



Turkish Psychological Counseling and Guidance Association
Central Office

Turkish Psychological Counseling and Guidance Association
Sağlık Mah. Süleyman Sırrı Cad. Sağlık İş Hanı No: 21/18, Çankaya/
Ankara, +90 (312) 430 36 74
www.pdr.org / bilgi@pdr.org.tr

**TURKISH PSYCHOLOGICAL COUNSELING AND
GUIDANCE JOURNAL**
www.turkpdrgisi.com / turkpsycouns@gmail.com



Turkish Psychological Counseling and Guidance Journal



Turkish Psychological Counseling and Guidance Association
Central Office

ISSN: 1302-1370

TURKISH PSYCHOLOGICAL COUNSELING AND GUIDANCE JOURNAL

December - Vol: 14 / Issue: 75

TURKISH PSYCHOLOGICAL COUNSELING AND GUIDANCE JOURNAL
Official journal of Turkish Psychological Counseling and Guidance Association

ISSN: 1302-1370

Owner

Mesut YILDIRIM

Editor-In-Chief

Prof. Dr. Metin PİŞKİN, Ankara University, Türkiye

Editors

Assoc. Prof. Dr. Özlem ULAŞ KILIÇ, Giresun University, Türkiye
Assoc. Prof. Dr. Selen DEMİRTAŞ ZORBAZ, Ankara University, Türkiye
Asst. Prof. Dr. Tansu MUTLU ÇAYKUŞ, Ankara University, Türkiye

Statistical Editor

Assoc. Prof. Dr. Murat BOYSAN, Ankara Sosyal Bilimler University, Türkiye

Language Editor

Asst. Prof. Dr. Thseen NAZİR, İbn Haldun University, Türkiye

Editorial Board

Prof. Dr. Bradley T. ERFORD, Vanderbilt University, ABD
Prof. Dr. Fatma Ebru İKİZ, Dokuz Eylül University, Türkiye
Prof. Dr. Figen ÇOK, Başkent University, Türkiye
Prof. Dr. Gürhan CAN, Hasan Kalyoncu University, Türkiye
Prof. Dr. Hande BRIDDICK, South Dakota State University, ABD
Prof. Dr. İlhan YALÇIN, Ankara University, Türkiye
Prof. Dr. Selahiddin ÖĞÜLMÜŞ, Ankara University, Türkiye
Prof. Dr. Süleyman DOĞAN, Ege University, Türkiye
Prof. Dr. William C. BRIDDICK, South Dakota State University, ABD

Editing, page-setting and technical support

Ress. Ast. Zeynep GÖRGÜLÜ, Selçuk University, Türkiye
Ress. Ast. Ecem ÇİÇEK, Ankara University, Türkiye
Ress. Ast. Sümeyye SAĞANAK, Ankara University, Türkiye

Contact

www.turkpdrrergisi.com
turkpsycouns@gmail.com

Publication Date : December 2024

Volume (Issue) : 14(75)

TURKISH PSYCHOLOGICAL COUNSELING AND GUIDANCE JOURNAL
Official journal of Turkish Psychological Counseling and Guidance Association

Indexes

Turkish Psychological Counseling and Guidance Journal is indexed by ULAKBIM, SCOPUS,
Turkish Psychiatry Index

Publication Type

Quarterly Published Academic Journal

Adressess

Saęlık Mah. Sleyman Sırrı Cad. Saęlık İř Hanı No: 21/18, ankaya/Ankara

Phone-Fax

+90 (312) 430 36 74

Print

Reprotek Dijital Baskı Merkezi ve Matbaacılık. Ziya Gkalp Caddesi No: 41 Kolej-ankaya,
Ankara/Trkiye

Phone

+90 (312) 309 08 20

Publication Date : December 2024

Volume (Issue) : 14(75)



From the Editor

Dear Readers,

It is with great pleasure that we present to you the latest issue of the Turkish Psychological Counseling and Guidance Journal, encompassing a diverse range of scholarly articles and research contributions. In this issue, we continue to uphold our mission of advancing the field of psychological counseling and guidance, fostering both academic discourse and practical applications.

The current issue highlights critical themes including therapeutic alliances, psychological well-being, resilience in youth, and the implications of parenting styles on children's development. The papers featured underscore the importance of interdisciplinary approaches, reflecting the dynamic and evolving nature of our field.

Among the key contributions in this volume, notable works delve into:

The nuanced relationships between humor styles and mental health outcomes, offering insights into how humor contributes to psychological resilience. The adaptation and validation of instruments such as the Alliance Negotiation Scale, emphasizing the cultural contexts and unique needs of Turkish-speaking populations. Investigations into the challenges faced by mothers of children with special needs during the COVID-19 pandemic, providing invaluable perspectives on caregiving burdens and social support mechanisms. This issue also includes a comparative exploration of online versus face-to-face supervision in individual counseling practices, addressing timely topics in a post-pandemic world where digital transformation in counseling continues to expand.

We extend our heartfelt gratitude to all contributing authors, reviewers, and the editorial team for their unwavering dedication to academic excellence. Your efforts ensure that this journal remains a trusted resource for practitioners, educators, and researchers.

We invite our readers to engage with the content of this issue, reflect on the findings presented, and consider their implications for both practice and further research. Your feedback and scholarly contributions are always welcome as we strive to address the evolving challenges and opportunities within the domain of psychological counseling and guidance.

Warm regards,

Prof. Dr. Metin PİŞKİN
Editor-In-Chief

TABLE OF CONTENT

Turkish Adaptation of the Alliance Negotiation Scale: Preliminary Study for Validity and Reliability

İsmail YAZICI, Nagihan OĞUZ DURAN

Page: 472-486

Psychological Aspects of Behavioral Disorders in Management

İbrahim DURMUŞ

Page: 487-504

The Multifaceted Relationship Between Humor Styles and Psychological Well-being: Exploring Correlations with Symptom Dimensions and Mental Health Outcomes

Zühra Gizem ÖZER, Oğuzhan HERDİ, Cumhur AVCİL

Page: 505-514

May Bullying Victimization and Loneliness in Adolescents be Risk Factors for Psychological Resilience?

Yakup İME

Page: 515-523

Psychometric Properties of the Three Dimensional Meaning in Life Scale (3DM) among Turkish-Speaking Adults

Mustafa SUBAŞI

Page: 524-537

Development of Marital Forgiveness Scale: A validity and reliability of the study

Fatma BIYIK SARI, Hüdayar CIHAN

Page: 538-554

Parental Emotional Availability and Well-Being: The Mediating Role of Difficulties in Emotion Regulation

Ayşenaz Ekin DUMAN, Meliha TUZGÖL DOST

Page: 555-575

The Relations of Social Support and Well-Being in Mothers of Children with Special Needs During The COVID-19 Pandemic: The Mediating Role of Caregiving Burden

Muharrem KOÇ, Özlem HASKAN AVCI, Gülşah ELKAAN, Sinem KOCADAYI, Eyüp Sabır ERBIÇER, Tolga ZENCİR

Page: 576-587

Exploring Counselor Candidates' Perspectives on Online and Face-to-face Supervision in Individual Counseling Practice: A Comparative Qualitative Study

Sema YAZICI-KABADAYI, Mehmet AVCI, Fedai KABADAYI

Page: 588-606

Exploring Mothers' Risk Tolerance in Children's Play: Investigating Parental Styles And Various Factors Predicting Children's Risk-Taking Behaviors

Simge YILMAZ UYSAL, Binaz BOZKUR

Page: 607-618

The Role of Character Strengths in Positive Youth Development: Prediction of Resiliency, Subjective Well-Being, and Academic Achievement

Ömer Faruk KABAĞCI, Tuncay ERGENE

Page: 619-638

Satisfaction Model in Romantic Relationships: Basic Psychological Needs, Mindfulness, Relationship Quality, Attribution Styles

Sezen GÜLEÇ, Mehmet BİLGİN

Page: 639-656



RESEARCH ARTICLE

Turkish Adaptation of the Alliance Negotiation Scale: Preliminary Study for Validity and Reliability

İsmail YAZICI^a  & Nagihan OĞUZ DURAN^b 

^aMiddle East Technical University, Ankara, Türkiye. ^bBursa Uludağ University, Bursa, Türkiye.

ARTICLE HISTORY

Received: 28.04.22

Accepted: 22.10.24

KEYWORDS

Negotiation, Psychotherapy,
Reliability, Therapeutic
Alliance, Validity

ABSTRACT

It is suggested to expand Bordin's pan-theoretical therapeutic alliance concept, with the dimension of the negotiation. This study aimed to adapt the Alliance Negotiation Scale (ANS), which assesses the negotiation dimension in the therapeutic alliance, into Turkish. After translation processes, ANS Turkish Form was created. ANS, Working Alliance Scale Short Form (WAI-S) and the Personal Information Form created by the researchers, was applied to a sample ($N = 172$) of clients who are continuing psychotherapy. CFA results showed that the fit indices of the two-factor structure of ANS were acceptable ($S-B\chi^2 = 103.58 (52)$, $p < .001$, $S-B\chi^2/df = 1.99$, $CFI = .92$, $TLI = .90$, $RMSEA = .08$ (90% CI: 0.06 - 0.10), $SRMR = .06$). Significant correlations were observed between ANS and WAI-S scores ($r = .676$, $p < .01$). Internal consistency coefficients were good level for ANS Turkish Form ($\alpha = .84$, $\omega = .89$). These findings demonstrate the validity and reliability evidence of the ANS Turkish Form. ANS makes possible researchers in Türkiye to assess the degree of negotiation in therapy.

Following studies showing that different therapy approaches are similarly effective (Luborsky et al., 1975; Smith & Glass, 1977; Stiles et al., 1986; Wampold et al., 1997), interest in common factors has increased in psychotherapy research. *The therapeutic alliance*, one of these common factors, is one of the most studied research topics in the literature of psychotherapy research (Horvath et al., 2011). A wide range of studies has shown that a strong therapeutic alliance is a significant predictor of psychotherapy outcomes (Flückiger et al., 2018; Horvath et al., 2011; Martin et al., 2000; Zuroff & Blatt, 2006). This is also true for different psychotherapy conditions (Horvath & Bedi, 2002). According to researchers, the therapeutic alliance is a fundamental component for therapeutic change (Horvath & Greenberg, 1986; Lambert & Barley, 2001; Lambert & Simon, 2008; Norcross, 2002). It is recommended that clinicians focus on building a strong alliance with their clients (Horvath & Bedi, 2002).

The pan-theoretical conceptualization of the therapeutic alliance, which has its origins in the psychoanalytic literature, introduced by Bordin (1979), is widely accepted today. Bordin defines the therapeutic alliance as a collaborative stance between client and therapist. Three processes foster this collaborative stance: (1) agreement about therapeutic goals, (2) agreement about therapeutic tasks, and (3) the relational bond between therapist and client. The degree of agreement between the therapist and client about tasks and goals and the

CORRESPONDING AUTHOR İsmail YAZICI, ismailyaz19@gmail.com, ORCID: 0000-0002-5569-9619, Middle Earth Technical University, Ankara, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

quality of the bond between them indicate the strength of the alliance. These three components can affect each other during the therapy process. For instance, an agreement about tasks and goals can strengthen the bond, or a strong bond can facilitate the resolution of disagreements (Safran et al., 2002). With this conceptualization, the concept of the therapeutic alliance could also be addressed in therapy approaches other than psychoanalytic psychotherapy. In addition, another point emphasized by the conceptualization is that technique and relationship factors in therapy are not independent of each other, contrary to what was previously thought (Safran et al., 2009).

According to the meta-analysis study of Horvath et al. (2011), the most distinctive feature of Bordin's pan-theoretic conceptualization is its emphasis on *collaboration* and *agreement*. However, there are also arguments that Bordin's conceptualization may be limiting as it emphasizes collaboration and agreement (Doran et al., 2016). Cushman and Gilford (2000) stated that Bordin's conceptualization, which focuses too much on the agreement, ignores disagreements and conflicts in the therapy process. In addition to positive processes such as collaboration and agreement, negative processes such as rupture, disagreement, and tension in the relationship are also part of therapy. Indeed, Bordin himself, in a later work (1983), mentioned the central role of *repairing* too as well as building the alliance in the therapy process. In the same study, Bordin (1983) emphasized that the process of building and repairing the alliance is in itself healing.

The ruptures in the therapist-client relationship consist of disagreements in therapeutic tasks or therapeutic goals, or problems in the therapist-client bond (Safran & Muran, 2000). Safran (1993) stated that the moments when the agreement between the therapist and the client is interrupted are inevitable and emphasized that it is vital to work with these ruptures. According to the researcher, ruptures are also an opportunity to understand the client's relational processes.

Ruptures in the relationship between client and therapist can occur in a variety of ways. The client may withdraw, minimizing involvement. Or, the client may resist the therapist, attempting to show anger or dissatisfaction. On the other hand, the therapist must be sensitive to ruptures and implement strategies to resolve them. A recent meta-analysis has supported the theoretical explanation: a moderate relationship was shown between rupture resolution and positive client outcomes (Eubanks et al., 2019). Researchers have a consensus that the ruptures in the therapy process are important and that the emergence of therapeutic change will be facilitated by the resolution of the ruptures (Eubanks et al., 2023; Eubanks et al., 2019; Norcross & Wampold, 2011; Safran et al., 2011; Strauss et al., 2006).

The prominence of the rupture and repair process in psychotherapy research has directed the attention of theorists to the question of what can be done when the agreement is disrupted (Doran, 2016). Safran and Muran (2000; 2006) emphasized that the therapeutic alliance is not a static variable but a construct that changes throughout the therapy process. The authors stated that negotiation is an important change mechanism and suggested that the construct of the alliance concept should be expanded with the *dimension of negotiation*. Studies suggest that the negotiation between therapist and client can be a strategy to help reduce premature termination (Ogrodniczuk et al., 2005; Reis & Brown, 1999). Although negotiation is gaining more and more importance in the therapeutic relationship, the concept generally remained a theoretical construct, devoid of empirical studies for a long time (Doran et al. 2016).

Doran et al. (2012) introduced the definition of *the negotiation dimension* in the therapeutic alliance in line with Safran and Muran's (2000; 2006) proposal to expand the construct of the therapeutic alliance with the negotiation. By definition (Doran et al., 2012), an ongoing negotiation, consciously or unconsciously, takes place between therapist and client about therapeutic tasks and goals. This negotiation process creates the conditions for therapeutic change as well as an internal part of the therapeutic change process. Negotiation, which is constantly present in the therapy process, is sometimes explicit and sometimes implicit. In addition, the negotiation process is not superficial; It is a real confrontation between individuals with conflicting views, needs, and agendas. The client and the therapist strive to find out how well they can fit in with the other without sacrificing themselves.

Doran et al. (2012) stated that negotiation in the therapeutic alliance should be distinguished from collaboration in the therapeutic alliance. By Bordin's conceptualization, *the collaboration dimension* reflects the degree of

agreement between therapist and client about therapeutic tasks and goals in the therapy process and the strength of the relational bond between them. On the other hand, *the negotiation dimension* reflects the extent to which the therapist and client negotiate when they have disagreements about therapeutic tasks and goals or when strains arise in the emotional bond between them. Both dimensions are complementary aspects of the therapeutic alliance.

Considering the intensity of these two dimensions in therapeutic alliance research, it is seen that research mostly focus on collaboration, based on Bordin's conceptualization. This situation is also reflected in the measurement tools used in the research. There are many measurement tools that assess the degree of collaboration in the therapist-client relationship (Horvath et al., 2011). Popular measurement tools for therapeutic alliance have a common theme of "confident collaborative relationship" (Hatcher & Barends, 1996). One of these measurement tools, the Working Alliance Scale (WAI - Horvath & Greenberg, 1986; 1989), and its Short Form (WAI-S - Tracey & Kokotovic, 1989), are extensively used and have sub-dimensions of task, objective, and bond in line with Bordin's conceptualization.

However, the need for an operational measurement tool for the negotiation dimension arose. For this reason, Doran et al. (2012) developed the Alliance Negotiation Scale (ANS; Turkish: Terapötik İttifakta Müzakere Ölçeği - TİMÖ), which also considers the disagreements and tensions in the therapeutic relationship. Developed in parallel with Safran and Muran's (2000, 2006) suggestion to expand the concept of therapeutic alliance through negotiation, the ANS measures the degree of therapist-client negotiation in the therapeutic alliance based on clients' self-report. In this way, the ANS differs in that it considers the possible negative processes of the therapeutic relationship, unlike the WAI based on Bordin's conceptualization and other "confident collaborative relationship" themed measurement tools. The scale consists of 12 items and exhibits a two-factor structure: the "Comfort with Negative Feelings" factor, which aims to determine how comfortable the therapist feels when the client expresses an unpleasant emotion or objection, and the "Flexible and Negotiable Stance" factor, which reflects the client's perception of the therapist's flexibility and openness to negotiation. (Doran et al., 2012). Evidence regarding the validity and reliability of the ANS was examined in two different studies (Doran et al., 2012; Doran et al., 2016). Both studies demonstrated the two-factor structure of the ANS and provided evidence of internal consistency.

There are several studies on the relationships between the ANS and psychotherapy process and outcome variables. Negotiation has strong positive relationships with the therapeutic alliance, the real relationship, and the client's perceived therapist empathy (Doran et al., 2016). In addition, the ANS has been found to have a positive relationship with the client's satisfaction with therapy and a negative relationship with the client's interpersonal problems (Doran et al., 2016). Negotiation and the client's perception of the session impact are positively related (Doran et al., 2017). The ANS also has a positive relationship with identifying and resolving ruptures in therapy (Doran et al., 2017). On the other hand, high levels of negotiation have been shown to be associated with a decline in the client's symptoms (Doran et al., 2017; Manubens et al., 2023). The scale strengthens its place in the literature with the therapist version (Doran et al., 2018) and the supervision version (Presseau et al., 2020). Both versions aim to measure the level of negotiation from different perspectives.

The literature demonstrates the importance of the ANS in relation to therapeutic processes and outcomes. Negotiation is not a variable specific to a particular type or condition of therapy, but a variable that manifests itself in every therapy. From this perspective, negotiation can be considered meaningful in different conditions, with different individuals, and in different cultures.

Indeed, the ANS has been adapted to different languages and cultures. The scale has Argentinian (Spanish; Waizmann et al., 2015) and Portuguese (Galvão et al., 2019) versions. In both versions, two-factor structure emerged. In the Portuguese version, one item (Item 10) is in the other factor. The relationship between scores obtained from the ANS and WAI was examined in both the Argentinian and Portuguese versions, and moderate to large correlations were found, consistent with the original ANS development study. These two versions support the cross-cultural adaptability of the ANS.

Although the psychotherapy literature in Türkiye is limited compared to abroad, the concept of therapeutic alliance has entered the literature. Both the original and short versions of the WAI have been adapted to Turkish (TİÖ - Soygüt & Işıklı, 2008; TİÖ-KF - Gülüm et al., 2018). Therapeutic alliance is being studied in Türkiye with its original structure. On the other hand, the positive results of repairing the ruptures in the therapeutic

alliance have been shown (Gülüm et al., 2018). While the literature on the therapist-client relationship in Türkiye is gradually developing in accordance with the original studies, it can be thought that the ANS will also be experienced in Türkiye in accordance with the original studies.

This study aims adapt the ANS client version into Turkish. In this way, it will be possible to quantitatively examine the degree of negotiation between the client and the therapist in studies conducted in Türkiye or with Turkish participants. To achieve this aim; translation processes for the Turkish form of the ANS, examination of the factor structure of the Turkish form of the ANS, examination of evidence regarding the internal consistency and criterion validity of the scale, and finally interpretation of the findings in terms of Turkish culture were implemented.

Method

Research Design

This study is a scale adaptation study. In this section, firstly, the participants, sampling strategy and measurement tools are introduced. Then, the procedures followed are presented. Finally, a framework is presented regarding the steps followed in the translation process and which steps will be followed in data analysis.

Participants

Data were collected from participants through convenience sampling (Gravetter and Forzano, 2018) from May 2021 to January 2022. Convenience sampling was chosen because the participants belonged to a specific and hard-to-reach population. The sample of the study consists of 172 people who are in the counseling and psychotherapy process and have completed at least five sessions. Participants participated from 20 different cities, mostly Istanbul ($n = 117$; 68%). The ages of the participants ranged from 19 to 51 ($\bar{X} = 28.76$, $Sd = 5.83$). Most of the respondents were women ($n = 164$; 95.3%), nearly half were current university students ($n = 83$; 48.3%), and nearly two-thirds were employed when they participate the study ($n = 109$; 63.4%).

Most of the participants reported that their therapists were female ($n = 135$, 78.4%), and they were older than them ($n = 143$, 83.1%). More than half of the participants reported that their therapists' theoretical orientation was psychoanalytic/psychodynamic psychotherapy ($n = 90$, 52.3%). Other reported theoretical orientations are respectively; cognitive behavioral therapy ($n = 24$, 14%), eclectic approach ($n = 15$, 8.7%), integrative psychotherapy ($n = 10$, 5.8%), humanistic/existential therapy ($n = 8$, 4.7%) other therapy orientations ($n = 11$, 6.4%). Some of the participants reported that they did not know or were unsure about the theoretical orientation of their therapist ($n = 13$, 7.6%).

More than half of the participants reported their session frequency as once a week ($n = 97$, 56.4%). 33 participants reported that they continued their sessions every two weeks (19.2%), and 19 participants reported that they continued two or three sessions a week (11%). While there were 6 participants (3.5%) who attended a session once a month, 17 participants reported that the frequency of sessions was not specific or depended on needs (9.9%). In terms of therapy duration, the largest part of the participants reported that they continued therapy between 6 months and 1 year ($n=40$, 23.3%). This is followed by 2 years – 5 years ($n = 31$, 18%), 3 months or less ($n = 30$, 17.4%), 3 months – 6 months ($n = 25$, 14.5%), 18 months – 2 years ($n = 19$, 11%), 1 year – 18 months ($n = 18$, 10.5%) and more than 5 years ($n = 9$, 5.2%), respectively. In addition, more than half of the participants reported that they received another therapy before their current therapy ($n = 101$; 58.8%).

Instruments

Personal Information Form. The authors prepared this form to gather data about the participants and their therapy processes. In this form, participants are asked about their age, gender, city of residence, educational status, student status, whether they are employed or not, how long they have attended current counseling/psychotherapy, the frequency of their current counseling/psychotherapy, the reasons for participating in current counseling/psychotherapy, the age of their therapists, the gender of their therapists, the

theoretical orientation of their therapists, and whether they have received any other psychological counseling/psychotherapy before the current counseling/psychotherapy processes.

Alliance Negotiation Scale (ANS). In this study, the Turkish version of the ANS, which was created after the translation process, was used. The ANS was developed by Doran et al. (2012) to assess the degree of negotiation in the therapeutic alliance based on the client's self-report. It consists of 12 items. The scale is a 7-point Likert-type measurement tool ranging from 1 (*never*) to 7 (*always*). The total score on the ANS reflects the client's perception of the degree of negotiation in the therapeutic alliance. High scores indicate a high degree of negotiation in the therapeutic alliance. The exploratory factor analysis performed in the original study (Doran et al., 2012), in which the scale was developed, revealed two sub-dimensions: "Comfort with Negative Feelings" (Factor 1) and "Flexible and Negotiable Stance" (Factor 2). The total variance explained by the two dimensions is 58.03% and there are 6 items in each dimension. In another study (Doran et al., 2016), CFA was applied, and the two-factor structure was confirmed (RMSEA = .09, SRMR = .07, $\chi^2=156.03(53)$, $p < .001$, CFI = .93). In the original study (Doran et al., 2012), Cronbach's alpha internal consistency values were $\alpha = .84$ for the full scale, $\alpha = .86$ for Factor 1, and $\alpha = .81$ for Factor 2. The internal consistency values calculated within the scope of this study were $\alpha = .84$ for the full scale, $\alpha = .81$ for Factor 1, and $\alpha = .80$ for Factor 2.

Working Alliance Inventory - Short Form (WAI-S). In this study, the Turkish version of the WAI-S (Gülüm et al., 2018) was used. WAI-S was created by Tracey and Kokotovic (1989) with 12 items selected from the original 36-item Working Alliance Inventory (Horvath & Greenberg 1989). Based on Bordin's conceptualization, the WAI-S is divided into three sub-dimensions, each consisting of 4 items: Task, Goal, and Bond. There are client and therapist versions of the scale. In this study, the client form was used. The total scores obtained from the scale reflect the strength of the collaboration of the therapeutic alliance from the client's point of view. High scores indicate a high level of collaboration in the therapeutic alliance. In the study conducted by Gülüm et al. (2018) to examine the psychometric properties of the Turkish form of the WAI-S, CFA results show that the Turkish version of the WAI-S preserves its original factor structure ($\chi^2 = 59.9(47)$, $p < .12$, CFI = .97, TLI = .95, RMSEA = .05.). In the same study, Cronbach's alpha internal consistency values were $\alpha = .86$ for the entire scale, $\alpha = .71$ for the Task sub-dimension, $\alpha = .67$ for the Bond sub-dimension, and $\alpha = .65$ for the Goal sub-dimension. The scale is a 7-point Likert-type measurement tool ranging from 1 (*never*) to 7 (*always*). The internal consistency values calculated in this study were $\alpha = .90$ for the entire scale, $\alpha = .74$ for the Task sub-dimension, $\alpha = .71$ for the Goal sub-dimension, and $\alpha = .86$ for the Bond sub-dimension.

Procedure

Before the study was initiated, permission was obtained with the decision number 58, dated April 29, 2021, of the Bursa Uludağ University, Social and Human Sciences Research and Publication Ethics Committee. First, an online form (Google Forms) with measurement tools was created. Participants were reached from psychological counseling units of universities, associations, and mailing groups with the theme of psychotherapy and psychological counseling and social media sites. A message was sent to the participants introducing the aims of the study and the conditions of participation. Participants who reported that they were in compliance with the conditions and approved to participate were directed to the site where the Personal Information Form, the ANS, and the WAI-S are located (Google Forms). Participants who initially approved the informed consent answered questions that took approximately 10 minutes to answer.

Translation Process

To create the Turkish version of the ANS, first of all, permission was obtained from the corresponding author Jennifer M. Doran (Doran et al., 2012). The English version of the scale was translated into Turkish by three different academicians from the field of Psychological Counseling and Guidance who were educated in English-medium universities. Three additional academicians at the Department of Psychological Counseling and Guidance assessed these translations.

The evaluations revealed that the Turkish versions of Item 1 and Item 6 were very similar to each other. Item 1 is as follows: "*I am comfortable expressing frustration with my therapist when it arises. /Terapistimle ilgili hüsrana uğradığımda bunu rahatça ifade ederim.*". Item 2 is as follows: "*I am comfortable expressing disappointment in my therapist when it arises. /Terapistimle ilgili hayal kırıklığı yaşadığımda bunu rahatça ifade ederim.*". The concepts of "disappointment" and "frustration" have close meanings in Turkish. To

eliminate this confusion, the opinions of two bilingual academicians from the Department of English Language Teaching were sought. The opinions were that the concept of disappointment is an emotion close to sadness, while the concept of frustration is an emotion close to anger and pain. In Turkish Dictionary (TDK, 2023), "hayal kırıklığı" is defined as: "The sadness felt due to the failure to achieve something that is desired or hoped for." "Hüsrân" is defined as: "The pain felt due to not being able to achieve what was expected." For this reason, the "hayal kırıklığı" was used for disappointment. The "hüsrân" was used for frustration.

Based on the evaluations, the ANS Turkish Form (see in Appendix 1) was developed by the authors. The final Turkish form was translated back into English by a bilingual academician from the Department of Psychological Counseling and Guidance. When the backward translation and original scale items were compared, no significant difference was observed. Finally, the form's appropriateness for the Turkish language was assessed by a Turkish linguist and Ph.D. candidate in the Turkish Education doctoral program and it was decided to suitable for use.

Data Analysis

In this study, confirmatory factor analysis (CFA) was applied first to examine the validity evidence of the Turkish Form of the ANS. For criterion validity, the relationships between ANS and WAI-S scores were examined using the Pearson Product-Moment Correlation. The Cronbach Alpha Coefficient was calculated for internal consistency. Due to the conceptual differences between the dimensions of collaboration and negotiation, a moderate positive relationship is expected, not a complete overlap between the results of both scales (Doran et al., 2012). Negative items in the scales were scored reverse while applying the statistics. Before starting the analysis, mahalanobis distances were examined by using SPSS AMOS 24 program to determine the extreme values. In the whole data set ($N = 181$), 9 outliers were detected and removed. In the subsequent analyzes of the study, the data which the extreme values were removed ($N = 172$) were used. There are various recommendations in the literature for the minimum sample size in CFA analysis, such as 10 people for each indicator (Nunnally & Bernstein, 1967 quoted by Wang & Wang, 2012), and a minimum of 200 participants (Hoe, 2008; Singh et al., 2016). Power analyses have also been suggested to calculate the sample size (Kyriazos, 2018). Kim's Method (Kim, 2005) was used to test whether the sample size ($N = 172$) in this study was sufficient. When the expected CFI value was calculated as .90, the expected statistical power as .80, the significance level as $\alpha = .05$, the average factor loading as .60, and the average factor correlation as .30, it was seen that the minimum sample size required to validate the model was 154. Based on this calculation, and considering the specificity of the target participants of the ANS, it was concluded that the current sample size was sufficient. For comparison, in the Argentinian adaptation of ANS (Waizmann et al., 2015), the sample size is $N = 147$, and in the Portuguese adaptation (Galvão et al., 2019), it is $N = 120$.

Before factor analysis, SPSS AMOS 24 program was used to examine whether the data ($N = 172$) provided multivariate normality. When the Mardia skewness and kurtosis coefficients were examined, it was seen that multivariate normality was not provided in the data set.

