

Bilinçli Farkındalıktan Öğrenilmiş Güçlülüğe: Psikolojik Esneklik ve Umudun Aracı Rollerini****From Mindfulness to Learned Resourcefulness: The Mediating Roles of Psychological Flexibility and Hope***

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* The implementation of the data collection tools used in this study was approved by the Ethics Committee for Education Sciences Research of Dokuz Eylul University with the decision dated 25 August 2020 and numbered E.73932. (Bu çalışmada kullanılan ölçeklerin uygulanması Dokuz Eylül Üniversitesi Eğitim Bilimleri Araştırmaları Etik Kurulunun 25.8.2020 tarih ve E.73932 sayılı kararıyla uygun görülmüştür.)

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Öz

Bu çalışma, bilinçli farkındalık ile öğrenilmiş güçlülük arasındaki ilişkide psikolojik esneklik ve umudun aracı etkilerini inceleyerek öğrenilmiş güçlülüğü açıklayan bir model oluşturmayı amaçlamıştır. Çalışmanın örneklemini, üç aşamalı tabakalı tesadüfi küme örnekleme yöntemiyle seçilen 908 Türk üniversite öğrencisinden (507 kadın, 401 erkek) oluşmuştur. Veriler Rosenbaum Öğrenilmiş Güçlülük Ölçeği, Bilinçli Farkındalık Ölçeği, Psikolojik Esneklik Ölçeği, Sürekli Umut Ölçeği ve Kişisel Bilgi Formu kullanılarak toplanmıştır. Ölçme araçlarının geçerlik ve güvenirliği doğrulandıktan sonra paralel aracılık modeli test edilmiştir. Bulgular, bilinçli farkındalığın öğrenilmiş güçlülüğü hem doğrudan hem de psikolojik esneklik ve umut aracılığıyla dolaylı olarak anlamlı ve olumlu yönde etkilediğini ortaya koymuştur. Ayrıca, yüksek bilinçli farkındalık düzeylerinin psikolojik esneklik ve umudu artırarak bireylerin uyum sağlayıcı başa çıkma stratejilerini ve öğrenilmiş güçlülüklerini geliştirdiği belirlenmiştir. Bulgular, eğitim ve ruh sağlığı müdahalelerinde bilinçli farkındalık, psikolojik esneklik ve umudun desteklenmesinin öğrenilmiş güçlülüğü artırmada önemli olduğunu vurgulamaktadır.

Anahtar Kelimeler: Öğrenilmiş güçlülük, bilinçli farkındalık, psikolojik esneklik, umut, üniversite öğrencileri.

Abstract

In a time marked by significant stress and challenges, understanding the mechanisms behind learned resourcefulness is crucial for enhancing individuals' ability to cope with stress. Developing a model to explain learned resourcefulness is necessary to uncover how factors like mindfulness, psychological flexibility, and hope contribute to adaptive coping strategies. Therefore, this study aimed to create a model to explain learned resourcefulness. The study sample included 908 Turkish college students (507 females and 401 males), selected using a three-stage stratified random cluster sampling method. The study utilized the Rosenbaum Learned Resourcefulness Scale, the Mindful Attention Awareness Scale, the Psychological Flexibility Scale, the Dispositional Hope Scale, and a Personal Information Form as data collection tools. After establishing the reliability and validity of these measurement tools, the parallel mediation model was tested. There were statistically significant and positive correlations among all variables. The proposed learned resourcefulness model was supported by demonstrating that psychological flexibility and hope served as mediators in the relationship between mindfulness and learned resourcefulness.

Keywords: Learned resourcefulness; mindfulness; psychological flexibility; hope; college students.

Introduction

Individuals often wear out both physically and psychologically as their duties and responsibilities increase over time, along with the challenges they face in adapting to new conditions. This situation, defined as the effort individuals expend beyond their own capacities and limits, is called stress. Stress can negatively affect individuals' well-being and daily relationships. However, an individual's quality of life depends on how they respond to stressors, rather than on the extent of their exposure to them (Kartal, 2018). Therefore, instead of attempting to eliminate stress, it is more important to focus on regulating the internal experiences that trigger stress. At this juncture, individuals require cognitive, emotional, and behavioral skills to manage and cope with stressful internal experiences (Rosenbaum, 1989). Rosenbaum (1989) refers to these learned skills as resourcefulness.

