(Araştırma)

THE PSYCHOLOGICAL CONSEQUENCES OF COVID ANXIETY: AN EXPLANATORY STUDY FROM A CONSUMER PERSPECTIVE

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ABSTRACT

This study investigates the psychological effects of Covid anxiety on individuals from a consumer standpoint. Specifically, the current research looks at the impact of Covid anxiety on future orientation, hopelessness, and compulsive buying, as well as the influence of hopelessness and future orientation on compulsive buying. The link between future orientation and hopelessness is also being investigated. In this context, 350 individuals are surveyed online, and the structural equation modeling technique is utilized to analyze the data. It is confirmed that Covid anxiety increases hopelessness and compulsive buying tendency and reduces future orientation. The results also demonstrate that hopelessness boosts compulsive buying, whereas future orientation declines this tendency. Finally, there is evidence of a negative link between hopelessness and future orientation. This study gives insight into the interactions among psychological factors that resulted in considerable cognitive changes and compulsive buying during the pandemic. Further, the current study is a pioneer one that integrates Covid anxiety, hopelessness, future orientation, and compulsive buying into a conceptual model.

Keywords: Covid anxiety, hopelessness, future orientation, compulsive buying, pandemic, consumers

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KOVİD-19 KAYGISININ PSİKOLOJİK SONUÇLARI: TÜKETİCİ BAKIŞ AÇISINDAN AÇIKLAYICI BİR ÇALIŞMA

ÖZ

Bu çalışma, Kovid kaygısının bireyler üzerindeki psikolojik etkilerini tüketici bakış açısından incelemektedir. Spesifik olarak, mevcut araştırma, Kovid kaygısının gelecek yönelimi, umutsuzluk ve kompulsif satın alma üzerindeki etkisiyle birlikte umutsuzluk ve gelecek yöneliminin kompulsif satın alma üzerindeki etkilerini incelemektedir. Bunların yanı sıra gelecek yönelimi ve umutsuzluk arasındaki ilişki de araştırılmaktadır. Bu kapsamda 350 kişiye çevrimiçi anket uygulanmış ve verilerin analizinde yapısal eşitlik modellemesi tekniğinden yararlanılmıştır. Kovid kaygısının, umutsuzluğu ve kompulsif satın alma eğilimini artırdığı ve gelecek yönelimini azalttığı doğrulanmıştır. Ayrıca sonuçlar umutsuzluğun kompulsif satın alma eğilimini yükselttiğini, ancak gelecek yöneliminin bu eğilimi düşürdüğünü göstermektedir. Son olarak, umutsuzluk ile gelecek yönelimi arasında negatif bir ilişki olduğu tespit edilmiştir. Bu çalışma, pandemi sırasında önemli bilişsel değişikliklere neden olan ve kompulsif satın alma ile sonuçlanan çeşitli psikolojik faktörler arasındaki etkileşimlere yönelik bir iç görü sağlamaktadır. Ayrıca mevcut çalışma, Kovid kaygısını, umutsuzluğu, gelecek yönelimini ve kompulsif satın alma değişkenlerini kavramsal bir modelde ele alan öncü bir çalışmadır.

Anahtar Kelimeler: Kovid kaygısı, umutsuzluk, gelecek yönelimi, kompulsif satın alma, pandemi, tüketiciler

1. Introduction

One of the worst catastrophes of the twenty-first century, the Covid 19 pandemic has infected over 470 million people and killed around 6 million in 200 nations (Worldometers, 2022). During the pandemic, people's daily lives have changed dramatically with social distancing, quarantine, and lockdowns (Burzyńska et al., 2020)a real-time social media monitoring is needed to know the scale of this phenomenon. We have reported the frequency, reach and impact of online mentions about the COVID-19 illness taken from social media platforms: Facebook, Instagram, Twitter, blogs, forums, and news portals to highlight and better understand the scope of coronavirus discussion in Poland. We used SentiOne social listening tool to gather the data and perform the monitoring between 24 February 2020 to 25 March 2020. We found a total of 1,415,750 mentions related to COVID-19 which gives the average 47,192 mentions per day. 95.36% (1,350,059. In addition, the cancellation or postponement of many events such as concerts, festivals, and shows and the closure of many places such as hotels, restaurants, gymnasiums, and cinemas have affected economies and social life (Haleem et al., 2020).

Anxiety and depression have climbed by a whopping 25% globally, according to the World Health Organization (WHO). The primary cause of this surge is the acute stress induced by the pandemic's social isolation (WHO, 2022). Working, seeking assistance from family, and being active in the communities were all restricted for many people. Several contributors to anxiety and depression have been discovered, including loneliness, dread of the infection, suffering or death of oneself or loved ones, and financial difficulties (WHO, 2022). Furthermore, United Nations International Children's Emergency Fund (UNICEF) surveyed 8,444 people aged between 13 and 29. The results revealed that 27% of the subjects were anxious, and 15% had depressive symptoms (UNICEF, 2020). According to the same survey results, 46% of participants have less drive to accomplish what they like, and 36% have less motivation to perform their daily duties. In addition, participants claimed that their future vision was negatively impacted, with 43% of women and 31% of men expressing pessimism about the future (UNICEF, 2020). Additionally, United Nations Conference on Trade and Development (UNCTAD) revealed that Covid 19 pandemic had dramatically changed buying habits and behavior (UNCTAD, 2020).

Covid 19 had severe social, economic, and psychological impacts, and each individual experiences a portion of them. It produced worry, anxiety, and uncertainty among the people. Individuals vary in their tolerance for unforeseen problems. Their psychological responses to Covid 19 also varied, with some experiencing a very high degree of Covid anxiety and others a meager amount. Therefore, Covid had varying psychological effects on individuals depending on their anxiety levels. The previous studies have addressed the impacts of Covid anxiety, for instance, on hopelessness (e.g., Lee, 2020; Saricali et al., 2020),

depression (e.g., Lee, Jobe, & Mathis, 2020; Sakib et al., 2021), and stress (e.g., Bakioğlu et al., 2021; Siddique et al., 2021), which led to inverse behavioral tendencies (e.g., shopping disorders) and changed people's time perceptions and future expectations. Although the influences of Covid anxiety on psychological well-being have been investigated, its effect on individuals' future orientation has been overlooked by recent studies. Nevertheless, how people consider the future (i.e., their evaluations and prospects about it) shape their current mental state and behavioral tendencies. Thus, addressing the future orientation and its role on people's psychological and behavioral responses to Covid anxiety is a significant attempt to bring a novel perspective to the current knowledge.

Furthermore, as mentioned above, Covid anxiety leads to adverse behavioral consequences, one of which is shopping disorders. For instance, covid anxiety's influence on compulsive buying has been addressed by previous studies (e.g., Çelik & Köse, 2021; Lopes et al., 2020). However, first, these are very rare; second, they focus on the direct link between Covid anxiety and compulsive buying without including the triggering psychological mechanisms that engender this relationship. Hence, focusing on the factors which are affected by Covid 19 and, in turn, lead to compulsive buying among people helps expand the current knowledge on the results of the Covid 19 pandemic.

In this context, this explanatory study investigates the psychological consequences of Covid anxiety, such as its effects on hopelessness, future orientation, and compulsive buying. Furthermore, the impact of hopelessness and future orientation on compulsive buying and future orientation on hopelessness have been revealed. In addition, the findings shed light on psychological processes triggered by Covid anxiety and their reflection on daily life. These contributions to the literature may form bases for new approaches regarding the impacts of the Covid 19 outbreak on human psychology and give an idea to find ways of preventing such consequences of Covid anxiety. Moreover, marketing professionals can better understand the impact of Covid anxiety on consumers and formulate new strategies to support their customers in overcoming these issues. Another contribution of the study is to reveal the changes made by a pandemic in individuals' psychology and cognitive processes and their consequences on individuals' behavioral tendencies. The findings may play an essential role in understanding how people will be affected by a similar global epidemic in the future and how they will reflect these effects in their daily lives. Therefore, the study's findings may help understand possible changes in human reactions during similar future pandemics.

In this perspective, the research is organized as follows: First, the theoretical basis of the key constructs is discussed. The estimated correlations between these constructs are then explored, followed by a detailed explanation of the research design and methodologies. Then, the findings and contributions of the study are addressed together with its theoretical and practical implications. Last, the limits of the study and its implications for future research are discussed.

2. Theoretical Background

2.1. Covid Anxiety

Individual and societal psychological well-being, emotional stability, and relationships have all been negatively impacted by the Covid 19 pandemic (Dejonckheere et al., 2021; Philpot et al., 2021). The disease has caused a severe threat to both individuals and communities, and as a result, it has generated many negative consequences, such as fear, anxiety, and stress (Bendau et al., 2021; Fountoulakis et al., 2021). Multiple studies (e.g., Batra et al., 2021; Grover et al., 2020; Passavanti et al., 2021; Roy et al., 2020; Tee et al., 2020; Wang et al., 2020) have revealed that the implementation of restrictive measures in response to Covid 19 dramatically increased the prevalence of stress, sadness, anxiety, and post-traumatic stress disorder. Numerous scholars (e.g., Aguglia et al., 2021; Kaplan Serin & Doğan, 2021) have also discovered that home quarantine, which is used all over the world, is highly associated with undesirable consequences such as feelings of loneliness, pessimism, difficulty sleeping, low mood, and decreased happiness.