The Maximum Likelihood estimation method, which is frequently used when applying CFA, requires the multivariate normality criterion to be satisfied. Corrected statistics are recommended to apply confirmatory factor analysis in nonnormal data (Kline, 2023). Therefore, in the R 4.1.1 program (R Core Team, 2021) with the lavaan package (Rosseel, 2012); the Robust Maximum Likelihood (MLM) estimator which is calculated on the basis of the Satorra-Bentler correction (Satorra & Bentler, 1994) was used. For acceptable model fit; $\chi^2/p < .001$, $\chi^2/df \leq 3$, RMSEA ≤ 0.10 (Browne & Cudek, 1993), SRMR ≤ 0.10 (Bentler, 1995), CFI ≥ 0.90 (Hu & Bentler, 1995), TLI ≥ 0.90 (Bentler & Bonett, 1980) values are sought.

Results

The ANS and WAI-S scales were used in the study. According to the data ($N = 172$), after the negative items were reverse scored, the lowest score for ANS was 27 points and the highest score was 84 points. The mean score was 70.73 ($Sd = 9.63$). The lowest score for WAI-S was 27 points and the highest score was 84 points. The mean score was 68.73 ($Sd = 10.47$).

Validity Analysis

Two types of validity were analyzed in this study. Confirmatory factor analysis (CFA) was conducted for construct validity. For criterion validity, correlations between ANS and WAI-S were examined.

Findings regarding CFA

Data ($N = 172$) were subjected to CFA using the Robust Maximum Likelihood (MLM) estimator. The two-factor structure from the original study (Doran et al., 2012) was introduced to the program, and the fit indices were examined to test whether the model was fit or not. The CFA results performed in the first stage showed that the model fit was not at an acceptable level: Satorra-Bentler (S-B) $\chi^2 = 165.01(53)$, $p < .001$, S-B $\chi^2 / df = 3.11$, CFI = .82, TLI = .78, RMSEA = .13 (90% CI: 0.10 - 0.15), SRMR = .12. Modification indices were examined in order to improve the model. Modification indices suggested establishing covariance between Item 1 and Item 6 ($mi = 110$). Both items belong to the Factor 1. When the model was reanalyzed by adding covariance to the model, the results showed that this improved model (Figure 1) is acceptable: S-B $\chi^2 = 103.58(52)$, $p < .001$, S-B $\chi^2 / df = 1.99$, CFI = .92, TLI = .90, RMSEA = .08 (90% CI: 0.06 - 0.10), SRMR = .06. The items had factor loadings from .56 to .77 for the Factor 1 and from .48 to .80 for the Factor 2 (Table 1).

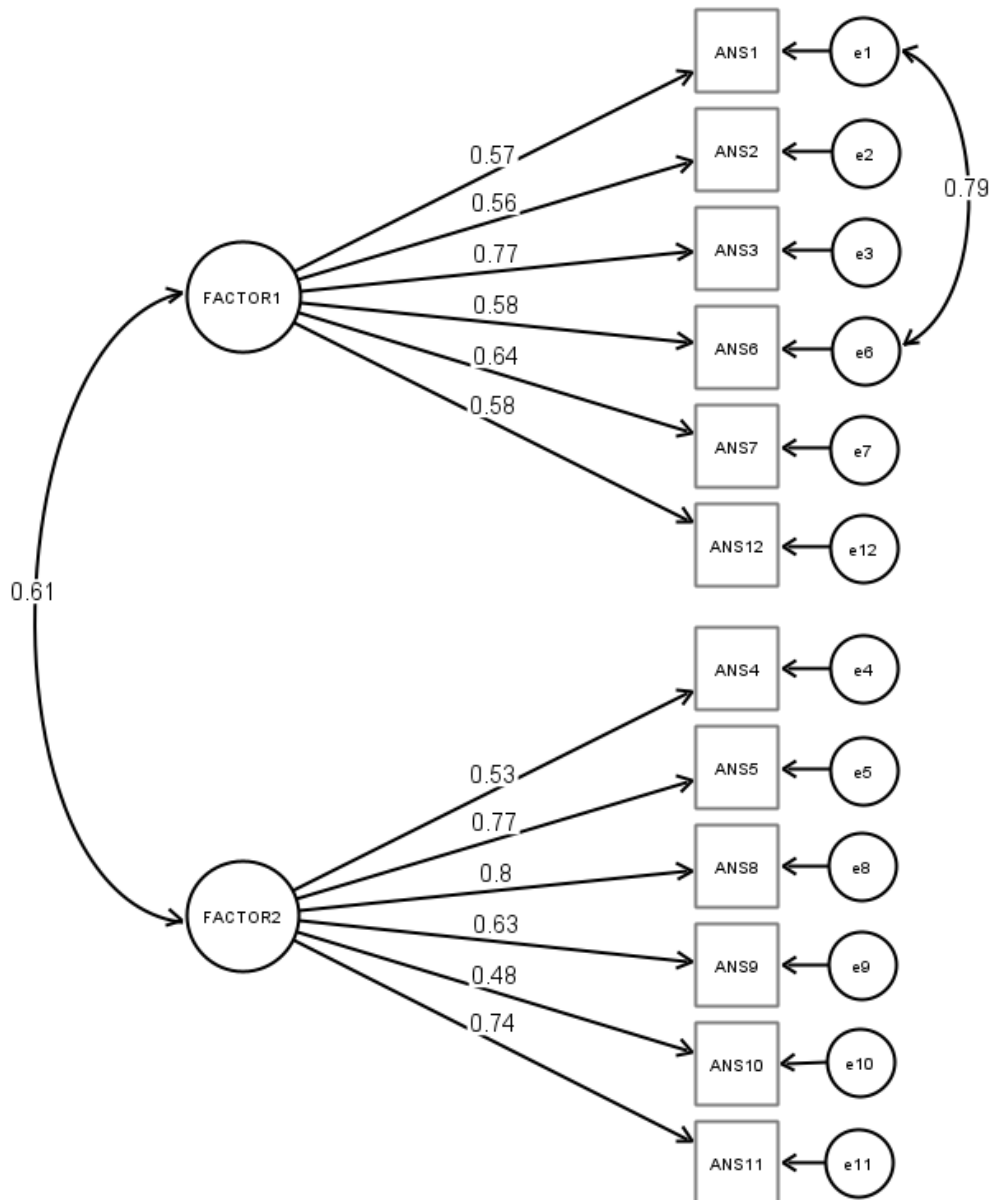
Table 1. ANS Turkish Form Confirmatory Factor Analysis Factor Loadings.

Item	Factor Loading	
	1	2
3. Terapistim, ilerlememizle ilgili herhangi bir endişemi ifade etmem için beni cesaretlendirir.	.77	
7. Terapistim, terapi sırasında herhangi bir nedenle ona karşı hissettiğim öfkeyi ifade etmem için beni cesaretlendirir.	.64	
6. Terapistimle ilgili hayal kırıklığı yaşadığımda bunu rahatça ifade ederim.	.58	
12. Terapistim, üzerinde anlayamadığımız bir konuda yanıldığı zaman bunu kabul edebilir.	.58	
1. Terapistimle ilgili hüsrana uğradığımda bunu rahatça ifade ederim.	.57	
2. İlişimize zarar vermeden terapistimle farklı fikirde olabileceğimi hissediyorum.	.56	
8. Terapide ne yaptığımıza ilişkin söz hakkım yokmuş gibi hissediyorum.		.79
5. Terapistim esnek değil ve benim isteklerimi veya ihtiyaçlarımı dikkate almıyor.		.77
11. Terapistim, terapide ne yaptığımıza ilişkin fikirlerinde katıdır.		.74
9. Terapistimin isteklerime veya ihtiyaçlarıma pek aldırmış etmeden bana ne yapacağımı söylediğini hissediyorum.		.63
4. Terapistim ve ben, terapide ne üzerinde çalışmamız gerektiği konusunda aynı fikirde değilssek buna bir çözüm bulmada iyi değiliz.		.53
10. Terapistimin terapideki amaçlarına katılıyormuş gibi yapıyorum, böylece seans sorunsuz ilerliyor.		.48

Model improvement methods should be consistent with the theoretical structure to which the model is attached (Kline, 2023). When Item 1 and Item 6 are examined in terms of their contents, it is seen that they have very similar expressions to each other (see Appendix 1 for the items). During the Turkish translation of the scale,

the translators stated that the words "frustration/hüsran" and "disappointment/hayal kırıklığı" were not sufficiently differentiated in Turkish. In addition, the opinions of four different academicians, two from the English Language field and two from the Turkish Language field, were taken. Opinions have consistently been that these two items are very closely related. Therefore, it is considered that there is sufficient justification for the improvement made in the model. As a result, the CFA results have acceptable fit values for the improved model (Figure 1).

Figure 1. Improved Model of Turkish Version of the Alliance Negotiation Scale.



Criterion Validity

In this study, the relationships between the scores obtained from the whole of the ANS and the WAI-S scales and their factors were examined to reveal the evidence for criterion validity. Pearson Product-Moment Correlation analysis yielded expected results. A positive, significant, and moderate correlation was observed between ANS and WAI-S scores ($r = .676, p < .01, R^2 = .456$). When the relationship between the scores obtained from the ANS factors and the WAI-S scores was examined; For the Factor 1 and WAI-S relationship, $r = .548, p < .01, R^2 = .301$, for the Factor 2 and WAI-S relationship, $r = .615, p < .01, R^2 = .378$ values. These values show that there is a positive, significant, and moderate relationship between ANS factors and WAI-S scores.

There are positive, moderate, and significant relationships between the scores obtained from the factors of ANS and WAI-S. These values are shown in Table 2. These relationships observed between ANS and WAI-S both in full scales and at the level of factors provide evidence of criterion validity.

Table 2. Correlations of ANS and WAI-S factors.

WAI-S Factors	ANS Factors	
	Comfort with Negative Feelings	Flexible and Negotiable Stance
Task	.490*	.485*
Goal	.507*	.625*
Bond	.473*	.536*

* $p < .01$

Reliability Analysis

To provide evidence of reliability of the ANS, Cronbach's Alpha and McDonald's Omega internal consistency coefficients were calculated.

Internal Consistency

The Cronbach's Alpha internal consistency coefficient was calculated as $\alpha = .84$ for the entire ANS, $\alpha = .81$ for the "Comfort with Negative Feelings" factor, and $\alpha = .80$ for the "Flexible and Negotiable Stance" factor. McDonald's Omega coefficient is recommended because it provides more accurate results for constructs with unequal factor loadings (Goodboy & Martin, 2020). McDonald's Omega coefficient was calculated as $\omega = .89$ for the entire ANS, $\omega = .79$ for the "Comfort with Negative Feelings" factor, and $\omega = .82$ for the "Flexible and Negotiable Stance" factor. These findings show that the internal consistency is at a good level.

Discussion

This study aimed to adapt ANS, which was developed by Doran et al. (2012), to Turkish culture to assess the negotiation dimension in the therapeutic alliance. The scale assesses the client's perception of the therapist's level of comfort with negative feelings (Factor 1), and the client's perception of the therapist's ability to negotiate therapeutic tasks and goals flexibly (Factor 2) during the therapeutic process or relationship.

CFA was applied in this study to reveal the factor structure of the Turkish version of ANS. After adding the covariance between Item 1 and Item 6 to the two-factor structure in the original study (Doran et al. 2012), the improved model (Figure 1) was found to have acceptable fit. Items have strong factor loadings (Table 1). The CFA findings are consistent with the CFA findings conducted on the original scale (Doran et al., 2016).

Item 1 (*Terapistimle ilgili hüsrana uğradığımda bunu rahatça ifade ederim.*) and Item 6 (*Terapistimle ilgili hayal kırıklığı yaşadığımda bunu rahatça ifade ederim.*) are two items that are similar in concept and appearance. In addition, both items belong to the same factor (Comfort with Negative Feelings). The opinions received from two academicians from the Turkish Language field and two from the English Language field are that the two items have very close meanings. It was concluded that this situation explains the covariance added to the model. This may be due to the characteristics of the sample or cultural differences. Although distinctions have been made between the concepts of "disappointment/hayal kırıklığı" and "frustration/hüsrân"

in the translation process, for the Turkish population these two concepts may have been perceived as different degrees of the same concept. Future studies are needed to clarify whether this situation is due to a cultural difference or the characteristics of this sample.

In the Turkish version, the two-factor structure was confirmed in accordance with the original ANS. In the Argentinian (Waizmann et al., 2015) and Portuguese (Galvão et al., 2019) versions, Item 10 (*I pretend to agree with my therapist's goals for our therapy so the session runs smoothly*) had both relatively low factor loadings and close loadings on both factors. Although it is stated that this item could theoretically be related to both factors in the Portuguese version (Galvão et al., 2019), this is not the case in the Turkish version.

In the reliability analysis, it was seen that the Turkish version of the ANS had good internal consistency. While Cronbach's Alpha coefficients showed results consistent with other studies (Doran et al., 2016; Doran et al., 2012; Galvão et al., 2019; Waizmann et al., 2015), this study also calculated the McDonald's Omega coefficient and presented new evidence for reliability.

In the study, to test the criterion validity, the relationship between the ANS, which assesses the negotiation dimension of the therapeutic alliance, and the WAI-S, which assesses the collaboration dimension, was examined. The relationship between the ANS and the WAI-S scores was moderate-large and significant. The relationship between the factors of the ANS and the WAI-S is moderate and significant for both factors. Significant relationships were found between the ANS factors and the WAI-S factors. The findings of this study show that although ANS and WAI-S are overlapping structures, they are not exactly the same. Furthermore, the ANS and WAI-S relationship is also present in the original, Argentinian and Portuguese versions, reinforcing the cross-cultural relevance of both scales. WAI, which is based on the collaboration dimension of the therapeutic alliance, has been used in various studies in the Turkish literature (Avunduk, 2020; Erus & Zeren, 2020; Gülüm et al., 2018; Soygüt & Işıklı, 2008; Öztürk & Duran, 2024). ANS is a construct based on the negotiation dimension of the therapeutic alliance. Both dimensions are complementary. The ANS and WAI-S relationship shown in this study, consistent with other adaptation studies, shows that ANS is a theoretically meaningful construct in the Turkish population.

Considering all these, it is seen that the ANS Turkish Form has sufficient validity and reliability in this study. The scale contributes to the psychotherapy research literature in terms of reflecting the client's perception of the degree of negotiation with the therapist. The ANS Turkish Form is promising for future studies in the Turkish literature, as it allows for examining the negotiation between the therapist and the client empirically.

On the other hand, there are some limitations of this study. First, the online collection of data in this study makes it difficult to confirm whether the responses are representative of the participants. In future studies, the collection of data through face-to-face processes may help reduce doubts about the representativeness of the data. Secondly, although the sample in this study varied in terms of age, education, and therapy orientation, it did not differ in terms of gender due to the superiority of women. It is known that women seek mental health help more than men (Çebi & Demir, 2020; Galdas et al., 2005, Oliver et al., 2005). However, to increase generalizability, it is recommended to work with more diverse samples in future studies. Another limitation is that the scales used in this study are based on the client's self-report. There are therapist (Doran et al., 2018) and supervision (Pressau et al., 2020) versions of the ANS. Assessing the negotiation dimension from the point of view of the therapist and supervisor in future studies is considered beneficial in terms of obtaining more comprehensive results. In this regard, it is important for the literature to bring the therapist and supervision versions of the ANS into Turkish with future studies. Another limitation of the study is that the measurements were obtained in a cross-section of the therapy process and by applying only once. The therapeutic alliance in the treatment process because it is considered a dynamic structure would be more appropriate to overcome this limitation in the name of conducting longitudinal research. Finally, in this study, the structure of the negotiation dimension was examined in terms of its relationship with the collaboration dimension. Although these results show that the negotiation and collaboration dimensions of the therapeutic alliance are related to each other, how this relationship occurs is not discussed in this study. It is possible that a healthy negotiation environment can strengthen collaboration, and a negotiable environment can be created through strong collaboration. What

kind of mechanisms the concepts we have discussed have in clinical reality may be an important research topic for future studies.

In future studies, it is recommended to examine the relations of negotiation with other theoretical constructs to reveal the criterion validity of the ANS in more detail. The mechanisms of the relationship between the negotiation dimension and the collaboration dimension and whether it predicts therapy outcomes are important research topics. In this study, it was not examined whether ANS findings vary according to different therapy approaches and conditions (frequency and length, etc.). If the relationships between negotiation and various therapy approaches and conditions are examined in future studies, answers can be sought to questions such as which therapy approaches and conditions are more suitable for negotiation and how new approaches suitable for negotiation can be developed. In addition, such studies can shed light on intercultural differences.

In conclusion, this study presented preliminary evidence that the ANS Turkish Version is valid and reliable. It has been seen that the ANS is an operational and useful measurement tool for psychotherapy research. In future studies, it is recommended to expand the validity of the ANS with more comprehensive studies.

Author Contributions: All authors contributed to the study.

Funding Disclosure: There is no particular funding for this research.

Conflicts of Interest: The authors declared no conflict of interest.

Data Availability: All data in the article can be obtained from the authors upon request.

Ethics Approval and Consent to Participate: The ethical permission was obtained with the decision number 58, dated April 29, 2021, of the Bursa Uludağ University, Social and Human Sciences Research and Publication Ethics Committee.

References

- Avunduk, S. D. (2020). *Evaluation of the Relationship Between the Therapeutic Alliance Perceived by the Counselor and Therapy Motivation* (Order No. 31220483) [Maltepe University, Master Dissertation]. ProQuest Dissertations & Theses Global.
- Bentler, P. M. (1995). *EQS structural equations program manual*. Multivariate Software.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588–606. <https://doi.org/10.1037/0033-2909.88.3.588>
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice*, 16(3), 252–260. <https://doi.org/10.1037/h0085885>
- Bordin, E. S. (1983). A Working Alliance Based Model of Supervision. *The Counseling Psychologist*, 11(1), 35–42. <https://doi.org/10.1177/0011000083111007>
- Bordin, E. S. (1994). Theory and research on the therapeutic working alliance: New directions. In A. O. Horvath & L. S. Greenberg (Eds.), *The working alliance: Theory, research and practice* (pp. 13-37). New York: Wiley.
- Browne, M. W., & Cudek, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.
- Cushman, P., & Gilford, P. (2000). Will managed care change our way of being? *American Psychologist*, 55(9), 985–996. <https://doi.org/10.1037/0003-066X.55.9.985>
- Çebi, E., & Demir, A. (2020). Help-seeking attitudes of university students in Turkey. *International Journal for the Advancement of Counselling*, 42(1), 37–47. <https://doi.org/10.1007/s10447-019-09385-7>
- Doran, J. M. (2016). The working alliance: Where have we been, where are we going? *Psychotherapy Research*, 26(2), 146–163. <https://doi.org/10.1080/10503307.2014.954153>
- Doran, J. M., Gómez-Penedo, J. M., Safran, J. D., & Roussos, A. (2018). A therapist version of the Alliance Negotiation Scale. *Clinical psychology & psychotherapy*, 25(6), 745–753. <https://doi.org/10.1002/cpp.2197>

- Doran, J. M., Safran, J. D., & Muran, J. C. (2016). The Alliance Negotiation Scale: A psychometric investigation. *Psychological Assessment*, 28(8), 885–897. <https://doi.org/10.1037/pas0000222>
- Doran, J. M., Safran, J. D., & Muran, J. C. (2017). An investigation of the relationship between the alliance negotiation scale and psychotherapy process and outcome. *Journal of Clinical Psychology*, 73(4), 449–465. <https://doi.org/10.1002/jclp.22340>
- Doran, J. M., Safran, J. D., Waizmann, V., Bolger, K., & Muran, J. C. (2012). The alliance negotiation scale: psychometric construction and preliminary reliability and validity analysis. *Psychotherapy research : journal of the Society for Psychotherapy Research*, 22(6), 710–719. <https://doi.org/10.1080/10503307.2012.709326>
- Erus, Ü. S. M., & Zeren, Ş. G. (2020). Danışan ve Psikolojik Danışmanın Penceresinden Terapötik İşbirliği: Çevrimiçi, Yüz Yüze ve Plasebo Gruplarının Karşılaştırılması. *Journal of Academic Social Science Studies*, 13(81), 139-152. <http://dx.doi.org/10.29228/JASSS.40292>
- Eubanks, C. F., Muran, J. C., & Safran, J. D. (2019). Repairing alliance ruptures. In J. C. Norcross & M. J. Lambert (Eds.), *Psychotherapy relationships that work: Evidence-based therapist contributions* (3rd ed., pp. 549–579). Oxford University Press. <https://doi.org/10.1093/med-psych/9780190843953.003.0016>
- Eubanks, C. F., Samstag, L. W., & Muran, J. C. (Eds.). (2023). *Rupture and repair in psychotherapy: A critical process for change*. American Psychological Association. <https://doi.org/10.1037/0000306-000>
- Flückiger, C., Del Re, A. C., Wampold, B. E., & Horvath, A. O. (2018). The alliance in adult psychotherapy: A meta-analytic synthesis. *Psychotherapy*, 55(4), 316–340. <https://doi.org/10.1037/pst0000172>
- Galdas, P. M., Cheater, F., & Marshall, P. (2005). Men and health help-seeking behaviour: literature review. *Journal of advanced nursing*, 49(6), 616–623. <https://doi.org/10.1111/j.1365-2648.2004.03331.x>
- Galvão, M. I., da Silva, A. N., & Vasco, A. B. (2019). The Alliance Negotiation Scale: Portuguese adaptation. *Research in Psychotherapy: Psychopathology, Process and Outcome*, 22(2), 224–232. <https://doi.org/10.4081/ripppo.2019.349>
- Goodboy, A. K., & Martin, M. M. (2020). Omega over alpha for reliability estimation of unidimensional communication measures. *Annals of the International Communication Association*, 44(4), 422–439. <https://doi.org/10.1080/23808985.2020.1846135>
- Gravetter, F. J., & Forzano, L. A. B. (2018). *Research methods for the behavioral sciences* (Edition 6). Cengage.
- Gülüm, I. V., Soygüt, G., & Safran, J. D. (2018). A comparison of pre-dropout and temporary rupture sessions in psychotherapy. *Psychotherapy research: journal of the Society for Psychotherapy Research*, 28(5), 685–707. <https://doi.org/10.1080/10503307.2016.1246765>
- Gülüm, I. V., Uluç, S., & Soygüt, G. (2018). Psychometric Properties of the Turkish Working Alliance Inventory-Short Form. *Turkish journal of psychiatry*, 29(1), 47–53.
- Hatcher, R. L., & Barends, A. W. (1996). Patients' view of the alliance of psychotherapy: exploratory factor analysis of three alliance measures. *Journal of consulting and clinical psychology*, 64(6), 1326–1336. <https://doi.org/10.1037//0022-006x.64.6.1326>
- Hoe, S. L. (2008). Issues and Procedures in Adopting Structural Equation Modeling Technique. *Journal of Applied Quantitative Methods*, 3, 76-83.
- Horvath, A. O., & Bedi, R. P. (2002). The alliance. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients* (pp. 37–69). Oxford University Press.
- Horvath, A. O., & Greenberg, L. S. (1986). The development of the Working Alliance Inventory. In L. S. Greenberg & W. M. Pinsof (Eds.), *The psychotherapeutic process: A research handbook* (pp. 529–556). Guilford Press.

- Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology, 36*(2), 223–233. <https://doi.org/10.1037/0022-0167.36.2.223>
- Horvath, A. O., Del Re, A. C., Flückiger, C., & Symonds, D. (2011). Alliance in individual psychotherapy. *Psychotherapy, 48*(1), 9–16. <https://doi.org/10.1037/a0022186>
- Hu, L.-T., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 76–99). Sage.
- Kim, K. H. (2005). The relation among fit indexes, power, and sample size in structural equation modeling. *Structural Equation Modeling, 12*(3), 368–390.
- Kline, R. B. (2023). *Principles and practice of structural equation modeling*. (Fifth Edition). Guilford publications.
- Kyriazos, T. A. (2018). Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology, 9*(08), 2207.
- Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy: Theory, Research, Practice, Training, 38*(4), 357–361. <https://doi.org/10.1037/0033-3204.38.4.357>
- Lambert, M. J., & Simon, W. (2008). The therapeutic relationship: Central and essential in psychotherapy outcome. *Mindfulness and the therapeutic relationship, 19*–33.
- Luborsky, L., Singer, B., & Luborsky, L. (1975). Comparative studies of psychotherapies. Is it true that "everywon has one and all must have prizes"? *Archives of general psychiatry, 32*(8), 995–1008. <https://doi.org/10.1001/archpsyc.1975.01760260059004>
- Manubens, R. T., Babl, A., Doran, J., Roussos, A., Alalu, N., & Gómez Penedo, J. M. (2023). Alliance negotiation as a predictor of early treatment outcome. *Journal of clinical psychology, 79*(8), 1740–1751.
- Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*(3), 438–450. <https://doi.org/10.1037/0022-006X.68.3.438>
- Norcross, J. C. (Ed.). (2002). *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. Oxford University Press.
- Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. In J. C. Norcross (Ed.), *Psychotherapy relationships that work: Evidence-based responsiveness* (pp. 423–430). Oxford University Press.
- Nunnally, J. C., & Bernstein, I. H. (1967). *Psychometric Theory* (Vol. 226). New York, NY: McGraw-Hill.
- Ogrodniczuk, J. S., Joyce, A. S., & Piper, W. E. (2005). Strategies for reducing patient-initiated premature termination of psychotherapy. *Harvard review of psychiatry, 13*(2), 57–70. <https://doi.org/10.1080/10673220590956429>
- Oliver, M. I., Pearson, N., Coe, N., & Gunnell, D. (2005). Help-seeking behaviour in men and women with common mental health problems: cross-sectional study. *The British journal of psychiatry : the journal of mental science, 186*, 297–301. <https://doi.org/10.1192/bjp.186.4.297>
- Öztürk, F., & Duran, N. O. (2024). The Mediating Role of the Evaluation Process Within Supervision on the Relationship Between Counseling Self-efficacy and Working Alliance. *International Journal for the Advancement of Counselling, 46*(1), 20–39.
- Presseau, C., Doran, J. M., Marks, L. R., & Luu, L. P. (2021). Psychometric properties of the Alliance and Negotiation Scale-Supervision Version. *Journal of clinical psychology, 77*(6), 1499–1513. <https://doi.org/10.1002/jclp.23089>
- R Core Team, (2021) R: A language and environment for statistical computing. Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/> .

- Reis, B. F., & Brown, L. G. (1999). Reducing psychotherapy dropouts: Maximizing perspective convergence in the psychotherapy dyad. *Psychotherapy: Theory, Research, Practice, Training*, 36(2), 123–136. <https://doi.org/10.1037/h0087822>
- Rosseel, Y., (2012) “lavaan: An R Package for Structural Equation Modeling.” *Journal of Statistical Software*, 48 (2): 1–36. <https://www.jstatsoft.org/v48/i02/> .
- Safran, J. D. (1993). Breaches in the therapeutic alliance: An arena for negotiating authentic relatedness. *Psychotherapy: Theory, Research, Practice, Training*, 30(1), 11–24. <https://doi.org/10.1037/0033-3204.30.1.11>
- Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide*. Guilford Press.
- Safran, J. D., & Muran, J. C. (2006). Has the concept of the therapeutic alliance outlived its usefulness? *Psychotherapy: Theory, Research, Practice, Training*, 43(3), 286–291. <https://doi.org/10.1037/0033-3204.43.3.286>
- Safran, J. D., Crocker, P., McMains, S., & Murray, P. (1990). Therapeutic alliance rupture as a therapy event for empirical investigation. *Psychotherapy: Theory, Research, Practice, Training*, 27(2), 154–165. <https://doi.org/10.1037/0033-3204.27.2.154>
- Safran, J. D., Muran, J. C., & Eubanks-Carter, C. (2011). Repairing alliance ruptures. *Psychotherapy*, 48(1), 80–87. <https://doi.org/10.1037/a0022140>
- Safran, J. D., Muran, J. C., & Proskurov, B. (2009). Alliance, negotiation, and rupture resolution. In R. A. Levy & J. S. Ablon (Eds.), *Handbook of evidence-based psychodynamic psychotherapy: Bridging the gap between science and practice* (pp. 201–225). Humana Press. https://doi.org/10.1007/978-1-59745-444-5_9
- Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. von Eye, & C. C. Clogg (Eds.), *Latent variables analysis: Applications for developmental research* (pp. 399-419). Sage.
- Singh, K., Junnarkar, M., & Kaur, J. (2016). *Measures of Positive Psychology, Development and Validation*. Berlin: Springer.
- Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist*, 32(9), 752–760. <https://doi.org/10.1037/0003-066X.32.9.752>
- Soygüt, G. (1999). Bilişsel Psikoterapide Kişilerarası Süreçler: Terapötik İttifak ve Terapötik İttifakta Bozulma Olguları [Interpersonal Processes in Cognitive Psychotherapy: Therapeutic Alliance and Therapeutic Alliance Rupture]. *Türk Psikoloji Yazıları*, 2(4), 1–14.
- Soygüt, G., & Işikli, S. (2008). Terapötik İttifakın Değerlendirilmesi: Terapötik İttifak Ölçeği'nin Güvenilirlik ve Geçerlik Çalışması. *Türk Psikiyatri Dergisi*, 19(4).
- Stiles, W. B., Shapiro, D. A., & Elliott, R. (1986). "Are all psychotherapies equivalent?" *American Psychologist*, 41(2), 165–180. <https://doi.org/10.1037/0003-066X.41.2.165>
- Strauss, J. L., Hayes, A. M., Johnson, S. L., Newman, C. F., Brown, G. K., Barber, J. P., Laurenceau, J. P., & Beck, A. T. (2006). Early alliance, alliance ruptures, and symptom change in a nonrandomized trial of cognitive therapy for avoidant and obsessive-compulsive personality disorders. *Journal of consulting and clinical psychology*, 74(2), 337–345. <https://doi.org/10.1037/0022-006X.74.2.337>
- Tracey, T. J., & Kokotovic, A. M. (1989). Factor structure of the Working Alliance Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 1(3), 207–210. <https://doi.org/10.1037/1040-3590.1.3.207>
- Türk Dil Kurumu. (2023). *Türkçe Sözlük*. (12th edition). Türk Dil Kurumu Yayınları.