Learned resourcefulness is a repertoire of emotional, cognitive, and behavioral skills that regulate internal experiences, including emotions and thoughts, thereby preventing the targeted behavior from continuing or starting (Rosenbaum & Ben-Ari, 1985). It is also important to distinguish learned resourcefulness from psychological resilience. While resilience generally refers to one's ability to recover from adversity or trauma, learned resourcefulness is a proactive set of skills that helps individuals manage everyday emotional and cognitive challenges. It includes self-control, coping strategies, and cognitive reframing techniques that are acquired over time. Skills, also recognized as components of learned resourcefulness, include the use of cognitions and self-instructions to cope with physiological and emotional responses, developing and implementing problem-solving strategies, postponing immediate gratification of needs, and holding a self-efficacy belief that internal experiences can be regulated. Therefore, resourcefulness functions as a daily self-regulatory skillset, while resilience is more contextually reactive (Rosenbaum, 1980). Upon reviewing existing studies, many papers focused on learned helplessness emerge. Research on learned resourcefulness, viewed as the polar opposite of learned helplessness (Rosenbaum & Ben-Ari, 1985), is limited. However, some attributes essential for the twenty-first century include the ability to make sound decisions, take responsibility for those decisions, solve problems and regulate behaviors efficiently, as well as an awareness of one's own limitations and skills (Cansoy, 2018). Individuals with high levels of learned resourcefulness are also more successful in areas such as problem-solving, effort, and goal attainment (Yürür & Keser, 2010). From this perspective, learned resourcefulness should be regarded as one of the key achievements of the 21st century, warranting further research. Conversely, there is a lack of information in the literature regarding the concept of learned resourcefulness and the factors that influence it. Consequently, this study aimed to develop a model of learned resourcefulness by incorporating the variables that affect emotional, cognitive, and behavioral skills that regulate internal experiences, including emotions and thoughts, thereby preventing the targeted behavior from continuing or starting (Rosenbaum & Ben-Ari, 1985). Skills, also recognized as components of learned resourcefulness, include the use of cognitions and self-instructions to cope with physiological and emotional responses, developing and implementing problem-solving strategies, postponing immediate gratification of needs, and holding a self-efficacy belief that internal experiences can be regulated (Rosenbaum, 1980). Upon reviewing existing studies, many papers focused on learned helplessness emerge. Research on learned resourcefulness, viewed as the polar opposite of learned helplessness (Rosenbaum & Ben-Ari, 1985), is limited. However, some attributes essential for the twenty-first century include the ability to make sound decisions, take responsibility for those decisions, solve problems and regulate behaviors efficiently, as well as an awareness of one's own limitations and skills (Cansoy, 2018). Individuals with high levels of learned resourcefulness are also more successful in areas such as problem-solving, effort, and goal attainment (Yürür & Keser, 2010). From this perspective, learned resourcefulness should be regarded as one of the key achievements of the 21st century, warranting further research. Conversely, there is a lack of information in the literature regarding the concept of learned resourcefulness and the factors that influence it. Consequently, this study aimed to develop a model of learned resourcefulness by incorporating the variables that affect it.

1.1. Mindfulness and Learned Resourcefulness

One of the variables included in this context is mindfulness. In recent years, mindfulness has played a major role in the field of psychological health by empowering individuals. Mindfulness provides a crucial buffer by enhancing emotional regulation, increasing attention to the present moment, and fostering resilience against chronic stressors. Mindfulness, a key concept in positive psychology,

refers to the ability to recognize when the mind is distracted or stuck between the past and the future and to remain present by directing attention calmly. It involves accepting emotions, thoughts, and sensations with an open, compassionate, curious, and non-judgmental attitude, observing things as they are without attempting to ignore, change, or suppress them, even if they are disturbing (Brown et al., 2007).

Under stress, some individuals approach themselves and their environment with automatic judgments and rigid, critical attitudes. These individuals over-identify with their thoughts and emotions, making it difficult for them to cope and regulate their impulsive reactions. Mindfulness allows individuals to perceive circumstances as they are by enhancing their awareness in stressful situations, effectively reducing challenges in adaptation and over-identification (Brown et al., 2007). Thus, mindfulness plays a vital role in stress management and the development of self-regulation abilities (Bishop et al., 2004). The increasing prevalence of psychological distress among university students, such as anxiety, burnout, and difficulty in emotion regulation, makes mindfulness a particularly important construct. Mindfulness promotes mental clarity and emotional balance by enabling individuals to approach inner experiences consciously rather than reactively. In this context, mindfulness not only contributes to individual well-being but also provides a psychological foundation for self-regulation, motivation, and personal agency key components of adaptive functioning in academic and social domains. Hence, understanding how mindfulness contributes to individuals' coping capacities is crucial for both prevention and intervention in mental health and educational psychology (Bishop et al., 2004; Brown et al., 2007).

Based on these data, it is possible to conclude that increasing individuals' mindfulness levels will enhance their learned resourcefulness levels. Supporting this claim, Martin (2015) discovered that mindfulness accounted for 3% of the variance in learned resourcefulness in his research involving college students. Martin et al. (2019) found a correlation between self-compassion, which includes mindfulness, and learned resourcefulness. More recently, Musil et al. (2021) emphasized the theoretical and operational overlaps between mindfulness and resourcefulness, noting that mindfulness-based interventions can strengthen cognitive control, reduce emotional reactivity, and foster internal coping strategies in healthcare and academic settings. The findings indicate a connection between mindfulness and learned resourcefulness. However, no additional research specifically investigating the correlation between mindfulness and learned resourcefulness has been found in the current literature. Therefore, the literature has not provided a comprehensive explanation of the relationship between mindfulness and learned resourcefulness. Moreover, various factors influence the relationship between mindfulness and learned resourcefulness. Psychological flexibility, a concept in positive psychology, was thought to mediate the relationship between the two variables in this study.

1.2. Mediating Role of Psychological Flexibility

Psychological flexibility is rooted in Acceptance and Commitment Therapy (ACT; Hayes et al., 2006). ACT is a third-wave cognitive-behavioral therapy that promotes psychological well-being not by changing the content of thoughts but by altering individuals' relationship to their thoughts and emotions. Its core processes include acceptance of inner experiences, cognitive defusion, present-moment awareness, values clarification, and committed action. Rather than avoiding or suppressing difficult emotions, ACT encourages individuals to live meaningfully in alignment with their values, even in the presence of distress (Hayes et al., 2006; Kashdan & Rottenberg, 2010). Psychological flexibility at the core of ACT refers to an individual's capacity to maintain behaviors that render life meaningful by accepting difficult and unpleasant events or aligning his/her actions with personal values. The literature highlights the necessity of integrating new frameworks, like psychological flexibility, into coping strategies for stressful and challenging situations (Arslan & Allen, 2022). Consequently, it was expected that introducing the concept of psychological flexibility in this study, which plays a preventive and healing role in psychological health, would significantly enrich the literature.