2.2. Future Orientation

The degree to which an individual pays importance to the future repercussions of today's events and subsequently adjusts his current behavior to his future aspirations is characterized as future orientation. Future-oriented individuals shape their actions in accordance with their objectives; that is, they manage their everyday lives to fulfill their plans and goals (Ginevra et al., 2021; Mazibuko & Tlale, 2014). Additionally, they are more willing to consider possible negative consequences in the future than positive ones, which means they are pessimistic (Kees, 2011). Moreover, future-oriented individuals are risk-averse (Jochemczyk et al., 2016; Li et al., 2021; Zimbardo et al., 1997), less impulsive (Gouveia-Pereira et al., 2017), and tend to keep their funds for the future because of their belief in time being continuous (Kaynak et al., 2013; Spears et al., 2000).

In this study, the future orientation variable was included in the structural model instead of the long-term orientation variable. Although being similar, these two terms are not identical. While long-term orientation is simply based on preferring future rewards to today's earnings, future orientation focuses on planning for future goals and therefore designing today's actions in accordance with those goals (Venaik et al., 2013). In this context, the study aims to reveal the interaction between the individuals' tendency to plan and behave according to their future goals and variables such as Covid anxiety, hopelessness, and compulsive buying.

2.3. Hopelessness

Hopelessness is an essential component and a diagnostic factor of mental ill-health (Ejdemyr et al., 2021). It was first defined as an individual's negative future-

related expectations, thoughts, and emotions (Abramson et al., 1989; Beck, 1974). Furthermore, hopelessness is considered a symptom of depression (American Psychiatric Association (APA) 2013). In addition, some authors (e.g., Baryshnikov et al., 2018; Mitchell et al., 2018) believe it plays a critical role in developing anxiety, suicide risk, and decreased psychosocial functionality. Some studies have also examined the link between hopelessness and the Covid 19 pandemic (e.g., Kaplan Serin & Doğan, 2021; Rossi et al., 2021). For instance, Rossi et al. (2021) revealed the positive effect of fear of Covid 19 on hopelessness. Additionally, it has been found that individuals who are afraid of the pandemic and its economic consequences have higher levels of hopelessness (Kaplan Serin & Doğan, 2021).

2.4. Compulsive Buying

Compulsions are repetitious and ostensibly planned acts carried out in a predefined pattern or according to specific criteria (Bellack & Morrison, 2012). These are overabundant and ritualistic actions that are supposed to help alleviate emotions of stress, anxiety, and discomfort (O'Guinn & Faber, 1989). The concepts "compulsive purchasing," "addictive purchasing," and "pathological purchasing" are regarded as interchangeable (Hubert et al., 2014), and chronic, repetitive shopping that is a substantial response to negative events or emotions is referred to as compulsive buying (O'Guinn & Faber, 1989). In compulsive buying, the person has an excessive, uncontrolled, persistent, and recurring urge to buy and spend (Somasiri & Chandralal, 2018). Further, it is most commonly used to relieve negative tension and anxiety symptoms (Edwards, 1993). Numerous studies have been conducted to study the causes of compulsive purchasing (e.g., Le, 2021; Olsen et al., 2022; Owusu et al., 2021; Shemeis et al., 2021; Tarka & Harnish, 2021). Neuroticism, extraversion, and conscientiousness, for example, were shown to substantially influence compulsive buying among the big five personality dimensions (Shemeis et al., 2021). Furthermore, Tarka and Harnish (2021) argued that human values such as self-improvement, openness to change, self-transcendence, and conservation were associated with a proclivity for compulsive buying. However, Covid 19 pandemic's effect on compulsive buying has been examined only a few times (e.g., Huang et al., 2022; KüçükkambaK & Süler, 2022), so its influence needs to be explored by additional studies.

3. Hypothesis Development

Covid 19 has devastating social, economic, and psychological impacts, and every individual receives their share of those to a certain extent. Since it is a novel type of disease spreading recklessly and embodying many unforeseen consequences, it causes fear, anxiety, and uncertainty among the public. As individuals differ in their tolerance to unanticipated issues, their psychological reactions to Covid 19 vary. On the one hand, some individuals can feel a very high level of Covid anxiety. On the other hand, some can do a shallow level of it.

Recent studies have discovered a positive association between anxiety and

shopping disorders. Gallagher et al. (2017), for example, found that compared to depression and stress, anxiety is the most potent factor leading to compulsive buying among participants. Another study (Black et al., 2016) conducted 5-year follow-up interviews with the same individuals and unveiled that people diagnosed with compulsive shopping also experience anxiety disorders. Besides, many subjects specified that they returned to compulsive shopping to relieve their anxieties. Furthermore, the literature review of Weinstein et al. (2016) asserted that compulsive buying has a psychological concurrency with anxiety. Further, Zheng et al.'s (2019) study on young women demonstrated that state anxiety directly influences online compulsive buying.

A group of studies has claimed that the Covid-19 pandemic has an anti-consumption effect (e.g., Cambefort, 2020; Khatib, 2020; H.-J. Lee & Cha, 2022; K.-T. Lee, 2022; Maseeh et al., 2022)provocada pela Pandemia do novo coronavírus (COVID-19. For instance, according to Cambefort (2020), the lockdown gave individuals a chance to experiment with a simpler lifestyle by lowering their level of consumption after realizing that excessive spending does not gladden them and raising concerns about its detrimental effects on the environment. On the other hand, recent studies have also addressed the link between anxiety due to Covid 19 and compulsive buying. One of these studies, Çelik and Köse (2021), confirmed that anxiety during Covid 19 positively influences the helpless stress coping style, increasing compulsive buying among Turkish people. Furthermore, according to another study (Şahin & Karahan, 2022) conducted in Turkey, Covid 19 anxiety has a positive impact on consumers' compulsive buying tendencies by increasing their anxiety levels. Besides, Shabahang et al. (2021)including anxiety and depression, in addition to compulsive behaviors. Clarifying the psychosocial antecedents and consequences of COVID-19 anxiety can inform successful psychological support and treatment. This study investigated psychological predictors and consequences of COVID-19 anxiety during the outbreak of COVID-19 in Iran. University students (N = 398 indicated that Covid anxiety is related to false safety behaviors such as compulsive buying. In this context, the first hypothesis of the study is developed as below:

H_1: *Covid anxiety has a positive impact on compulsive buying tendency in the Covid era.*

According to some authors (e.g., Baryshnikov et al., 2018; Mitchell et al., 2018), hopelessness and some unpleasant psychological changes are related. They argued that hopelessness contributes significantly to the emergence of anxiety, the danger of suicide, and reduced psychosocial functioning. Similarly, research has unveiled that those who fear and worry about Covid 19 are also prone to have unpleasant feelings. For instance, Covid anxiety was found to have a substantial association with depression and generalized anxiety (S. A. Lee, Jobe, & Mathis, 2020; S. A. Lee, Jobe, Mathis, et al., 2020), death anxiety (S. A. Lee, Jobe, Mathis, et al., 2020), and suicidal ideation (S. A. Lee, Jobe, & Mathis, 2020; S. A. Lee, 2020;

S. A. Lee, Mathis, Jobe, et al., 2020)which is a brief mental health screener to identify probable cases of dysfunctional anxiety associated with the COVID-19 crisis. This 5-item scale, which was based on 775 adults with anxiety over the coronavirus, demonstrated solid reliability and validity. Elevated CAS scores were found to be associated with coronavirus diagnosis, impairment, alcohol/drug coping, negative religious coping, extreme hopelessness, suicidal ideation, as well as attitudes toward President Trump and Chinese products. The CAS discriminates well between persons with and without dysfunctional anxiety using an optimized cut score of ! 9 (90% sensitivity and 85% specificity. Besides, some studies indicated that Covid anxiety and hopelessness are two closely related constructs. For instance, Lee (2020) observed a significant positive correlation between Covid anxiety and hopelessness. Another study (Saricali et al., 2020) revealed that fear of Covid, an essential predictor of hopelessness, increases individuals' hopelessness levels. Lee et al. (2020) also demonstrated extreme hopelessness in individuals with high Covid anxiety. Hence, based on these previous studies, we built our second hypothesis as follows:

H_2: *Covid anxiety has a positive impact on hopelessness.*

In addition to its effect on how individuals feel, it is expected that Covid anxiety will influence how people consider future consequences. The coronavirus pandemic has turned into a chronic social trauma, resulting in a period of uncertainty, and it has challenged individuals' ability to cope with an unknown threat, transforming the way of life and raising questions about what the near and far future may bring (Holman & Grisham, 2020). When people experience trauma, their perception of time changes (Holman & Silver, 1998)Vietnam War veterans, and residents of 2 southern California communities devastated by fire. Results indicated that a past temporal orientation—focusing attention on prior life experiences—was associated with elevated levels of distress long after the trauma had passed, even when controlling for the degree of rumination reported. Temporal disintegration at the time of the trauma whereby the present moment becomes isolated from the continuity of past and future time—was associated with a high degree of past temporal orientation over time and subsequent distress. Temporal disintegration was highest among individuals who had experienced the most severe loss, had previously experienced chronic trauma, and had had their identities threatened by their traumatic experience. (PsycINFO Database Record (c as trauma can force individuals to live in the present, leading to a conscious awareness of the current situation (Holman, 2015; Holman & Zimbardo, 2009). Based on this perspective, it would not be incorrect to assert that the coronavirus pandemic causes individuals to prioritize the present above the future. In this way, people can be consciously aware of what is currently happening and changing in the environment, which helps them respond and adapt quickly. Besides, the future has become ambiguous more than ever before due to the Covid pandemic; focusing on the immediate world would enable people to avoid future uncertainties that may be intolerable.