- Waizmann, V., Doran, J., Bolger, K., Penedo, J. M. G., Safran, J., & Roussos, A. (2015). Escala de negociación de alianza terapéutica (ANS-A): evidencias de su validez y confiabilidad. *Revista Argentina de Clínica Psicológica*, 24(3), 243-254.
- Wampold, B. E., Mondin, G. W., Moody, M., Stich, F., Benson, K., & Ahn, H. N. (1997). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, "all must have prizes." *Psychological bulletin*, 122(3), 203.
- Wang, J., & Wang, X. (2012). *Structural Equation Modeling: Applications Using Mplus*. Wiley Higher Education Press. <https://doi.org/10.1002/9781118356258>
- Zuroff, D. C., & Blatt, S. J. (2006). The therapeutic relationship in the brief treatment of depression: Contributions to clinical improvement and enhanced adaptive capacities. *Journal of Consulting and Clinical Psychology*, 74(1), 130–140. <https://doi.org/10.1037/0022-006X.74.1.130>

Appendices

Appendix 1. Alliance Negotiation Scale Turkish Form. / Terapötik İttifakta Müzakere Ölçeği (TİMÖ)

Terapötik İttifakta Müzakere Ölçeği

Lütfen aşağıdaki soruları terapistinizle beraberken genel olarak nasıl hissettiğinizi dikkate alarak cevaplayınız.

	Hiçbir Zaman		Bazen			Her Zaman	
Terapistimle ilgili hüsrana uğradığımda bunu rahatça ifade ederim.	1	2	3	4	5	6	7
İlişkimize zarar vermeden terapistimle farklı fikirde olabileceğimi hissediyorum.	1	2	3	4	5	6	7
Terapistim, ilerlememizle ilgili herhangi bir endişemi ifade etmem için beni cesaretlendirir.	1	2	3	4	5	6	7
Terapistim ve ben, terapide ne üzerinde çalışmamız gerektiği konusunda aynı fikirde değilsek buna bir çözüm bulmada iyi değiliz.	1	2	3	4	5	6	7
Terapistim esnek değil ve benim isteklerimi veya ihtiyaçlarımı dikkate almıyor.	1	2	3	4	5	6	7
Terapistimle ilgili hayal kırıklığı yaşadığımda bunu rahatça ifade ederim.	1	2	3	4	5	6	7
Terapistim, terapi sırasında herhangi bir nedenle ona karşı hissettiğim öfkeyi ifade etmem için beni cesaretlendirir.	1	2	3	4	5	6	7
Terapide ne yaptığımıza ilişkin söz hakkım yokmuş gibi hissediyorum.	1	2	3	4	5	6	7
Terapistimin isteklerime veya ihtiyaçlarıma pek aldırış etmeden bana ne yapacağımı söylediğini hissediyorum.	1	2	3	4	5	6	7
Terapistimin terapideki amaçlarına katılıyormuş gibi yapıyorum, böylece seans sorunsuz ilerliyor.	1	2	3	4	5	6	7
Terapistim, terapide ne yaptığımıza ilişkin fikirlerinde katıdır.	1	2	3	4	5	6	7
Terapistim, üzerinde anlaşılmadığımız bir konuda yanıldığı zaman bunu kabul edebilir.	1	2	3	4	5	6	7



REVIEW

Psychological Aspects of Behavioral Disorders in Management

İbrahim DURMUŞ^a ^aBayburt University, Bayburt, Türkiye.

ARTICLE HISTORY

Received: 04.08.2023

Accepted: 25.10.2024

KEYWORDS

Psychology of Abnormal
Behaviors, Bibliometric
Analysis, Behavior
Disorder

ABSTRACT

In today's organizations, working environments direct the work activities of all employees. The psychological aspects of behavioral disorders that employees may exhibit in organizational management constitute the main problem of the research. With the help of the Web of Science database, research on the psychological aspects of behavioral disorders in management were examined on a global scale. The bibliometric analysis method was applied to the obtained data using R and R Studio software. Research on the psychological aspects of conduct disorder in management; was conducted from 1994-2023 and 229 sources. The annual growth rate of research is 2.42%. The number of research conducted on the subject reached maximum levels in 2020 and the number of citations in 2002. Contributing the most to the subject; author, Davis, journal, AIDS Care-Psychological and Socio-Medical Aspect of AIDS/HIV, country, USA, keywords therapy and depression, and the University of Washington. Some of the keywords that authors focused on the most in their research; depression, anxiety, treatment, chronic pain, HIV, Covid-19, psychotherapy, quality of life, managing, stress, psychological, and adolescents. The strongest relationship among the concepts related to the subject was between depression and anxiety. In recent years, the idea of depression has been emphasized the most. In terms of the psychological aspect of behavioral disorder in management, the strongest relationships were between the concepts of "depression, anxiety, HIV, psychotherapy, pain, sleep, cognitive behavioral therapy, mental health, and therapy". The conclusion reached by using the literature was that individuals should be healthy both biologically and psychologically in their organizational activities.

Behavior in organizations shapes psychology. Behaviorism aims to influence employee behavior to suit the constraints and demands of the system in which they work (Dekker, 2014). In this context, the restrictions existing in the organizations or the practices that may affect the employees in general cause behavioral disorders in the management, and the employees are affected psychologically by this situation. The close relationship between behavior and psychology directs the activities of all stakeholders (lower or higher-level employees) in the organization.

CORRESPONDING AUTHOR İbrahim DURMUŞ, ibrahimdurmus@bayburt.edu.tr, ORCID: 0000-0002-3872-2258, Bayburt University, Social Sciences Vocational School, Transportation Services Department, Bayburt, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

It is valuable for the physical and mental health, psychological well-being, and productivity of employees in organizations (Fitzgerald & Danner, 2012). The high prevalence of mental and behavioral disorders in organizations is a warning of the magnitude of the problem. Whether the disorder is work-related or not, it requires the detection and prevention of psychosocial risk factors in workers (Bouzada, Sol & Silva, 2022). In this respect, the physical and psychological health of employees can affect their behavior in organizational activities. Examining and resolving psychological dimensions in employees with behavioral disorders serves both employee and organizational purposes.

Behavioral disorders in organizations can cause disruptions in employee and manager relationships. A psychologically unhealthy workplace results in an unhappy work environment. This situation affects all stakeholders. In the literature, Idris, Nair, and Kurniawan (2023) stated that management mechanisms in organizations can provide training to protect the mental health of employees. It was emphasized that managers should be aware of behavioral changes that indicate employee needs. It has also been stated that manager support increases productivity and commitment. Taubman and Parikh (2023) stated that for a healthier organization, managers' effective communication with problematic individuals will reduce stress, and positive behaviors can be demonstrated through practices that encourage mental health.

Existing psychology in organizations includes the study and application of psychological capacities with human resources that measure, develop, and effectively manage performance improvement in organizational behavior (Luthans, 2002). This situation reveals that human resources in organizations can direct business activities in terms of behavior and psychology. Therefore, the behaviors and psychological aspects of individuals can be evaluated in terms of organizations. In organizations, the psychological feeling of positive human resources depends on the improvement of management practices and organizational policies. In terms of all employees, the psychological aspect of behavioral disorders in management constitutes the main problem of the research. The behavioral disorder is reflected in employees' work activities. This situation can have permanent psychological effects on individuals. In general, the psychological aspect of behavioral disorders in management affects the formation and development processes of organizational outcomes.

In examining the psychological aspect of conduct disorder in management, literature outputs were evaluated holistically regarding conduct disorder and psychological consequences. The number of studies examining organizational management, factors that may cause behavioral disorders, and psychological repercussions together is very limited. Considering this gap in the literature, behavioral disorders that may be effective in employees' organizational activities were examined within a psychological framework. In the research method, it was evaluated based on the concepts that the authors frequently emphasized in previous studies on the subject. WoS database resources were utilized using bibliometric analysis.

Behavioral Disorders in Management

Managers have an effective role in the sustainability of employees and their adaptation to business activities (Nielsen & Yarker, 2023). In behavioral disorders, social interactions such as verbal and physical aggression, bullying, oppositional behavior, and lying can be observed in individuals. Within the framework of behavioral disorders; there is an interaction related to all biological, psychological, and social processes (Hill, 2002). Behavioral disorders, as specifically examined in the literature, have been associated with outcomes such as loneliness, boredom, mental illness, depression, anxiety, ruining the day, apathy, talking loudly, sleep problems, rapid progress, physical aggression, self-harming behavior, hoarding, resistance, sexual restriction and delirium (Desai & Grossberg, 2001). In this respect, Guo and Kumar emphasized that employees with low work commitment in the organization answer their colleagues' questions late, gossip, talk loudly, and exhibit hostile behavior (Guo & Kumar, 2020). Behavioral disorders that can be exhibited in organizations; can lead to inefficiency of work activities, the poor performance of employees, verbal or physical aggression, and distraction from the goals of the organization. Behavioral disorders can cause intense stress in employees. For example, Kelloway, Dimoff, and Gilbert (2023) emphasized that depression is one of the most common mental illnesses in organizations and is treatable.

Today's organizations demand their employees to be proactive, open to collaboration, demonstrate quality performance, and problem-free collaboration (Bakker & Schaufeli, 2008). Giving importance to excessive

production in organizations leads to neglect of the health and safety of employees, various work behavior disorders, and occupational diseases in organizations (Bhardwaj & Srivastava, 2008). Situations such as the fact that the management in organizations wants employees to carry out continuous performance-oriented business activities, do not value employees outside of business activities, and an oppressive understanding that lacks empathy and common sense is dominant; may cause behavioral problems in employees.

Damage to the human central nervous system can cause behavioral or movement disorders (Aiello, Crescimanno, Giovanni & Csarrubea, 2020). Individuals with emotional or behavioral disorders have difficulty assessing their job performed correctly. These individuals may not be aware of the need to regulate their work and social skills performance in the face of environmental demands (Carter & Wehby, 2003). This situation limits the ability of employees to use their talents in the workplace and also causes disruptions in communication with other employees. Conduct disorder can lead to conflicts, work disruptions, and inefficiency in the workplace. Aiello et al. (2020) emphasized that behavioral disorder covers a wide area and has consequences such as social dysfunction, aggression, and impulsivity.

There are many factors underlying the behavioral disorders of employees in organizations. Conduct disorder is shaped by individuals' past experiences or experiences related to their activities in the organization. This shows that there may be many external factors (such as a childhood trauma) that may affect employees' behavioral disorders. The prevailing organizational culture in the work environment and the interaction with other employees affect individuals' behavior towards actions. While employee-centered work activities keep the occurrence of behavioral disorders at low levels, purely work or performance-oriented work activities (such as excessive workload) may trigger the occurrence of behavioral disorders. In the literature, Brief and Weiss (2002) stated that employees' perceptions of their work environment may be affected by their emotional characteristics or situations. Stein, Blum and Barbaresi (2011) emphasized that developmental and behavioral disorders such as intellectual disability, learning difficulties and attention deficit (hyperactive disorders) are quite common in individuals and have a lifelong effect.

The behavior that prevails in organizations can influence the activities of individuals. The presence of conduct disorder may prevent individuals from focusing on their work. Additionally, behavioral disorders can cause conflicts in organizations. Ete, Epitropaki, Zhou and Graham (2022) emphasized that the behavioral integrity existing in organizations positively contributes to the organizational citizenship behavior of employees. They stated that leaders' behavioral integrity also contributes to the behavioral integrity of individuals. This has shown that healthy organizational behaviors can produce positive outcomes, while behavioral disorders can have negative effects.

Psychology of Abnormal Behaviors

Abnormal behavior in organizations; consists of individual, group, or organizational traumatic behaviors such as inappropriate performance, avoidance, physical attack, sabotage, verbal hostility, theft, and sabotage. Abnormal behavior in organizations causes economic, social, and psychological costs. This situation reduces productivity and performance in employees' behavior (Sadeghi, Mooghali, Sarlak & Hozoori, 2020). The psychological effects of abnormal behavior may also disrupt employees' work activities. In general, abnormal behaviors can be described as behaviors that operate contrary to accepted behavior in organizations (or rules, norms, organizational culture), create chaos, or display disharmony.

The emotional stability, reliability, and cognitive complexity of employees in organizations can be examined (Black et al., 2019). Factors such as new technologies, increasing competition, globalization, and privatizations have an impact on the way work is done in organizations. Rapidly changing job designs, working conditions, working environments, the need to adapt to new job types, demands to learn new skills, high productivity, time pressure, and pressures on job quality have increased the psychological workload and workload with increasing stress. These developments affect employees physically and psychologically positively or negatively (Bhardwaj & Srivastava, 2008). Management practices and management psychology in organizations affect

the psychological behavior patterns of employees and their behavior toward work activities. There may be many abnormal behaviors that are psychologically unacceptable in the organization.

Psychological evaluation is the process of evaluating and measuring psychological factors, and social and biological relationships in a person or group with psychological disorders (Casado-Lumbreras, Rodriguez-Gonzalez, Alvarez-Rodriguez & Colomo-Palacios, 2012). Behavioral disorders in organizational management or the psychological aspect of abnormal behaviors affect the social relations of individuals in working environments. While regular and balanced behaviors, especially in subordinate-superior relations, contribute to the positive psychology of employees, abnormal behaviors create negative results in terms of communication and psychology.

Many factors can affect employee psychology in organizations. These factors can be caused by individuals themselves or external factors. These factors may prevent employees from performing their activities. Especially obstacles arising from external factors (such as physical conditions in the work environment, working hours, and behavior patterns of other employees) can cause stress and poor performance in employees. In the literature, Carr (2001) emphasized that abnormal behaviors are habits in the cognitive behavioral tradition theory. He stated that psychological disorders are learned behaviors and are affected by mental and emotional states. Carr emphasized that abnormal behaviors are learned in the same processes as normal behaviors. Santuzzi, Waltz and Finkelstein (2014) stated that there may be various physical and psychological invisible barriers such as sensory, cognitive, chronic, depression, stress, sleep disorder, and learning disability in organizations. Wang, Zhou, Zhu, Zhu and Zhang (2017) stated that malicious behavior in the organization is abnormal behavior. They emphasized that detecting and controlling abnormal behavior in the organization will contribute to the effective use of resources.

To reduce the effects of abnormal behavior or psychological stress factors in organizations, the implementation policies of the management mechanism can be reviewed. Structures such as working and rest hours in the organization, employee rights, organizational culture, and corporate affiliation mechanisms can play an active, employee-oriented role. Prakash (2018) stated that proponents of behavioral approaches state that inefficient or inappropriate conditioning (or learning) can lead to deviant behavior. Prakash emphasized that new, appropriate, and adaptive responses can be taught to change abnormal behavior.

Methods

Data Source and Research Questions Related to the Research Problem

To be able to perform bibliometric analysis, the first step is to decide on the best data source that fits the scientific context of the research area. Among the bibliographic databases used with the help of bibliometric analyzes is Web of Science (WoS), Scopus, Google Scholar (GS), Microsoft Academic (MA), and Dimensions (Moral-Munoz, Herrera-Viedma, Santisteban-Espejo & Cobo, 2020). With the help of scientific mapping in bibliometric methods, all scientific disciplines have become an important activity. The increase in the number of publications and their fragmented development have made collecting information more complex (Aria & Cuccurullo, 2017). To keep this complexity at a minimum level, WoS broadcasts were taken into account. There is a wide and regular flow of publications on research topics in WoS. In addition, WoS's international literature resource has been effective in the use of research data. In the research method, the data source related to the psychological aspect of behavioral disorder was examined with the help of the WoS database on 06.04.2023. In the analysis, all studies carried out in the literature were included in the study without any time limit. There is no region, area, category, or language limitation in the application. In the research, with the help of the WoS database, the basic questions about the psychological aspects of behavioral disorders in management are expressed below.

- What is the general information about the research on the psychological aspects of behavioral disorders in management?
- What are the distribution and citation rates of studies on the psychological aspect of behavioral disorder in management by years?

- What are the most popular sources, authors, and highlighted keywords on the psychological aspect of management conduct disorder?
- What is the productivity of the resources that contribute the most to the psychological aspect of behavioral disorder in management?
- Which institutions do the most research on the psychological aspect of behavioral disorders in management?
- What is the productivity of the authors who have done the most research on the psychological aspect of behavioral disorders in management?
- What is the ratio of countries in research on the psychological aspect of management behavior disorder?
- What are the keywords emphasized by the authors in research on the psychological aspect of management conduct disorder?
- What is the frequency of use of author keywords related to the psychological aspect of management conduct disorder over time?
- At what level are the author keywords related to the psychological aspect of management conduct disorder related to each other (co-occurrence network)?
- How was the thematic map of the keywords emphasized by the authors related to the psychological aspect of management behavior disorder formed?
- What kind of change (thematic evolution) did the keywords emphasized by the authors regarding the psychological aspect of management conduct disorder show over the years?

Information on Research Methodology

The bibliometric analysis provides an overview of the literature in a particular field and contributes to relevant knowledge (Ellegaard, 2018). With the rapid increase in academic publications and the difficulties in following research objectively, the bibliometric analysis provides insight into future research in terms of a particular subject or field to identify effective research and create themes (Wang & Ngai, 2020). The use of bibliometrics as a method as a study subject is quite new and makes significant contributions to the literature (Roig-Tierno, Gonzalez-Cruz & Llopis-Martinez, 2017). The bibliometric analysis method is a very valuable method for evaluating scientific production. To perform bibliometric analysis, there should be sufficient articles in the literature on the subject (Ellegaard & Wallin, 2015).

R, R Studio software used in bibliometric analysis method in research; accessibility, ease of use, and speed were reported to be quite beneficial (Caputo & Kargina, 2022). In bibliometric analyses, the conceptual structure of the field can be drawn with the R package, and conceptual structures can be used to reveal multiple suitability analyses (Aria & Cuccurullo, 2017). As a result, research design, data collection, data analysis, data visualization, and interpretation processes are carried out with a workflow with bibliographic data (Derviş, 2019). In the research, the R program was used to reveal the conceptual structure of the subject. Research design, data collection, data analysis, data visualization, and interpretation were carried out with the help of the R program. In addition, the bibliometric analysis technique reveals two categorical results, the first of which is a performance analysis on the subject and the contribution of the research components; In the second, it was emphasized that the scientific mapping method was applied and it reflected the relationships between the research components (Donthu, Kumar, Mukherjee, Pandey & Lim, 2021). Performance analysis and scientific mapping methods were preferred in the research.

The following steps should be taken into account to create a science map in the analyzes performed with bibliometric methods (Zupic & Cater, 2015):

1. Research design
2. Compiling bibliometric data
3. Performing the analyzes

4. Visualize Results

5. Interpreting the results achieved

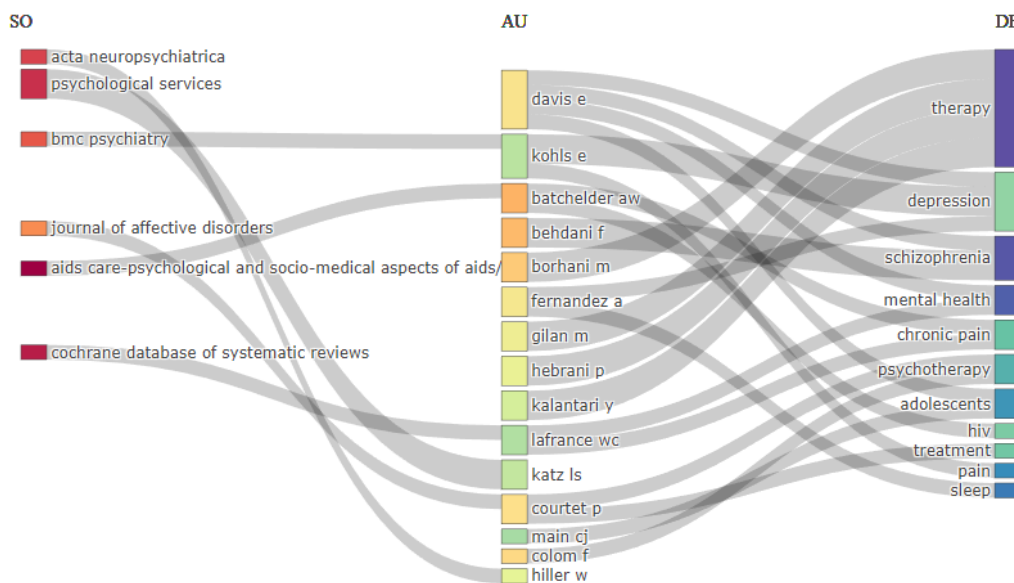
While applying the bibliometric method to examine the psychological aspect of conduct disorder in management; research design, compilation, analysis, and visual results of bibliometric data were concluded. In the research, publications were generally checked to keep the effects such as the possibility of repetition of research on the subject, author names, and database indexes to a minimum level. By using bibliometric analysis, new inferences were obtained from the research conducted in the literature on the psychological aspect of behavioral disorders in management. Bibliometric analysis, data visualizations, and interpretations are included. Hints such as authors who have carried out intensive research on the subject, concepts that the authors frequently emphasize in their research, general literature information, places of publication, and new research areas are presented. The research was designed within the bibliometric framework with the application of "Psychological aspects of behavioral disorders in management". There was no time limitation on the research data. Additionally, there is no limitation regarding any country, category, or area. Data regarding the application was obtained on 06.04.2023. Network analyses regarding conceptual, intellectual, and social structures were used in the analysis.

Results

Considering the results of the literature on the psychological aspects of behavioral disorders in management, it has been observed that worldwide research on the psychological aspects of behavioral disorders in management is included in the WoS database between 1994 and 2023 (without year limitation). In the research, it was seen that there were a total of 229 studies from 169 different sources. It has been understood that the studies have an annual growth rate of 2.42%, a total of 1146 authors have worked, and there are 21 studies with a single author. The rate of international authors in the studies was 22.71%, and the rate of co-authors per study was 5.14%. It was observed that the authors on the subject used 779 keywords and benefited from 14232 sources. The average publication year of the studies was 8.34, and it was observed that 27.93 citations were made per research.

In WoS information, it has been observed that studies on the subject have been intensively examined after 2010 and reached the maximum level in 2020. It was observed that the citations to the studies reached the highest level in 2002, and the citation rate was quite low in 1994 and 1999 when the first studies were carried out.

Figure 1. Source (journal), author, and keyword match within the framework of the Sankey diagram



The author's keywords, which emphasize the psychological aspect of behavioral disorder in management, are respectively; depression, anxiety, treatment, chronic pain, HIV, Covid-19, psychotherapy, quality of life, managing, stress, psychological, adolescents, pain, sleeping, schizophrenia, cognition, prevention, psychological factors, cognitive behavioral therapy, mental health, psychosocial, psychology, therapy, sleeping, pain, aids, cancer, children, disorder, behavioral, pain management, irritable bowel syndrome, psychological intervention, qualitative research, epilepsy, cognition, adolescent, cognitive, headache, mindfulness, coronavirus, obesity, self-management, biopsychosocial, rehabilitation, post-traumatic stress disorder, weirdness, family, veterans, behavioral therapy, and Alzheimer's disease. The results obtained show that the studies of behavioral disorders in management are mainly examined in the field of health. It is understood that conduct disorder can be a serious health problem. Depression and anxiety had the most effect on the psychological aspect of conduct disorder in management. Keeping the factors that may cause depression and anxiety at lower levels in management provides more positive results. In the research, the concepts of chronic pain, HIV, Covid-19, psychotherapy, quality of life, managing, stress, and psychology also affected behavioral disorders in management psychologically. In addition to the limitations brought by Covid-19, the risk of contracting the disease may have affected the psychological aspect of behavioral disorders in management. It shows that in addition to health problems, quality of life, management, stress, and psychological concepts are also effective in the psychological aspect of behavioral disorders in management. In this framework, the quality of life, stress level, and psychological characteristics of individuals operating in organizations can shape their behaviors.

The word with the most emphasis on the psychological aspect of conduct disorder in management and the most popular field of study over the years; The word Covid-19 has been studied extensively, especially after 2020. From the first appearance of the Covid-19 virus to the end of 2021, it may have caused many behavioral disorders. In the analysis, the word sleep was found a field of study in 2019-2021. Some behavioral disorders can be observed in sleepless employees in organizations. HIV found a study area in 2017-2021. Especially in the field of health, HIV, insufficient immunity of individuals, and similar conditions can cause psychological behavioral disorders in the management. The word "children", which has been researched in terms of behavioral disorders in the literature, has been extensively studied in the 2016-the 2020s. In the analysis, aids found a field of study in 2017-2021, especially in terms of health. In the research, the word management has been intensively examined in the years 2015-2020. Management can have significant effects on the psychological aspect of conduct disorder, both for the employee and the manager. In the analysis, it is understood that stress was popular in the 2014-the 2020s and has an effect on the psychological aspect of management behavior disorder. It was observed that the concept of adolescents, which found a wide range of studies on the subject in the literature, was examined in the 2017-the 2020s. In the analysis, anxiety, which has serious effects on the psychological aspect of management behavior disorder, has been studied extensively from 2013-2020. Depression, which has the most impact on the psychological aspect of conduct disorder in management, had an intense field of study in the 2014-to 2020s. It was seen that the concept of psychotherapy, which has an impact on the subject, was examined from 2013-2019.

Especially in clinical (health-medical) investigations regarding the psychological aspect of behavioral disorder in management; The word pain has found an intense field of study in the years 2015-2018, chronic pain in the years 2011-2018, mental health 2012-2019, cancer 2012-2020, treatment in the years 2008-2018. The psychological concept, which emphasizes the psychological aspect of conduct disorder in management, became very popular from 2007-2019. Quality of life was studied from 2012-2018. In the analysis, the concept of psychosocial became a popular field of study from 2011-2016.

Figure 4 shows that in terms of the keywords emphasized by the authors, in the motor themes section on the upper right of the thematic map, both the density of the keywords in the literature (in terms of the rate of usage) and the level of centralization (in terms of having a high relationship) is high. The keywords highlighted in the niche themes section on the upper left are the words with a high study density in the literature but with a low level of centralization. In the lower left part, there are disappearing or newly emerging themes. Both the degree of centralization and intensity of these themes are low. On the lower right, keywords are included in the basic themes section, where the density is low and the level of centralization is high.

Most of the words in the analysis are in the motor themes section. This shows that the density and level of centralization regarding the issue are high. In the first group, which is related together in the motor themes section, where both the intensity and the level of centralization are high; depression, anxiety, HIV, psychotherapy, pain, sleep, cognitive behavioral therapy, mental health, therapy, and aids. In the second group of the motor themes section; chronic pain, management, psychological, psychological factors, behavior, behavioral therapy, biopsychosocial, headache, pain management, and cognitive co-relationship. The third group; is related to the concepts of adolescents, children, prevention, psychosocial, epilepsy, post-traumatic stress disorder, psychological intervention, self-management, parents, and youth. In the fourth group; The concepts of Covid-19, coronavirus, qualitative research, rehabilitation, veterans, psychiatry, resilience, Sars-cov-2, co-morbidities, and coping have strong relationships. Motor themes are in the fifth group; quality of life, cognition, dysregulation, psychology, conversion disorder, diagnosis, distress, emotions, pathophysiology, and psychogenic nonepileptic seizures. In the sixth group; The words behavior, addiction, alcohol, compulsion, and memory are related to each other. Seventh group; The words schizophrenia, attitudes, obsessive-compulsive disorder, and quality of life are effective. In the eighth group; Alzheimer's disease, dementia, antipsychotics, behavioral disorders, and patient words are included.

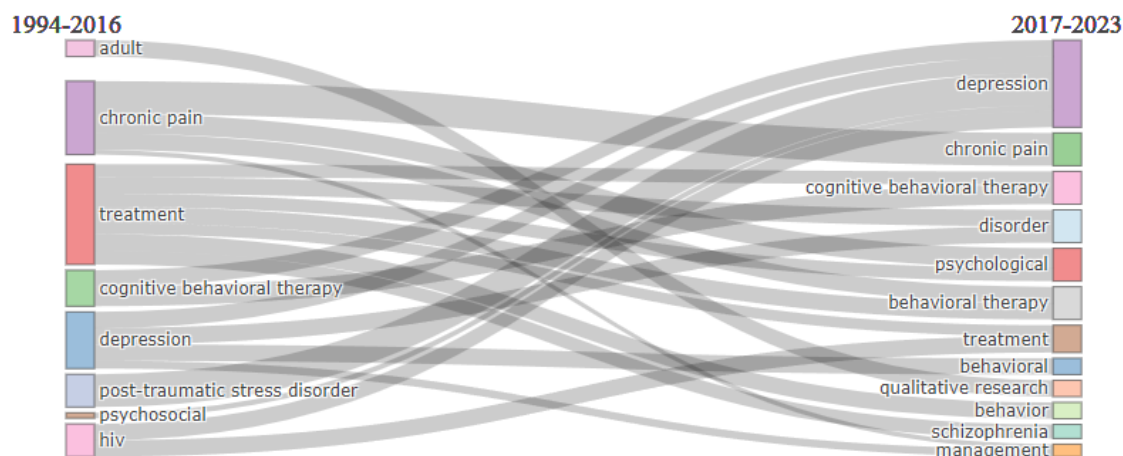
The niche themes part of the research consists of words with a low level of centralization, although they are dense in the literature. The first group; is cognitive behavioral therapy, fibromyalgia, telemedicine, and virtual reality concepts. The second group; is caring, burnout, group therapy, and insomnia. The third group; is emergency services and mental health services. The fourth group; consists of the words HIV/aids and substance use disorders.

Considering the disappearing or emerging themes with low density and centralization in the analysis, in the first group; The word serotonin is in the second group; impulsivity is involved.

In the simple themes part where the density is low and the degree of centralization is high; in the first group; The concepts of treatment, stress, obesity, adolescent, overweight, cortisol, and functional have strong relationships with each other. In the second group; The concepts of family and adults have strong relationships. In the third group; You have irritable bowel syndrome. In the fourth group; accompanying disease and intervention words.

In general, it is understood that the obtained results have a wide variety of concepts affecting the psychological aspect of conduct disorder in management. In addition, it is observed that research on the psychological aspect of behavioral disorders in management has an intense field of study, especially in the field of medicine. In organizations, a psychological conduct disorder may require medical attention. This situation can cause serious problems in the business activities of individuals in business life.