Research indicates that positive and statistically significant relationships exist between psychological flexibility and mindfulness (Marais et al., 2020; Meyer et al., 2019). Mindfulness-based practices have been shown to enhance psychological flexibility (Marais et al., 2020; Meiklejohn et al., 2012). Additionally, some studies have investigated psychological flexibility as a mediator, with mindfulness serving as the independent variable (Mak et al., 2021; Skinner et al., 2010). This evidence suggests a relationship between mindfulness and psychological flexibility, highlighting mindfulness as

a key variable that contributes to increased psychological flexibility. Since ACT evolved from the mindfulness tradition and is now recognized as one of the third-wave cognitive behavioral therapy approaches, psychological flexibility—fundamental to ACT—has a strong link to the concept of mindfulness. In ACT, mindfulness plays a role and is commonly employed in building all aspects of psychological flexibility (Hayes et al., 2006).

Addressing learned resourcefulness from the perspective of psychological flexibility—one of the new and positive concepts—will offer a novel viewpoint to the field. No research has been found in the literature that examines psychological flexibility alongside learned resourcefulness. However, it is believed that psychological flexibility is linked to learned resourcefulness. The theoretical foundation suggests that psychological flexibility may play an essential role in enhancing learned resourcefulness. A crucial characteristic that individuals need to minimize the harmful effects of stress is the ability to adapt (Baltaş & Baltaş, 1988). Individuals who adopt a flexible approach to problems, along with meaningful values and goals, find it easier to cope with challenging and stressful situations and gain strength. Psychological flexibility supports self-regulation by helping individuals adapt to new conditions, accept their inner experiences, and exhibit value-oriented behaviors (Hayes et al., 2006). Additionally, psychological flexibility is recognized as a construct related to individuals' effective coping with stress (Kashdan & Rottenberg 2010) and self-regulation (Moilanen, 2007). Studies indicate that psychological flexibility is associated with concepts related to learned resourcefulness. They show that psychological flexibility has significant relationships with learned helplessness (Trindadea et al., 2020), psychological resilience (Gazla, 2015), and optimism (Woldgabreal et al., 2016). Psychological flexibility might be seen as akin to psychological flexibility—one of the new and positive concepts—will offer a novel viewpoint to the field. No research has been found in the literature that examines psychological flexibility alongside learned resourcefulness. However, it is believed that psychological flexibility is linked to learned resourcefulness. The theoretical foundation suggests that psychological flexibility may play an essential role in enhancing learned resourcefulness. A crucial characteristic that individuals need to minimize the harmful effects of stress is the ability to adapt (Baltaş & Baltaş, 1988). Individuals who adopt a flexible approach to problems, along with meaningful values and goals, find it easier to cope with challenging and stressful situations and gain strength. Psychological flexibility supports self-regulation by helping individuals adapt to new conditions, accept their inner experiences, and exhibit value-oriented behaviors (Hayes et al., 2006). Additionally, psychological flexibility is recognized as a construct related to individuals' effective coping with stress (Kashdan & Rottenberg 2010) and self-regulation (Moilanen, 2007). Studies indicate that psychological flexibility is associated with concepts related to learned resourcefulness. They show that psychological flexibility has negative significant relationships with learned helplessness (Trindadea et al., 2020), and positive relationships with psychological resilience (Gazla, 2015), and optimism (Woldgabreal et al., 2016). Psychological flexibility might be seen as akin to learned resourcefulness in terms of adaptation, self-regulation, and coping skills.

1.3. Mediating Role of Hope

Hope is a cognitive structure that reflects an individual's belief in their ability to make decisions aligned with their goals, develop strategies to achieve those goals, and take action to implement those strategies by motivating themselves (Snyder et al., 2001). The literature primarily focuses on the concept of hopelessness (Mutlu, 2017). Therefore, this study aimed to enhance the existing literature by incorporating the variable of hope, a significant positive term.

Upon reviewing the research, it was observed that mindfulness and mindfulness-based activities were found to enhance the level of hope, as indicated by Özdemir (2020) and Yıldırım (2020). Furthermore, it has been reported that there is a negative correlation between mindfulness and hopelessness, as stated by Akkaya (2019). Hence, it can be asserted that mindfulness is an important factor in increasing hope.

Hope can also be associated with learned resourcefulness because it serves as a defensive barrier against stress and challenging situations. Literature has shown that individuals with higher levels of hope tend to be more successful in accepting reality and adapting to new circumstances. They manage stressful situations by taking an active role and employing effective problem-solving skills (Snyder et al., 2001). Therefore, hope is regarded as a key factor that enhances learned resourcefulness. The

relationships between hope, mindfulness, and learned resilience suggest that hope plays a mediating role between these two variables. Consequently, hope was considered a mediating variable in this study.

Mindfulness bestows numerous significant attributes upon individuals. These characteristics include focusing on the present moment and ongoing inner experiences, perceiving the overall context, cultivating diverse viewpoints, embracing an objective and non-judgmental attitude, and employing compassionate and understanding language. Furthermore, mindfulness yields several advantages, such as increased awareness, creativity, curiosity, patience, openness to new experiences, acceptance, and a positive state of mind (Brown et al., 2007). These attributes can enhance psychological flexibility and hope, and when combined, they contribute to the improvement of learned resourcefulness. Thus, in this study, psychological flexibility and hope served as mediating variables that enhance the relationship between mindfulness and learned resourcefulness. A model of learned resourcefulness was developed to validate this hypothesis.