The reason is that:

… uncertainty can be a source of concerns for anxiety-prone individuals, whose predictions of potential outcomes are more negative than positive. This means they anticipate negative events, outcomes or experiences concerning their country, their surroundings, or themselves personally. (Zaleski, 2006, p. 130).

Thus, the recent negative experiences owing to the Covid pandemic can lead people to expect similar events to happen (i.e., negative effect). This expectation may be intense for individuals with high levels of Corona anxiety, making them focus on the present rather than the future. Furthermore, Papastamatelou et al. (2015) found that those with a future-focused time view do not suffer from a generalized anxiety disorder. Hence, there appears to be a negative relationship between future orientation and anxiety. Based on these, the third hypothesis of the study is proposed below:

H_3: *Covid anxiety has a negative impact on future orientation.*

It is suggested that compulsive buying is connected with considerable emotional, societal, job-related, and financial problems, including incapacitating debt, familial trouble, workplace difficulties, and psychological hardships such as shame, guilt, depression, and hopelessness (Benson & Gengler, 2004). Accordingly, previous research found that individuals who feel hopeless are likely to shop compulsively. For instance, Grant et al. (2011) demonstrated that adolescents with problem shopping behavior were nearly 3–6 times more likely to feel sad or hopeless than those without problem shopping. Besides, it was demonstrated that compulsive buyers are inclined toward hopelessness (Mendelson & Mello, 1986), and they see compulsive buying as a short-term coping strategy for releasing this profound sense of hopelessness (Dickie, 2011). Similarly, Roberts et al. (2015) confirmed that people who evaluate themselves as hopeless tend to shop compulsively. Based on these studies, individuals' hopelessness level is expected to influence their compulsive buying tendency in the Covid era positively. Therefore, the fourth hypothesis of the study is established as follows:

H_4: *Hopelessness has a positive impact on compulsive buying tendency in the Covid era.*

The intention to exhibit certain behaviors is associated with a consumer's propensity toward a present or future orientation (Finke & Huston, 2003). Present-oriented consumers, for example, tend to participate in risky behaviors such as smoking, drinking, and unprotected sex. Future-oriented consumers, on the other hand, are inclined to participate in risk-averse behaviors such as exercising, wearing a seat belt, or building good credit (Norum, 2008). In their study, Norum (2008) demonstrated that the compulsive buying tendency is positively related to the behaviors (i.e., smoking, drinking, and unprotected sex) reflecting present orientation and is negatively related to the behaviors (i.e., exercising and

establishing credit) reflecting future orientation. Another study (Joireman et al., 2010) focusing on a university student sample confirmed a negative relationship between consideration of future consequences and compulsive buying tendency. Further, the compulsive buying tendency-future orientation link was examined cross-culturally and provided consistent results. For instance, a recent study (Unger et al., 2018) focusing on Germany, Ukraine, and China found that future time perspective negatively influences compulsive buying among Ukrainian and Chinese consumers. The current study also estimates that a decrease in future orientation will lead to a tendency for compulsive buying in the Covid era. Therefore, the fifth hypothesis of the study is built as below:

H_5: *Future orientation has a negative impact on compulsive buying tendency in the Covid era.*

Last, studies have shown that future orientation is a mechanism for protecting people from the feeling of hopelessness. For example, Hamilton et al. (2015) revealed that greater levels of future orientation mitigate the influence of emotional trauma on the emergence of despair. Another study (Mac Giollabhui et al., 2018), which encompassed a five-year annual assessment of the connection between future orientation and hopelessness, provided evidence that the increase in future orientation leads to a faster drop in hopelessness in years. It was also confirmed that individuals with positive future expectations are unlikely to feel hopeless (Ogurlu, 2016). Likewise, Allwood et al. (2012) discovered a robust connection between a lack of future orientation and hopelessness. As a result, past research findings imply that future orientation is adversely related to hopelessness. In this context, the last hypothesis is:

H_6: *Future orientation has a negative impact on hopelessness.*

Depending on the proposed relationships among variables, the current study posits the research model with relevant hypotheses below (Figure 1).

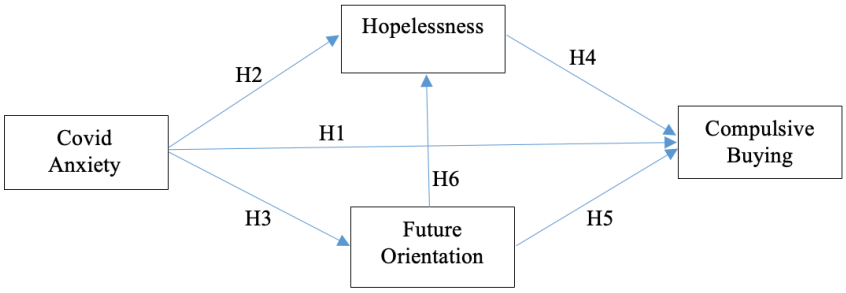

Figure 1. Research Model

4. Methodology

4.1.Participants and Procedures

The research is approved by the University of Turkish Aeronautical Association Senate Ethics Committee (approval number: E-82735415-619-16624, date: 09.05.2022). All individual participants are requested to sign written informed consent forms.

The data was collected between September 2020-March 2021. This period was chosen carefully since at those times, the new reported cases, Covid patients in hospitals, test positivity rates, and new reported deaths increased sharply in the USA (The New York Times, 2020). Therefore, people were deeply feeling the psychological effects of Covid 19 Pandemic, which made it meaningful to address the relationships between the variables selected in this study. Furthermore, in order to select the participants, Amazon Mechanical Turk (MTurk) was used, and the respondents were paid .75 cents for their time and effort. The first reason for using this platform for data collecting is that MTurk allows for a wide range of study design options, including experimental, quasi-experimental, passive observation, cross-sectional, longitudinal studies, and even content analysis (Aguinis et al., 2021). In addition, the platform provides a demographically diversified, broad, and stable participant pool that is easily accessible, collects data rapidly, and enables inexpensive online research (Bader et al., 2021; Buhrmester et al., 2018; Levay et al., 2016; Mason & Suri, 2012)trust, and reciprocity, we evaluate (1. Furthermore, because of the platform's large and diversified user base, the generated data are intended to be valid and applicable to a broader population (Bader et al., 2021; Mellis & Bickel, 2020). Moreover, MTurk data are viewed as equally credible as conventional data sources (Bentley et al., 2017; Buhrmester et al., 2011)it is often desirable to quickly obtain information about current user behaviors for topics that cannot be obtained through existing data or instrumentation. Perhaps we would like to understand the use of products we do not have access to or perhaps the action we would like to know about (such as using a coupon. The participants were randomly recruited from the platform among the individuals aged 18+ residing in the USA. Finally, the data were gathered from 350 participants, whose demographics are given in Table 1.

As seen in Table 1, approximately half of the participants were male (54.3%), and half were female (45.7%). About 67% of the participants were between the ages of 25-44, 4.3% were between the ages of 18-24, and the rest were older than 45. Nearly half of the participants (55.7%) were university graduates, 22.3% had graduate degrees, and 18% were high school graduates. The annual income distribution of the participants was quite balanced, with each group accounting for 10-20% of the total.

Table 1. Demographics of the Participants

N=350	
Gender	Female: 160 (45.7%)
	Male: 190 (54.3%)
Age	18-24: 15 (4.3%)
	25-34: 132 (37.7%)
	35-44: 108 (30.9%)
	45-54: 47 (13.4%)
	55-64: 33 (9.4%)
	65+: 15 (4.3%)
Education	Elementary and secondary school: 3 (0.9%)
	High school: 63 (18%)
	College/University: 195 (55.7%)
	Master degree: 78 (22.3%)
	Doctoral degree: 11 (3.1%)
Annual Income	Under $15,000: 68 (19.4%)
	Between $15,000 and $29,999: 65 (18.6%)
	Between $30,000 and $49,999: 65 (18.6%)
	Between $50,000 and $74,999: 72 (20.6%)
	Between $75,000 and $99,999: 38 (10.9%)
	Between $100,000 and $150,000: 30 (8.6%)
	Over $150,000: 12 (3.4%)

4.2.Measures

The measurement tools used for the data collection were derived from existing scales, and all were prepared in a 5-point Likert-type format. In order to measure Covid anxiety, Roy et al.'s (2020) scale was used. Since state hopelessness was measured in this study, the state part of the State-Trait Hopelessness Scale (Dunn et al., 2014) was adapted. In addition, future orientation (i.e., consideration of future consequences) was measured by Strathman et al.'s (1994) scale and compulsive buying by Faber and Q'Guinn's (1992) scale.

