, and age. Previous studies by Zhang et al. (2022) and Alan et al. (2022) also reported a significant positive relationship between age and psychological capital among nurses.

In this study, female healthcare workers were found to have statistically significantly lower job satisfaction levels than males. Consistent with this finding, Halawani et al. (2021) also concluded that female healthcare workers exhibit lower job satisfaction levels. Similarly, Zhang et al. (2022), in their study on nurses, and Goetz et al. (2013), in their study on family physicians, found that job satisfaction levels were associated with gender. Furthermore, healthcare workers with postgraduate education reported statistically significantly higher job satisfaction levels than those with an undergraduate degree. However, in their study on nurses, Zhang et al. (2022) did not identify a significant relationship between education level and job satisfaction. The discrepancy between their findings and those of the present study may be attributed to the fact that Zhang et al. (2022) focused exclusively on nurses.

Additionally, experienced healthcare workers exhibited statistically significantly higher job satisfaction levels than younger professionals. This finding aligns with the statistically significant positive relationship between job satisfaction, professional experience, and age. In their study on nurses, Zhang et al. (2022) also identified a significant positive relationship between age, work experience, and job satisfaction. Other studies on healthcare workers have similarly reported a positive association between age and job satisfaction (Fu et al., 2013; Goetz et al., 2013; Halawani et al., 2021).

In this study, male healthcare workers reported significantly higher perceived job performance than their female counterparts. This finding is consistent with the results of Firth-Cozens (2008). Additionally, experienced and older healthcare workers were observed to have significantly higher perceived job performance than their younger counterparts. This finding is consistent with the statistically significant positive association between perceived job performance, age, and tenure. In their study on nurses, An et al. (2020) found that older professionals perceived their workload to be higher than younger professionals. Similarly, Zaman et al. (2022) reported similar findings in their study on physicians. Moreover, healthcare workers with an undergraduate degree reported significantly higher perceived job performance than those with a postgraduate degree. In contrast, An et al. (2020) found that nurses with higher levels of education perceived their job performance to be greater. The discrepancy between these findings is likely due to differences in the study populations. In this study, physicians were found to have statistically significantly lower levels of perceived job performance compared to nurses and technicians.

Similarly, physicians reported statistically significantly lower levels of perceived workload than nurses and technicians. This difference in perception may be attributed to nurses and technicians engaging in more routine and labor-intensive tasks compared to physicians. Additionally, healthcare workers with postgraduate education reported statistically significantly lower levels of perceived workload than those with only an undergraduate degree. This finding can be explained by the fact that 93.4% (n=57) of the physicians in the study population had a postgraduate education level. Furthermore, healthcare workers working night and day shifts perceived their workload as statistically significantly higher than those working only daytime shifts. This finding may be associated with the disruption of circadian rhythms among shift workers. Previous research has indicated that working night shifts can lead to various health, sleep, and psychological problems among healthcare workers (Harma et al., 2022).

This study identified a statistically significant relationship between healthcare workers' psychological capital levels and their job satisfaction levels. In a study on physicians, Fu et al. (2013) found that psychological capital positively affects job satisfaction. Other studies on healthcare workers have similarly demonstrated a positive relationship between psychological capital and job satisfaction (Alan et al., 2022; Fu et al., 2013; Yildirim et al., 2024; Zhang et al., 2022). Additionally, a significant negative

relationship was found between perceived workload and job satisfaction among healthcare workers in this study. Consistent with these findings, research conducted by Hellin Gil et al. (2022) and Saha et al. (2020) on nurses indicated a significant association between job satisfaction and workload.

In this study, gender and profession were identified as significant predictors of perceived job performance among healthcare workers. Additionally, it was determined that demographic and occupational characteristics accounted for approximately 10% of the variance in job performance. Furthermore, when controlling for demographic and occupational characteristics, psychological capital, perceived workload, and job satisfaction were found to explain approximately 26% of the variance in perceived job performance.

Perceived workload was the most significant predictor of perceived job performance among healthcare workers. A statistically significant positive relationship was found between perceived workload and perceived job performance. Consistent with this finding, in a study conducted on five private hospitals, Gesare et al. (2024) concluded that workload substantially impacts healthcare worker performance. Similarly, Serra et al. (2023), in a systematic review of nurses, found that workload influences both the quality of care and job satisfaction. Other studies on healthcare workers have also demonstrated that perceived workload negatively affects job performance (Ahmad et al., 2019; Asamani et al., 2015).