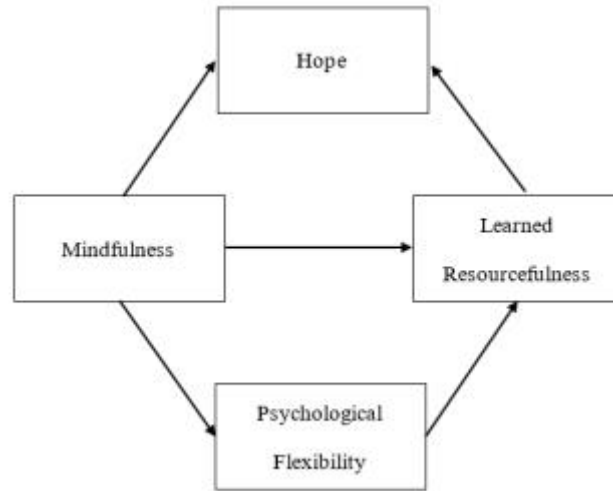
1.5.Current Study

This study aimed to uncover the roles of psychological flexibility and hope in mediating the relationship between mindfulness and learned resourcefulness levels among college students. The hypotheses established within this research are as follows: (a) Mindfulness is directly related to learned resourcefulness; (b) Mindfulness is directly related to psychological flexibility; (c) Psychological flexibility is directly related to learned resourcefulness; (d) Mindfulness is directly related to hope; (e) Hope is directly related to learned resourcefulness; (f) Mindfulness is related to learned resourcefulness mediated by psychological flexibility; (g) Mindfulness is related to learned resourcefulness mediated by hope. This study is significant as it identifies psychological factors that support the development of learned resourcefulness in university students, who often face high levels of stress. In applied settings, the model can inform mindfulness-based practices aimed at strengthening coping skills through psychological flexibility and hope. The inclusion of both mediators in a single model also reflects a novel contribution to the existing literature.

1. Method

2.1.Research Design

This study employs a descriptive approach using structural modeling. Structural modeling is a technique for examining and validating causal relationships between variables (Fraenkel & Wallen, 2006). This study investigated mindfulness as the independent variable, learned resourcefulness as the dependent variable, and psychological flexibility and hope as the mediating variables. The researchers aimed to uncover the connections between mindfulness and learned resourcefulness by exploring the causation among these interactions (Figure 1). A parallel mediation model was preferred over separate analyses because it allows for the simultaneous estimation of the unique indirect effects of multiple mediators while controlling for shared variance (Hayes, 2018). This approach provides a more realistic representation of complex psychological processes, where multiple mediators often operate concurrently rather than in isolation. Moreover, it enables the comparison of the relative strength of each mediator within the same structural framework, aligning with recommendations in recent mediation analysis literature.

Figure 1*The research model*

2.2. Research Group

The research group comprised college students attending formal education. This study in Türkiye underwent examination and received ethical approval from the Institutional Review Board. (Permission to implement the study was granted by the Academic Committee of Dokuz Eylül University on 30.07.2020-IRB.73932.) Participants provided written informed consent. Throughout this procedure, comprehensive details describing the study's purpose, methodologies, potential risks, and benefits were provided, with an emphasis on the voluntary nature of participation. The students were reached using a three-stage stratified random cluster sampling method, which is a type of probability-based sampling method. The three-stage sampling method is also known as the multi-stage cluster sampling method or multi-stage sampling. The stratified cluster sampling method combines stratified and cluster sampling techniques. The stratified sampling method is employed when the population is divided into subgroups. In this method, the population is divided into smaller and homogenous groups called layers (Sedgwick, 2013). The study involved 908 volunteer college students. The participants were 507 females (50.84%) and 401 males (44.16%), with an average age of 20.65 years.

2.3. Instruments

2.3.1. Rosenbaum Learned Resourcefulness Scale

Rosenbaum developed the scale in 1980. The scale, which aims to measure the list of behaviors and skills that enable individuals to regulate their internal experiences such as emotions and thoughts, consists of 36 items and gives a total score. The scale is five-point Likert type. Dağ adapted the scale into Turkish in 1991. In the adaptation study, the test-retest reliability coefficient of the scale was .80 and Cronbach's alpha reliability coefficient was .78. In the present study, its Cronbach's alpha reliability coefficient was .94.

2.3.2. Mindful Attention Awareness Scale

Brown and Ryan developed the scale, which measures the attentional tendency and awareness of momentary experiences, in 2003. The scale is a one-dimensional, 15-item, six-point Likert-type scale. Özyeşil et al. adapted the scale to Turkish in 2011. Turkish adaptation studies of the scale were conducted with 727 college students. Cronbach's alpha reliability coefficient was 0.80 and test-retest coefficient was .86. was calculated as .92. In this study, its Cronbach's alpha reliability coefficient was .92.

2.3.3. Psychological Flexibility Scale

Uygur and Karaca (2020) developed the scale on Turkish college students. The aim of the scale is to measure the psychological flexibility levels of individuals. The exploratory factor analysis revealed that 16 items in the five-point Likert-type scale accounted for 60.34% of the variance. The confirmatory factor analysis results showed acceptable fit indices. Cronbach's alpha reliability coefficient for the total score of the scale is .83. In this study, its Cronbach's alpha reliability coefficient was .85.