Before the commencement of data collection, the content and understandability of the measurement items were discussed with three marketing academicians. Spelling corrections and other adjustments were made based on their feedback. Following that, a pilot study with 50 respondents was applied to evaluate the measures' factor structure and internal reliability. After determining that the analysis findings were satisfactory, the data collection was maintained.

5. Analysis and Findings

In order to test the measurement and structural models, AMOS 22 program was used. As the covariance-based structural equation modeling has the assumptions of the normality of the data and the homogeneity of the variances, they were

checked prior to the analysis using SPSS 22 software. The results confirmed that the skewness and kurtosis values of all the scale items were between -2 and +2, demonstrating that the data met the assumption of normal distribution (Hair et al., 2010; Kline, 2011). Besides, the homogeneity of variances (for gender, age, education, and income) were evaluated through Levene's test (Levene, 1960) and insignificant results ($p>.05$) were obtained except for age; as a result, the premise of variance homogeneity was accepted. In addition, VIF values were calculated to reveal whether there is a multicollinearity problem among independent variables. As a result, it was concluded that there is no multicollinearity since all the calculated VIF values are around 1, that is, much smaller than the accepted cut-off value of 10. Following this initial analysis, confirmatory factor analysis (CFA) was applied to test the measurement model to ensure that the measurement items and latent variables were compatible. The findings of the analysis are presented in the following section.

5.1. Confirmatory Factor Analysis

The goodness of fit indices of the research model, as well as the reliability and validity values of the scales, were assessed in this step. According to the results of CFA (see Table 2), the calculated goodness of fit indices were compatible with the suggested values in the literature (e.g., Hair et al., 2010; Hooper et al., 2007), confirming the overall fit of the model with the data. After this, reliability and validity issues were checked. First, it was verified that standardized factor loadings of all items in the scales were higher than .50 ($p<.05$), which supported the validity of the measurement constructs (Bagozzi & Yi, 1988; Chau, 1997; Hair et al., 2010; Magal, 1991). When it comes to the reliability of the scales, first, Cronbach's alpha (α), and Composite Reliability (CR) values were calculated. Additionally, maximal reliability, which is a scale-size-independent and more robust measure of reliability, was also computed. The results demonstrated that for all scales, α and CR values surpassed .70, indicating that the reliabilities of measurement instruments are satisfactory (Fornell & Larcker, 1981; Hair et al., 2010). Compatible with these findings, all MaxR (H) values were higher than .80 that, which confirmed the maximal reliability (Hancock & Mueller, 2001).

In addition to the reliability, convergent and discriminant validities were checked. For this, average variance extracted (AVE) and maximum shared variance (MSV) for each variable were calculated. As it is seen in Table 2, AVE values are higher than .50, demonstrating the convergent validity of the scales. Besides, the square roots of AVE scores (diagonals) are greater than the inter-construct correlations (below AVEs) and MSV values, which meet the standards for discriminant validity of the measurement instruments (Fornell & Larcker, 1981; Hair et al., 2010).

Table 2: CFA Results (Goodness of Fit Indices, Reliability and Validity Indicators)

	α	CR	AVE	MSV	MaxR(H)	Hopeless-ness	Covid anxiety	Com-pulsive buying	Future orienta-tion
Hopelessness	.912	.913	.637	.433	.917	.798			
Covid anxiety	.833	.842	.644	.632	.949	.502	.802		
Compulsive buying	.934	.938	.717	.632	.973	.649	.795	.847	
Future orien-tation	.893	.895	.682	.497	.979	-.658	-.529	-.705	.826

$\chi 2/df = 1.574$, p = .000, CFI = .983, GFI = .937, AGFI = .918, NFI = .956, TLI = .981, RFI = .948, IFI = .983, RMSEA = .041, Standardized RMR = .035

Furthermore, due to the use of self-reported questionnaires to collect data, the presence of common method bias (CMB) was explored. To begin with, the single factor retrieved by Harman's test (Harman, 1976) explained less than half of the total variance, showing the lack of CMB (Harman, 1976). Besides, to diagnose CMB, the common latent factor method was also utilized. As a result, the common variance calculated was less than 10%, which is also a strong indicator of the absence of CMB (Conway & Lance, 2010; MacKenzie & Podsakoff, 2012).

5.2. Structural Relationships and Hypothesis Testing

Following the evaluations of validity and reliability, the structural model and hypotheses were tested. Table 3 displays the model's goodness-of-fit metrics, standardized route estimates, and hypothesis test results. The derived goodness of fit metrics are well inside the allowed range, suggesting that the model is overall well-fit (Hair et al., 2010; Hooper et al., 2007).

Table 3. Model Parameter Estimations and Goodness-of-fit Indices

Paths			Hypothesis	Std. Estimates	Std. Error	t-Value
Covid anxiety	→	Compulsive buying	H1	.548	.087	9.269*
Covid anxiety	→	Hopelessness	H2	.214	.077	3.617*
Covid anxiety	→	Future orientation	H3	-.529	.086	-8.144*
Hopelessness	→	Compulsive buying	H4	.178	.056	3.608*
Future orientation	→	Compulsive buying	H5	-.298	.057	-5.789*
Future orientation	→	Hopelessness	H6	-.545	.061	-8.769*

$\chi 2 = 229.77$ df=146 p=0.000 $\chi 2/df$=1.574 CFI=0.983 GFI=0.937 AGFI=0.918 IFI=0.983 TLI=0.981

Standardized RMR=0.035 RMSEA=0.041

*p<.05

As clearly seen in Table 3, the hypothesized impacts of Covid anxiety on compulsive buying (H1), hopelessness (H2) and future orientation (H3); hopelessness on compulsive buying (H4), and future orientation on compulsive buying and hopelessness (H5 and H6) are all significant at 95 % confidence level (H1: *β=.548, p<.05;* H2: *β=.214, p<.05;* H3: *β=-.529, p<.05;* H4*: β=.178, p<.05;* H5: *β=-.298, p<.05;* H6: β=*-.545, p<.05*). Among those, the effects of Covid anxiety on future orientation (H3) and future orientation on compulsive buying (H5) and hopelessness (H6) are negative, whereas others are positive.

Furthermore, the findings show that hopelessness and future orientation partially mediate the link between Covid anxiety and compulsive buying. The standardized indirect impact of Covid anxiety on compulsive buying through hopelessness (β=.038, *p<.05*) and future orientation (β=.158, *p<.05*) is positive. Additionally, it is also confirmed that future orientation mediates the relationship between Covid anxiety and hopelessness. The standardized indirect impact of Covid anxiety on hopelessness through future orientation is also positive (β=.288, *p<.05*).

Finally, the proportion of the variance explained (R^2) for each endogenous variable was calculated. The findings presented R^2 values as .280 for future orientation, .466 for hopelessness, and .760 for compulsive buying. The threshold values of R^2 (.25, .5, and .7) respectively represent a weak, moderate, and strong explanatory power of the model (Hair Jr. et al., 2017)Jr., G. Tomas M. Hult, Christian Ringle, and Marko Sarstedt is a practical guide that provides concise instructions on how to use partial least squares structural equation modeling (PLS-SEM. Thus, for our main dependent variable, compulsive buying, the structural model has high explanatory power.

6. Discussion and Conclusion

The findings of this study corroborate those of the present literature in multiple aspects. For instance, the positive impact of Covid anxiety on compulsive buying is coherent with the results of recent studies (e.g., Çelik & Köse, 2021; Jaspal et al., 2020; Lopes et al., 2020) addressing this particular effect. It can be stated that individuals could have seen shopping as a way of releasing their Covid-related anxiety, which led them to make purchases compulsively. The previous research (e.g., Hacimusalar et al., 2020; S. A. Lee, 2020) also confirmed a positive correlation between Covid anxiety and hopelessness, as the current study did. The uncertainty surrounding the disease's progress, severity, duration, the lack of a specific treatment approach, and the possibility of high mortality all contributed to a sense of dread. People who felt more fearful due to these alarming issues experienced a more intense sense of despair during the pandemic. Furthermore, this study revealed, for the first time, the mediating roles of future orientation and hopelessness on the relationship between Covid anxiety and compulsive buying. According to the results, Covid anxiety lessens future orientation, which decreases the tendency for compulsive buying. In contrast, findings demonstrated

that Covid anxiety increases the hopelessness of individuals, which also boosts the compulsive buying tendency of individuals.

In addition, supporting the finding of Roberts et al. (2015), this study found evidence that hopeless individuals were inclined to compulsive buying. This result underlines the assumption that compulsive buying generally brings temporary relief and impairs emotional distress and negative feelings (Tarka & Kukar-Kinney, 2022; Unger et al., 2018). Hence, consumers may purchase products compulsively to escape their state of hopelessness. Regarding the link between future orientation and compulsive buying, the study corroborates the findings of Joireman et al. (2010) and Unger et al. (2018), which also showed the future orientation's negative influence on compulsive buying. Future-oriented people are likely to envision and make plans for their future, think about how their present actions will affect their future life, and avoid risky behaviors (e.g., compulsive buying) (Brougham et al., 2011; Norum, 2008).