Figure 5. Thematic evolution of the keywords highlighted by the authors



In the thematic evolution of the words emphasized by the authors in the studies on the psychological aspect of behavioral disorder in management, the words that found the field of study in 1994-2016; adults, chronic pain, treatment, cognitive behavioral therapy, depression, post-traumatic stress disorder, psychosocial and HIV. The words that emphasize the psychological aspect of behavioral disorders in management between the years 2017-2023 are; It is observed that the words depression, chronic pain, cognitive behavioral therapy, disorder, psychological, behavioral therapy, treatment, behavioral, qualitative research, behavior, schizophrenia, and managing are emphasized. In recent years, it is seen that an important emphasis has been made on the concept of behavior. As a result of the analysis, it is understood that the most intense study area in recent years is the word depression.

Discussion

Studies on the psychological aspect of management behavior disorder show that many factors are effective. Determining the factors that may cause psychological behavior disorder in organizations both in terms of management (superior) mechanisms and practitioners (subordinate) affects the work activities of employees. Researches on the psychological aspect of behavioral disorder in management are not only limited to the field of social sciences but also has serious relations with other fields of science (especially medicine). This situation shows that the behaviors of employees in organizations while carrying out their activities are related to many different fields in addition to clinical research. The results show that the relationship between psychology and behavior disorder or the psychology of abnormal behavior will not be limited to the policies implemented by the administration.

In the analysis, both the degree of centralization and the motor themes, where the intensity is high, have strong relationships with distress and quality of life, cognition, disorder, psychology, conversion disorder, diagnosis, emotions, pathophysiology, and psychogenic nonepileptic seizures. Problems caused by behavioral disorders in management negatively affect the entire organization. In addition, the presence of distressed situations in the work activities of individuals harms their emotional and psychological behaviors. Employee emotions or perceptions may be effective in the formation of psychological disorders. In organizations, employee emotions can affect employee psychology and the workplace environment. In the literature, Dohrenwend (1966) stated that the way of expressing distress in psychological disorders differs between individuals. Carr (2001) stated that abnormal behaviors consist of habits, psychological disorders are learned behaviors and are affected by cognitive and emotional states. Brief and Weiss (2002) stated that employees' perceptions of their work environment may be affected by their emotional characteristics.

In the research, quality of life is related to the psychological aspect of behavioral disorders of individuals. Positive or negative situations that individuals may experience in their business and non-business life are reflected in organizational activities. In the literature, Cohen et al. (1984) state that negative life events have a positive relationship with psychological disorders.

Self-management has a strong relationship with the psychological aspect of behavioral disorders in management. Self-management in organizations contributes to employees acting with a sense of responsibility and carrying out organizational activities in a functional way. In the literature, Davis et al. (1989) state that through self-management, management helps employees change by teaching them something.

The concepts of children, intervention, and psychological intervention are widely used. This concept is often emphasized in research carried out in the field of medicine. In the literature, there are many studies on the subject, generally on children and adolescents. In particular, conduct disorder studies have a wide field of study on children or adolescents. Traumas experienced by individuals during childhood may be effective in their behavioral disorders. In the literature, Gresham (1991) emphasizes that the concepts of intervention, referral, and evaluation are effective in terms of resistance in the framework of behavioral disorders in children. Carr (2001) emphasized that behavioral disorders that occur in individuals' childhood are psychological problems such as depression, anxiety, schizophrenia, and personality disorders.

As a result of the analysis, it is seen that prevention is related to psychological intervention, and its intensity and centralization level are high in the motor themes part. In terms of the psychological aspect of behavioral disorder in management, individuals need to protect themselves from many external factors to exhibit a healthy business life. This concept can represent many different meanings associated with psychology, society, and health. In the literature, in order not to exhibit the behavioral disorder in terms of Alonzo (1993) prevention, the individual; states that it is important to have good nutrition, reduce stress, and have physical dynamism.

Research on the psychological aspect of management behavior disorder reveals that many studies have been conducted on adolescents. This shows that behavioral disorders exhibited by young people, especially in terms of business activities, will affect their performance and future business behaviors. In the literature, Kazdin (1997) behavioral disorder in young individuals; states that it has problems in terms of open behaviors, social relations, and academic performance. Carter and Wehby (2003) on the other hand, emphasize that the job performances of young employees with emotional or behavioral disorders in the organization do not meet the expectations of the managers. Low performance in business behavior; they state that it can cause disappointment at work, lack of promotion, and negative consequences such as dismissal.

In the psychological aspect of behavioral disorder in management; Cognitive and cognitive behavioral therapy appears to be effective. Concepts are found in many studies on young individuals, especially in the field of medicine (or health, clinical studies). There may be work environment practices that may cause negative behavior to occur. Additionally, workplace training and negative incentives may lead individuals to this behavior. In the literature, Reisine and Douglass (1998) emphasize that with the help of cognitive behavioral interventions, health promotion behaviors can be initiated, harmful behaviors can be eliminated, and the effect of stress on health problems can be reduced. Prakash (2018) stated that inefficient or inappropriate conditioning (or learning) can lead to deviant behavior.

In terms of the psychological aspect of behavioral disorder in management, preparing the working environment so that employees can easily perform their work activities contributes positively to the behavior and psychological satisfaction of the employees. This situation is especially shaped by the practices put forward by the management. In the research, it was seen that the concept of management had an intense study between the years 2015-2020. In addition, the word management was included in the engine themes section. This shows that both the level of centralization and the research intensity is high in terms of the relationship between the concept of management and other variables. In the literature, by making Bhardwaj and Srivastava (2008) organizations safe and healthy, employees; emphasized that they will have a healthy, high level of satisfaction, productive, efficient, harmonious, and profitable organizational structure.

In the psychological aspect of behavioral disorder in management; anxiety, stress, and psychosocial factors were effective. High levels of anxiety, stress, and other psychosocial factors in the organization cause depression and behavioral disorders. In this respect, high levels of anxiety and stress in the organization may be the determinant of behavioral disorders. Abnormal behavior in organizations can have negative effects on employees' job performance and productivity. In the literature, Tennant (2001) psychological aspects of job insecurity imposed on employees and structural changes in the workplace; emphasized that it causes occupational stress and that occupational stress factors cause depression. Wang et al. (2008) on the other hand, they stated that high stress related to job insecurity and social support had a positive relationship with anxiety disorder. They emphasized that psychosocial factors both inside and outside the workplace should be taken into account to understand mental health problems such as behavioral disorders in the organization. Wang et al. (2017) stated that malicious behavior in the organization is abnormal behavior. Sadeghi et al. (2020) emphasized that abnormal behaviors in organizations incur economic, social, and psychological costs and reduce the productivity and performance of employees' behavior.

In the psychological aspect of behavioral disorder in management; It has been observed that depression and anxiety play an effective role. Anxiety and depression are factors that affect each other positively. The high prevalence of these factors in employees may cause various behavioral disorders. Improving practices that can cause depression and anxiety in organizations contribute to healthier behavior of employees. In addition, mental health interventions that organizations apply to their employees in line with their goals can reduce employees' depression and anxiety. In the literature, Bubier and Drabick (2009) emphasized that the fear of rejection in individuals can manifest as anxiety and increase the risk of developing disruptive behavioral disorders. Dellacrosse et al. (2019) emphasized that depression and anxiety symptoms can be improved by applying messaging therapy to employees. Dimoff and Gilbert (2023) emphasized that depression is one of the most common mental illnesses in organizations.

In the research, the psychological aspect of the management's behavioral disorders; quality of life was found to be effective. In addition to the quality of life, the quality of work can also affect the work activities and behavioral disorders of the employees. Behavioral disorders may be associated with individuals' mental disorders. In this respect, the poor quality of work of employees in organizations leads to psychological and mental disorders. In the literature, Butterworth et al. (2012) emphasized that those who are unemployed and those who work in the lowest quality jobs have similar mental disorders and that the neglect of experiencing mental disorders is higher than those who work in high-quality jobs. Ponnam and Akondi (2021), on the other hand, stated that telepsychology and telecounseling can raise awareness about mental disorders in people and can remove taboos related to psychological disorders.

In the analysis, in the motor themes part of the psychosocial concept; It has been observed that it is related to the concepts of adolescents, children, prevention, epilepsy, post-traumatic stress disorder, psychological intervention, self-management, parents, and youth. In addition, it was seen that the concept of psychosocial found a wide field of study from 1994-2016. A positive psychosocial environment in organizations contributes positively to employees' work activities and healthier behaviors. When the negative psychosocial environment in the organization is taken into account in the concepts with which it is related, it causes the employees to exhibit behavioral disorders. In the literature, Plenty et al. (2014) revealed that a positive psychosocial work environment promotes emotional and behavioral adjustment among young individuals (students).

In organizations, the psychological pressure of the managers on the employees may cause behavioral disorders in the employees. In addition, different events that may affect the activities of employees outside the organization may also lead to behavioral disorders. For example, family, social, peer, and other (economic, cultural, social) pressures on the employee may be effective in exhibiting behavioral disorders. This shows that internal and external factors may be involved in forming behavioral disorders. In the literature, Gugliandolo et al. (2015) stated that with the increase in the psychological control of the family over the adolescents, the emotional intelligence of the adolescents decreases and this situation increases behavioral disorders.

In the research, it has been seen that one of the most emphasized and emphasized concepts in the most recent studies by years is Covid-19. In addition, it has been observed that both Covid-19 and the word sleep find an intense working area in the motor themes section. In the analysis, it was understood that anxiety and stress have many effects on the psychological aspect of management behavior disorder. Practices carried out during the Covid-19 period may have caused many behavioral disorders in employees. Many factors such as anxiety, stress, and unhappiness can cause negative results in employees. Research on the subject during the pandemic period shows that behavioral disorder research in management is a critical factor in organizational psychology. The behavioral disorders of employees in organizations due to COVID-19 and the psychological effects of the pandemic show that the issue is very important. The restrictive policies implemented in work environments along with the pandemic have negatively affected employee psychology. In general, the workplace habits of both managers and employees have changed, and this is reflected in business activities. In the literature, Giorgi et al. (2020) of Covid-19; emphasized that it affects employees psychologically and mentally, causing work-related stress and lack of work support. Radic et al. (2020) psychologically, the ship workers stranded at sea during the Covid-19 period; revealed that they have feelings such as anxiety, fear, sleep disorders, not being able to see family and friends, not being able to provide financial support to family or loved ones, and losing control of their lives. Zhou et al. (2023) during the Covid-19 period, health workers; stated that they showed stress reactions such as easy fatigue, difficulty in making decisions, bad sleep, fear, and feeling unhappy. They stated that employees who are anxious about the epidemic also show a stress reaction. Ozturk et al. (2023) stated that the fear of Covid-19 is more intense in female healthcare workers than in males.

Conclusion

As a result of the research, it has been observed that many factors can affect the psychological aspect of conduct disorder in management. In addition, it has been seen that the concepts of behavior disorder and psychology have found an intensive study area in the literature, especially on young individuals (children or adolescents). The results of the analysis show that the research on the concepts has a wide research network in the fields of medicine, health, psychology, and social sciences in general. Research on the psychological aspect of conduct disorder in management reveals that it is the result of the interaction of many interdisciplinary studies. This shows that the work activities of all employees in organizations are not limited to applications related to social sciences. In particular, the results related to behavior and employee psychology have been the subject of study by different disciplines. This shows that the researches carried out on the subject are of interest to different disciplines and the field of collaborative work.

The research is limited to the research carried out in WoS until April 2023 (06.04.2023) on the psychological aspect of management behavior disorder in the world. There were no limitations on time and type of research in the analysis. There were no language, web of science category, or country restrictions in the research. All research on the subject in WoS is included in the study. In future research, the factors that may cause behavioral disorders in the organizations of employees can be detailed with new research, especially in the field of social sciences, as well as clinical applications. In the literature, the occurrence of psychological behavioral disorders, especially in children and young individuals (adolescents), has been investigated. In this respect, it can be examined what the main factors that may be effective in the observation of psychological behavior disorders in later ages. In addition to the psychological aspect of management conduct disorder, the psychological and social aspects of emotional disorders can be an interesting research topic.

Funding Disclosure: No financial support was received.

Conflicts of Interest: There is no conflict of interest with any person or institution in the research.

Data Availability: The data sets are available from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate: There is no need for ethical approval as the article did not include human participants.

References

- Aiello, S., Cresmanno, G., Giovanni, G.D., & Casarrubea, M. (2020). T-patterns in the study of movement and behavioral disorders. *Physiology & Behavior*, *215*, 1-6. <https://doi.org/10.1016/j.physbeh.2019.112790>
- Alonzo, A.A. (1993). Health behavior: Issues, contradictions and dilemmas. *Social Science & Medicine*, *37*(8), 1019-1034. [https://doi.org/10.1016/0277-9536\(93\)90437-9](https://doi.org/10.1016/0277-9536(93)90437-9)
- Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*, 959–975. <http://dx.doi.org/10.1016/j.joi.2017.08.007>
- Bakker, A.B., & Schaufeli, W.B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, *29*, 147-154. <http://dx.doi.org/10.1002/job.515>
- Bhardwaj, A., & Srivastava, A. (2008). Occupational health and psychological well-being of industrial employees. *Industrial Psychiatry Journal*, *17*(1), 28-32. https://journals.lww.com/inpj/fulltext/2008/17010/Occupational_Health_and_Psychological_Well_Being.5.aspx
- Black, J.S., Bright, D.S., Gardner, D.G. et al. (2019). *Organizational Behavior*. Openstax, Rice University. https://assets.openstax.org/oscms-prodcms/media/documents/OrganizationalBehavior-OP_TtwWlEQ.pdf
- Bouzada, D.F., Sol, N.A.A., & Silva, C.A.M. (2022). Absenteeism due to mental and behavioral disorder in employees of a federal university. *Revista Brasileira de Medicina do Trabalho*, *20*(4), 515-523. <http://dx.doi.org/10.47626/1679-4435-2022-763>
- Brief, A.P., & Weiss, H.M. (2002). Organizational behavior: Affect in the workplace. *Annual Review of Psychology*, *53*, 279–307. <http://dx.doi.org/10.1146/annurev.psych.53.100901.135156>
- Bubier, J.L., & Drabick, D.A.G. (2009). Co-occurring anxiety and disruptive behavior disorders: The roles of anxious symptoms, reactive aggression, and shared risk processes. *Clinical Psychology Review*, *29*, 658–669. <http://dx.doi.org/10.1016/j.cpr.2009.08.005>
- Butterworth, P., Leach, L.S., McManus, S., & Stansfeld, S.A. (2012). Common mental disorders, unemployment and psychosocial job quality: Is a poor job better than no job at all? *Psychological Medicine*, 1-10. <https://doi.org/10.1017/S0033291712002577>
- Caputo A., & Kargina M. (2022). A user-friendly method to merge Scopus and Web of Science data during bibliometric analysis. *Journal of Marketing Analytics*, *10*, 82–88. <https://doi.org/10.1057/s41270-021-00142-7>
- Carr, A. (2001). *Abnormal Psychology*. Psychology Press. <https://perpus.univpancasila.ac.id/repository/EBUPT190906.pdf>
- Carter, E.W., & Wehby, J. H. (2003). Job performance of transition-age youth with emotional and behavioral disorders. *Exceptional Children*, *69*(4), 449-465. <https://doi.org/10.1177/001440290306900404>
- Casado-Lumbreras, C., Rodriguez-Gonzalez, A., Alvarez-Rodriguez, J.M., & Colomo-Palacios, R. (2012). PsyDis: Towards a diagnosis support system for psychological disorders. *Expert Systems with Applications*, *39*, 11391–11403. <http://dx.doi.org/10.1016/j.eswa.2012.04.033>
- Cohen, L.H., McGowan, J., Fooskas, S., & Rose, S. (1984). Positive life events and social support and the relationship between life stress and psychological disorder. *American Journal of Community Psychology*, *12*(5), 567-587. <https://doi.org/10.1007/BF00897213>

- Davis, J.R., Rawana, E.P., & Capponi, D.R. (1989). Acceptability of behavioral staff management techniques. *Behavioral Residential Treatment*, 4(1), 23-44. <https://doi.org/10.1002/bin.2360040104>
- Dekker, S. (2014). Employees: A problem to control or solution to harness? *Professional Safety*, 59(8), 32-36. <https://www.jstor.org/stable/10.2307/48690539>
- Dellacrosse, M., Mahan, K., & Hull, T.D. (2019). The effect of messaging therapy for depression and anxiety on employee productivity. *Journal of Technology in Behavioral Science*, 4, 1-5. <https://doi.org/10.1007/s41347-018-0064-4>
- Derviş, H. (2019). Bibliometric analysis using bibliometrix an R package. *Journal of Scientometric Research*, 8(3), 156-160. <https://doi.org/10.5530/jscires.8.3.32>
- Desai, A.K. (2001). Grossberg GT. Recognition and management of behavioral disturbances in dementia. *Prim Care Companion J Clin Psychiatry*. 3(3), 93-109. <https://doi.org/10.4088/pcc.v03n0301>
- Dohrenwend, B.P. (1966). Status and Psychological Disorder: An Issue of Substance and an Issue of Method. *American Sociological Review*, 31(1), 14-34. <https://doi.org/10.2307/2091276>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W.M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Ellegaard, O., & Wallin J.A. (2015). The bibliometric analysis of scholarly production: How great is the impact? *Scientometrics*, 105, 1809-1831. <https://doi.org/10.1007/s11192-015-1645-z>
- Ellegaard, O. (2018). The application of bibliometric analysis: disciplinary and user aspects, *Scientometrics*, 116, 181-202. <https://doi.org/10.1007/s11192-018-2765-z>
- Ete, Z., Epitropaki, O., Zhou, Q. & Graham, L. (2022). Leader and organizational behavioral integrity and follower behavioral outcomes: The role of identification processes. *Journal of Business Ethics*, 176, 741-760. <https://doi.org/10.1007/s10551-020-04728-6>
- Fitzgerald, C.J., & Danner, K.M. (2012). Evolution in the office: How evolutionary psychology can increase employee health, happiness, and productivity. *Evolutionary Psychology*, 10(5), 770-781. <https://doi.org/10.1177/147470491201000502>
- Giorgi, G., Lecca, L.I., Alessio, F. et al. (2020). Covid-19-related mental health effects in the workplace: A narrative review. *International Journal of Environmental Research and Public Health*, 17(21), 1-22. <https://doi.org/10.3390/ijerph17217857>
- Gresham, F.M. (1991). Conceptualizing behavior disorders in terms of resistance to intervention. *School Psychology Review*, 20(1), 23-36. <https://doi.org/10.1080/02796015.1991.12085530>
- Gugliandolo, M.C., Costa, S., Cuzzocrea, F., & Larcán, R. (2015). Trait emotional intelligence as mediator between psychological control and behaviour problems. *Journal of Child and Family Studies*, 24, 2290-2300. <https://doi.org/10.1007/s10826-014-0032-3>
- Guo, X.S., & Kumar, S.S. (2020). The effect of workplace incivility on organizational outcome (mediating role of psychological capital). *African Journal of Business Management*, 14(4), 110-122. <https://doi.org/10.5897/AJBM2016.8121>
- Hill, J. (2002). Biological, psychological and social processes in the conduct disorders. *Journal of Child Psychology and Psychiatry*, 43(1), 133-164. <https://doi.org/10.1111/1469-7610.00007>
- Idris, S.H., Nair, R., & Kurniawan, F. (2023). Mental health at the workplace: Rights of employees. *HRGS*, 2(1), 53-63. <https://doi.org/10.56784/hrgs.v2i1.40>

- Kazdin, A.E. (1997). Practitioner review: psychosocial treatments for conduct disorder in children. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 38(2), 161-178. <https://doi.org/10.1111/j.1469-7610.1997.tb01851.x>
- Kelloway, E.K., Dimoff, J.K., & Gilbert, S. (2023). Mental health in the workplace. *Annual Review of Organizational Psychology and Organizational Behavior*, 10, 363-387. <https://doi.org/10.1146/annurev-orgpsych-120920-050527>
- Luthans, F. (2002). Positive organizational behavior: Developing and managing psychological strength. *Academy of Management Executive*, 16(1), 57-72. <https://doi.org/10.5465/AME.2002.6640181>
- Moral-Munoz, J.A., Herrera-Viedma, E., Santisteban-Espejo, A., & Cobo, M.J. (2020). Software tools for conducting bibliometric analysis in science: An up-to-date review. *El Profesional de la Información*, 29(1):1-20. <https://doi.org/10.3145/epi.2020.ene.03>
- Nielsen, K., & Yarker, J. (2023). What can I do for you? Line managers' behaviors to support return to work for workers with common mental disorders. *Journal of Managerial Psychology*, 38(1), 34-46. <https://doi.org/10.1108/JMP-09-2021-0500>
- Öztürk, M.H., Vardar, O., Özkan, S., & Serçekeş, P. (2023). Investigation of Fear of COVID-19, work stress and affecting factors in prehospital emergency healthcare workers. *J Basic Clin Health Sci.*, 7, 149-157. <https://doi.org/10.30621/jbachs.1080699>
- Plenty, S., Östberg, V., Almquist, Y.B., Augustine, L., & Modin, B. (2014). Psychosocial working conditions: An analysis of emotional symptoms and conduct problems amongst adolescent students. *Journal of Adolescence*, 37, 407-417. <http://dx.doi.org/10.1016/j.adolescence.2014.03.008>
- Ponnam, H.B., & Akondi, B.R. (2021). Psychotherapy in the Management of the Upcoming Storm of Post-COVID Spectrum of Psychological Disorders, *Asian Journal of Pharmaceutical Research and Health Care*, 13(4), 278-281. <https://doi.org/10.18311/ajprhc/2021/28947>
- Prakash, A. (2018). Various psychological methods for studying abnormal behaviour. *IOSR Journal of Sports and Physical Education*, 5(6), 49-52. <https://doi.org/10.9790/6737-05064952>
- Radic, A., Lück, M., Ariza-Montes, A., & Han, H. (2020). Fear and trembling of cruise ship employees: Psychological Effects of the Covid-19 pandemic. *International Journal of Environmental Research and Public Health*, 17(1), 1-17. <https://doi.org/10.3390/ijerph17186741>
- Reisine, S., & Douglas, J.M., (1998). Psychosocial and behavioral issues in early childhood caries. *Community Dent Oral Epidemiol*, 26(1), 32-44. <https://doi.org/10.1111/j.1600-0528.1998.tb02092.x>.
- Roig-Tierno, N., Gonzalez-Cruz, T.F., & Llopis-Martinez, J. (2017). An overview of qualitative comparative analysis: A bibliometric analysis. *Journal of Innovation & Knowledge*, 2(1), 15-23. <https://doi.org/10.1016/j.jik.2016.12.002>
- Sadeghi, M., Mooghali, A., Sarlak, M.A., & Hozoori, M.J. (2020). Modeling the causes of abnormal organizational behaviors. *Public Management Researches*, 12(46), 69-94. <https://doi.org/10.22111/JMR.2019.31845.4812>
- Santuzzi, A.M., Waltz, P.R., & Finkelstein, L.M. (2014). Invisible disabilities: Unique challenges for employees and organizations. *Industrial and Organizational Psychology*, 7, 204-219. <https://doi.org/10.1111/iops.12134>
- Stein, D.S., Blum, N.J., & Barbaresi, W.J. (2011). Developmental and behavioral disorders through the life span. *Pediatrics*, 128(2), 364-73. <https://doi.org/10.1542/peds.2011-0266>

- Taubman, D.S., & Parikh, S.V. (2023). Understanding and addressing mental health disorders: A workplace imperative. *Current Psychiatry Reports*, 25, 455–463. <https://doi.org/10.1007/s11920-023-01443-7>
- Tennant, C. (2001). Work-related stress and depressive disorders. *Journal of Psychosomatic Research*, 51, 697–704. [https://doi.org/10.1016/S0022-3999\(01\)00255-0](https://doi.org/10.1016/S0022-3999(01)00255-0)
- Wang, J.L., Lesage, A., Schmitz, N., & Drapeau, A. (2008). The relationship between work stress and mental disorders in men and women: findings from a population-based study. *Journal of Epidemiology and Community Health*, 62(1), 42-47. <https://www.jstor.org/stable/40665934>
- Wang, Q., & Ngai, E.W.T. (2020). Event study methodology in business research: A bibliometric analysis. *Industrial Management & Data Systems*, 120(10), 1863-1900. <https://doi.org/10.1108/IMDS-12-2019-0671>
- Wang, Y., Zhou, Y., Zhu, C., Zhu, X., & Zhang, W. (2017). Abnormal behavior analysis in office automation system within organizations. *International Journal of Computer and Communication Engineering*, 212-220. <https://doi.org/10.177606/ijcce.6.3.212-220>
- Zhou, Y., Liu, A., Pu, Z., Zhou, M., Ding, H., & Zhou, J. (2023). An investigation of the psychological stress of medical staff in Shanghai shelter hospital during COVID-19. *Frontiers in Psychology*, 14, 1-7. <https://doi.org/10.3389/fpsyg.2023.1083793>
- Zupic, I., & Cater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429-472. <https://doi.org/10.1177/1094428114562629>



RESEARCH ARTICLE

The Multifaceted Relationship Between Humor Styles and Psychological Well-being: Exploring Correlations with Symptom Dimensions and Mental Health Outcomes

Zühra Gizem ÖZER , Oğuzhan HERDI^a  & Cumhuri AVCIL^a 

^aAntalya Bilim University, Antalya, Türkiye.

ARTICLE HISTORY

Received: 13.09.2023

Accepted: 02.11.2024

KEYWORDS

Humor, Depression,
Anxiety, Psychological
Well-Being

ABSTRACT

Introduction: Humor styles are associated with psychological well-being and various symptom dimensions, including depression, anxiety, negative self-concept, somatization, and hostility. Exploring these relationships is crucial for developing interventions to improve mental health. **Purpose:** This study aimed to investigate the relationship between humor styles and psychological well-being, along with their associations with specific psychological symptoms. **Methodology:** A total of 248 participants (aged 18–65) were recruited via online platforms through snowball sampling. Participants completed the Humor Styles Questionnaire (HSQ), Warwick-Edinburgh Mental Well-Being Scale (WEMWBS), and Brief Symptom Inventory (BSI). Correlation and regression analyses were performed to assess the links between humor styles, well-being, and psychological symptoms. **Results:** Self-defeating humor was positively correlated with depression ($r=0.287, p<0.01$) and anxiety ($r=0.268, p<0.01$), while aggressive humor was correlated with anxiety ($r=0.144, p<0.05$) and hostility ($r=0.162, p<0.05$). Self-enhancing humor negatively correlated with hostility ($r=-0.127, p<0.05$). Regression models revealed self-enhancing and self-defeating humor significantly predicted psychological well-being ($F=28.244, p<0.001$), explaining 18.1% of the variance. Humor styles explained smaller variances in symptom dimensions, including Global Symptom Severity (1.9%), Positive Symptoms Total (0.7%), and Positive Symptom Distress Index (1.1%). **Conclusion:** Humor styles significantly influence psychological well-being and symptom dimensions. Self-enhancing humor promotes well-being, while self-defeating humor correlates with increased psychological distress. Future longitudinal studies are needed to clarify causal relationships and guide interventions.

Humor constitutes a vital component of interpersonal communication. Individuals may employ humor for various purposes, such as amusement, conveying challenging concepts in a lighter tone, or masking genuine emotions, among others. Humor is also regarded as an adaptive coping mechanism, as it offers a positive reappraisal of stressful events and a relatively comfortable avenue for the verbal expression of thoughts and emotions. As an adaptive coping mechanism, humor generates pleasure, controls over feelings and ideas, and assists in managing conflicting emotions and thoughts (Páez et al., 2013).

CORRESPONDING AUTHOR Cumhuri Avcil, cumhur.avcil@antalya.edu.tr, ORCID: 0000-0001-9237-1201, Antalya Bilim University, Department of Clinical Psychology, Antalya, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

Martin (2003), a leading researcher in the field of humor, identifies four humor styles: affiliative, self-enhancing, self-defeating, and aggressive or ironic humor. The first two styles are adaptive, while the latter two are maladaptive. Affiliative humor pertains to the utilization of humor to entertain others, reduce conflicts, and alleviate stress, whereas self-enhancing humor involves regulating emotions and coping through humor. The self-defeating style represents a maladaptive use of humor, wherein the individual becomes the subject of the joke. Although this type of humor amuses others, the individual trivializes themselves by making maladaptive and inappropriate jokes about their own characteristics or experiences. Lastly, aggressive humor is characterized by a harmful tone, in which the individual employs this style to devalue and humiliate others (Kazarian & Martin, 2004; Martin & Ford, 2018).

Considering humor's role in interpersonal communication, coping, and emotion regulation, it is reasonable to suggest that humor could impact individuals' psychological states. Humor has been shown to have protective effects on not only mental health but also physical health, such as cancer or even terminal conditions (Kfrerer et al., 2019). A positive relationship between psychological well-being and humor has been consistently demonstrated. However, some studies have reported conflicting results. Celso et al. (2003) found humor coping to be significantly associated with life satisfaction and health status among older adults, whereas Kazarian and Martin (2004) identified significant positive correlations between affiliative and self-enhancing humor styles and well-being among Lebanese university students. In contrast, Kuiper and McHale (2009) reported that the inclusion of personality variables diminished the effects of humor styles on well-being. Martin et al. (2003) confirmed that affiliative and self-enhancing humor styles are positively related to psychological well-being, while Ruch and Heintz (2013) found that humor styles' effects on well-being were mediated by personality traits.