2.3.4. Dispositional Hope Scale

The scale was developed by Snyder et al. (1991). The adaptation of the scale to Turkish culture was conducted by Tarhan and Bacanlı (2015) on college students. Cronbach's alpha reliability coefficient was calculated as 0.86 for the total score of the 8-point Likert-type and 12-item scale. The increase in the scores obtained from the scale indicates an increase in the hope level of individuals. In this study, Cronbach's alpha reliability coefficient of the scale was found to be .85.

2.4. Data Analysis

Statistical analysis of the data was performed using SPSS 24 and LISREL 8.80 package programs. First, confirmatory factor analysis was applied to the scales, and then the hypotheses in the model were tested using structural equation modeling. SPSS 24 was used for descriptive statistics, reliability analyses (Cronbach's alpha), and correlation analysis, while LISREL 8.80 was utilized for confirmatory factor analyses (CFA) and structural equation modeling (SEM) to test the fit of the measurement and structural models.

3. Results

3.1. Item Analysis

The internal and external validity of each item in the scales was examined. To ensure internal validity, the factor loadings of the items were investigated. The items' factor loadings were found to be greater than 0.45, as shown in Table 1. Next, the fit indices of the scales (χ^2/df , AGFI, CFI, GFI, NFI, TLI, RMSEA, SRMR, RMR) were assessed using confirmatory factor analysis (Table 2). The t-values of the items were analyzed to verify their external validity (Table 1). The study revealed that the relationships between the items and latent variables were statistically significant with a confidence level of 99% ($t > 2.58$).

Table 1

External Validity, Convergent Validity, Reliability Analyses, Factor Loadings

Variables	t-values	AVE	α	Factor Loadings
Learned Resourcefulness	17.22*-33.51*	0.55	.94	0.54-0.88
Mindfulness	17.58*-27.96*	0.53	.92	0.55-0.91
Psychological Flexibility	13.36*-29.96*	0.52	.85	0.45-0.89
Hope	17.06*-25.19*	0.53	.85	0.57-0.76

* $p < .01$

Table 2
Model Fit Indices

Index	Learned Resourcefulness	Mindfulness	Psychological Flexibility	Hope
χ^2/df	4.28	4.69	4.86	3.41
AGFI	0.90	0.92	0.91	0.97
CFI	0.98	0.98	0.96	0.99
GFI	0.92	0.94	0.93	0.98
NFI	0.98	0.98	0.96	0.99
TLI	0.98	0.98	0.96	0.99
RMSEA	0.07	0.06	0.06	0.05
SRMR	0.04	0.08	0.06	0.02
RMR	0.06	0.03	0.06	0.05

The AVE values were analyzed to demonstrate the interrelatedness of items representing the same construct and their ability to measure a unified conceptual construct (convergent validity). As stated by Hair et al. (2006), AVE values exceeding 0.50 signify that the concept being assessed has convergent validity. The values calculated via the AVE formula were found to exceed 0.50 (Table 1). The AVE values were analyzed to demonstrate the interrelatedness of items representing the same construct and their ability to measure a unified conceptual construct (convergent validity). As stated by Hair et al. (2006), AVE values exceeding 0.50 signify that the concept being assessed has convergent validity. The values calculated via the AVE formula were found to exceed 0.50 (Table 1). The Cronbach's alpha reliability coefficient (α) was used in the context of reliability investigation. Cronbach's alpha reliability coefficient greater than .60 is seen as an indication that the scale is acceptable (George & Mallery, 2003). The analysis found that the Cronbach's alpha reliability values of the scales were higher than .60 (Table 1).

3.2. Model Definition

During the model definition stage, the mean scores (M), standard deviations (SD), and correlation coefficients between the variables of learned resourcefulness, mindfulness, psychological flexibility, and hope were calculated and are displayed in Table 3. Upon examining Table 3, it becomes evident that there are positive and statistically significant correlations between the mean scores obtained from the scales.

Table 3
Model Definition

Variables	M	(SD)	1	2	3
1. Learned Resourcefulness	134.12	(27.29)	—		
2. Mindfulness	51.84	(15.30)	.21***	—	
3. Psychological Flexibility	62.32	(8.82)	.51***	.26***	—
4. Hope	50.47	8.26	.49***	.26***	.71***

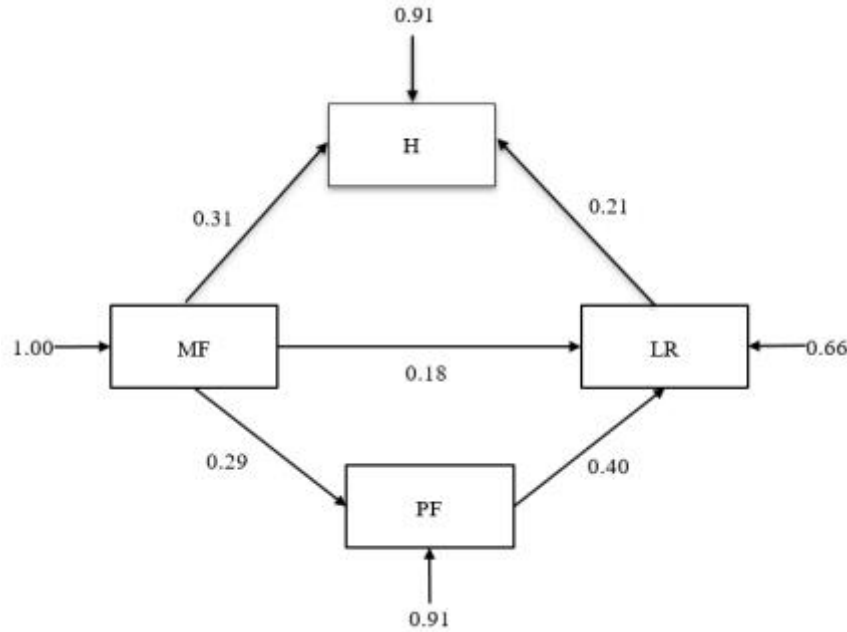
*** $p < .001$.