Further, the evidence for the negative correlation between future orientation and hopelessness supports the results from some previous research (e.g., Hamilton et al., 2015; Mac Giollabhui et al., 2018; Ogurlu, 2016). Higher future orientation is associated with various favorable outcomes, including increased resistance to depressive symptoms (Zheng et al., 2019) and suicidal attempts (Chang et al., 2020). The fact that stronger future orientation lowers the likelihood of these outcomes is noteworthy because these are consequences for which hopelessness raises the risk of occurring. Therefore, the negative link between future orientation and hopelessness is not surprising.

Last, Covid anxiety was revealed to be a negative antecedent of future orientation. Although there is no empirical finding supporting this particular impact in the current literature, it can be inferred that Covid has been a collective trauma and a period with many uncertainties that have made it difficult to estimate what the future will bring (Holman & Grisham, 2020). Hence, this situation may have pushed people to focus on the present instead of tomorrow. Besides, anxiety can lead individuals to expect negative future outcomes (Zaleski, 2006). Therefore, people with high Covid worries may tend to pay attention to their immediate concerns for moving away from future-related anxieties and coping with current events and situations (e.g., pandemics).

In several ways, the current study adds substantially to the literature. First, this study is of the very few that comprehensively investigated the psychological consequences of Covid anxiety from a consumer perspective. Specifically, this study sheds light on the interactions among variables that led to significant cognitive alterations resulting in compulsive buying during the pandemic. Second, the current study brings Covid anxiety, hopelessness, future orientation, and compulsive buying together in a conceptual model for the first time. Third, it introduces Covid anxiety as a significant negative antecedent of future orientation,

which eventually influences compulsive buying. These findings form a unique contribution to the current knowledge. Fourth, earlier studies (e.g., Grant et al., 2011; Joireman et al., 2010) examined the effects of hopelessness and future orientation on compulsive buying, but the effects in question during the Covid period were gaps in the existing literature that this study aimed to fill. Last, the previous research (e.g., Brougham et al., 2011; Joireman et al., 2010; Unger et al., 2018) explored the impact of future orientation on compulsive buying in student samples. Unlike those, the current study investigated this effect in the context of a demographically diverse sample. As mentioned before, the participants were randomly selected through the Mturk platform, from the ones over the age of 18 residing in the USA to diversify the sample as much as possible. As shown in Table 1, the participants in this study ranged from 18 to 65+ years of age and included participants of different genders, education, and income levels. However, all the data was gathered from a developed country with western culture, and some variables in the conceptual model of this study may also be affected by cultural factors. For instance, future orientation and risk tolerance (Jochemczyk et al., 2016; Li et al., 2021; Zimbardo et al., 1997) are related, and despite varying at the individual level, individuals grown in western cultures are accepted to be more risk tolerant (Hofstede, 1984). Since this study did not aim to examine the revealed relationships in terms of cultural differences, data on the cultural background of the participants were not collected. However, investigating the effects of cultural factors on the relationships demonstrated in this study may provide a deeper understanding. Thus, it may be a potential area of research for future studies.

The findings of this study present practical implications as well. As it is confirmed that Covid anxiety has negative psychological impacts on individuals, companies should develop some strategies to reduce their Covid anxiety levels. For instance, they can ensure consumers that all necessary precautions are taken to prevent the spread of the disease. Firms can prepare marketing communication content using both emotional and informational messages to emphasize their efforts in taking those measures. In addition, firms should guide consumers on how they can protect themselves from Covid 19 disease. If consumers believe that they are taking precautions to protect themselves, they feel safe, and thus, their Covid anxiety levels diminish. Further, Covid anxiety increases hopelessness and reduces future orientation, resulting in compulsive buying. Therefore, marketers should create hopeful communication messages and make consumers think and plan for a brighter future, which would help them relieve their negative feelings and thoughts and, in turn, increase their future focus. This will attenuate consumers' tendency for compulsive buying, which is a coping strategy for releasing negative psychological consequences of Covid anxiety. Besides, companies can establish education campaigns to motivate consumers to think about the post-Covid era and make their purchasing decisions accordingly, which will help consumers make rational buying decisions. Besides, this can contribute to the companies' positive image and long-term brand loyalty. Last but not least, by drawing important lessons

from the study's findings, companies and policymakers can get an idea about how they can deal with similar future incidents, such as epidemics, disasters, and wars that create anxiety, trauma, and crisis. This can help companies and decision-makers take faster and more accurate actions in similar situations.

7. Limitations and Future Research

There are certain limitations of the current study that future studies could address. First, the data of this study were gathered from people residing in the USA, a developed country with western culture. Testing whether the findings are valid for developing countries or eastern cultures can contribute significantly to the generalizability of the findings. Second, as the roles of demographics in the proposed relationships were not examined in this study, the effects of those variables may be addressed by future research. Third, the current study's findings are based on participants' self-reported data. Thus, future studies can test the effects of the antecedents in the present study's conceptual model focusing on consumers' actual compulsive buying behaviors. Fourth, the impacts of other variables such as personality traits (Otero-López et al., 2021; Tarka et al., 2022) and values (Tarka & Harnish, 2021), social media use (Pahlevan Sharif et al., 2021; She et al., 2021), and intolerance of uncertainty (Çelik & Köse, 2021) can be examined. Finally, further studies can test the current study's research model by collecting data in the post-pandemic period, and comparing its findings with the present results to see if the Covid anxiety has completely gone and its effects have returned to normal.

REFERENCES

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness Depression: A Theory-based Subtype of Depression. *Psychological Review*, *96*(2), 358–372. https://doi.org/10.1037/0033-295X.96.2.358

Aguglia, A., Amerio, A., Costanza, A., Parodi, N., Copello, F., Serafini, G., & Amore, M. (2021). Hopelessness and Post-Traumatic Stress Symptoms among Healthcare Workers during the COVID-19 Pandemic: Any Role for Mediating Variables? *International Journal of Environmental Research and Public Health*, *18*(12), Article 12. https://doi.org/10.3390/ijerph18126579

Aguinis, H., Villamor, I., & Ramani, R. S. (2021). MTurk Research: Review and Recommendations. *Journal of Management*, *47*(4), 823–837. https://doi.org/10.1177/0149206320969787

Allwood, M. A., Baetz, C., DeMarco, S., & Bell, D. J. (2012). Depressive Symptoms, Including Lack Of Future Orientation, As Mediators In The Relationship Between Adverse Life Events And Delinquent Behaviors. *Journal of Child & Adolescent Trauma*, *5*(2), 114–128.

American Psychiatric Association. (2013). *Diagnostic And Statistical Manual of Mental Disorders (5th ed.)*. American Psychiatric Association.

Bader, F., Baumeister, B., Berger, R., & Keuschnigg, M. (2021). On the Transportability of Laboratory Results. *Sociological Methods & Research*, *50*(3), 1452–1481. https://doi.org/10.1177/0049124119826151

Bagozzi, R. P., & Yi, Y. (1988). On The Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94. https://doi.org/10.1007/BF02723327

Baryshnikov, I., Rosenström, T., Jylhä, P., Koivisto, M., Mantere, O., Suominen, K., Melartin, T., Vuorilehto, M., Holma, M., Riihimäki, K., & Isometsä, E. T. (2018). State And Trait Hopelessness in A Prospective Five-Year Study of Patients With Depressive Disorders. *Journal of Affective Disorders*, *239*, 107–114. https://doi.org/10.1016/j.jad.2018.07.007

Batra, K., Sharma, M., Batra, R., Singh, T. P., & Schvaneveldt, N. (2021). Assessing the Psychological Impact of COVID-19 Among College Students: An Evidence of 15 Countries. *Healthcare*, *9*(2), Article 2. https://doi.org/10.3390/healthcare9020222

Beck, A. T. (1974). The development of depression: A cognitive model. In R. J. Friedman & M. M. Katz (Eds.), *The Psychology of Depression: Contemporary Theory And Research* (pp. 3–20). Winston & Son.

Bellack, A. S., & Morrison, R. L. (2012). *Medical Factors and Psychological Disorders: A Handbook for Psychologists*. Springer Science & Business Media.

Bendau, A., Petzold, M. B., Pyrkosch, L., Mascarell Maricic, L., Betzler, F., Rogoll, J., Große, J., Ströhle, A., & Plag, J. (2021). Associations Between COVID-19 Related Media Consumption And Symptoms Of Anxiety, Depression And COVID-19 Related Fear In The General Population In Germany. *European Archives of Psychiatry and Clinical Neuroscience*, *271*(2), 283–291. https://doi.org/10.1007/s00406-020-01171-6

Benson, A. L., & Gengler, M. (2004). Treatment of Compulsive Buying. In R. Coombs (Ed.), *Handbook Of Addictive Disorders: A Practical Guide To Diagnosis And Treatment Handbook* (pp. 451–491). Wiley.

Bentley, F. R., Daskalova, N., & White, B. (2017). Comparing the Reliability of Amazon Mechanical Turk and Survey Monkey to Traditional Market Research Surveys. *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, 1092–1099. https://doi.org/10.1145/3027063.3053335

Black, D. W., Shaw, M., & Allen, J. (2016). Five-Year Follow-Up of People Diagnosed with Compulsive Shopping Disorder. *Comprehensive Psychiatry*, *68*, 97–102. https://doi.org/10.1016/j.comppsych.2016.03.004

Brougham, R. R., Jacobs-Lawson, J. M., Hershey, D. A., & Trujillo, K. M. (2011). Who Pays Your Debt? An Important Question for Understanding Compulsive Buying Among American College Students. *International Journal of Consumer Studies*, *35*(1), 79–85.