Well-being is a concept of positive psychology, founded by Martin Seligman, which aims to investigate and promote factors that contribute to the development of individuals and societies (Csikszentmihalyi, 2014; Seligman, 2002). Well-being has been divided into two concepts: subjective well-being and psychological well-being. While the former refers to achieving pleasure and happiness through experiences of positive emotions and satisfying desires (Boniwell, 2012), the latter can be conceptualized within Ryff's six-factor model: self-acceptance, self-development, life purpose, environmental mastery, autonomy, and positive relationships with others (Ryff, 1989). In terms of humor styles, affiliative and self-enhancing styles have been positively related to both psychological and subjective well-being (Sirigatti et al., 2014; Tümkaya, 2011), whereas self-defeating and aggressive styles have exhibited negative effects (Kazarian & Martin, 2004; Sirigatti et al., 2014). A positive correlation was observed between coping humor and psychological well-being and resilience (Kaya & Yağan, 2022). However, in research, when personality was added to regression models, humor styles lost their effects on well-being (Ruch & Heintz, 2013). On the other hand, investigating the relationship between psychological or psychiatric symptoms and humor, depression and anxiety were negatively correlated with affiliative and self-enhancing humor, but positively correlated with self-defeating and aggressive humor (Edwards & Martin, 2010; Martin et al., 2003; Menéndez-Aller et al., 2020; Schneider et al., 2018). Furthermore, it was observed that depressed individuals employed self-defeating humor more frequently and self-enhancing humor less frequently than non-depressed individuals (Kfrerer et al., 2019).

The examination of the association between humor styles and psychological states has been conducted thoroughly in previous studies; however, a more comprehensive perspective was pursued in the present research by evaluating both well-being and symptomatology. The objective of this investigation was to elucidate the connection between humor styles and psychological well-being, in addition to examining the dimensions of psychological symptoms, such as depression, anxiety, negative self-concept, somatization, and hostility.

Methods

Participants and Procedure

Participants were recruited through online social platforms (Instagram, Telegram, WhatsApp, Facebook, and TikTok) using snowball sampling. The study targeted volunteers living in Turkey, aged between 18 and 65 years. Individuals who agreed to participate were asked to complete all scales in their entirety. An invitation email containing information about the study, the estimated time required for completion, an informed consent form, and assurances of confidentiality for participants' identities and scale scores was sent. Volunteers were

then asked to complete the scales. Participants were required to answer every item on a scale before proceeding to the next one, ensuring no missing values in this study. Inclusion criteria for the study included being a resident of Turkey and aged between 18 and 65 years. Exclusion criteria were set as being younger than 18 or older than 65 years, and incomplete or incorrectly filled forms. One participant was excluded from the analysis due to incomplete and incorrect responses. Consequently, the final sample consisted of 248 participants, including 178 females and 70 males.

Measurement Tools

Sociodemographic Data Form. This form, created by the researchers, included questions regarding age, gender, and educational status.

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Developed by Tennant et al. (2007), this self-report scale consists of 14 items rated on a 5-point Likert scale, where higher scores reflect better psychological well-being. The Turkish adaptation, including its validity and reliability, was conducted by Keldal (2015). Cronbach's alpha for internal consistency was calculated as 0.92 in Keldal's study. In the present study, the Cronbach's alpha for internal consistency was found to be 0.91, indicating high reliability.

The Brief Symptom Inventory (BSI). The BSI, a self-report scale derived from the SCL-90, was developed by Derogatis (1983). It consists of 53 items rated on a 5-point Likert scale. The original version of the BSI assesses nine dimensions and includes three global indices. However, the Turkish version, validated by Şahin and Durak (1994), evaluates five dimensions: depression, anxiety, negative self, somatization, and hostility. The three global indices are the Global Symptom Severity (GSS), calculated by dividing the total score by 53; the Positive Symptom Total (PST), obtained by assigning a score of 1 to each item with a non-zero response and summing these scores; and the Positive Symptom Distress Index (PSDI), calculated by dividing the sum of all dimension scores by the PST. The validity and reliability study by Şahin and Durak (1994) reported Cronbach's alpha coefficients for the subscales ranging from .63 to .86, with overall scores ranging from .93 to .96. In the present study, the Cronbach's alpha for internal consistency was found to be .97, indicating excellent reliability.

Humor Styles Questionnaire. The HSQ was developed by Martin et al. (2003), with the Turkish validity and reliability study conducted by Yerlikaya (2003). The questionnaire comprises four subscales, each containing eight items rated on a 7-point Likert scale. These subscales represent the humor styles of affiliative, self-enhancing, self-defeating, and aggressive or ironic. The Adaptive Humor Styles Score (AHSS) is calculated by summing the scores of the affiliative and self-enhancing subscales, while the Maladaptive Humor Styles Score (MHSS) is derived by summing the scores of the self-defeating and aggressive subscales. Yerlikaya (2003) reported the Cronbach's alpha for the overall scale as .81, with subscale reliabilities of .74 for affiliative, .78 for self-enhancing, .69 for aggressive, and .67 for self-defeating humor. In the present study, the overall Cronbach's alpha for the HSQ was found to be .79. The subscale reliabilities in this study were .66 for affiliative, .61 for self-enhancing, .72 for aggressive, and .60 for self-defeating humor.

Statistical Analysis

For demographic variables, means and frequencies were calculated. In the analysis, total scores for each dimension, GSS, PST, and PSDI of the BSI were used, along with total scores for each subscale, AHSS, and MHSS of the HSQ. Mann-Whitney U was used to examine differences in humor styles concerning gender and educational status. Depending on the distribution style, Pearson's or Spearman's correlation analysis was employed to analyze the relationship between continuous variables. Multiple linear regression analyses were conducted to demonstrate the predictive effects of humor styles on the global indexes of BSI and well-being. IBM's SPSS 22.0 was utilized for statistical analysis, and a p-value of <0.05 was considered statistically significant.

Ethical Approval

Ethical approval was obtained from Antalya Bilim University Human and Social Sciences Ethics Committee (Date: 16.12.2021, No: 2021/29).

Results

Of the participants, 71.5% (n=178) were female, and the mean age was 39.64 ±12.60. While 12% (n=30) of the participants had graduated from high school, 75.4% (218) had graduated from university or higher. Data for sociodemographic variables and scale scores are presented in Table 1. No differences were observed between males and females in terms of affiliative, self-enhancing, and self-defeating humor styles. However, males employed aggressive humor more frequently (p=0.012, Z=-2.516) and maladaptive humor styles (p=0.015, Z=-2.430). Regarding educational status, individuals who graduated with more than 12 years of education used the self-enhancing humor style more than those who graduated with 12 years (p=0.038, Z=-2.076). A negative correlation was found between age and affiliative humor (r=-0.207, p=0.001).

Table 1. Sociodemographic Variables and Scores of The Scales

Sociodemographic Variables		n	%	Mean ± SD
Gender	Female	178	71.8	
	Male	70	28.2	
Age				39.64 ±12.60
Education	12 years	30	12.1	
	More than 12 years	218	77.9	
Scores of The Scales				Mean ± SD
WEMWBS				49.81±11.03
BSI	Depression			11.93±10.28
	Anxiety			9.53±9.69
	Somatization			4.74±5.29
	Negative Self			9.22±9.08
	Hostility			5.66±5.16
GSS				0.77±0.68
PTS				23.67±14.16
PSDI				1.53±0.60
HSQ	AHSS			69.66±13.18
	Affiliative			35.71±5.96
	Self-Enhancing			33.95±9.09
	MHSS			50.97±12.89
	Self-Defeating			25.55±9.33
	Aggressive			25.41±5.77

Note. WEMWBS: Warwick-Edinburg Mental Well-being Scale, BSI: Brief Symptom Inventory, GSS: Global Symptom Severity, PTS: Positive Symptoms Total, PSDI: Positive Symptoms Distress Index, HSQ: Humour Styles Questionnaire, AHSS: Adaptive Humour Styles Score, MHSS: Maladaptive Humour Styles Score

The correlation between WEMWBS, scores of BSI dimensions and its global scores, and scores of HSQ subscale, AHSS, and MHSS are presented in Table 2. While depression was positively correlated with only the self-defeating style (r=0.287, p<0.01), anxiety was positively correlated with both self-defeating (r=0.268, p<0.01) and aggressive styles (r=0.144, p<0.05). Both somatization and negative self were positively

correlated with self-defeating and aggressive styles (Table 2). Hostility was negatively correlated with self-enhancing ($r=-0.127, p<0.05$) and positively correlated with self-defeating ($r=0.194, p<0.01$) and aggressive ($r=0.162, p<0.05$) styles.

Separate regression analyses were conducted to examine the predictive power of adaptive and maladaptive humor styles on psychological well-being and symptom dimensions.

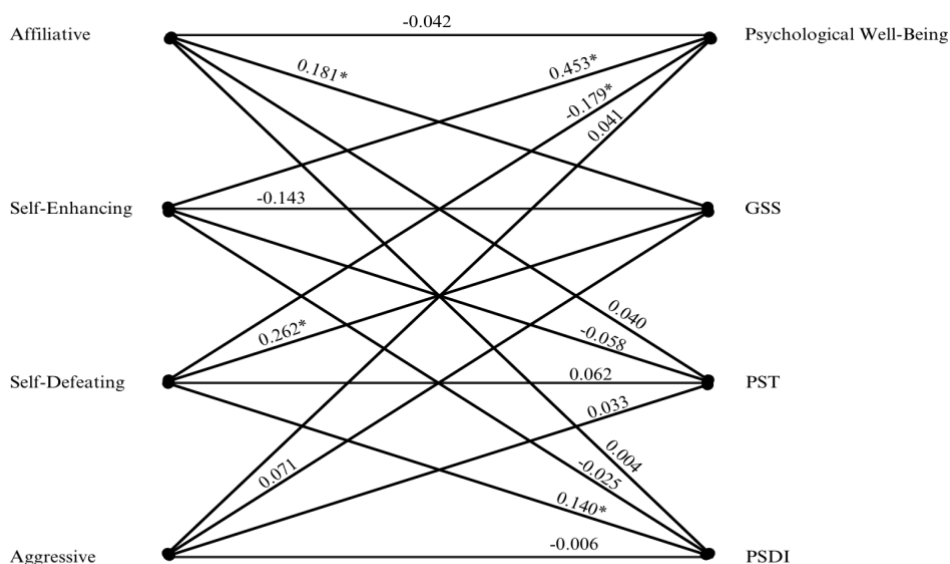
For psychological well-being, a model incorporating affiliative and self-enhancing humor styles significantly predicted the outcome, explaining 18.1% of the variance ($R^2 = .187$, Adjusted $R^2 = .181$). In this model, self-enhancing humor was a significant positive predictor ($\beta = 0.453, p < .001$), while affiliative humor did not maintain significance ($\beta = -0.042, p = .528$). In contrast, a model with aggressive and self-defeating humor styles also significantly predicted psychological well-being ($F(2, 245) = 3.479, p = .032$), but explained only 2.0% of the variance ($R^2 = .028$, Adjusted $R^2 = .020$). Aggressive humor was not a significant predictor ($\beta = 0.041, p = .558$), while self-defeating humor was a significant negative predictor ($\beta = -0.179, p < .05$).

For Global Symptom Severity (GSS), the adaptive humor styles model reached significance ($F(2, 245) = 3.364, p < .05$), explaining 1.9% of the variance ($R^2 = .027$, Adjusted $R^2 = .019$). In this model, affiliative humor was a significant positive predictor ($\beta = 0.181, p < .05$), while self-enhancing humor did not significantly predict GSS ($\beta = -0.143, p = .053$). The model for maladaptive humor styles was more robust ($F(2, 245) = 12.048, p < .001$), explaining 8.2% of the variance ($R^2 = .090$, Adjusted $R^2 = .082$). Here, self-defeating humor was a significant positive predictor ($\beta = 0.262, p < .001$), while aggressive humor did not reach significance ($\beta = 0.071, p = .296$).

For Positive Symptom Total (PST), the model with adaptive humor styles was not significant ($F(2, 245) = 0.321, p = .726$), explaining almost no variance ($R^2 = .003$, Adjusted $R^2 = -.006$). Similarly, the maladaptive humor styles model was not significant ($F(2, 245) = 0.820, p = .442$), accounting for 0.7% of the variance ($R^2 = .007$, Adjusted $R^2 = -.001$), though no predictors were significant in this model.

For the Positive Symptom Distress Index (PSDI), the model with adaptive humor styles was insignificant ($F(2, 245) = 0.064, p = .938$), explaining negligible variance ($R^2 = .001$, Adjusted $R^2 = -.008$). Likewise, the model with maladaptive humor styles was not significant ($F(2, 245) = 2.354, p = .097$), accounting for 1.1% of the variance ($R^2 = .019$, Adjusted $R^2 = .011$), with self-defeating humor being the only significant predictor ($\beta = 0.140, p = .046$).

Figure 1. Multiple Linear Regression Analyses for Psychological Well-being, GSS, PST, PSDI



Note. GSS: Global Symptom Severity, PST: Positive Symptoms Total, PSDI: Positive Symptom Distress Index

Table 2. Correlations Between Scores of Scales

	WEMWBS	D (BSI)	A (BSI)	S (BSI)	NS (BSI)	H (BSI)	GSS (BSI)	PST (BSI)	PSDI (BSI)	AHSS (HSQ)	MHSS (HSQ)	Aff (HSQ)	SE (HSQ)	SD (HSQ)	Agg (HSQ)	
WEMWBS	-															
D (BSI)	-0.542**	-														
A (BSI)	-0.544**	0.909**	-													
S (BSI)	-0.437	0.741**	0.764**	-												
NS (BSI)	-0.513**	0.886**	0.892**	0.707**	-											
H(BSI)	-0.434**	0.753**	0.782**	0.677**	0.746**	-										
GSS (BSI)	-0.541**	0.956**	0.964**	0.816**	0.943**	0.846**	-									
PST (BSI)	-0.541**	0.914**	0.931**	0.811**	0.916**	0.820**	0.964**	-								
PSDI (BSI)	-0.371**	0.791**	0.787**	0.628**	0.765**	0.683**	0.819**	0.659**	-							
AHSS (HSQ)	0.304**	-0.008	-0.040	-0.010	-0.016	-0.087	-0.035	-0.063	0.082	-						
MHSS (HSQ)	-0.172**	0.274**	0.274**	0.244**	0.299**	0.224**	0.286**	0.296**	0.219**	0.359**	-					
Aff (HSQ)	0.163*	0.084	0.067	0.079	0.053	0.003	0.064	0.006	0.211**	0.800**	0.253**	-				
SE (HSQ)	0.355**	-0.078	-0.101	-0.063	-0.072	-0.127*	-0.099	-0.106	-0.021	0.913**	0.345**	0.509**	-			
SD (HSQ)	-0.199**	0.287**	0.268**	0.227**	0.302**	0.194**	0.281**	0.284**	0.237**	0.429**	0.919**	0.346**	0.371**	-		
Agg (HSQ)	-0.039	0.115	0.144*	0.170**	0.156*	0.162*	0.155*	0.180**	0.064	0.145*	0.746**	0.024	0.206**	0.457**	-	

Note. WEMWBS: Warwick-Edinburg Mental Well-being Scale, BSI: Brief Symptom Inventory (D: Depression, A: Anxiety, S: Somatization, NS: Negative Self, H: Hostility, GSS: Global Symptom Severity, PST: Positive Symptoms Total, PSDI: Positive Symptoms Distress Index, HSQ: Humour Styles Questionnaire (AHSS: Adaptive Humour Styles Score, MHSS: Maladaptive Humour Styles Score, Aff: Affiliative, SE: Self-Enhancing, SD: Self-Defeating, Agg: Aggressive)

Discussion

In the present study, psychological well-being was positively predicted by the self-enhancing humor style, while the self-defeating humor style negatively predicted psychological well-being. No significant predictions were found for affiliative and aggressive humor styles in relation to psychological well-being. Regarding psychological symptom dimensions, self-defeating humor style was a significant positive predictor of Global Symptom Severity (GSS) and the Positive Symptom Distress Index (PSDI). The affiliative humor style was a significant positive predictor of GSS. However, neither the self-enhancing nor aggressive humor styles significantly predicted GSS. For the Positive Symptom Total (PST), none of the humor styles were significant predictors. These results suggest that while self-enhancing humor contributes positively to psychological well-being, self-defeating humor adversely affects both psychological well-being and the severity of psychological symptoms.

Previous research has consistently shown the relationship between psychological well-being and humor styles (Maiolino & Kuiper, 2014; Martin et al., 2003; Sirigatti et al., 2014). Kazarian and Martin (2004) observed a positive correlation between well-being and affiliative and self-enhancing humor styles. In the present study, self-enhancing humor style positively predicted psychological well-being, while self-defeating humor style negatively predicted psychological well-being. No significant predictions were found for affiliative or aggressive humor styles in relation to psychological well-being. These results align with those of Sirigatti et al. (2014), who employed Ryff's model (1995) to assess well-being and found that adaptive humor styles were positively correlated with well-being, while only the self-defeating style was negatively correlated with both the six dimensions of well-being and overall well-being. Beermann and Ruch (2009) posited that only adaptive humor styles are humor-related character strengths. Another study revealed a relationship between well-being and the four humor styles; however, after controlling for the effects of personality, it was found that personality was the main explanatory variable, with minor effects of self-enhancing and self-defeating styles. The authors interpreted these results as an indication that context, rather than style, is the primary reason for the correlation between the Humor Styles Questionnaire (HSQ) and well-being (Ruch & Heintz, 2013).

Lastly, hostility, which refers to the exhibition of negative attitudes or behaviors towards others, was positively correlated with aggressive humor style and negatively correlated with self-enhancing humor style. The positive correlation between aggressive humor and hostility aligns with the definition of hostility. The correlations between self-related styles (self-defeating and self-enhancing) and hostility are particularly intriguing. Previous studies have found similar results, with self-defeating humor being positively correlated with disinhibition and psychoticism, traits closely related to hostility (Zeigler-Hill et al., 2016). Individuals with higher levels of hostility might also direct hostility towards themselves, leading them to use self-defeating humor more frequently and self-enhancing humor less frequently.

Consistent with the findings of Martin (2003) and Kazarian and Martin (2004), the present study observed higher scores of aggressive humor styles in males compared to females. Additionally, an inverse relationship between age and affiliative humor style, as previously reported by Martin (2003), was noted. These observations suggest the existence of cross-cultural humor preferences related to age and gender. Empathy has been identified as a mediating factor in the propensity of males to utilize maladaptive humor styles (Wu et al., 2016). This suggests that lower levels of empathy in males may contribute to their higher use of aggressive humor, highlighting the importance of considering empathy in the study of humor styles and gender differences.

The global assessment of the BSI revealed that while adaptive humor styles were uncorrelated with global scores, maladaptive humor styles exhibited a positive correlation with global scores. This indicates a significant relationship between mental health and maladaptive humor styles. Despite the cross-sectional nature of our methodology, it is reasonable to infer that individuals employing maladaptive humor styles may be more likely to experience psychological symptoms such as depression, anxiety, hostility, somatization, and negative self-concept. In terms of global mental distress, the self-enhancing humor style appears to be more protective, while the self-defeating humor style, as the name suggests, is less protective.

Humor is also acknowledged as a coping and defense mechanism (Lefcourt & Martin, 2012). Consequently, utilizing adaptive humor styles to cope with challenges could result in alleviating anxiety through an enjoyable approach and achieving improved psychological well-being. Nonetheless, as Martin (2003) posited, humor is not invariably beneficial to mental health, leading him and his colleagues to develop a multidimensional model for humor: humor styles. This model and our findings suggest that only adaptive humor styles (affiliative and self-enhancing) may offer benefits to mental health, while maladaptive styles could have adverse effects. A study from Turkey also reported a negative correlation between general health and the self-enhancing style (Ökdem, 2017).

There were several limitations to this study that warrant consideration. First, the cross-sectional methodology employed in this research precludes the establishment of causal relationships between the variables under investigation. Second, the use of self-report scales and online surveys may introduce potential biases, as participants might not always provide honest responses. Additionally, the highly educated nature of our sample poses a challenge in generalizing the findings to individuals with lower educational attainment (i.e., those with less than a high school education). Fourth, the absence of a mental state examination and interviews to assess participants' current or previous history of mental disorders may limit the depth of understanding regarding the impact of humor styles on mental health outcomes. To address these limitations, future research could benefit from employing longitudinal designs, incorporating more diverse samples, and integrating clinical assessments to further elucidate the relationship between humor styles and psychological well-being.

Conclusion

This study highlights the significant relationship between humor styles and psychological well-being, where self-enhancing humor positively predicts well-being, and self-defeating humor negatively predicts it. Maladaptive humor styles were also positively correlated with various psychological symptoms, including depression, anxiety, hostility, somatization, and negative self-concept. The cross-sectional nature of this study limits causal inferences, emphasizing the need for future research to employ longitudinal designs to better understand these relationships. By incorporating diverse samples and clinical assessments, future studies can further explore how humor styles influence mental health and develop targeted interventions that leverage adaptive humor styles to enhance psychological well-being and mitigate the adverse effects of maladaptive humor styles.

Author Note: This study was produced from the master's thesis prepared by the first author under the supervision of the third author.

Author Contributions: The first author contributed to all stages of the study, including data collection. The second and third authors were involved in the study's planning, interpretation, and writing processes. All authors provided critical revisions and approved the final version of the manuscript.

Funding Disclosure: The authors received no financial support for the research, authorship, and/or publication of this article.

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

Data Availability: Data are available upon request from the corresponding author.

Ethics Approval and Consent to Participate: Ethical approval for this study was obtained from the Antalya Bilim University Social and Behavioral Sciences Ethics Committee (Date: 16.12.2021, No: 2021/29).

References

- Beermann, U., & Ruch, W. (2009). How virtuous is humor? What we can learn from current instruments. *Journal of Positive Psychology, 4*(6), 528-539. <https://doi.org/10.1080/17439760903262859>
- Boniwell, I. (2012). *Positive psychology in a nutshell: The science of happiness*. McGraw-Hill Education
- Celso, B. G., Ebener, D. J., & Burkhead, E. J. (2003). Humor coping, health status, and life satisfaction among older adults residing in assisted living facilities. *Aging and Mental Health, 7*(6), 438-445. <https://doi.org/10.1080/13607860310001594691>

- Csikszentmihalyi, M. (2014). *Flow and the Foundations of Positive Psychology*. Springer. <https://doi.org/10.1007/978-94-017-9088-8>
- Derogatis, L. R. (1983). The Brief Symptom Inventory: An Introductory Report. *Psychological Medicine*, 13(3), 595–605. <https://doi.org/10.1017/S0033291700048017>
- Edwards, K. R., & Martin, R. A. (2010). Humor Creation Ability and Mental Health: Are funny people more psychologically healthy? *Europe's Journal of Psychology*, 6(3), 196-212. <https://doi.org/10.5964/ejop.v6i3.213>
- Kaya, Z., Yağan, F. (2022). The Mediating Role of Psychological Resilience in the Relationship between Coping Humour and Psychological Well-being. *Kuramsal Eğitim Bilim*, 15(1), 146-168. <https://doi.org/10.30831/akukeg.949736>
- Kazarian, S. S., & Martin, R. A. (2004). Humour styles, personality, and well-being among Lebanese university students. *European Journal of Personality*, 18(3), 209-219. <https://doi.org/10.1002/per.505>
- Keldal, G. (2015). Warwick-Edinburgh Mental İyi Oluş Ölçeği'nin Türkçe Formu: Geçerlik ve güvenilirlik çalışması. *The Journal of Happiness & Well-Being*, 3(1), 103-115.
- Kfrerer, M. L., Martin, N. G., & Schermer, J. A. (2019). A behavior genetic analysis of the relationship between humor styles and depression. *Humor*, 32(3), 417-431. <https://doi.org/10.1515/humor-2017-0098>
- Kuiper, N. A. and McHale, N. (2009). Humor Styles as Mediators Between Self-Evaluative Standards and Psychological Well-Being. *The Journal of Psychology*, 143(4), 359–376. <https://doi.org/10.3200/jrlp.143.4.359-376>
- Lefcourt, H. M., & Martin, R. A. (2012). *Humor and life stress: Antidote to adversity*. Springer-Verlag.
- Maiolino, N. B., & Kuiper, N. A. (2014). Integrating humor and positive psychology approaches to psychological well-being. *Europe's Journal of Psychology*, 10(3), 557-570. <https://doi.org/10.5964/ejop.v10i3.753>
- Martin, R. (2003). Sense of humor. In J. Shane & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 313–326). American Psychological Association.
- Martin, R. A., & Ford, T. (2018). *The psychology of humor: An integrative approach*. Academic Press.
- Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003). Individual differences in uses of humor and their relation to psychological well-being: Development of the humor styles questionnaire. *Journal of Research in Personality*, 37(1), 48-75. [https://doi.org/10.1016/S0092-6566\(02\)00534-2](https://doi.org/10.1016/S0092-6566(02)00534-2)
- Menéndez-Aller, Á., Postigo, Á., Montes-Álvarez, P., González-Primo, F. J., & García-Cueto, E. (2020). Humor as a protective factor against anxiety and depression. *International Journal of Clinical and Health Psychology*, 20(1), 38-45. <https://doi.org/10.1016/j.ijchp.2019.12.002>
- Ökdem, Ş. (2017). Examination of the humor styles and mental health status of vocational school of health services students. *Journal of Psychiatric Nursing*, 9(2), 112-118. <https://doi.org/10.14744/phd.2017.29981>
- Páez, D., Mendiburo Seguel, A., & Martínez-Sánchez, F. (2013). Incremental Validity of Alexithymia, Emotional Coping and Humor Style on Happiness and Psychological Well-Being. *Journal of Happiness Studies*, 14(5), 1621-1637. <https://doi.org/10.1007/s10902-012-9400-0>
- Ruch, W. F., & Heintz, S. (2013). Humour styles, personality and psychological well-being: What's humour got to do with it? *The European Journal of Humour Research*, 1(4), 1–24. <https://doi.org/10.7592/EJHR2013.1.4.ruch>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4(4), 99–104. <https://doi.org/10.1111/1467-8721.ep10772395>

- Şahin, N. H., & Durak Batıgün, A. (1994). Kısa Semptom Envanteri (Brief Symptom Inventory-BSI): Türk Gençleri İçin Uyarlanması. [A study of the Brief Symptom Inventory in Turkish youth]. *Türk Psikoloji Dergisi*, 9(31), 44-56.
- Schneider, M., Voracek, M., & Tran, U. S. (2018). "A joke a day keeps the doctor away?" Meta-analytical evidence of differential associations of habitual humor styles with mental health. *Scandinavian Journal of Psychology*, 59(3), 289-300. <https://doi.org/10.1111/sjop.12432>
- Seligman, M. E. P. (2002). Positive psychology, positive prevention, and positive therapy. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 3-9). Oxford University Press.
- Sirigatti, S., Penzo, I., Giannetti, E., & Stefanile, C. (2014). The humor styles questionnaire in Italy: Psychometric properties and relationships with psychological well-being. *Europe's Journal of Psychology*, 10(3), 429-450. <https://doi.org/10.5964/ejop.v10i3.682>
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes*, 5(1), 1-13. <https://doi.org/10.1186/1477-7525-5-63>
- Tümkeya, S. (2011). Humor styles and socio-demographic variables as predictors of subjective well-being of Turkish university students. *Eğitim ve Bilim*, 36(160), 158-170.
- Wu, C. L., Lin, H. Y., & Chen, H. C. (2016). Gender differences in humour styles of young adolescents: Empathy as a mediator. *Personality and Individual Differences*, 99, 139-143. <https://doi.org/10.1016/j.paid.2016.05.018>
- Yerlikaya, E. E. (2003). Mizah tarzları ölçeği (Humor styles questionnaire) uyarlama çalışması [Master Dissertation, Çukurova University]. Council of Higher Education Thesis Center.
- Zeigler-Hill, V., McCabe, G. A., & Vrabel, J. K. (2016). The dark side of humor: DSM-5 pathological personality traits and humor styles. *Europe's Journal of Psychology*, 12(3), 363-376. <https://doi.org/10.5964/ejop.v12i3.1109>



RESEARCH ARTICLE

May Bullying Victimization and Loneliness in Adolescents be Risk Factors for Psychological Resilience?

Yakum IME^a 

^aNecmettin Erbakan University, Konya, Türkiye

ARTICLE HISTORY

Received: 23.11.2023

Accepted: 22.09.2024

KEYWORDS

Bullying Victimization,
Loneliness,
Psychological Resilience,
Adolescents

ABSTRACT

Adolescents who experience bullying may struggle to develop the psychological resilience needed to navigate life's adversities. Similarly, loneliness can serve as a significant risk factor for their psychological resilience, potentially hindering their ability to cope with stress and adversity. The aim of the current research is to explore the predictive relationships between bullying victimization, loneliness, and psychological resilience in adolescents. A total of 639 high school students (415 girls and 224 boys) participated in the study. The research hypothesis was tested using a hierarchical regression analysis method. The findings highlight that both bullying victimization and loneliness are significant negative predictors of psychological resilience. Based on these results, it is crucial to implement programs that focus on raising awareness about the harmful effects of bullying and promoting empathy among adolescents. Interventions aimed at improving communication skills and fostering positive peer interactions can help reduce social isolation and strengthen relationships.

Adolescence is one of the most critical developmental periods of life (Vuru et al., 1999). Protective factors for the healthy development of adolescents include strong family relationships, positive peer influences, and supportive environments, which provide emotional stability and guidance. Additionally, high self-esteem, access to mental health resources, and healthy lifestyle choices contribute to psychological resilience and overall well-being (Cairns et al., 2014). Some adolescents can demonstrate healthy development in this period despite the various negative factors they are exposed to, thanks to their psychological resilience (Ostaszewski, 2020). Psychological resilience is the ability of an individual to effectively cope with, adapt to, and recover from adversity, stress, and challenging life events. It involves maintaining mental health and well-being despite encountering difficulties, and it encompasses qualities such as emotional regulation, problem-solving skills, optimism, and a strong support network (Ungar & Theron, 2020). Resilient individuals can bounce back from setbacks and use their experiences to grow and strengthen their coping strategies for future challenges (Lerner, 2006). Some individuals may not be negatively affected despite the negative situations they have experienced thanks to their psychological resilience. Psychological resilience reduces the negative effects of stressful situations and facilitates the individual's adaptation to life and the conditions around them (Zimmerman & Brenner, 2010). By cultivating resilience, adolescents are better equipped to handle obstacles, maintain their mental health, and achieve long-term success (Twum-Antwi et al., 2020).