3.3. Results Related to the Research Model and Hypotheses

The path diagram of the structural equation model used to test the hypotheses is presented in Figure 2.

Figure 2

Structural Equation Model for the Hypotheses



Note. $\chi^2 = 8730.54$, $df = 2679$, $p = .000$, $RMSEA = 0.050$.

When the results of the research model are examined, the ratio of the χ^2 value to the degrees of freedom is less than 5, indicating an acceptable fit. Other goodness-of-fit indices for the structural model indicate that the model has an acceptable fit ($\chi^2/df = 3.26$; AGFI = 0.90; CFI = 0.98; GFI = 0.93; NFI = 0.96; TLI = 0.97; RMSEA = 0.05; SRMR = 0.05; RMR = 0.07). Table 4 shows the results of the study's hypotheses based on the findings.

Table 4

The Results of the Study's Hypotheses

Hypothesis	Standard values	<i>t</i> -values	R^2	Hypothesis Result
H1	0.18	5.31*	0.03	Accept
H2	0.29	7.37*	0.08	Accept
H3	0.40	5.08*	0.16	Accept
H4	0.31	8.18*	0.10	Accept
H5	0.21	2.77*	0.04	Accept

Note. H1 = Mindfulness is directly related to learned resourcefulness; H2 = Mindfulness is directly related to psychological flexibility; H3 = Psychological flexibility is directly related to learned resourcefulness; H4 = Mindfulness is directly related to hope; H5 = Hope is directly related to learned resourcefulness.

* $p < .01$

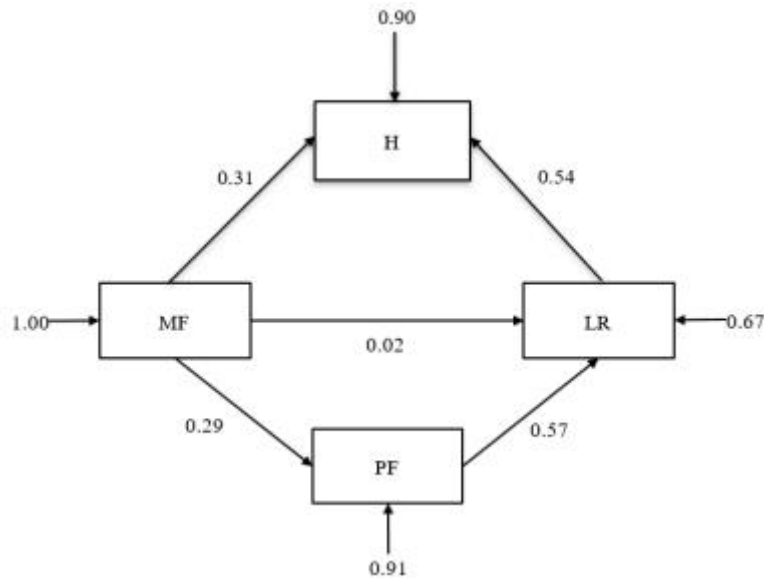
3.4. Path Analysis

The three steps of Baron and Kenny (1986) were used to evaluate the mediating roles of psychological flexibility and hope in the relationship between mindfulness and learned resourcefulness. In the first step, the measurement model generated between mindfulness and learned resourcefulness

was found to be statistically significant ($t = 5.31 > 2.58$). The model's goodness of fit indices indicate that it has an acceptable fit ($\chi^2/df = 3.61$; AGFI = 0.93; CFI = 0.98; GFI = 0.94; NFI = 0.97; TLI = 0.98; RMSEA = 0.05; SRMR = 0.05; RMR = 0.07). In the second stage, when the model including mindfulness, learned resourcefulness, psychological flexibility, and hope variables was tested, the path coefficients between mindfulness and psychological flexibility ($t = 7.40 > 2.58$), psychological flexibility and learned resourcefulness ($t = 12.27 > 2.58$), mindfulness and hope ($t = 8.33 > 2.58$), and hope and learned resourcefulness ($t = 14.28 > 2.58$) were statistically significant. The structural model's goodness of fit indices indicate that it has an acceptable fit ($\chi^2/df = 3.53$; AGFI = 0.90; CFI = 0.98; GFI = 0.92; NFI = 0.96; TLI = 0.97; RMSEA = 0.05; SRMR = 0.05; RMR = 0.07). In the third stage, when the mediating roles of psychological flexibility and hope in the effect of mindfulness on learned resourcefulness was tested, the path coefficients between mindfulness and psychological flexibility ($t = 7.31 > 2.58$), psychological flexibility and learned resourcefulness ($t = 11.87 > 2.58$), mindfulness and hope ($t = 8.26 > 2.58$), and hope and learned resourcefulness ($t = 13.53 > 2.58$) were statistically significant. Furthermore, the path coefficient between mindfulness and learned resourcefulness ($t = 0.56 < 1.96$) was not statistically significant. The structural model's goodness of fit indices indicate that it has an acceptable fit ($\chi^2/df = 3.53$; AGFI = 0.90; CFI = 0.97; GFI = 0.92; NFI = 0.96; TLI = 0.97; RMSEA = 0.05; SRMR = 0.07; RMR = 0.07). Figure 3 shows the model's path diagram.