Buhrmester, Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data? *Perspectives on Psychological Science*, *6*(1), 3–5. https://doi.org/10.1177/1745691610393980

Buhrmester, Talaifar, S., & Gosling, S. D. (2018). An Evaluation of Amazon's Mechanical Turk, Its Rapid Rise, and Its Effective Use. *Perspectives on Psychological Science*, *13*(2), 149–154. https://doi.org/10.1177/1745691617706516

Burzyńska, J., Bartosiewicz, A., & Rękas, M. (2020). The social life of COVID-19: Early insights from social media monitoring data collected in Poland. *Health Informatics Journal*, *26*(4), 3056–3065. https://doi.org/10.1177/1460458220962652

Cambefort, M. (2020). How the COVID-19 Pandemic is Challenging Consumption. *Markets, Globalization & Development Review*, *5*(1). https://doi.org/10.23860/MGDR-2020-05-01-02

Çelik, S., & Köse, G. G. (2021). Mediating Effect of Intolerance Of Uncertainty In The Relationship Between Coping Styles With Stress During Pandemic (COVID-19) Process And Compulsive Buying Behavior. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, *110*, 110321.

Chang, O. D., Batra, M. M., Premkumar, V., Chang, E. C., & Hirsch, J. K. (2020). Future Orientation, Depression, Suicidality, And Interpersonal Needs in Primary Care Outpatients. *Death Studies*, *44*(2), 98–104.

Chau, P. Y. (1997). Reexamining A Model for Evaluating Information Center Success Using A Structural Equation Modeling Approach. *Decision Sciences*, *28*(2), 309–334.

Conway, J. M., & Lance, C. E. (2010). What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research. *Journal of Business and Psychology*, *25*(3), 325–334. https://doi.org/10.1007/s10869-010-9181-6

Dejonckheere, E., Houben, M., Schat, E., Ceulemans, E., & Kuppens, P. (2021). The Short-Term Psychological Impact of the COVID-19 Pandemic in Psychiatric Patients: Evidence for Differential Emotion and Symptom Trajectories in Belgium. *Psychologica Belgica*, *61*(1), 163–172. https://doi.org/10.5334/pb.1028

Dickie, J. L. (2011). *A Phenomenological Study Of The Experience And Meaning Of Compulsive Buying And Mood and/or Anxiety Disorders* [Doctoral Dissertation,]. Northcentral University.

Dunn, S. L., Olamijulo, G. B., Fuglseth, H. L., Holden, T. P., Swieringa, L. L., Sit, M. J., Rieth, N. P., & Tintle, N. L. (2014). The State-Trait Hopelessness Scale: Development and testing. *Western Journal of Nursing Research*, *36*(4), 552–570. https://doi.org/10.1177/0193945913507634

Edwards, E. A. (1993). Development of a New Scale For Measuring Compulsive Buying Behavior. *Financial Counseling and Planning*, *4*, 67–84.

Ejdemyr, I., Hedström, F., Gruber, M., & Nordin, S. (2021). Somatic Symptoms of Helplessness And Hopelessness. *Scandinavian Journal of Psychology*, *62*(3), 393–400. https://doi.org/10.1111/sjop.12713

Finke, M. S., & Huston, S. J. (2003). Factors Affecting the Probability Of Choosing A Risky Diet. *Journal of Family and Economic Issues*, *24*(3), 291–303.

Fountoulakis, K. N., Apostolidou, M. K., Atsiova, M. B., Filippidou, A. K., Florou, A. K., Gousiou, D. S., Katsara, A. R., Mantzari, S. N., Padouva-Markoulaki, M., Papatriantafyllou, E. I., Sacharidi, P. I., Tonia, A. I., Tsagalidou, E. G., Zymara, V. P., Prezerakos, P. E., Koupidis, S. A., Fountoulakis, N. K., & Chrousos, G. P. (2021). Self-Reported Changes in Anxiety, Depression And Suicidality During The COVID-19 Lockdown In Greece. *Journal of Affective Disorders*, *279*, 624–629. https://doi.org/10.1016/j.jad.2020.10.061

Ginevra, M. C., Maggio, I. D., Santilli, S., & Nota, L. (2021). The Role of Career Adaptability And Future Orientation On Future Goals In Refugees. *British Journal of Guidance & Counselling*, *49*(2), 272–286. https://doi.org/10.1080/03069885.2020.1865874

Gouveia-Pereira, M., Gomes, H. M., Roncon, F., & Mendonça, R. (2017). Impulsivity Mediates the Relationship between Future Orientation and Juvenile Deviancy. *Deviant Behavior*, *38*(1), 34–46. https://doi.org/10.1080/01639625.2016.1190591

Grant, J. E., Potenza, M. N., Krishnan-Sarin, S., Cavallo, D. A., & Desai, R. A. (2011). Shopping Problems Among High School Students. *Comprehensive Psychiatry*, *52*(3), 247–252.

Grover, S., Sahoo, S., Mehra, A., Avasthi, A., Tripathi, A., Subramanyan, A., Pattojoshi, A., Rao, G. P., Saha, G., Mishra, K. K., Chakraborty, K., Rao, N. P., Vaishnav, M., Singh, O. P., Dalal, P. K., Chadda, R. K., Gupta, R., Gautam, S., Sarkar, S., … Janardran Reddy, Y. C. (2020). Psychological Impact of COVID-19 Lockdown: An Online Survey from India. *Indian Journal of Psychiatry*, *62*(4), 354–362. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_427_20

Hacimusalar, Y., Kahve, A. C., Yasar, A. B., & Aydin, M. S. (2020). Anxiety And Hopelessness Levels In COVID-19 Pandemic: A Comparative Study of Healthcare Professionals And Other Community Sample In Turkey. *Journal of Psychiatric Research*, *129*, 181–188. https://doi.org/10.1016/j.jpsychires.2020.07.024

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7 edition). Pearson.

Hair Jr., J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (Second edition). SAGE Publications, Inc.

Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects Of COVID-19 Pandemic in Daily Life. *Current Medicine Research and Practice*, *10*(2), 78–79. https://doi.org/10.1016/j.cmrp.2020.03.011

Hamilton, J. L., Connolly, S. L., Liu, R. T., Stange, J. P., Abramson, L. Y., & Alloy, L. B. (2015). It Gets Better: Future Orientation Buffers the Development Of Hopelessness And Depressive Symptoms Following Emotional Victimization During Early Adolescence. *Journal of Abnormal Child Psychology*, *43*(3), 465–474.

Hancock, G. R., & Mueller, R. O. (2001). Rethinking Construct Reliability Within Latent Variable Systems. In R. Cudeck, S. du Toit, & D. Sörbom (Eds.), *Structural Equation Modeling: Present und Future—A Festschrift in Honor of Karl Joreskog*. SSI Scientific Software.

Harman, H. H. (1976). *Modern Factor Analysis*. University of Chicago press.

Hofstede, G. (1984). *Culture's Consequences: International Differences in Work-Related Values*. SAGE.

Holman, E. A. (2015). Time Perspective and Social Relations: A Stress and Coping Perspective. In *Time Perspective Theory; Review, Research and Application: Essays In Honor Of Philip G. Zimbardo* (pp. 419–436). Springer International Publishing AG. https://doi.org/10.1007/978-3-319-07368-2_27

Holman, E. A., & Grisham, E. L. (2020). When Time Falls Apart: The Public Health Implications Of Distorted Time Perception In The Age Of COVID-19. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), 63–65.

Holman, E. A., & Silver, R. C. (1998). Getting 'Stuck' In the Past: Temporal Orientation And Coping With Trauma. *Journal of Personality and Social Psychology*, *74*(5), 1146–1163. https://doi.org/10.1037/0022-3514.74.5.1146

Holman, E. A., & Zimbardo, P. G. (2009). The Social Language of Time: The Time Perspective–Social Network Connection. *Basic and Applied Social Psychology*, *31*(2), 136–147.

Hooper, D., Coughlan, J., & Mullen, M. (2007). Structural Equation Modeling: Guidelines for Determining Model Fit. *The Electronic Journal of Business Research Methods*, *6*.

Huang, H.-L., Chen, Y.-Y., & Sun, S.-C. (2022). Conceptualizing the Internet Compulsive-Buying Tendency: What We Know and Need to Know in the Context of the COVID-19 Pandemic. *Sustainability*, *14*(3), Article 3. https://doi.org/10.3390/su14031549

Hubert, M., Hubert, M., Gwozdz, W., Raab, G., & Reisch, L. (2014). Compulsive Buying: An Increasing Problem?: Investigating and Comparing Trends in Germany and Denmark, 2010–2012. *Journal Fuer Verbraucherschutz Und Lebensmittelsicherheit*, *9*(3), 280–284. https://doi.org/10.1007/s00003-014-0900-1

Jaspal, R., Lopes, B., & Lopes, P. (2020). Predicting Social Distancing and Compulsive Buying Behaviours In Response To COVID-19 In A United Kingdom Sample. *Cogent Psychology*, *7*(1), 1800924. https://doi.org/10.1080/23311908.2020.1800924

Jochemczyk, L., Pietrzak, J., Buczkowski, R., Stolarski, M., & Markiewicz, Ł. (2016). You Only Live Once: Present-Hedonistic Time Perspective Predicts Risk Propensity. *Personality and Individual Differences*, *115*. https://doi.org/10.1016/j.paid.2016.03.010

Joireman, J., Kees, J., & Sprott, D. (2010). Concern With Immediate Consequences Magnifies the Impact Of Compulsive Buying Tendencies On College Students' Credit Card Debt. *Journal of Consumer Affairs*, *44*(1), 155–178.