CORRESPONDING AUTHOR Yakup IME, imeyakup@gmail.com, ORCID: 0000-0001-6818-8044, Necmettin Erbakan University, Psychological Counseling and Guidance Department, Konya, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

Risk and protective factors for adolescents' psychological resilience have been identified in previous research (Shpiegel, 2016). Several factors maintain or enhance psychological resilience (Ellis et al., 2017). However, adolescents encounter several risk factors that can severely impact their psychological resilience, weakening their ability to cope with life's challenges. Risk factors are generally environmental (economic, war, earthquake), family-based (domestic neglect and abuse), and personal (illnesses, negative life experiences). But, satisfying social relationships, communication skills, and humor are some of the protective factors for adolescents' psychological resilience (Masten, 2015). Moreover, healthy development, healthy living, and the ability to withstand stressors are positive predictors of resilience (Sher, 2019). However; physical abuse, housing problems, and criminal history in the families of adolescents are risk factors for psychological resilience (Shpiegel, 2016). Similarly, bullying victimization can also be considered as a risk factor for resilience. A recent study among adolescents shows a negative correlation between bullying victimization and resilience (Ran et al., 2020).

Bullying refers to the influence, oppression and intimidation of those who are in a superior position or stronger, usually to get their way (Olweus & Limber, 2010) It is the repetitive and painful physical, psychological, social, or verbal attacks of a powerful individual on someone too weak. Bullying among adolescents is generally seen as physical, verbal, and cyber bullying (Olweus et al., 2019). A study investigating the prevalence of bullying in 71 countries shows that approximately 26% of adolescents are involved in bullying, of which 12% are victims, 10.7% are bullies, and 3.6% are both bullies and victims (Hosozawa et al., 2021). Findings from a recent study indicate that, in Türkiye, each adolescent can be both a victim twice and an offender twice throughout their educational experience (Talu & Gümüş, 2022). Bullying victimization through face-to-face or online can bring about various short- and long-term problems for adolescent mental health (Urano et al., 2020). A meta-analysis shows that bullying victimization can cause behavioral and emotional problems, especially internalized problems such as anxiety, depression, and suicidality (Schoeler et al., 2018). Similarly, longitudinal studies indicate that experiences of bullying during adolescence may have negative effects on mental health in adulthood (deLara, 2019). Being bullied is a risk factor for adolescent mental health. However, some adolescents can cope with bullying because of their resilience (Rutter, 2006). Adolescents with higher resilience are better able to cope with bullying by employing adaptive strategies, seeking support, and maintaining a positive outlook. However, persistent bullying can undermine resilience over time, highlighting the need for supportive environments and interventions to bolster resilience and address the root causes of bullying victimization (Shemesh & Heiman, 2021). Rothon et al. (2011) emphasize the importance of investigating the relationship between psychological resilience and bullying victimization. Studies have shown that adolescents who experience bullying often exhibit lower levels of resilience, leading to challenges in emotional regulation and increased negative emotional cognition, ultimately heightening the risk of developing conditions like depression and anxiety (Fang et al., 2022). Therefore, it is important how adolescents who are exposed to bullying can recover despite their negative experiences.

Loneliness, similar to bullying victimization, can have a significant negative impact on adolescents' healthy development and psychological resilience. Loneliness is related to many mental problems during adolescence when social relationships are important for the healthy development of adolescents (Cooper et al., 2021). Loneliness is defined as the physical absence of a friend, sadness caused by being alone, or lack of friends (Laursen & Hartl, 2013). Loneliness usually refers to an unpleasant feeling that arises when one's network of social relationships is quantitatively or qualitatively insufficient in a significant way. Loneliness, which is associated with mental health problems during adolescence, is also associated with symptoms of stress and depression in later life (Holt-Lunstad et al., 2015). Adolescents may experience great fluctuations in their social relationships as they move away from their parents, with peer relationships gaining importance. Therefore, adolescents are more at risk of experiencing loneliness (von Soest et al., 2020). Loneliness in adolescents is a risk factor for depression, stress symptoms, and social anxiety (Goosby et al., 2013). Moreover, loneliness is positively associated with shyness, low self-esteem, and poor social skills (Tian et al., 2021). In addition, a long period of loneliness during adolescence is a risk factor for adolescent mental health (Loades et al., 2020). Psychological resilience plays a crucial role in how adolescents handle loneliness, as it equips them with the skills to cope with isolation and seek out meaningful connections. When adolescents are resilient, they are better able to overcome the negative impact of loneliness by actively pursuing social support and maintaining a hopeful outlook. However, without adequate social support, even the most resilient individuals may struggle,

as loneliness can erode self-esteem and emotional well-being (Lin et al., 2023). Considering the negative consequences of loneliness on adolescents, it is important to conduct studies that require a more comprehensive understanding of the factors related to loneliness. As with bullying victimization, addressing and mitigating loneliness is vital for promoting the mental well-being and resilience of adolescents.

Present Study

Research shows that bullying victimization causes isolation and increases loneliness (Seher & Küçük, 2022). Research has demonstrated a positive relationship between loneliness and bullying victimization among adolescents, suggesting that those who experience frequent bullying are more likely to report higher levels of loneliness (Talan et al., 2021). Therefore, it can be said that adolescents who are exposed to bullying have higher loneliness levels. In addition, considering that loneliness affects adolescents socially, it can be thought that loneliness levels will negatively predict their psychological resilience.

The study on predicting bullying victimization and loneliness in relation to psychological resilience in adolescents is crucial for several reasons. By identifying the predictors of resilience, this research can inform the development of targeted interventions and preventive strategies to support at-risk youths. Furthermore, the study could reveal nuanced interactions between these factors, offering a comprehensive view of how bullying and loneliness influence overall well-being. The findings may contribute significantly to creating more effective school programs, counseling approaches, and community resources aimed at enhancing resilience and reducing the adverse effects of bullying and loneliness. Ultimately, this research has the potential to foster healthier developmental environments and promote emotional stability among adolescents. In this context, it is of great importance to examine the concept of bullying victimization to protect and maintain the psychological resilience of adolescents. The current study will allow for a better understanding of prevention strategies to minimize the effects of bullying victimization. Therefore, the current study aims to analyze the predictive role of bullying victimization and loneliness on psychological resilience.

Methodology

Participants

The participants of the study consisted of 639 adolescents, 415 girls (64.9%) and 224 boys (35.1%), attending different high schools. The ages of the adolescents ranged from 15 to 18 (Mean=16.34, $SD=.85$). The research received ethical approval from the Social and Human Sciences Ethics Committee at Necmettin Erbakan University (Board Number: 2023/486). Informed consent provided information about the purpose of the study and assured parents that their children's participation in the study was voluntary.

Measurements

Adolescent Psychological Resilience Scale. Bulut et al. (2013) developed the scale to determine the psychological resilience levels of adolescents. The scale, which consists of 6 sub-dimensions: family support, peer support, school support, adaptation, perseverance to struggle, and empathy, has a total of 29 items and a 4-point Likert structure. In the construct validity study, it was found that the item factor loadings ranged between .59 and .81. Bulut et al. (2013) calculated the Cronbach's alpha value .81. Similarly, the Cronbach alpha value of the scale was found to be adequate in this study ($\alpha = .82$)

Multidimensional Bullying Victimization Scale. Harbin et al. (2019) developed the scale to determine bullying victimization in adolescent samples was adapted into Turkish by İme et al. (2020). The 24-item scale consists of 3 sub-dimensions: direct, indirect, and evaluative victimization. The bullying victimization experienced by the adolescent is determined by the average score on the scale. High scores indicate a high level of bullying victimization. The construct validity analysis demonstrated that the fit indices of the scale were satisfactory. Additionally, the Cronbach's alpha value for the scale was found to be adequate in this study ($\alpha = .87$).

Short Form of UCLA Loneliness Scale. Russell et al. (1980) initially developed the scale, which was later adapted into Turkish by Yıldız and Duy (2014). This unidimensional scale comprises 7 items and utilizes a 4-point Likert scale. The psychometric evaluation of the scale indicates that it is a valid and reliable measurement

instrument. In the adaptation study, Cronbach's alpha reliability coefficient was reported as .74, while the current study found the reliability coefficient to be adequate at $\alpha = .82$.

Data Analysis

The present study examined the relationships between bullying victimization, loneliness, and psychological resilience. Initially, means, standard deviations, and interrelationships among the variables were computed. Subsequently, hierarchical multiple regression analysis was employed to assess the predictive contributions of bullying victimization and loneliness to psychological resilience. Before starting the analysis, VIF and IF values were calculated and found as 1.02-1.21 and 0.63-0.97 respectively. Durbin Watson's coefficient value was also calculated and found to be 1.92. Therefore, it was determined that there is no multicollinearity and residual problem in line with the recommendations of Field (2013).

Results

Descriptive Statistics

The relationships between the variables, descriptive statistics, and reliability coefficients of the scales used are given in Table 1.

Table 1. Correlations between variables and descriptive statistics

Variables	Mean	Ss	α	1	2	3
1. Bullying Victimization	.24	.52	.87	-	-.35**	.58**
2. Psychological Resilience	3.27	.50	.82		-	-.64**
3. Loneliness	1.57	.77	.82			-

** $p < .001$

A significant negative relationship was found between bullying victimization and psychological resilience ($r = -.35$, $p < .001$). On the other hand, a significant positive relationship was found between bullying victimization and loneliness ($r = .58$, $p < .001$). Finally, a significant negative correlation was found between psychological resilience and loneliness ($r = -.64$, $p < .001$).

Regression Analysis

In the regression analysis, a hierarchical multiple regression approach was used to predict psychological resilience. The study variables were incorporated into the model in three stages: initially, gender and age were included, followed by the variables for bullying victimization and loneliness. The results for each variable within the model are detailed in Table 2.

Table 2. Hierarchical regression analysis results predicting Psychological Resilience level

Variable	Model 1				Model 2				Model 3			
	B	Ss	β	t	B	Ss	β	t	B	Ss	β	t
Age	.14	.02	.24	6.17**	.15	.02	.26	7.16**	.09	.01	.16	5.24**
Gender	-.02	.04	-.02	-.65	.01	.03	.01	.43	.14	.03	.13	4.33**
B.Victi.					-.36	.03	-.36	-10.21**	.00	.03	.00	.13
Loneliness									-.43	.02	-.65	-17.20**
R ²	.06				.19				.25			
Adj R ²	.06				.19				.25			
Ss	.49				.45				.37			
F (dfn,dfd)	21.48 _(2,636)				51.44 _(3,635)				130.55 _(4,634)			

Note. ** $p < .001$, B.Victi: Bullying victimization.

The analysis revealed that bullying victimization and loneliness accounted for 64% of the variance in psychological resilience, with the model being statistically significant ($p < .001$). After controlling for age and gender variables, bullying victimization was first included in the model and was found to explain 19% of the variance in predicting psychological resilience ($R^2 = .19$, Adj. $R^2 = .19$). Then, loneliness, which explained 26% of the variance, was entered into the model in the third step ($\Delta R^2 = .256$). As a result, bullying victimization ($\beta = -.36$, $p < .001$) and loneliness ($\beta = -.65$, $p < .001$) were found to be significant negative predictors of psychological resilience.

Discussion

This study seeks to investigate the predictive associations between bullying victimization, loneliness, and psychological resilience in adolescents. The findings indicate that both bullying victimization and loneliness are significant negative predictors of adolescents' psychological resilience.

The primary finding of the study shows that bullying victimization is a significant negative predictor of psychological resilience in adolescents. Bullying victimization in adolescents significantly undermines their psychological resilience by exacerbating stress and emotional turmoil. When adolescents are subjected to bullying, they often experience a profound sense of helplessness, anxiety, and diminished self-esteem, all of which can impair their ability to effectively cope with challenges (Lin et al., 2022). The current finding suggests that adolescents with high psychological resilience may be less likely to be exposed to bullying. For example, Donnon (2010) found that adolescents with high psychological resilience were less likely to engage in aggressive behavior or be bullied. Similarly, Zhou et al. (2017) stated that bullying victimization is associated with depression in children and may be a risk factor for psychological resilience. In a study conducted with adolescents, Vllora et al. (2020) found that adolescents with high levels of bullying victimization had low levels of subjective well-being and psychological resilience. Similarly, Güçlü and Çam (2022) conducted a study with high school students and found that those who were exposed to cyberbullying had lower levels of psychological resilience than those who were not. As a result, exposure to bullying may be a risk factor for adolescents' psychological resilience. In other words, the psychological resilience levels of adolescents exposed to bullying may decrease.

Secondly, loneliness is a negative predictor of psychological resilience in adolescents. Loneliness in adolescents poses a significant risk to their psychological resilience, as it can deeply affect their emotional well-being and coping abilities. When adolescents experience prolonged periods of isolation or a lack of meaningful social connections, they may struggle with feelings of inadequacy, depression, and anxiety, which can undermine their ability to effectively manage stress and challenges (Schwartz-Mette et al., 2020). In support of the research findings, Han et al. (2021) stated that adolescents exposed to bullying experience higher levels of loneliness and that there is a negative relationship between loneliness and psychological resilience. Loneliness is often strongly linked to psychosocial risk factors such as psychiatric problems, depressive symptoms, suicidal thoughts, social anxiety, alcohol dependence, aggressive behaviors, and impulsivity, and may be associated with low psychological resilience (Cacioppo et al., 2015). Margalit (2010) emphasizes the importance of social relationships in the healthy development of adolescents and states that loneliness may be a risk factor for adolescents' psychological resilience. Jakobsen et al. (2020) found a negative correlation between loneliness and psychological resilience in their study. The results of the current study support these earlier findings, indicating that loneliness could be a significant risk factor influencing adolescents' psychological resilience.

Conclusion

The findings from this study reveal a significant relationship between bullying victimization, loneliness, and psychological resilience among adolescents. The negative predictive relationship indicates that higher levels of bullying victimization and loneliness are associated with lower levels of psychological resilience. This underscores the profound impact that social adversity and isolation can have on an adolescent's ability to cope with stress and maintain mental well-being. Such insights are crucial, as they highlight the need for targeted interventions that address both the immediate and underlying factors contributing to diminished resilience in this vulnerable population.

The significance of these findings lies in their potential to inform and enhance strategies aimed at bolstering adolescent resilience. By acknowledging the detrimental effects of bullying and loneliness, educators, counselors, and policymakers can develop more effective support systems and programs tailored to mitigate these risks. Interventions that focus on reducing bullying, fostering social connections, and promoting emotional support can be instrumental in improving resilience among adolescents. Additionally, these findings pave the way for future research to explore specific mechanisms through which bullying and loneliness impact

resilience, ultimately contributing to more nuanced and effective approaches to adolescent mental health and well-being.

Limitations and Suggestions

The current study can be evaluated with some limitations along with important results. Since the current study employs a cross-sectional design, it is not possible to establish a direct cause-and-effect relationship between the variables. To address this limitation, future research could benefit from longitudinal or experimental studies. Additionally, the data were gathered through self-reports from participants, which may introduce potential biases or inaccuracies in the findings. It should be taken into consideration that this may cause biased evaluations. Another limitation is that the convenience sampling method was used to collect data from adolescents attending public high schools where students from lower socio-economic levels are concentrated. This may limit the generalizability of the research findings. In this sense, it is recommended that similar studies be conducted in different samples in future studies.

Despite these limitations, this study holds significant implications. It suggests that interventions aimed at mitigating the negative effects of bullying victimization should focus on enhancing adolescents' psychological resilience and awareness. For instance, educators and parents can prioritize helping adolescents strengthen their resilience to better manage bullying victimization. Fostering positive life experiences, minimizing negative life events, encouraging positive emotions, and teaching effective coping strategies can all contribute to improving adolescents' resilience. Adolescence is a period of development that can involve high risk in personality and emotions. However, the development of social communication skills and satisfying social relationships may prevent adolescents from loneliness and may be protective factors for their mental health. Likewise, implementing preventive and remedial psychological counseling interventions designed to reduce bullying victimization among adolescents could enhance their psychological resilience.

Funding Disclosure: This study was not funded by any institution or organization.

Conflicts of Interest: The author declares that there is no conflict of interest

Data Availability: The data used in the study can be requested from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate: Ethical approval for the research was obtained from Necmettin Erbakan University Social and Human Sciences Ethics Committee (Board Number: 2023/486).

References

- Bulut, S., Dogan, U., & Altundag, Y. (2013). Adolescent psychological resilience scale: Validity and reliability study. *Suvremena Psihologija*, *16*(1), 31-31.
- Cacioppo, S., Grippo, A. J., London, S., Goossens, L., & Cacioppo, J. T. (2015). Loneliness: Clinical import and interventions. *Perspectives on Psychological Science*, *10*(2), 238-249. <https://doi.org/10.1177/1745691615570616>
- Cairns, K. E., Yap, M. B. H., Pilkington, P. D., & Jorm, A. F. (2014). Risk and protective factors for depression that adolescents can modify: a systematic review and meta-analysis of longitudinal studies. *Journal of Affective Disorders*, *169*, 61-75. <https://doi.org/10.1016/j.jad.2014.08.006>
- Cooper, K., Hards, E., Moltrecht, B., Reynolds, S., Shum, A., McElroy, E., & Loades, M. (2021). Loneliness, social relationships, and mental health in adolescents during the COVID-19 pandemic. *Journal of Affective Disorders*, *289*, 98-104. <https://doi.org/10.1016/j.jad.2021.04.016>
- deLara, E. W. (2019). Consequences of childhood bullying on mental health and relationships for young adults. *Journal of Child and Family Studies*, *28*, 2379-2389. <https://doi.org/10.1007/10826-018-1197-y>
- Donnon, T. (2010). Understanding how resiliency development influences adolescent bullying and victimization. *Canadian Journal of School Psychology*, *25*(1), 101-113. <https://doi.org/10.1177/0829573509345481>

- Ellis, B. J., Bianchi, J., Griskevicius, V., & Frankenhuis, W. E. (2017). Beyond risk and protective factors: An adaptation-based approach to resilience. *Perspectives on Psychological Science, 12*(4), 561-587. <https://doi.org/10.1177/1745691617693054>
- Fang, D., Lu, J., Che, Y., Ran, H., Peng, J., Chen, L., ... & Xiao, Y. (2022). School bullying victimization-associated anxiety in Chinese children and adolescents: the mediation of resilience. *Child and Adolescent Psychiatry and Mental Health, 16*(1), 52. <https://doi.org/10.1186/s13034-022-00490-x>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Goosby, B. J., Bellatorre, A., Walsemann, K. M., & Cheadle, J. E. (2013). Adolescent loneliness and health in early adulthood. *Sociological Inquiry, 83*(4), 505-536. <https://doi.org/10.1111/soin.12018>
- Güçlü, G., & Çam, S. (2022). Investigation of resilience in according to exposure to cyberbullying in adolescents. *Cukurova University Faculty of Education Journal, 51*(3), 1584-1609. <https://doi.org/10.14812/cufej.1058071>
- Han, Z., Wang, Z., & Li, Y. (2021). Cyberbullying involvement, resilient coping, and loneliness of adolescents during Covid-19 in rural China. *Frontiers in Psychology, 12*, 664612. <https://doi.org/10.3389/fpsyg.2021.664612>
- Harbin, S. M., Kelley, M. L., Piscitello, J., & Walker, S. J. (2019). Multidimensional bullying victimization scale: Development and validation. *Journal of School Violence, 18*(1), 146-161. <https://doi.org/10.1080/15388220.2017.1423491>
- Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspectives on Psychological Science, 10*(2), 227-237. <https://doi.org/10.1177/1745691614568352>
- Hosozawa, M., Bann, D., Fink, E., Elsdén, E., Baba, S., Iso, H., & Patalay, P. (2021). Bullying victimisation in adolescence: prevalence and inequalities by gender, socioeconomic status and academic performance across 71 countries. *EClinical Medicine, 41*. <https://doi.org/10.1016/j.eclinm.2021.101142>
- İme, Y., Çınar, S. E., Keskinoglu, M. Ş., & Kütük, H. (2020). Çok boyutlu zorbalık mağduriyeti ölçeğinin Türkçeye uyarlanması: Geçerlik ve güvenilirlik çalışması. *e-Kafkas Journal of Educational Research, 7*(2), 137-152. <https://doi.org/10.30900/kafkasegt.732493>
- Jakobsen, I. S., Madsen, L. M. R., Mau, M., Hjemdal, O., & Friberg, O. (2020). The relationship between resilience and loneliness elucidated by a Danish version of the resilience scale for adults. *BMC psychology, 8*(1), 1-10. <https://doi.org/10.1186/s40359-020-00493-3>
- Laursen, B., & Hartl, A. C. (2013). Understanding loneliness during adolescence: Developmental changes that increase the risk of perceived social isolation. *Journal of Adolescence, 36*(6), 1261-1268. <https://doi.org/10.1016/j.adolescence.2013.06.003>
- Lerner, R. M. (2006). Resilience as an attribute of the developmental system: Comments on the papers of Professors Masten & Wachs. *Annals of the New York Academy of Sciences, 1094*(1), 40-51. <https://doi.org/10.1196/annals.1376.005>
- Lin, L. Y., Chien, Y. N., Chen, Y. H., Wu, C. Y., & Chiou, H. Y. (2022). Bullying experiences, depression, and the moderating role of resilience among adolescents. *Frontiers in Public Health, 10*, 872100. <https://doi.org/10.3389/fpubh.2022.872100>
- Lin, S., Yuan, Z., Niu, G., Fan, C., & Hao, X. (2023). Family matters more than friends on problematic social media use among adolescents: mediating roles of resilience and loneliness. *International Journal of Mental Health and Addiction, 1-19*. <https://doi.org/10.1007/s11469-023-01026-w>
- Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., ... & Crawley, E. (2020). Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry, 59*(11), 1218-1239. <https://doi.org/10.1016/j.jaac.2020.05.009>
- Margalit, M. (2010). *Lonely children and adolescents: Self-perceptions, social exclusion, and hope*. Springer.

- Masten, A. S. (2015). *Ordinary magic: Resilience in development*. Guilford Publications.
- Olweus, D., & Limber, S. P. (2010). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry*, 80(1), 124–134. <https://doi.org/10.1111/j.1939-0025.2010.01015.x>
- Olweus, D., Limber, S. P., & Breivik, K. (2019). Addressing specific forms of bullying: A large-scale evaluation of the Olweus bullying prevention program. *International Journal of Bullying Prevention*, 1, 70-84. <https://doi.org/10.1007/s42380-019-00009-7>
- Ostaszewski, K. (2020). The importance of resilience in adolescent mental health promotion and risk behaviour prevention. *International Journal of Public Health*, 65, 1221-1222. <https://doi.org/10.1007/s00038-020-01508-x>
- Ran, H., Cai, L., He, X., Jiang, L., Wang, T., Yang, R., ... & Xiao, Y. (2020). Resilience mediates the association between school bullying victimization and self-harm in Chinese adolescents. *Journal of Affective Disorders*, 277, 115-120. <https://doi.org/10.1016/j.jad.2020.07.136>
- Rothson, C., Head, J., Klineberg, E., & Stansfeld, S. (2011). Can social support protect bullied adolescents from adverse outcomes? A prospective study on the effects of bullying on the educational achievement and mental health of adolescents at secondary schools in East London. *Journal of Adolescence*, 34(3), 579-588. <https://doi.org/10.1016/j.adolescence.2010.02.007>
- Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, 39(3), 472-480. <https://doi.org/10.1037/0022-3514.39.3.472>.
- Rutter, M. (2006). Implications of resilience concepts for scientific understanding. *Annals of the New York Academy of Sciences*, 1094(1), 1-12. <https://doi.org/10.1196/annals.1376.002>
- Schoeler, T., Duncan, L., Cecil, C. M., Ploubidis, G. B., & Pingault, J.-B. (2018). Quasi-experimental evidence on short- and long-term consequences of bullying victimization: A meta-analysis. *Psychological Bulletin*, 144(12), 1229–1246. <https://doi.org/10.1037/bul0000171>
- Schwartz-Mette, R. A., Shankman, J., Dueweke, A. R., Borowski, S., & Rose, A. J. (2020). Relations of friendship experiences with depressive symptoms and loneliness in childhood and adolescence: A meta-analytic review. *Psychological Bulletin*, 146(8), 664–700. <https://doi.org/10.1037/bul0000239>
- Seher, A., & Küçük, S. (2022). Adölesanlarda Sosyal Medya Kullanımı, Siber Zorbalık, Yalnızlık İlişkisi ve Hemşirelik. *Türkiye Sağlık Bilimleri ve Araştırmaları Dergisi*, 5(2), 34-44.
- Shemesh, D. O., & Heiman, T. (2021). Resilience and self-concept as mediating factors in the relationship between bullying victimization and sense of well-being among adolescents. *International Journal of Adolescence and Youth*, 26(1), 158-171. <https://doi.org/10.1080/02673843.2021.1899946>
- Sher, L. (2019). Resilience as a focus of suicide research and prevention. *Acta Psychiatrica Scandinavica*, 140(2), 169-180. <https://doi.org/10.1111/acps.13059>
- Shpiegel, S. (2016). Resilience among older adolescents in foster care: The impact of risk and protective factors. *International Journal of Mental Health and Addiction*, 14, 6-22. <https://doi.org/10.1007/s11469-015-9573-y>
- Talan, M. İ., Bostan, G., & Öztürk, Y. (2021). Lise öğrencilerinin siber zorbalık ve siber mağduriyet durumları ile yalnızlık algıları arasındaki ilişkinin incelenmesi. *Eğitim ve Toplum Araştırmaları Dergisi*, 8(2), 378-398. <https://doi.org/10.51725/etad.905167>
- Talu, E., & Gümüş, G. (2022). Türkiye’de akran zorbalığının ergenler arasında yaygınlığının incelenmesi: bir meta analiz çalışması. *Trakya Eğitim Dergisi*, 12(3), 1673-1682. <https://doi.org/10.24315/tred.1030602>
- Tian, Y., Qin, N., Cao, S., & Gao, F. (2021). Reciprocal associations between shyness, self-esteem, loneliness, depression, and Internet addiction in Chinese adolescents. *Addiction Research & Theory*, 29(2), 98-110. <https://doi.org/10.1080/16066359.2020.1755657>

- Twum-Antwi, A., Jefferies, P., & Ungar, M. (2020). Promoting child and youth resilience by strengthening home and school environments: A literature review. *International Journal of School & Educational Psychology*, 8(2), 78-89. <https://doi.org/10.1080/21683603.2019.1660284>
- Ungar, M., & Theron, L. (2020). Resilience and mental health: How multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441-448. [https://doi.org/10.1016/S2215-0366\(19\)30434-1](https://doi.org/10.1016/S2215-0366(19)30434-1)
- Urano, Y., Takizawa, R., Ohka, M., Yamasaki, H., & Shimoyama, H. (2020). Cyber bullying victimization and adolescent mental health: The differential moderating effects of intrapersonal and interpersonal emotional competence. *Journal of Adolescence*, 80, 182-191. <https://doi.org/10.1016/j.adolescence.2020.02.009>
- Víllora, B., Larrañaga, E., Yubero, S., Alfaro, A., & Navarro, R. (2020). Relations among poly-bullying victimization, subjective well-being and resilience in a sample of late adolescents. *International Journal of Environmental Research and Public Health*, 17(2), 590. <https://doi.org/10.3390/ijerph17020590>
- Viru, A., Loko, J., Harro, M., Volver, A., Laaneots, L., & Viru, M. (1999). Critical periods in the development of performance capacity during childhood and adolescence. *European Journal of Physical Education*, 4(1), 75-119. <https://doi.org/10.1080/1740898990040106>
- von Soest, T., Luhmann, M., & Gerstorf, D. (2020). The development of loneliness through adolescence and young adulthood: Its nature, correlates, and midlife outcomes. *Developmental Psychology*, 56(10), 1919–1934. <https://doi.org/10.1037/dev0001102>
- Yıldız, M. A., & Duy, B. (2014). Adaptation of the short form of the UCLA loneliness scale (ULS8) to Turkish for the adolescents. *Düşünen Adam The Journal of Psychiatry and Neurological Sciences*, 27(3), 194-203. <https://dx.doi.org/10.5350/dajpn2014270302>.
- Zimmerman, M. A., & Brenner, A. B. (2010). Resilience in adolescence: Overcoming neighborhood disadvantage. In J. W. Reich, A. J. Zautra, & J. S. Hall (Eds.), *Handbook of adult resilience* (pp. 283–308). The Guilford Press.
- Zhou, Z. K., Liu, Q. Q., Niu, G. F., Sun, X. J., & Fan, C. Y. (2017). Bullying victimization and depression in Chinese children: A moderated mediation model of resilience and mindfulness. *Personality and Individual Differences*, 104, 137-142. <https://doi.org/10.1016/j.paid.2016.07.040>



RESEARCH ARTICLE

Psychometric Properties of the Three Dimensional Meaning in Life Scale (3DM) among Turkish-Speaking Adults

Mustafa SUBAŞI^a 

^a National Research University Higher School of Economics, Moscow, Russia

ARTICLE HISTORY

Received: 24.12.2023

Accepted: 25.02.2024

KEYWORDS

Meaning in Life,
Coherence, Purpose,
Significance, Well-Being

ABSTRACT

Previous research supports the tripartite framework of meaning in life (MiL). The Three Dimensional Meaning in Life Scale (3DM) is a self-report measure drawing upon the tripartite framework, comprising of coherence, purpose, and significance. The primary goal of the present research is to evaluate the psychometric properties of the Turkish version of the 3DM, and to assess how 3DM and its subscales relate to mental health and psychopathology indicators in a Turkish-speaking adult sample. The study employs a sample of 702 participants of which 540 are female. The methods employed include confirmatory factor analysis, measurement invariance analyses, Pearson's correlation tests, reliability analyses, regression analyses, and independent samples t-tests. The 11-item, three-factor structure of the 3DM was verified to be replicated in the Turkish version by the first-order confirmatory factor analysis: [$\chi^2 = 181$, $df = 40$, $p < .001$], CFI = .98, TLI = .97, RMSEA = .071, 90% CI [.060, .081], SRMR = .03. Internal consistency coefficients of the subscales and the 3DM total demonstrated strong reliability with strong item-total correlations. The correlation coefficients of the 3DM supported concurrent and divergent validity. Additionally, the 3DM predicted well-being and psychopathology indicators. Measurement invariance analyses of the subscales revealed that coherence, purpose, and significance scales were consistent and equivalent across gender. According to the findings, the Turkish version of the 3DM is a valid and reliable scale when administered among adult Turkish-speaking individuals.