Additionally, job satisfaction was identified as another significant predictor of perceived job performance among healthcare workers. A statistically significant positive relationship was found between job satisfaction and perceived job performance. Consistent with this finding, Lee and Kim (2023) and Mohammad and Wang (2019) identified job satisfaction as a significant determinant of job performance in their studies on nurses. Similarly, Platis et al. (2015) found a strong relationship between job satisfaction and job performance in the healthcare sector. In a meta-analysis, Katebi et al. (2021) also confirmed a significant positive relationship between job satisfaction and job performance. Furthermore, Saleh et al. (2020) reported that job satisfaction is linked to organizational citizenship and commitment, which influence job performance. This finding suggests that job satisfaction is crucial in shaping employees' effectiveness.

Psychological capital was also identified as a statistically significant predictor of perceived job performance among healthcare workers. Nasurudin et al. (2018) found a positive relationship between psychological capital and job performance in their study on nurses. Similarly, Lee and Kim (2023) and An et al. (2020) determined that psychological capital was a significant determinant of job performance in nurses. Furthermore, studies by Aydın and Demir (2023) and Ali et al. (2021) concluded that psychological capital plays a crucial role in the success of healthcare workers. Additionally, Saberfarzam et al. (2022) identified psychological capital as a key factor influencing job performance among healthcare researchers. These findings highlight the importance of psychological capital in enhancing job performance across various healthcare roles.

Limitations

The primary limitation of this study is that it uses a convenience sampling method among healthcare workers in a tertiary hospital in Ankara. However, this may limit the generalizability of the findings, the hospital's status as a well-established tertiary care institution where advanced medical technologies and diverse cases are managed. Another important limitation concerns the measurement of complex constructs such as job performance and workload using single-item Visual Analog Scales (VAS). Although this method was employed to reduce non-response bias—particularly in a time-constrained healthcare environment—VAS may lack the psychometric depth required to capture the multidimensional nature of these variables. It should be noted that the constructs in question were

intentionally framed as “*perceived*” job performance and workload, in line with the diversity of occupational roles in the sample.

Conclusions

This study identified variations in healthcare workers’ psychological capital, job satisfaction, perceived job performance, and workload based on specific demographic characteristics. The findings indicate that male healthcare workers perceive their psychological capital and job performance levels to be higher than females. Younger healthcare workers were found to have lower psychological capital. At the same time, job satisfaction was positively associated with age, professional experience, and education level.

The results suggest that psychological and organizational factors might be more significant in determining perceived job performance than demographic and occupational characteristics. Psychological capital, job satisfaction, and perceived workload were significant predictors of perceived job performance, with workload emerging as the strongest determinant. Additionally, job satisfaction and psychological capital positively influenced job performance.

This study contributes to the literature by examining the combined effects of psychological capital, job satisfaction, and perceived workload on job performance. This relationship has been relatively underexplored in the context of healthcare workers.

Given the positive associations between psychological capital, job satisfaction, and job performance, supportive strategies that enhance employees’ psychological resources—such as encouraging constructive feedback, peer support, and training programs—may be beneficial. Additionally, since workload was found to be a significant factor, monitoring staff workload and promoting fair task distribution could contribute to sustaining job performance levels. Although demographic factors showed limited predictive power, targeted support for younger and less experienced healthcare workers may help strengthen their psychological capital over time. While these recommendations should be interpreted in light of the study’s contextual limitations, they offer a starting point for developing workplace interventions aligned with staff well-being and organizational performance. Given the study’s limitations, future research should include larger samples and validated multi-item scales or objective workload and job performance indicators. Moreover, enhancing psychological capital, implementing strategies to improve job satisfaction, and developing policies to balance workload are essential for optimizing healthcare workers’ job performance.

Compliance with Ethical Standards

Ethical Approval

This study was approved by the Çankırı Karatekin University Ethics Committee for Science, Mathematics, and Social Sciences, Meeting Number E-95674917-108.99-181951, on June 17, 2024.

Author Contributions

The author confirms the sole responsibility for the following: study conception and design, data collection, analysis, writing, and revision of this article.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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