Kaplan Serin, E., & Doğan, R. (2021). The Relationship Between Anxiety and Hopelessness Levels Among Nursing Students During the COVID-19 Pandemic and Related Factors. *OMEGA - Journal of Death and Dying*, 00302228211029144. https://doi.org/10.1177/00302228211029144

Kaynak, E., Kara, A., S.F. Chow, C., & Riza Apil, A. (2013). Pattern Of Similarities/Differences in Time Orientation And Advertising Attitudes: A Cross-Cultural Comparison Of Georgian And Macau Consumers. *Asia Pacific Journal of Marketing and Logistics*, *25*(4), 631–654. https://doi.org/10.1108/APJML-09-2012-0087

Kees, J. (2011). Advertising Framing Effects and Consideration of Future Consequences. *Journal of Consumer Affairs*, *45*(1), 7–32. https://doi.org/10.1111/j.1745-6606.2010.01190.x

Khatib, A. S. E. (2020). *COVID-19 e o Anticonsumo: Uma Análise dos Efeitos da Pandemia na Indústria da Moda (COVID-19 and Anti-consumption: An Analysis of the Effects of Pandemic on the Fashion Industry*. https://doi.org/10.2139/ssrn.3720572

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. Guilford Publications.

Küçükkambak, S. E., & Süler, M. (2022). The Mediating Role of Impulsive Buying in The Relationship Between Fear of COVID-19 and Compulsive Buying: A Research on Consumers in Turkey. *Sosyoekonomi*, *30*(51), Article 51. https://doi.org/10.17233/sosyoekonomi.2022.01.09

Le, M. T. H. (2021). Compulsive Buying of Brands, Its Antecedents, And The Mediating Role Of Brand Love: Insights From Vietnam. *Current Psychology*, *40*(9), 4287–4298. https://doi.org/10.1007/s12144-021-01894-2

Lee, H.-J., & Cha, M.-K. (2022). The Relationship Between Anti-Consumption Lifestyle and The Trust Triangle In A Ride-Sharing Platform: A Cross-Cultural Study Of US And Indian Consumers. *International Journal of Consumer Studies*, *46*(1), 279–294. https://doi.org/10.1111/ijcs.12676

Lee, K.-T. (2022). How Are Material Values and Voluntary Simplicity Lifestyle Related to Attitudes and Intentions toward Commercial Sharing during the COVID-19 Pandemic? Evidence from Japan. *Sustainability*, *14*(13), Article 13. https://doi.org/10.3390/su14137812

Lee, S. A. (2020). Coronavirus Anxiety Scale: A Brief Mental Health Screener For COVID-19 Related Anxiety. *Death Studies*, *44*(7), 393–401. https://doi.org/10.1080/07481187.2020.1748481

Lee, S. A., Jobe, M. C., & Mathis, A. A. (2020). Mental Health Characteristics Associated with Dysfunctional Coronavirus Anxiety. *Psychological Medicine*, *51*(8), 1403–1404. https://doi.org/10.1017/S003329172000121X

Lee, S. A., Jobe, M. C., Mathis, A. A., & Gibbons, J. A. (2020). Incremental Validity of Coronaphobia: Coronavirus Anxiety Explains Depression, Generalized Anxiety, And Death Anxiety. *Journal of Anxiety Disorders*, *74*, 102268. https://doi.org/10.1016/j.janxdis.2020.102268

Lee, S. A., Mathis, A. A., Jobe, M. C., & Pappalardo, E. A. (2020). Clinically Significant Fear and Anxiety Of COVID-19: A Psychometric Examination Of The Coronavirus Anxiety Scale. *Psychiatry Research*, *290*, 113112. https://doi.org/10.1016/j.psychres.2020.113112

Levay, K. E., Freese, J., & Druckman, J. N. (2016). The Demographic and Political Composition of Mechanical Turk Samples. *SAGE Open*, *6*(1), 2158244016636433. https://doi.org/10.1177/2158244016636433

Li, X., Li, W., Chen, H., Wei, X., & Cao, N. (2021). Does Quitting Intention Increase by Perceived Risk Of Smoking? The Effects Of Negative Outcome Expectancy, Future Orientation And Emotional Support. *Current Psychology*. https://doi.org/10.1007/s12144-021-01815-3

Lopes, B., Bortolon, C., & Jaspal, R. (2020). Paranoia, Hallucinations and Compulsive Buying During The Early Phase Of The COVID-19 Outbreak In The United Kingdom: A Preliminary Experimental Study. *Psychiatry Research*, *293*, 113455. https://doi.org/10.1016/j.psychres.2020.113455

Mac Giollabhui, N., Nielsen, J., Seidman, S., Olino, T. M., Abramson, L. Y., & Alloy, L. B. (2018). The Development of Future Orientation Is Associated With Faster Decline In Hopelessness During Adolescence. *Journal of Youth and Adolescence*, *47*(10), 2129–2142.

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies. *Journal of Retailing*, *88*(4), 542–555. https://doi.org/10.1016/j.jretai.2012.08.001

Magal, S. R. (1991). A Model for Evaluating Information Center Success. *Journal of Management Information Systems*, *8*(1), 91–106.

Maseeh, H. I., Sangroya, D., Jebarajakirthy, C., Adil, M., Kaur, J., Yadav, M. P., & Saha, R. (2022). Anti-Consumption Behavior: A Meta-Analytic Integration Of Attitude Behavior Context Theory And Well-Being Theory. *Psychology & Marketing*, *39*(12), 2302–2327. https://doi.org/10.1002/mar.21748

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, *44*(1), 1–23. https://doi.org/10.3758/s13428-011-0124-6

Mazibuko, M. E., & Tlale, L. D. N. (2014). Adolescents' Positive Future Orientation as a Remedy for Substance Abuse: An Ecosystemic View. *Mediterranean Journal of Social Sciences*, *5*(2), Article 2.

Mellis, A. M., & Bickel, W. K. (2020). Mechanical Turk Data Collection In Addiction Research: Utility, Concerns And Best Practices. *Addiction*, *115*(10), 1960–1968. https://doi.org/10.1111/add.15032

Mendelson, J., & Mello, N. (1986). *The addictive personality*. Chel-sea House.

Merz, Z. C., Lace, J. W., & Eisenstein, A. M. (2020). Examining Broad Intellectual Abilities Obtained Within an Mturk Internet Sample. *Current Psychology*. https://doi.org/10.1007/s12144-020-00741-0

Mitchell, U. A., Ailshire, J. A., Brown, L. L., Levine, M. E., & Crimmins, E. M. (2018). Education and Psychosocial Functioning Among Older Adults: 4-Year Change in Sense of Control and Hopelessness. *The Journals of Gerontology: Series B*, *73*(5), 849–859. https://doi.org/10.1093/geronb/gbw031

Norum, P. S. (2008). The Role of Time Preference And Credit Card Usage In Compulsive Buying Behaviour. *International Journal of Consumer Studies*, *32*(3), 269–275.

O'Guinn, T. C., & Faber, R. J. (1989). Compulsive Buying: A Phenomenological Exploration. *Journal of Consumer Research*, *16*(2), 147–157. https://doi.org/10.1086/209204

Ogurlu, U. (2016). Hopelessness And Future Expectations Among Gifted Middle School Students. *Turkish Journal of Education*, *5*(1), 4–17.

Olsen, S. O., Khoi, N. H., & Tuu, H. H. (2022). The "Well-Being" and "Ill-Being" of Online Impulsive and Compulsive Buying on Life Satisfaction: The Role of Self-Esteem and Harmony in Life. *Journal of Macromarketing*, *42*(1), 128–145. https://doi.org/10.1177/02761467211048751

Otero-López, J. M., Santiago, M. J., & Castro, M. C. (2021). Big Five Personality Traits, Coping Strategies And Compulsive Buying In Spanish University Students. *International Journal of Environmental Research and Public Health*, *18*(2), 821.

Owusu, G. M. Y., Amoah Bekoe, R., Arthur, M., & Koomson, T. A. A. (2021). Antecedents And Consequences of Compulsive Buying Behaviour: The Moderating Effect Of Financial Management. *Journal of Business and Socio-Economic Development*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/JBSED-04-2021-0049

Pahlevan Sharif, S., She, L., Yeoh, K. K., & Naghavi, N. (2021). Heavy Social Networking and Online Compulsive Buying: The Mediating Role Of Financial Social Comparison And Materialism. *Journal of Marketing Theory and Practice*, 1–13.

Papastamatelou, J., Unger, A., Giotakos, O., & Athanasiadou, F. (2015). Is Time Perspective A Predictor Of Anxiety And Perceived Stress? Some Preliminary Results From Greece. *Psychological Studies*, *60*(4), 468–477.