Figure 3

Model of the Mediating Role of Psychological Flexibility



Note. $\chi^2 = 7511.89$, $df = 2128$, $p = 0.00000$, RMSEA = 0.053.

After reviewing the results, it was discovered that the path coefficients calculated between mindfulness and psychological flexibility ($\beta = 0.30$), psychological flexibility and learned resourcefulness ($\beta = 0.57$), mindfulness and hope ($\beta = 0.31$), hope and learned resourcefulness ($\beta = 0.54$) in the second stage were significant. In the third step, the path coefficients remained statistically significant. The path coefficient for mindfulness and learned resourcefulness was statistically significant in the first stage ($\beta = 0.18$), but declined to 0.02 in the third stage, losing significance. Therefore, although mindfulness has a statistically significant impact on learned resourcefulness, psychological flexibility and hope counteracts this impact by acting as mediators. Since they eliminate the significant effect, it can be said that psychological flexibility and hope play full mediating roles. The Sobel test statistic was used to determine the statistical significance of the indirect effects. According to the Sobel Test (ST) results, psychological flexibility and hope mediated the relationship between mindfulness and learned resourcefulness. In this effect, the total effect size was 0.38 and the indirect effect size was 0.23 ($ST = 7.12$; $p < .01$) for psychological flexibility. The findings showed that the sixth hypothesis of the study was accepted. The total effect size was 0.36 and the indirect effect size was 0.21 ($ST = 7.27$; $p < .01$) for hope. The findings showed that the seventh hypothesis of the study was accepted.

4. Discussion and Conclusion

This study investigated the mediating effect of psychological flexibility levels on the relationship between mindfulness levels and learned resourcefulness levels among college students. This model was confirmed as a result of this research. The first hypothesis posited a direct correlation between mindfulness and learned resourcefulness. The results confirmed that the hypothesis was valid. As college students' mindfulness levels increase, their learned resourcefulness levels also increase. Although some studies have revealed that there are direct significant relationships between mindfulness and learned resourcefulness, the number of these studies is limited (Martin, 2015; Musil et al., 2021). According to the results, students who can get in touch with the present moment, see things as they are, approach themselves with love and compassion, and acknowledge that everyone can face hardships, have high levels of learned resourcefulness, and can cope with challenging and stressful situations more easily. Furthermore, mindfulness improves the aptitude of college students in developing learned resourcefulness (Martin, 2015). Individuals who approach failures with awareness, compassion, confidence, and a nonjudgmental attitude are better able to handle stressful events in a constructive and supportive manner (Brown et al., 2007). Thus, individuals are motivated to cope and become willing to use their learned resourcefulness skills.

The second hypothesis posited a direct correlation between mindfulness and psychological flexibility. The results indicated that the hypothesis was validated. It might be claimed that as college students' mindfulness levels increase, so does their psychological flexibility, and mindfulness has a direct impact on psychological flexibility. From this perspective, it is possible to conclude that as students' mindfulness levels increase, they become more psychologically flexible. Similarly, individuals with high levels of mindfulness have a more flexible psychological structure. Studies in the literature support the positive relationship between these two variables (Marais et al., 2020; Meyer et al., 2019). Some studies have found that mindfulness-based practices promote psychological flexibility (Marais et al., 2020; Meiklejohn et al., 2012). As a result, it is possible to conclude that college students' mindfulness levels are one of the most important aspects contributing to their psychological flexibility.

The third hypothesis proposed a direct relationship between psychological flexibility and learned resourcefulness. The results showed that the hypothesis was confirmed. As the psychological flexibility levels of college students increase, their learned resourcefulness levels also increase. According to the findings, students become stronger individuals as their psychological flexibility levels increase. Hayes et al. (2006) further noted that individuals with high degrees of psychological flexibility are resourceful and can deal with stressful events in an effective and healthy manner. No study examining the relationship between psychological flexibility and learned resourcefulness has been found in the literature. However, there are studies that incorporate similar concepts involving learned resourcefulness. For example, several studies have indicated a strong and positive correlation between psychological flexibility and psychological resilience (Gazla, 2015) as well as optimism (Woldgabreal et al., 2016). Psychological flexibility facilitates the regulation of both internal and external experiences that elicit discomfort in individuals, while also enhancing their coping skills. Hence, individuals with higher levels of psychological flexibility are better equipped to cope with novel and challenging situations (Hayes et al., 2006). As a result, students who exhibit more flexible behaviours, approach situations acceptably, continue to take actions in line with their values and goals, and observe and become aware of their inner experiences are stronger individuals.

The fourth hypothesis of the study is that there is a direct relationship between mindfulness and hope. The findings revealed that the hypothesis was confirmed. In other words, as the level of mindfulness of college students increases, their level of hope also increases. Mindfulness directly affects hope. Studies in the literature support this finding (Özdemir, 2020; Yıldırım, 2020). In stressful and challenging situations, individuals act with their judgments as a result of their low level of mindfulness and exhibit a more rigid and critical attitude. This leads to an increase in the level of hopelessness and helplessness of the individual. Mindfulness, on the other hand, enables the individual to exhibit a non-judgmental, compassionate, accepting, positive approach instead of criticizing and blaming themselves. Therefore, mindfulness reduces hopelessness (Brown et al., 2007).