Meaning in life (MiL) can be defined as an amalgam of the presence of valued goals, the feeling of coherence both phenomenologically and socially, feeling personal significance, intrinsic involvement in activities, and the pursuit of excellence. It plays a crucial role in well-being (Ryff, 1989), personal growth, and mental health (King & Hicks, 2021), and is one of the most significant human motives (Heintzelman & King, 2014). Well-being can be divided into two types: hedonic well-being and eudaemonic well-being (Bulut & Subasi, 2020). Huta and Ryan (2010) point out that there is a consensus among researchers that MiL holds an immense significance in eudaemonic well-being.

MiL has previously been studied using both unidimensional and multidimensional approaches. Unidimensional approaches such as Purpose in Life Scale (Ryff, 1989) measured MiL as a single construct. Multidimensional

CORRESPONDING AUTHOR Mustafa SUBAŞI, mustafa.subasim@gmail.com, ORCID: 0000-0003-4170-6280, National Research University Higher School of Economics, School of Psychology & International Laboratory of Positive Psychology of Personality and Motivation, Moscow, Russia.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

approaches such as Three-Dimensional Meaning in Life (3DM) (Martela & Steger, 2023) and Multidimensional Existential Meaning Scale (MEMS) (George & Park, 2017), on the other hand, evaluated MiL as a multidimensional construct. Nonetheless, there is mounting evidence to suggest that the conclusions drawn from unidimensional models lack consistency (Davies et al., 2014) and specificity (George & Park, 2017). Steger, Oishi, and Kashdan (2009) also criticize MiL scales of being non-replicable and discriminatory. Despite these objections, researchers concur on the multidimensional structure of MiL, in spite of the fact that the MiL construct is challenging to be conceptualized for a variety of reasons (e.g., “methodological”) (Leontiev, 2013).

The tripartite framework of MiL as a multidimensional approach has been gaining particular attention in recent times. In terms of this framework, two approaches have been proposed. George and Park (2016, 2017) suggested a tripartite view including comprehension, purpose, and mattering as the primary sources of MiL measured through the MEMS. Similarly, Martela and Steger (2016, 2023) developed a tripartite model encompassing coherence, purpose, and significance measured through the 3DM. The main point of distinction in these models appears to be between significance and mattering while other dimensions are somewhat equivalent. While the MEMS focuses on personal significance in the mattering dimension by the items evaluated based on the position of human beings in the universe and cosmic timescale, the 3DM highlights a personal judgment and sense of value towards one’s life.

Based on previous studies, the 3DM conceptualizes MiL as consisting of coherence, purpose, and significance as its key dimensions. According to the 3DM model of MiL, coherence, purpose, and significance are distinguished but interconnected, flexibly facilitating researchers to utilize a better understanding of the concept (Martela & Steger, 2016). They represent affective, motivational, and cognitive components of MiL (Reker & Wong, 2012). Coherence, purpose, and significance are in order of cognitive, motivational, and affective elements of MiL (Martela & Steger, 2016).

Coherence, which is the first dimension, refers to the perceived feeling of coherence and of comprehension in one’s life (Wong, 1998). According to George and Park (2016), greater levels of coherence enable people to regulate themselves and their lives harmoniously, feel that their life makes sense, and understand what goes on around them. However, lower levels of coherence, makes it difficult for people to direct themselves and makes them inclined to evaluate life experiences as fragmented and incoherent. Coherence depends on predictable stimuli and understandable patterns in one’s life (Martela & Steger, 2016) and is closely associated with meaning-making processes (e.g., global meaning, situational meaning) and beliefs (Park, 2010, 2016). According to studies on meaning-making, it is positively associated with psychological growth (Graci & Fivush, 2017), lower levels of stress (Updegraff et al., 2008), and post-disaster stability in the lives of survivors (Subasi & Bulut, 2023). To summarize, people with coherence are able to make better sense of themselves, their lives, and the world around them.

The second dimension, purpose, relates to personal goals and values and whether or not people regulate themselves to achieve them (Emmons, 1986; McKnight & Kashdan, 2009). Greater levels of purpose drives people to committedly strive to attain their values and goals as they feel regulated and motivated. However, those with lower levels of purpose may not regulate themselves towards personal goals and values, and may not have a sense of knowing “what to do?” (George & Park, 2016; Martela & Steger, 2016). Previous research has demonstrated that having a clear vision, a purpose, and pursuing personal valued goals lead to the fulfilment of basic psychological needs, further resulting in positive changes in subjective well-being (Sheldon & Elliot, 1999). Purpose is positively associated with well-being outcomes (Steger, 2012), reduced mortality risk (Cohen et al., 2016), and longevity (Hill & Turiano, 2014) while it negatively relates to hopelessness (Marco et al., 2020), depression, and anxiety (Boreham & Schutte, 2023).

The third dimension, significance, focuses on one’s belief that their life is significant, valuable, and of importance. Significance refers to the subjective perception of the worth of one’s own life. It is the experience of a life worth living from a subjective point of view (Martela & Steger, 2016). While previous research looked at relevant constructs, more current studies have started to examine the role of significance in MiL. Significance has been found to be positively related to the presence of meaning, life satisfaction, positive

affect, self-esteem, basic psychological needs, authenticity, calling, and vitality while being negatively associated with negative affect, depression, stress, and self-alienation (Martela & Steger, 2023).

The tripartite model of MiL provides a new theory-driven model that is supported by several studies. It suggests a novel approach, meeting the need for a multidimensional measure of MiL by resolving conceptual ambiguities. This model primarily relates to eudaemonic well-being and positive psychology research. Several studies have examined the tripartite model of MiL. George and Park (2017) developed the MEMS (15 items; each of subscales includes 5 items), and confirmed its three-factor structure (comprehension, purpose, and mattering). Valdivia and Li (2022) provided further support for the MEMS through an item-response theory approach. Gerymski and Krok (2020) eliminated two items from each subscale in Polish, in order to corroborate the original three-factor structure of MEMS. Marco et al. (2022) completely replicated the MEMS subscales in a non-clinical Spanish-speaking sample. Subasi et al. (2024a), and Subasi et al. (2024b) also validated the MEMS in a non-Western context by replicating its three-factor model in Turkish adults and Turkish undergraduate and postgraduate students with no exclusions.

Martela and Steger (2023) developed the 3DM (11 items; coherence, 4 items; purpose, 4 items; significance, 3 items) and confirmed its three-factor structure. They found that the 3DM subscales had significant positive associations with the presence of meaning, the subscales of the MEMS, purpose in life, life satisfaction, positive affect, self-esteem, authenticity, autonomy, competence, relatedness, beneficence, sacrifice, vitality, calling, behavioral activation, valued life, greater good, belonging, belief in afterlife, and reasons to live. They also demonstrated that the 3DM subscales had significant negative associations with depression, stress, negative affect, self-alienation, and self-clarity. In the first non-English adaptation study, Beyer (2023) replicated the original three-factor model of the 3DM in German. Similarly, to evaluate the psychometric properties of the 3DM, Subasi et al. (2024c) conducted the first study in a non-Western cultural context with Turkish university students, and replicated the original three-factor model of the 3DM.

While prior research has uncovered the reliability and validity of the 3DM in English, German, and Turkish, ongoing studies provide strong evidence for its tripartite view. However, developmental stages, such as early adulthood, middle adulthood, and late adulthood highlight the pressing need to understand MiL especially among Turkish people. This is because our current perspective, which is based on the tripartite view of the 3DM is lacking, especially when considering the potential contributory outcomes of the 3DM in positive psychology, well-being, and mental health research. This study aims to attain two goals: (1) to evaluate the psychometric properties of the 3DM with regard to Turkish adults, and (2) to explore how the 3DM dimensions are associated with well-being and psychopathology indicators.

Method

Participants

Participants consisted of a total of 702 Turkish-speaking adults with ages ranging between 18 and 61 ($M = 23,61$; $SD = 6,75$). 76.9% of participants were women.¹

Measures

Sociodemographic Questionnaire. The sociodemographic questionnaire included informed consent, nationality, age, and gender.

The Three-Dimensional Meaning in Life Scale (3DM). The Three-Dimensional Meaning in Life Scale (3DM) was developed by Martela and Steger (2023). The Turkish version of the 3DM was formulated by Subasi et al. (2024c). The 3DM measures meaning in life based on coherence (e.g., “Most things happening in my life make sense”), purpose (e.g., “I pursue one or more big purposes in my life”), and significance (e.g., “My personal existence is significant”) subscales. Coherence and purpose have four items while significance has three items rated on a 7-point Likert scale ranging from “1 = Not at all true” to “7 = Very true”. In this study, the subscales displayed good reliability: Coherence ($\alpha = .88$); Purpose ($\alpha = .88$); Significance ($\alpha = .89$).

The Meaning in Life Questionnaire (MLQ). The Meaning in Life Questionnaire (MLQ) was developed by Steger et al. (2006). The Turkish version of the MLQ was adapted by Akın and Taş (2015). The MLQ measures

¹ This study employed the data that was previously collected in another scale study on the multidimensional existential meaning scale by Subasi et al. (2024b). That study does not include the 3DM analyses and hypotheses.

MiL and includes two subscales with regard to Presence of Meaning (PM) and Search for Meaning. Each subscale has five items (e.g. “I understand my life’s meaning” or “I am seeking a purpose or mission for my life”) rated on a 7-point Likert scale ranging from “1 = Absolutely untrue” to “7 = Absolutely true”. This study only measured the PM subscale that revealed adequate internal consistency ($\alpha = .87$).

The Satisfaction with Life Scale (SWLS). The Satisfaction with Life Scale (SWLS) was developed by Diener et al. (1985), the Turkish version of which was implemented by Köker (1991). The SWLS measures life satisfaction through one factor and includes five items (e.g., “I am satisfied with my life”) rated on a 7-point Likert scale ranging from “1 = Strongly disagree” to “7 = Strongly agree”. In this study, the SWLS displayed adequate internal consistency ($\alpha = .87$).

The Scale of Positive and Negative Experience (SPANE). The Scale of Positive and Negative Experience (SPANE) was developed by Diener et al. (2009) and its Turkish version was adapted by Telef (2015). The SPANE assesses negative affect and positive affect of the past month using a total of twelve items rated on a 5-point Likert scale ranging from “1 = Very rarely or never” to “5 = Very often or always”. It has two subscales: Positive Experience (SPANE-P) and Negative Experience (SPANE-N). In this study, the subscales indicated adequate internal consistency: SPANE-P ($\alpha = .78$); SPANE-N ($\alpha = .89$).

The Mental Health Continuum-Short Form (MHC-SF). The Mental Health Continuum-Short Form (MHC-SF) was developed by Keyes et al. (2008). The Turkish version of the MHC-SF was adapted by Demirci and Akin (2015). It measures well-being using a total of fourteen items rated on a 6-point Likert scale ranging from “0 = Never” to “5 = Every day” considering the question stem “During the past month, how often did you feel ...” for each. It has a total score and three subscales: Emotional well-being (EWB) (e.g., “... happy”; 3 items); Social well-being (SOWB) (e.g., “... that you had something important to contribute to society”); Psychological well-being (PWB) (e.g., “... that your life has a sense of direction or meaning to it”). In this study, the MHC-SF and its subscales demonstrated adequate internal consistency: MHC-SF ($\alpha = .92$); EWB ($\alpha = .87$); SOWB ($\alpha = .86$); PWB ($\alpha = .84$).

The Balanced Measure of Psychological Needs Scale (BMPNS). The Balanced Measure of Psychological Needs Scale (BMPNS) was developed by Sheldon and Hilpert (2012) and its Turkish version was adapted by Kardas and Yalcin (2018). The BMPNS evaluates satisfaction and frustration with regard to basic psychological needs (autonomy, competence, and relatedness) using eighteen items. Three subscales measure need satisfactions (e.g., “My choices expressed my “true self.”) while the other three subscales evaluate need frustrations (e.g., “I had a lot of pressures I could do without”) rated on a 7-point Likert scale ranging from “1 = Strongly disagree” to “7 = Strongly agree”. In this study, need satisfaction subscales were measured, and they had adequate internal consistency scores: Autonomy (AU) ($\alpha = .74$); Competence (CO) ($\alpha = .84$); Relatedness (RE) ($\alpha = .82$).

The Depression Anxiety Stress Scale-21 (DASS-21). The Depression Anxiety Stress Scale-21 (DASS-21) was developed by Lovibond and Lovibond (1995). The Turkish version of the scale was adapted by Yildirim et al. (2018). The DASS-21 measures the depression, anxiety, and stress levels in individuals using a total of twenty one items. It has three subscales rated on a 4-point Likert scale ranging from “0 = did not apply to me at all” to “3 = applied to me very much or most of the time”. Higher scores in each subscale correspond to its higher levels. In this study, the subscales of the DASS-21 exhibited adequate internal consistency: Depression ($\alpha = .88$); Anxiety ($\alpha = .85$); Stress ($\alpha = .86$).

Data Collection

The primary criterion to participate in this cross-sectional study was being over 18 years of age. Using a convenience sample, the current study gathered data online through a Google Forms link during the first semester of the 2023-2024 academic year in Türkiye. Informed consent was obtained from 702 people who voluntarily participated in the study.

Data Analysis

Analyses in the current study was performed utilizing Jamovi 2.3.21 and JASP 0.18.1.0. All raw data was evaluated for missing values, outliers, and normality assumptions. There was no missing data. Kline (2015)

maintains that a sample size greater than 200 participants is large for most models. The sample size of this study (702 cases) was large enough to conduct further analyses. The 3DM items were normally distributed considering skewness and kurtosis values as ranging between -1.5 and 1.5 (Tabachnick et al., 2013).

Descriptive statistics, skewness, kurtosis, and reliability of all scales (Cronbach alpha), as well as the descriptive statistics of the 3DM items along with item-rest correlations and an exploratory factor analysis of the 3DM were analyzed. Subsequently, a Confirmatory Factor Analysis (CFA) was performed to assess the structural validity of the 3DM. The 3DM items assumed multivariate normality and maximum likelihood was used as the estimator. As Kline (2015) suggested, the present study included several fit indices: the chi-square, the Comparative Fit Index (CFI) (values higher than .90 demonstrate acceptable fit; values higher than .95 show a good fit), the Tucker–Lewis index (TLI) (should be higher than .90), the (Standardized) Root Mean Square Residual (SRMR) (values lower than .08 show acceptable fit), the Root Mean Square Error of Approximation (RMSEA) (values lower than .08 show acceptable fit) (Byrne, 1994; Fabrigar et al., 1999). Additionally, the concurrent validity of the subscales of the 3DM by correlations with PM, SWLS, SPANE-P, MHC-SF, EWB, SOWB, PWB, AU, CO, RE, and the divergent validity of the subscales by correlations with Depression, Anxiety, Stress, and SPANE-N were analyzed in this study.

Descriptive statistics, Pearson’s correlation tests, and reliability analyses were performed using Jamovi 2.3.21. The confirmatory factor analysis, and configural, metric, scalar, and strict invariance analyses were carried out through JASP 0.18.1.0. using the Lavaan mimic package.

Results

Table 1 and Table 2 demonstrate the statistics for the scales in this study including means, standard deviations (SD), skewness, kurtosis as well as the Cronbach alpha and item-rest correlations.

Table 1. Descriptive Statistics of the Scales

	Coherence	Purpose	Significance	PM	SPANE-P	SPANE-N	SWLS
<i>M</i>	20.03	20.91	16.32	25.88	21.63	16.38	21.71
<i>SD</i>	4.75	4.78	4.29	6.50	4.22	4.13	6.15
<i>S</i>	-0.34	-0.59	-0.89	-0.60	-0.39	0.25	-0.27
<i>K</i>	-0.09	0.09	0.16	-0.06	0.05	-0.16	-0.32
<i>α</i>	.88	.88	.89	.87	.78	.89	.87

Note. *N*: 702. *S*: Skewness; *K*: Kurtosis; PM: Presence of Meaning; SPANE-P: Positive Affect; SPANE-N: Negative Affect; SWLS: Life Satisfaction. Skewness Standard Error was 0.09. Kurtosis Standard Error was 0.18. Cronbach’s alpha was used.

Table 1 demonstrates that coherence, purpose, significance, presence of meaning, positive affect, negative affect, and life satisfaction were normally distributed and showed good reliability.

Table 2. Descriptive Statistics of the Scales

	MHC-SF	EWB	SOWB	PWB	AU	CO	RE	DE	AN	ST
<i>M</i>	57.11	12.97	17.87	26.27	11.44	11.31	13.05	7.82	6.65	9.03
<i>SD</i>	12.57	2.96	5.84	5.63	2.35	2.30	2.10	5.20	5.01	5.09
<i>S</i>	-0.33	-0.62	-0.06	-0.52	-0.55	-0.29	-1.30	0.57	0.70	0.23
<i>K</i>	-0.09	0.30	-0.64	0.09	0.30	-0.11	2.14	-0.45	-0.25	-0.72
<i>α</i>	.92	.87	.86	.84	.74	.84	.82	.88	.86	.86

Note. *N*: 702. *S*: Skewness; *K*: Kurtosis; MHC-SF: Mental Health Continuum-Short Form; EWB: Emotional Well-Being; SOWB: Social Well-Being; PWB: Psychological Well-Being; AU: Autonomy; CO: Competence; RE: Relatedness; DE: Depression; AN: Anxiety; ST: Stress. Skewness Standard Error was 0.09. Kurtosis Standard Error was 0.18. Cronbach’s alpha was used.

Table 2 demonstrated that mental health continuum, emotional well-being, social well-being, psychological well-being, autonomy, competence, relatedness, depression, anxiety, and stress were normally distributed and displayed good reliability.

Table 3. Descriptive Statistics of the 3DM Items

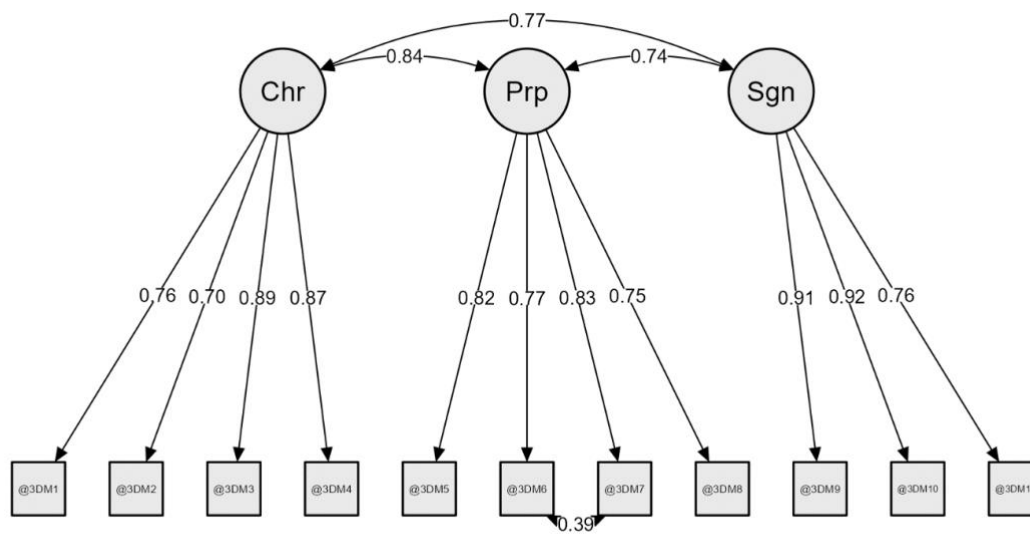
3DM Subscale	Item No	Item	<i>M</i>	<i>SD</i>	<i>S</i>	<i>K</i>	<i>Corrected r item-rest</i>
Coherence	1	Most things happening in my life do make sense / Hayatımda meydana gelen çoğu şey anlamlıdır	5.02	1.44	-0.43	-0.24	.69
	2	By and large, I am able to understand the world around me / Genellikle çevremde olanları anlayabiliyorum	5.18	1.29	-0.55	0.03	.66
	3	I can comprehend what my life is all about / Hayatımın neyle ilgili olduğunu anlayabiliyorum	5.04	1.38	-0.51	-0.09	.83
	4	I can easily make sense of my life / Hayatıma kolayca anlam verebiliyorum	4.79	1.43	-0.32	-0.33	.78
Purpose	5	I pursue one or more big purposes in my life / Hayatımda bir veya birden çok büyük amacı gerçekleştirmeye çalışırım	5.23	1.43	-0.62	-0.14	.74
	6	I am highly committed to certain core goals in my life / Hayatımdaki belli başlı temel amaçlara büyük ölçüde bağlıyım	5.32	1.37	-0.80	0.45	.77
	7	I have a set of core goals that give my life a sense of direction / Hayatıma yön veren bazı temel amaçlarım vardır	5.51	1.33	-0.87	0.45	.80
	8	My daily activities are consistent with a broader life purpose / Günlük aktivitelerim genel yaşam amacım ile uyumludur	4.85	1.44	-0.45	-0.18	.66
Significance	9	My life is full of value / Hayatım değerlidir	5.70	1.51	-1.09	0.48	.82
	10	My personal existence is significant / Kişisel varoluşum önemlidir	5.64	1.51	-1.05	0.47	.84
	11	Every day I experience the sense that life is worth living / Her gün hayatın yaşamaya değer olduğunu duygusunu hissederim	4.98	1.70	-0.55	-0.56	.71

Note. *N* = 702. *M*: Mean; *SD*: Standard Deviation; *S*: Skewness; *K*: Kurtosis. Skewness Standard Error was 0.09. Kurtosis Standard Error was 0.18.

Table 3 demonstrates that all items of the 3DM were normally distributed and assumed multivariate normality. All items of the 3DM subscales ranged from 0.66 to 0.84 and showed that item-rest correlations were higher than .30. This indicates that all item-rest correlations were within an acceptable range and contribute to the overall measurement of the subscales. In addition, an exploratory factor analysis of the 3DM with maximum likelihood extraction and oblimin rotation was conducted. The explained variance value of the coherence subscale was 26.11%. The explained variance value of the purpose subscale was 21.11%. The explained variance value of the significance subscale was 22.14%. The cumulative variance was 69.36%.

Structural Validity of the 3DM

Figure 1. Path Diagram for the CFA of the 3DM Subscales



The CFA of the 3DM subscales demonstrated a perfect fit (Figure 1): [$\chi^2 = 181$, $df = 40$, $p = .00$], CFI = .98, TLI = .97, RMSEA = .07, 90% CI [.06, .08], SRMR = .03. The findings of the Kaiser-Meyer-Olkin (KMO) test ranged between .88 and .97. Bartlett's test of sphericity also revealed that the observed variables were not uncorrelated. These showed the applicability and suitability of the data for factor analysis. All parameters were significant, $p < .05$. All standardized estimates were higher than .50. The model fit the 3DM data, as shown by the fit indices demonstrated. This supported a potential underlying representation of the latent constructs, and the data measured the targeted constructs.

Measurement Invariance Analyses of the 3DM Across Gender Groups

Measurement invariance analyses were conducted using the Lavaan mimic package through JASP. The fit indices are displayed in Table 4.

Table 4. Measurement Invariance Analyses of the 3DM Subscales Across Gender Groups

Invariance	χ^2	df	p	CFI	TLI	RMSEA	SRMR
Configural	242.94	77	< .001	0.97	0.96	0.08	0.03
Metric	255.24	85	< .001	0.97	0.96	0.08	0.04
Scalar	295.01	96	< .001	0.96	0.96	0.08	0.04
Strict	345.05	108	< .001	0.96	0.96	0.08	0.04

Configural Invariance. The configural invariance indices were: [$\chi^2 = 242.94$, $df = 77$, $p < .001$], CFI = .97, TLI = .96, RMSEA = .08, SRMR = .03. The indices indicate that there were no significant differences in the factor structures based on gender. This shows that the same latent constructs were measured using the same observed variables for both females and males.

Metric Invariance. The metric invariance indices were: [$\chi^2 = 255.24$, $df = 85$, $p < .001$], CFI = .97, TLI = .96, RMSEA = .08, SRMR = .04. The indices demonstrate that there were no significant differences in factor loadings based on gender. This shows that the strength of the relationships between latent variables and observed variables is equal for both genders.

Scalar Invariance. The scalar invariance indices were: [$\chi^2 = 295.01$, $df = 96$, $p < .001$], CFI = .96, TLI = .96, RMSEA = .08, SRMR = .04. The indices show that both female and male groups had the same variables and

scale for the latent variables. This illustrates that both groups share the same equivalent metric and scale for the latent constructs.

Strict Invariance. The strict invariance indices were: [$\chi^2 = 345.05$, $df = 108$, $p < .001$], CFI = .96, TLI = .96, RMSEA = .08, SRMR = .04. The indices confirmed that the residual variances of the observed variables were equal between the female and male groups. This level of invariance ensured that not only factor loadings and intercepts but also residual variances were equivalent.

With regard to the measurement invariance analyses, the indices for each type of invariance showed that the 3DM subscales exhibited consistent measurement properties across gender groups. This provided support for the cross-group validity of the subscales.

Concurrent Validity

The 3DM subscales demonstrated significant moderate and large positive correlations with well-being indicators including PM, SWLS, SPANE-P, MHC-SF, EWB, SOWB, PWB, AU, CO, RE (see Table 5). The associations in Table 5 demonstrate the concurrent validity of the 3DM subscales.

Table 5. The Associations of the 3DM Subscales with Meaning in Life and Well-Being Indicators

	Coherence	Purpose	Significance
Presence of Meaning	0.74 ***	0.71 ***	0.73 ***
SPANE-P	0.56 ***	0.52 ***	0.59 ***
SWLS	0.57 ***	0.51 ***	0.54 ***
MHC-SF	0.69 ***	0.62 ***	0.71 ***
EWB	0.59 ***	0.54 ***	0.63 ***
SOWB	0.51 ***	0.42 ***	0.55 ***
PWB	0.69 ***	0.66 ***	0.69 ***
Autonomy	0.42 ***	0.39 ***	0.33 ***
Competence	0.39 ***	0.47 ***	0.32 ***
Relatedness	0.38 ***	0.39 ***	0.41 ***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Pearson's r was used.

Divergent Validity

The 3DM subscales showed low and moderate significant negative correlations with Negative Affect, Depression, Anxiety, and Stress (see Table 6). The associations support the divergent validity of the 3DM subscales.

Table 6. The Associations of the 3DM Subscales with Negative Affect, Depression, Anxiety, and Stress

	Coherence	Purpose	Significance
SPANE-N	-0.40 ***	-0.35 ***	-0.41 ***
Depression	-0.51 ***	-0.45 ***	-0.54 ***
Anxiety	-0.33 ***	-0.28 ***	-0.31 ***
Stress	-0.35 ***	-0.28 ***	-0.36 ***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Pearson's r was used.

The Role of the 3DM Subscales on Well-Being Indicators

The 3DM subscales considerably explained variances in meaning in life, life satisfaction, positive affect, mental health continuum, emotional well-being, social well-being, psychological well-being, autonomy, competence, and relatedness (see Table 7).

Table 7. The Predictive Role of the 3DM Subscales on Well-Being Indicators

Dependent variable	Predictor variable	B standardized	SE	t	R ²
PM	Coherence	1.01	0.03	29.02*	0.55
	Purpose	0.96	0.04	26.50*	0.50
	Significance	1.11	0.04	28.40*	0.54
SWLS	Coherence	0.73	0.04	18.13*	0.32
	Purpose	0.65	0.04	15.53*	0.26
	Significance	0.77	0.05	16.82*	0.29
SPAN-E-P	Coherence	0.50	0.03	17.81*	0.31
	Purpose	0.46	0.03	16.01*	0.27
	Significance	0.58	0.03	19.45*	0.35
MHC-SF	Coherence	1.81	0.07	24.92*	0.47
	Purpose	1.63	0.08	20.77*	0.38
	Significance	2.08	0.08	26.68*	0.50
EWB	Coherence	0.37	0.02	19.56*	0.35
	Purpose	0.34	0.02	17.05*	0.29
	Significance	0.43	0.02	21.27*	0.39
SOWB	Coherence	0.63	0.04	15.69*	0.26
	Purpose	0.51	0.04	12.22*	0.18
	Significance	0.74	0.04	17.21*	0.30
PWB	Coherence	0.82	0.03	25.28*	0.48
	Purpose	0.78	0.03	23.25*	0.44
	Significance	0.91	0.04	25.35*	0.48
Autonomy	Coherence	0.21	0.02	12.13*	0.17
	Purpose	0.19	0.02	11.23*	0.15
	Significance	0.18	0.02	9.40*	0.11
Competence	Coherence	0.19	0.02	11.09*	0.15
	Purpose	0.23	0.02	14.09*	0.22
	Significance	0.17	0.02	8.96*	0.10
Relatedness	Coherence	0.17	0.02	10.77*	0.14
	Purpose	0.17	0.02	11.08*	0.15
	Significance	0.20	0.02	12.05*	0.17

Note. * $p < .001$. SE: Standard Error; t: t-statistic; R²: Coefficient of Determination

The Role of the 3DM Subscales on Psychopathology Indicators

The 3DM subscales notably explain variances in negative affect, depression, anxiety, and stress (see Table 8).

Table 8. The Predictive Role of the 3DM Subscales on Psychopathology Indicators

Dependent variable	Predictor variable	B standardized	SE	t	R ²
SPAN-E-N	Coherence	-0.35	0.03	-11.63*	0.16
	Purpose	-0.30	0.03	-9.85*	0.12
	Significance	-0.40	0.03	-11.91*	0.17
Depression	Coherence	-0.56	0.04	-15.59*	0.26
	Purpose	-0.49	0.04	-13.30*	0.20
	Significance	-0.65	0.04	-16.76*	0.29
Anxiety	Coherence	-0.34	0.04	-9.10*	0.11
	Purpose	-0.29	0.04	-7.71*	0.08
	Significance	-0.37	0.04	-8.75*	0.10
Stress	Coherence	-0.37	0.04	-9.83*	0.12
	Purpose	-0.30	0.04	-7.75*	0.08
	Significance	-0.43	0.04	-10.35*	0.13

Note. * $p < .001$. SE: Standard Error; t: t-statistic; R²: Coefficient of Determination.