Passavanti, M., Argentieri, A., Barbieri, D. M., Lou, B., Wijayaratna, K., Foroutan Mirhosseini, A. S., Wang, F., Naseri, S., Qamhia, I., Tangerås, M., Pelliciari, M., & Ho, C.-H. (2021). The Psychological Impact Of COVID-19 And Restrictive Measures in The World. *Journal of Affective Disorders*, *283*, 36–51. https://doi.org/10.1016/j.jad.2021.01.020

Philpot, L. M., Ramar, P., Roellinger, D. L., Barry, B. A., Sharma, P., & Ebbert, J. O. (2021). Changes In Social Relationships During an Initial "Stay-At-Home" Phase Of The COVID-19 Pandemic: A Longitudinal Survey Study In The US. *Social Science & Medicine*, *274*, 113779. https://doi.org/10.1016/j.socscimed.2021.113779

Roberts, J. A., Petnji Yaya, L. H., & Gwin, C. (2015). Yielding To Temptation in Buying: Is It Simply A Matter Of Self-Control? *Atlantic Marketing Journal*, *4*(2), 72–108.

Rossi, A. A., Marconi, M., Taccini, F., Verusio, C., & Mannarini, S. (2021). From Fear to Hopelessness: The Buffering Effect of Patient-Centered Communication in a Sample of Oncological Patients during COVID-19. *Behavioral Sciences*, *11*(6), Article 6. https://doi.org/10.3390/bs11060087

Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., & Kaushal, V. (2020). Indian Population During COVID-19 Pandemic. *Asian Journal of Psychiatry*, 7.

Şahin, F., & Karahan, M. O. (2022). Dürtüsel Ve Kompulsif Satın Alma Arasındaki Ilişkinin Açıklanmasında Tüketici Kaygısının Rolü: Covid19 Salgını Döneminde Nicel Bir Araştırma. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *25*(47), Article 47. https://doi.org/10.31795/baunsobed.936733

Saricali, M., Satici, S. A., Satici, B., Gocet-Tekin, E., & Griffiths, M. D. (2020). Fear Of COVID-19, Mindfulness, Humor, And Hopelessness: A Multiple Mediation Analysis. *International Journal of Mental Health and Addiction*, 1–14.

Shabahang, R., Aruguete, M. S., Rezaei, S., & McCutcheon, L. E. (2021). Psychological Determinants and Consequences of COVID-19 Anxiety: A Web-Based Study in Iran. *Health Psychology Research*, *9*(1), 24841. https://doi.org/10.52965/001c.24841

She, L., Rasiah, R., Waheed, H., & Sharif, S. P. (2021). *Excessive Use of Social Networking Sites And Financial Well-Being Among Young Adults: The Mediating Role Of Online Compulsive Buying*. Young Consumers.

Shemeis, M., Asad, T., & Attia, S. (2021). *The Effect of Big Five Factors of Personality on Compulsive Buying: The Mediating Role of Consumer Negative Emotions*. https://doi.org/10.5281/zenodo.4587359

Somasiri, S., & Chandralal, L. (2018). Theorizing Deviant Consumer Socialization: With Special Reference to Compulsive Buying Behavior. A Review of Literature. *European Academic Research*, *6*(1), 405–432.

Spears, N., Lin, X., & Mowen, J. C. (2000). Time Orientation in the United States, China, and Mexico: Measurement and Insights for Promotional Strategy. *Journal of International Consumer Marketing*, *13*(1), 57–75. https://doi.org/10.1300/J046v13n01_05

Tarka, P., & Harnish, R. J. (2021). Toward the Extension of Antecedents of Compulsive Buying: The Influence of Personal Values Theory. *Psychological Reports*, *124*(5), 2018–2062. https://doi.org/10.1177/0033294120959777

Tarka, P., & Kukar-Kinney, M. (2022). Compulsive Buying Among Young Consumers In Eastern Europe: A Two-Study Approach To Scale Adaptation And Validation. *Journal of Consumer Marketing*.

Tarka, P., Kukar-Kinney, M., & Harnish, R. J. (2022). Consumers' Personality and Compulsive Buying Behavior: The Role Of Hedonistic Shopping Experiences And Gender In Mediating-Moderating Relationships. *Journal of Retailing and Consumer Services*, *64*, 102802.

Tee, M. L., Tee, C. A., Anlacan, J. P., Aligam, K. J. G., Reyes, P. W. C., Kuruchittham, V., & Ho, R. C. (2020). Psychological impact of COVID-19 pandemic in the Philippines. *Journal of Affective Disorders*, *277*, 379–391. https://doi.org/10.1016/j.jad.2020.08.043

The New York Times. (2020, March 3). Coronavirus in the US: Latest Map and Case Count. *The New York Times*. https://www.nytimes.com/interactive/2021/us/covid-cases.html

UNCTAD. (2020). *COVID-19 has changed online shopping forever, survey shows*. COVID-19 Has Changed Online Shopping Forever, Survey Shows. https://unctad.org/news/covid-19-has-changed-online-shopping-forever-survey-shows

Unger, A., Lyu, H., & Zimbardo, P. G. (2018). How Compulsive Buying Is Influenced by Time Perspective—Cross-Cultural Evidence from Germany, Ukraine, And China. *International Journal of Mental Health and Addiction*, *16*(3), 525–544.

UNICEF. (2020). *The Impact Of COVID-19 On the Mental Health Of Adolescents And Youth*. The Impact of COVID-19 on the Mental Health of Adolescents and Youth. https://www.unicef.org/lac/en/impact-covid-19-mental-health-adolescents-and-youth

Venaik, S., Zhu, Y., & Brewer, P. (2013). Looking Into the Future: Hofstede Long Term Orientation Versus GLOBE Future Orientation. *Cross Cultural Management: An International Journal*, *20*(3), 361–385. https://doi.org/10.1108/CCM-02-2012-0014

Wang, J., Wang, J.-X., & Yang, G.-S. (2020). The Psychological Impact of COVID-19 on Chinese Individuals. *Yonsei Medical Journal*, *61*(5), 438–440. https://doi.org/10.3349/ymj.2020.61.5.438

Weinstein, A., Maraz, A., Griffiths, M. D., Lejoyeux, M., & Demetrovics, Z. (2016). Compulsive Buying—Features and Characteristics of Addiction. In *Neuropathology of Drug Addictions and Substance Misuse* (pp. 993–1007). Elsevier. https://doi.org/10.1016/B978-0-12-800634-4.00098-6

World Health Organization. (2022, March 2). *COVID-19 Pandemic Triggers 25% Increase In Prevalence Of Anxiety And Depression Worldwide*. COVID-19 Pandemic Triggers 25% Increase in Prevalence of Anxiety and Depression Worldwide. https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide

Worldometers. (2022). *Coronavirus Cases*. COVID Live - Coronavirus Statistics - Worldometer. https://www.worldometers.info/coronavirus/

Zaleski, Z. (2006). Future Orientation and Anxiety. In *Understanding Behavior in The Context Of Time* (pp. 135–151). Psychology Press.

Zheng, L., Lippke, S., Chen, Y., Li, D., & Gan, Y. (2019). Future Orientation Buffers Depression in Daily and Specific Stress. *PsyCh journal*, *8*(3), 342–352.

Zimbardo, P. G., Keough, K. A., & Boyd, J. N. (1997). Present Time Perspective as A Predictor Of Risky Driving. *Personality and Individual Differences*, *23*(6), 1007–1023. https://doi.org/10.1016/S0191-8869(97)00113-X

Appendix

Measurement items and Standardized Loadings

Items	Standardized Loadings
Covid Anxiety (Roy et al., 2020)	
How often you feel affected by the posts on social media about corona Virus infection?	.64
How often does the Idea of Novel Corona Viral Infection freak you out leading to inappropriate behaviours with anyone?	.83
How often does the Idea of Novel Corona Viral Infection freak you out post on social media?	.91
Hopelessness (Dunn et al., (2014)	
Today, it is difficult for me to imagine my future.	.79
Today, I believe I cannot make a difference.	.78
Today, I believe I am powerless to change my future.	.86
Today, I see my future as gloomy.	.83
Today, I feel giving up would be easier.	.75
Today, things do not work out as I would like.	.77
Future Orientation (Strathman et al., 1994)	
I only act to satisfy immediate concerns, figuring the future will take care of itself.	.87
My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions.	.86
I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date.	.87
Since my day-to-day work has specific outcomes, it is more important to me than behavior that has distant outcomes.	.70
Compulsive Buying (Faber and Q'Guinn, 1992)	
During Novel Coronavirus Pandemic, I bought things even though I couldn't afford them.	.85
During Novel Coronavirus Pandemic, I felt others would be horrified if they knew of my spending habits.	.91
During Novel Coronavirus Pandemic, I borrowed money to do shopping even if I knew that I cannot pay it back.	.88
During Novel Coronavirus Pandemic, if I have any money left at the end of the pay period, I just have to spend it.	.87
During Novel Coronavirus Pandemic, I made only the minimum payments on my credit cards.	.69
During Novel Coronavirus Pandemic, I felt anxious or nervous on days I didn't do shopping.	.87

*Reverse coded items