The fifth hypothesis of the study is that there is a direct relationship between hope and learned resourcefulness. The findings revealed that the hypothesis was confirmed. As the hope levels of college students increase, their learned resourcefulness levels also increase and hope directly affects learned

resourcefulness. It can be stated that students become stronger individuals as their hope levels increase. In support of this finding, Bilgiç et al. (2017) showed that college students with high levels of hope have high levels of learned resourcefulness and self-efficacy. In addition, it is stated that hopelessness during challenging and stressful situations negatively affects the level of learned resourcefulness (Coşkun, 2010). Therefore, it can be said that hope is one of the factors that affect learned resourcefulness and help individuals to overcome challenging and stressful situations more easily by increasing the level of learned resourcefulness.

The study's sixth hypothesis posited that psychological flexibility serves as a mediator in the connection between mindfulness and learned resourcefulness. The findings revealed that the hypothesis was confirmed, and psychological flexibility assumed a full mediating role. From this perspective, college students with high levels of mindfulness have high levels of psychological flexibility, which consequently leads to increased levels of learned resourcefulness. When the literature was examined, no study was found that addressed the mediating role of psychological flexibility in the relationship between mindfulness and learned resourcefulness. However, studies have been conducted with different variables in which mindfulness is considered as an independent variable and psychological flexibility as a mediating variable (Mak et al., 2021; Skinner et al., 2010). In these studies, the mediating role of psychological flexibility in the relationship between mindfulness and personal recovery (Mak et al., 2021) as well as depression (Skinner et al., 2010) was examined. Furthermore, Misurya et al. (2021) revealed that psychological flexibility plays a mediating role in the relationship between self-compassion, a concept closely related to mindfulness, and posttraumatic growth. Considering the important effects of learned resourcefulness on coping with trauma (Frederick, 1990), psychological flexibility is indirectly related to learned resourcefulness. As a result, students with high levels of mindfulness also have high levels of psychological flexibility, and consequently, high levels of learned resourcefulness. Thus, it is possible to conclude that college students, who are in a crucial stage of emerging adulthood and have high levels of mindfulness and psychological flexibility, take a stronger stance in stressful and challenging situations.

The seventh hypothesis of the study was that hope mediates the relationship between mindfulness and learned resourcefulness. The findings revealed that the hypothesis was confirmed, and hope assumed a full mediating role. From this point of view, it can be said that college students with high levels of mindfulness have high levels of hope and, accordingly, high levels of learned resourcefulness. In the literature, there is no research on the mediating role of hope in the relationship between mindfulness and learned resourcefulness. However, Collins (2009) examined the mediating role of hope in the relationship between college students' experiences and psychological resilience. In this study, the concept of psychological resilience, which is thought to be closely related to learned resourcefulness, was found to play a mediating role. Therefore, mindfulness supports students to focus on goal-oriented behaviours more easily and to have more positive emotions such as hope for the future. It is also understandable that students, whose learned resourcefulness levels are increased by enhancing their mindfulness and hope levels, are able to successfully and effectively cope with problems and stress.

4.1. Strengths and Limitations

This study offers a robust methodological design by utilizing validated measurement tools and a large, stratified random sample of college students ($N = 908$). The use of structural equation modeling enhances the reliability of the causal inferences drawn from the data. Furthermore, the simultaneous inclusion of two theoretically grounded mediators—psychological flexibility and hope—strengthens the comprehensiveness of the proposed model. Despite its strengths, the study has several limitations that warrant consideration. First, in this study, the learned resourcefulness model was tested and validated with college students. Nevertheless, the model can undergo testing with diverse sample groups, including children, adolescents, adults, and the elderly, in subsequent studies, thereby contributing to the existing literature. Second, this study is a quantitative study. However, it is possible to conduct qualitative or mixed design research to uncover the variables that influence the level of learned resourcefulness in students and to provide a more comprehensive analysis of the quantitative results obtained. Third, it would be beneficial to investigate other protective factors rooted in positive psychology, such as self-esteem, self-compassion, social support, and social cohesion, which were not considered in this study, to have a comprehensive understanding of learned resourcefulness. Finally, psychoeducation programs can be evaluated for their efficacy through experimental investigations that

examine the learned resourcefulness levels of college students. Thus, more concrete and coherent results can be obtained regarding the variables influencing learned resourcefulness.

4.2. Suggestions for Future Research

Future research should explore the model in more diverse populations to enhance generalizability. Incorporating qualitative methods could provide deeper insight into the mechanisms underlying learned resourcefulness. Longitudinal or intervention-based designs would also allow researchers to better understand causal relationships. Including additional mediators such as emotional intelligence or gratitude could expand the scope of the model.

4.3. Practical Implications

The findings suggest that mindfulness-based interventions aiming to enhance psychological flexibility and hope may effectively improve learned resourcefulness in university students. These results can inform counseling programs, resourcefulness training, and psychoeducation modules tailored to emerging adults experiencing stress and academic pressure.

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Conflict of Interest Statement (Çıkar Beyanı)

There is no conflict of interest between the authors. (Yazarlar arasında çıkar çatışması yoktur.)

Ethics Committee Approval (Etik Kurul İzni)

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