Comparing Gender and Age Groups in the 3DM Subscales

Table 9. The 3DM Subscales Across Gender Groups

3DM Subscale	Gender	N	M	SD	Tests	Statistic	p	Effect Size
Coherence	Female	540	20.12	4.56	Mann-Whitney U	42732.00	0.66	0.02
	Male	162	19.76	5.34				
Purpose	Female	540	20.96	4.63	Mann-Whitney U	43367.00	0.87	0.01
	Male	162	20.73	5.25				
Significance	Female	540	16.51	4.11	Mann-Whitney U	40385.00	0.14	0.08
	Male	162	15.71	4.79				

Note: $p < .05$.

None of the 3DM subscales showed any significant differences when compared on the basis of the Mann Whitney U tests in coherence, purpose, and significance considering gender groups: Coherence: $U = 42732.00$, $p > .05$, Rank biserial correlation = .02 (small effect size); Purpose: $U = 43367.00$, $p > .05$, Rank biserial correlation = .01 (small effect size); Significance: $U = 40385.00$, $p > .05$, Rank biserial correlation = .08 (small effect size). These results demonstrate that the 3DM subscales did not differentiate in female and male groups. The effect sizes (rank biserial correlations) were ignorable.

Table 10. The 3DM Subscales Across Age Groups

3DM Subscale	Age Group	N	M	SD	Tests	Statistic	df	p	Effect Size
Coherence	≤ 24	554	19.75	4.68	Student's t	-3.12	700	0.002*	-0.29
	>24	148	21.11	4.88					
Purpose	≤ 24	554	20.66	4.80	Student's t	-2.72	700	0.007*	-0.25
	>24	148	21.85	4.60					
Significance	≤ 24	554	15.95	4.31	Mann-Whitney U	30165.00	-	< .001*	0.26
	>24	148	17.72	3.88					

Note: * $p < .05$

The student's t test for coherence demonstrated a significant difference between age groups ($t = -3.12$, $df = 700$, $p < .05$). The effect size (Cohen's d) was minute with a value of -0.29. The student's t test for purpose also indicated a significant difference between age groups ($t = -2.72$, $df = 700$, $p < .05$). The effect size (Cohen's d) was slight with a value of -0.25. The Mann-Whitney U Test for significance revealed a significant difference between age groups ($U = 30165.00$, $p < .05$, Rank biserial correlation = .26 (small effect size)). The results indicated that participants aged over 24 tended to have higher scores in coherence, purpose, and significance.

Discussion

The findings indicated that the three-factor model of the 3DM has been confirmed in a Turkish-speaking adult sample. The 3DM demonstrated good indices and suitable internal consistency in coherence, purpose, and significance. The measurement invariance analyses of the 3DM based on gender groups showed consistent measurement properties. The findings obtained provide support for the structural, concurrent, and divergent validity of the 3DM subscales. The CFA indices support the structural validity. The significant positive associations of the subscales with presence of meaning, life satisfaction, basic psychological needs' satisfaction, positive affect, mental health continuum, emotional well-being, social well-being, and psychological well-being provide strong evidence for the concurrent validity. The significant negative associations of the subscales with negative affect, depression, anxiety, and stress demonstrate the divergent validity.

The findings support the original three-factor structure of the 3DM, replicating previous findings and showing similarity with the MEMS as well as considerable distinctions. In English and German versions of the 3DM, the original model has been replicated (Beyer, 2023; Martela & Steger, 2023). In the Turkish version of the 3DM, which is the first study to fully replicate the 3DM among adults in a non-Western culture, among university students, the original factor has been confirmed (Subasi et al., 2024c). The present research confirmed the 3DM subscales with no exclusions as in previous research.

The 3DM subscales explained a considerable amount of variance in each of the well-being indicators including presence of meaning, life satisfaction, positive affect, mental health continuum, emotional well-being, social well-being, psychological well-being, autonomy, competence, and relatedness. The 3DM subscales also explained variances in negative affect, depression, anxiety, and stress. They did not differ across gender groups, however, participants aged over 24 were more likely to have higher scores in the subscales than participants aged 24 or less than 24.

As in any research, the current study is not devoid of limitations. Firstly, it is a cross-sectional correlational study, making causal explanations inapplicable. Secondly, the present study utilized a convenience sampling by gathering data online. This may lead to generalizing the current findings to all Turkish adults. Finally, the research did not assess the test-retest reliability of the 3DM. Further research can make use of prospective research designs considering developmental stages and particular populations regarding other MiL constructs. Additional studies can examine the predictive power of the 3DM subscales on well-being, psychopathology, and related constructs in addition to searching for differences among clinical and non-clinical populations as well as their sociodemographic characteristics. Additionally, future research can also investigate psychometric properties of the 3DM in various contexts and can compare the 3DM model with the MEMS model. MiL researchers can particularly focus on the differences of MiL subscales and their relationships in both clinical and healthy populations. Ultimately, research can contribute to positive psychological interventions and meaning-focused interventions by the 3DM.

Conclusion

In conclusion, the 3DM subscales in an adult Turkish-speaking population replicate the original model of the 3DM, displaying good reliability and validity. The 3DM subscales overlap well with the presence of meaning, and have moderate and high positive relationships with well-being constructs, and low and moderate negative relationships with the indicators of psychopathology. The 3DM subscales considerably explain variances in well-being and psychopathology indicators. The results demonstrate that the 3DM in Turkish adults strongly supports a tripartite understanding of MiL in Turkish culture.

Acknowledgements. The author would like to express his thanks and gratitude to the Writing Center at Ibn Haldun University for their efforts in proofreading the manuscript.

Funding Disclosure: This article was prepared within the framework of the HSE University Basic Research Program. The author does not have any financial interests to disclose that can be considered influencing the current study or its results.

Conflicts of Interest: The author declares that there are no conflicts of interest regarding this study.

Data Availability: Available upon request.

Ethics Approval and Consent to Participate: This study was conducted following ethical guidelines and adhered to the principles in the 1963 Helsinki Declaration, including its later amendments. This study has been approved by the Commission for the Ethical Evaluation of Empirical Research Projects of the Department of Psychology of the HSE University (Date: 20/12/2023).

References

- Akın, A., & Taş, I. (2015). Yaşam Anlamı Ölçeği: Geçerlik ve güvenilirlik çalışması. *Turkish Studies-International Periodical For The Languages, Literature and History of Turkish or Turkic*, 10(3), 27-36.
- Beyer, S. L. (2023). *Validation of a German-translated version of the three dimensional meaning in life scale* [Bachelor's thesis, University of Twente]. University of Twente.
- Boreham, I. D., & Schutte, N. S. (2023). The relationship between purpose in life and depression and anxiety: A meta-analysis. *Journal of Clinical Psychology*, 79(12), 2736-2767. <https://doi.org/10.1002/jclp.23576>
- Bulut, S., & Subaşı, M. (2020). Pozitif psikolojiye giriş. In S. Bulut (Ed.), *Pozitif psikoloji* (s. 1–15). Nobel.
- Byrne, B. M. (1994). *Structural Equation Modeling with EQS and EQS/Windows*. Sage Publications.

- Cohen, R., Bavishi, C., & Rozanski, A. (2016). Purpose in life and its relationship to all-cause mortality and cardiovascular events: A meta-analysis. *Psychosomatic Medicine*, 78(2), 122-133. <http://dx.doi.org/10.1097/PSY.0000000000000274>
- Davies, G., Klaassen, D., & Längle, A. (2014). Purpose in life test. In M. A. C (Ed.) *Encyclopedia of Quality of Life Research*. Springer.
- Demirci, İ. ve Akın, A. (2015). Ruh Sağlığı Sürekliliği Kısa Formu'nun geçerliği ve güvenilirliği [The Validity and Reliability of the Mental Health Continuum Short Form]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 48(1), 49-64. <http://dergiler.ankara.edu.tr/dergiler/40/2076/21501.pdf>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Diener, E., Wirtz, D., Biswas-Diener, R., Tov, W., Kim-Prieto, C., Choi, D.-w., & Oishi, S. (2009). New measures of well-being. In E. Diener (Ed.), *Assessing well-being: The collected works of Ed Diener* (pp. 247–266). Springer Science + Business Media. https://doi.org/10.1007/978-90-481-2354-4_12
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51(5), 1058-1068. <https://doi.org/10.1037/0022-3514.51.5.1058>
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 4(3), 272–299. <https://doi.org/10.1037/1082-989X.4.3.272>
- George, L. S., & Park, C. L. (2016). Meaning in life as comprehension, purpose, and mattering: Toward integration and new research questions. *Review of General Psychology*, 20(3), 205-220. <https://doi.org/10.1037/gpr0000077>
- George, L. S., & Park, C. L. (2017). The multidimensional existential meaning scale: A tripartite approach to measuring meaning in life. *The Journal of Positive Psychology*, 12(6), 613-627. <https://doi.org/10.1080/17439760.2016.1209546>
- Gerymski, R., & Krok, D. (2020). A Polish adaptation of the Multidimensional Existential Meaning Scale: Internal structure, reliability, and validity. *Roczniki Psychologiczne*, 23(2), 173-190. <http://dx.doi.org/10.18290/rpsych20232-4>
- Graci, M. E., & Fivush, R. (2017). Narrative meaning making, attachment, and psychological growth and stress. *Journal of Social and Personal Relationships*, 34(4), 486-509. <https://doi.org/10.1177/0265407516644066>
- Heintzelman, S. J., & King, L. A. (2014). (The feeling of) meaning-as-information. *Personality and Social Psychology Review*, 18(2), 153-167. <https://doi.org/10.1177/1088868313518487>
- Hill, P. L., & Turiano, N. A. (2014). Purpose in life as a predictor of mortality across adulthood. *Psychological Science*, 25(7), 1482-1486. <https://doi.org/10.1177/0956797614531799>
- Huta, V., & Ryan, R. M. (2010). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, 11, 735-762. <https://doi.org/10.1007/s10902-009-9171-4>
- Kardas, F., & Yalcin, I. (2018). An Adaptation Study of the Balanced Measure of Psychological Needs (BMPN) Scale to Turkish Culture. *Çukurova University Faculty of Education Journal*, 47(2). <https://doi.org/10.14812/cuefd.408515>
- Keyes, C. L., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & Van Rooy, S. (2008). Evaluation of the mental health continuum–short form (MHC–SF) in setswana-speaking South Africans. *Clinical Psychology & Psychotherapy*, 15(3), 181-192. <https://doi.org/10.1002/cpp.572>
- King, L. A., & Hicks, J. A. (2021). The science of meaning in life. *Annual Review of Psychology*, 72, 561-584. <https://doi.org/10.1146/annurev-psych-072420-122921>
- Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. The Guilford Press.

- Köker, S. (1991). *Normal ve sorunlu ergenlerin yaşam doyumu düzeyinin karşılaştırılması* [Master Dissertation, Ankara University]. Council of Higher Education Thesis Center.
- Leontiev, D. A. (2013). Personal meaning: A challenge for psychology. *The Journal of Positive Psychology, 8*(6), 459-470. <https://doi.org/10.1080/17439760.2013.830767>
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33*(3), 335-343. [https://doi.org/10.1016/0005-7967\(94\)00075-U](https://doi.org/10.1016/0005-7967(94)00075-U)
- Marco, J. H., Cañabate, M., Llorca, G., & Pérez, S. (2020). Meaning in life moderates hopelessness, suicide ideation, and borderline psychopathology in participants with eating disorders: A longitudinal study. *Clinical Psychology & Psychotherapy, 27*(2), 146-158. <https://doi.org/10.1002/cpp.2414>
- Marco, J. H., García-Alandete, J., Perez Rodriguez, S., Guillén, V., Baños, R. M., & Tormo-Irun, M. P. (2022). Spanish Validation of the Multidimensional Existential Meaning Scale: Which Dimension of Meaning in Life Is More Associated With Psychopathology in People With Mental Disorders?. *Frontiers in Psychiatry, 13*, 832934. <https://doi.org/10.3389/fpsyt.2022.832934>
- Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *The Journal of Positive Psychology, 11*(5), 531-545. <https://doi.org/10.1080/17439760.2015.1137623>
- Martela, F., & Steger, M. F. (2023). The role of significance relative to the other dimensions of meaning in life—an examination utilizing the three dimensional meaning in life scale (3DM). *The Journal of Positive Psychology, 18*(4), 606-626. <https://doi.org/10.1080/17439760.2022.2070528>
- McKnight, P. E., & Kashdan, T. B. (2009). Purpose in life as a system that creates and sustains health and well-being: An integrative, testable theory. *Review of General Psychology, 13*(3), 242-251. <https://doi.org/10.1037/a0017152>
- Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin, 136*(2), 257–301. <https://doi.org/10.1037/a0018301>
- Park, C. L. (2016). Meaning making in the context of disasters. *Journal of Clinical Psychology, 72*(12), 1234-1246. <https://doi.org/10.1002/jclp.22270>
- Reker, G. T., & Wong, P. T. P. (2012). Personal meaning in life and psychosocial adaptation in the later years. In P. T. P. Wong (Ed.), *The Human Quest for Meaning: Theories, Research, and Applications* (2nd ed.) (pp. 433–456). Routledge.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*(3), 482–497. <https://doi.org/10.1037/0022-3514.76.3.482>
- Sheldon, K. M., & Hilpert, J. C. (2012). The balanced measure of psychological needs (BMPN) scale: An alternative domain general measure of need satisfaction. *Motivation and Emotion, 36*, 439-451. <https://doi.org/10.1007/s11031-012-9279-4>
- Steger, M. F. (2012). Experiencing meaning in life: Optimal functioning at the nexus of well-being, psychopathology, and spirituality. In P. T. Wong (Ed.) *The Human Quest for Meaning: Theories, Research, and Applications* (pp. 165-184). Routledge.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>
- Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology, 4*(1), 43-52. <https://doi.org/10.1080/17439760802303127>

- Subasi, M., & Bulut, S. (2023). Na de ramp. In L. Bormans (Ed.) *Geluk: The New World Book of Happiness*. Lannoo.
- Subasi, M., Bulut, S., & Osin, E. N. (2024c). *Psychometric Properties of the Turkish Version of the Three Dimensional Meaning in Life Scale (3DM)*. [Manuscript in preparation].
- Subasi, M., Karaman, H., & Bulut, S. (2024a). *Psychometric Properties of the Turkish Version of the Multidimensional Existential Meaning Scale among Turkish University Students (3DM)*. [Manuscript in preparation].
- Subasi, M., Karaman, H., Bulut, S., & Osin, E. N. (2024b). *Turkish Validation of the Multidimensional Existential Meaning Scale (MEMS)*. [Manuscript in preparation].
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2013). *Using Multivariate Statistics*. Pearson.
- Telef, B. B. (2015). The positive and negative experience scale adaptation for Turkish university students. *European Scientific Journal*, 11(14), 49-59. <http://dx.doi.org/10.13140/RG.2.1.3987.3124>
- Updegraff, J. A., Silver, R. C., & Holman, E. A. (2008). Searching for and finding meaning in collective trauma: Results from a national longitudinal study of the 9/11 terrorist attacks. *Journal of Personality and Social Psychology*, 95(3), 709–722. <https://doi.org/10.1037/0022-3514.95.3.709>
- Valdivia, D. S., & Li, P. J. (2022). Psychometric Properties and Internal Validity of the Multidimensional Existential Meaning Scale. *Measurement and Evaluation in Counseling and Development*, 55(3), 166-186. <https://doi.org/10.1080/07481756.2021.1998779>
- Wong, P. T. P. (1998). Implicit theories of meaningful life and the development of the Personal Meaning Profile (PMP). In P. T. P Wong & P. Fry (Eds.), *Handbook of Personal Meaning: Theory, Research, and Practice* (pp. 111–140). Lawrence Erlbaum.
- Yildirim, A., Boysan, M., & Kefeli, M. C. (2018). Psychometric properties of the Turkish version of the Depression Anxiety Stress Scale-21 (DASS-21). *British Journal of Guidance & Counselling*, 46(5), 582-595. <https://doi.org/10.1080/03069885.2018.1442558>



RESEARCH ARTICLE

Development of Marital Forgiveness Scale in Turkish Culture: A Validity and Reliability of the Study

Fatma BIYIK SARI^a  & Hüdayar CIHAN^b 

^a Child Homes Coordination Centre, Ankara, Türkiye. ^b Ankara Yıldırım Beyazıt University, Ankara, Türkiye.

ARTICLE HISTORY

Received: 28.12.2023

Accepted: 02.04.2024

KEYWORDS

Forgiveness, Married
Individuals, Scale
Development, Turkish
Culture

ABSTRACT

The capacity to forgive is a crucial aspect of marital relationships, as it enables couples to recover emotionally following a hurtful event caused by their spouse. The present study aimed to develop a marital forgiveness scale for Turkish culture, which is essential in cultural sensitivity. Accordingly, two distinct studies were conducted. The initial study utilizing Exploratory Factor Analysis was conducted with a sample of 351 married individuals, comprising 124 males and 227 females. The analysis yielded four dimensions, comprising 23 items, namely avoidance, desire for revenge, conditional forgiveness and unconditional forgiveness. The second study, Confirmatory Factor Analysis, was conducted with a total of 443 married participants, comprising 102 men and 341 women. The results provided support for the structure of the scale. The reliability analysis revealed that Cronbach alpha internal consistency coefficient value for each dimension was between .82 and .93. The criterion-related validity of the scale was examined using rumination as the criterion variable, with significant correlations observed between the developed scale and the rumination scale. Significant correlations were observed between The Marital Offense Specific Forgiveness Scale, the offense's severity, and the offense's significance with the developed scale, thereby supporting the convergent validity of the scale. The findings indicated that the Marital Forgiveness Scale, which had been developed for this purpose, was a reliable and valid measurement of marital forgiveness.

People experience conflicts in their marriages. Such conflicts may be precipitated by everyday events or may arise from destructive events such as infidelity. Unless couples can cope more effectively with the conflict, the marital relationship, including aspects such as intimacy and marital satisfaction, is negatively affected due to emotional injury (Fincham et al., 2004; Gordon et al., 2009). Issues that are not addressed or dismissed by spouses may resurface and potentially give rise to further complications. (Fincham, 2000). These issues have a detrimental impact on the relationship between spouses, impeding communication, intimacy, and emotional sharing between them (Asil et al., 2014). Furthermore, marital conflicts can cause anger (Asil et al., 2014) and adversely affect marital satisfaction and adjustment, as well as the parenting skills of couples (Gordon et al., 2009). However, couples understand each other better and learn to respect their beliefs and wishes if they cope with conflict effectively (Leggett et al., 2012). Studies have shown that the efficacy of conflict resolution

CORRESPONDING AUTHOR Fatma BIYIK SARI, fatmabyk.psi@gmail.com, ORCID: 0000-0003-0315-3398, Child Homes Coordination Centre, Ankara, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

techniques and communication skills are less effective than expected, particularly for serious problems such as infidelity (Gottman, 2011). It is, therefore, proposed that forgiveness represents an efficacious method of coping with marital problems. (Gordon & Baucom, 2003).

Most effective couple therapies, such as Gottman Couple Therapy and Emotional Focused Therapy (EFT), also benefit from forgiveness interventions, especially to heal serious emotional injuries (Gottman, 2011; Woldarsky et al., 2014). Studies investigating the role of forgiveness in marriage show that forgiveness is positively correlated with marital satisfaction (Asil et al., 2014; Fincham & Beach, 2002; Gordon et al., 2009), commitment (Fincham et al., 2006; Novak et al., 2017), and quality (Fincham et al., 2002), stability (He et al., 2018). In Turkey, studies examining the place of forgiveness in marital relationships have recently increased. The quality of the relationship and the level of marital satisfaction have been identified as significant factors influencing the phenomenon of marital forgiveness (Çelik et al., 2022). The study revealed that individuals who reported higher levels of marital satisfaction demonstrated a greater proclivity to forgive their spouse more expeditiously than those who expressed lower levels of marital satisfaction (Atceken, 2014; Çelik et al., 2022; Şahan, 2021). Furthermore, a positive correlation was observed between marital adjustment and forgiveness. (Yaman-Akpınar & Altunsu-Sönmez, 2021).

Models of Forgiveness

There are a number of different models proposed for explaining forgiveness. For example, Enright and the Human Development Study Group (1996) developed a model that proposes that forgiveness consists of four stages. In the first stage, individuals become aware of their emotional responses to the distressing event. Subsequently, in the second phase, they seek strategies to manage these adverse feelings. When forgiveness is selected as a coping mechanism, the individual in question will undertake a re-evaluation of the hurt experienced and endeavour to empathize with the offender. In the final stage, they realize that everyone can make mistakes and needs forgiveness (Baskin & Enright, 2004).

Worthington et al. (2005) asserted that forgiveness occurs in decisional and emotional stages. Firstly, people decide to forgive the offenders. Subsequently, people are willing to develop positive emotions and attitudes to overcome the adverse effects of offenses. Therefore, they developed a forgiveness model with five steps: Recall, Empathize, Altruism, Committing, and Holding on (REACH). The model posits that people initially remember the traumatic event, empathize with the offenders, and recall the instances when they have been forgiven. Then, they attempt to develop positive emotions by recalling positive memories of the offenders. Finally, they grant forgiveness by disclosing their feelings towards the offenders.

McCullough et al. (1998) developed the Social and Psychological Model of Forgiveness to understand the motivational systems affecting forgiveness. Traumatic events can lead people to feel fear and anxiety and avoid their partners, which may turn into anger and a desire for revenge due to suffering from traumatic events (Gottman, 1993). The probability of forgiveness is diminished when avoidance and a desire for revenge are present. Social, cognitive, and relational factors also exert an influence on forgiveness (McCullough, 2000). For example, positive feelings such as empathy, perspective-taking, and compassion lead people to have fewer avoidant behaviors and a desire for revenge, which increases people's positive behavior toward the offender. McCullough (2000) also emphasized that people are more prone to forgive their partners for the sake of their relationships. However, it depends on relational determinants such as relationship satisfaction, commitment, and intimacy of offenders. Studies indicated that people with higher relationship satisfaction (Palerio et al., 2005), higher marital commitment (Novak et al., 2017), and a closer relationship with the offender (Donovan & Priester, 2020) tend to grant forgiveness to the offender partner.

Process (e.g., Amiri et al., 2020; Orbon et al., 2015) and REACH (e.g., Harper et al., 2014; Özgür & Eldeleklioğlu, 2017) models have been employed in the context of interventions designed to facilitate the development of forgiveness. Social and Psychological Models of Forgiveness have been employed to elucidate the factors that facilitate or impede forgiveness in close relationships (Donovan & Priester, 2020; Novak et al., 2017). Although forgiveness models touch on different points about forgiveness, they have one aspect in common: negative and positive dimensions of forgiveness (Fincham & Beach, 2002; Gordon et al., 2009).

When describing the forgiveness process or steps, reducing avoidance behaviors, the desire for revenge, and increasing feelings of compassion and kindness towards the offending person were emphasized (Enright et al., 1998; Worthington et al., 2005; McCullough, 2000). Studies about forgiveness in Turkey have used the Process and Enright Model as a forgiveness intervention among adults and adolescents (e.g., Taysi & Vural, 2016; Özgür & Eldeleklioğlu, 2017). However, studies about marital forgiveness have generally employed the social and psychological model of forgiveness (Atceken, 2014; Karadoğan & Tagay, 2022; Yaman-Akpınar & Altunsu-Sönmez, 2021).

Forgiveness Measurements

Various forgiveness scales have been developed to measure forgiveness: dyadic forgiveness, offense-specific forgiveness, and dispositional forgiveness (McCullough & Worthington, 1999). Offense-specific forgiveness is related to forgiving others due to a specific offense, while dispositional forgiveness is the tendency of people to forgive others due to various offenses. Dyadic forgiveness is the tendency of people to forgive their partner due to different offenses from their partner toward them (McCullough, 2000).

Scales developed to measure forgiveness in marriage are the Marital Offense Specific Scale (Palerio et al., 2009), Forgiveness Inventory (Gordon & Baucom, 2003), the Marital Forgiveness Scale (Fincham et al., 2004), and Marital Dispositional Scale (Fincham et al., 2002). The Marital Dispositional Scale (Fincham et al., 2002) is a dispositional forgiveness scale. In contrast, other marital forgiveness scales measure a spouse's forgiveness for a specific offense (Palerio et al., 2009). The forgiveness Inventory indicates at which stage people are in the process of forgiveness (Gordon & Baucom, 2003). On the other hand, the Marital Forgiveness Scale (Fincham et al., 2004) and Marital Offense Specific Inventory (Palerio et al., 2009) measure the avoidance, revenge, and benevolence dimensions of forgiveness separately. On the other hand, the Marital Dispositional Scale (Fincham et al., 2002) consists of two dimensions: negative and positive forgiveness. Its negative dimension includes items related to avoidance and revenge. It also measures the presence of negative and positive forgiveness dimensions separately.

The Relationship between Culture and Forgiveness

It was well-documented that coping with a hurtful event and deciding to grant forgiveness change across cultures (Hook et al., 2009; Sandage & Williamson, 2005). The importance given to social norms and expectations affects forgiveness process and decisions (Joo et al., 2019; Karremans et al., 2011). Therefore, it was claimed that cultural factors influenced the process of forgiveness and the motives behind forgiveness (Ho & Fung, 2011). The extant literature on cross-cultural studies has provided support for the proposition that there are cultural differences in the motivations behind forgiveness (e.g., Ho & Fung, 2011; Joo et al., 2019; Sandage et al., 2020). In individualistic cultures, the motivation to forgive is typically rooted in the desire for inner peace and personal well-being. Conversely, in collectivist cultures, forgiveness is often driven by the need to maintain social harmony. (Hu & Worthington, 2020; Joo et al., 2019).

Turkish culture has the characteristics of both collective and individualistic culture (Kararmak, 2008; Karremans et al., 2011; Kılıçarslan & Sahan, 2021). Therefore, it can be pointed out that both cultures have different impacts on forgiveness among Turkish participants. For example, Karremans et al. (2011) investigated the cultural differences between the closeness of offender and forgiveness. They found that the closeness of the offender was positively correlated with forgiveness. However, this correlation for collectivistic cultures was relatively small compared to individualistic cultures. The results of Turkish participants in that study were in line with individualistic culture (Karremans et al., 2011). However, another cross-cultural study revealed that Turkish people consider circumstances such as offense severity, apology, and remorse to decide forgiveness more than French people. Additionally, Turkish people were less willing to accept unconditional forgiveness than French people (Bugay & Mullet, 2013).

It has been well documented that individuals from collectivistic cultures tend to place a high value on the efforts of their spouses, particularly in terms of demonstrating remorse, offering apologies, and making attempts to repair the situation. In such cases, the decision to forgive is often influenced by these factors. (Osei Tutu et al., 2018; Sandilya & Shahnawaz, 2014). Furthermore, the qualitative study about marital forgiveness in Turkish culture revealed that people tended to consider the existence of apology and repair attempts for offenses, the characteristics of a spouse, and the quality of the relationship when they grant forgiveness (Bıyık

Sarı & Cihan, 2024). The findings supported the study conducted by Bugay and Mullet (2013) and the effects of collectivist culture on forgiveness in Turkey.

The forgiveness scales utilized in this research pertain to marital forgiveness in Turkish culture and have been adapted from those used in individualistic cultures. The Marital Dispositional Scale (Bugay, 2014), the Marital Offense-Specific Scale (Erkan, 2015), the Forgiveness Inventory (Ozgun, 2010), and the Marital Forgiveness Scale-Event (Durmus & Manap, 2018) were adapted to Turkish and subsequently employed in marital forgiveness studies. The scales were developed within an individualistic cultural context. The scale items developed by an individualistic culture may not reflect marital forgiveness in Turkish culture comprehensively due to the characteristics of a collectivist culture. Turkish culture has not developed a marital forgiveness scale (Kaya, 2019). The objective of this study is to develop a scale for measuring individuals' proclivity to forgive a particular spouse's transgression. The concept of forgiveness in marriage and how forgiveness occurs in Turkish marriage was investigated by a qualitative study. In that study, people reported the importance of apology, showing remorse, and repairing attempts on their forgiveness decision. Furthermore, the respondents indicated that the gravity and frequency of the infraction made forgiveness a challenging prospect. (Bıyık Sarı & Cihan, 2024). Additionally, studies about forgiveness in marriage in Turkey supported the significant relationship between marital satisfaction, adjustment, and forgiveness, which also supported the Social and Psychological Model of Forgiveness (e.g., Çelik et al., 2022; Şahan, 2021; Taysi, 2010; Yaman-Akpınar & Altunsu-Sönmez, 2021). Therefore, the objective was to develop and assess the validity and reliability of a marital forgiveness scale based on the model proposed by McCullough et al. (1998).

Methodology

Participants

The snowball sampling method was employed to identify potential participants for the study. Two studies were conducted to develop the scale. The first study group comprised 351 married participants, of whom 124 were male and 227 were female. The age range was between 21 and 70 years ($M = 37.$, $SD = 9.42$). The duration of marriage ranged from one to 37 years ($M = 10.73$, $SD = 9.51$). Two hundred seventy participants (76.92 %) indicated that they had children. The study population was comprised of 70 participants (19.94%) with a high school diploma or below, 205 (58.4%) with university education, 50 (14.25%) with a master's degree, and 26 (7.42%) with a doctorate.

The second study group was conducted for the purpose of confirmatory factor analysis, establishing convergent and criterion-based validities, and conducting a reliability analysis. The study group included 443 married participants (102 males, 341 females). The participants ranged in age from 21 to 66 years ($M=36.87$ years, $SD=8.58$). The duration of marriage ranged from one to 39 years ($M=9.69$ years, $SD=8.01$). A total of 349 participants (80.6 %) reported having children. The participants were distributed as follows with regard to their level of education: 81 (18.71%) had a high school diploma or below, 272 (62.82%) had a university education, 47 (10.61%) had a master's degree, and 33 (7.62%) had a doctorate.

Scale Development Process

Ethical approval of the study was obtained from the university's Ethics Committee (16/02/2021-2021/51). Following the granting of ethical approval for the study, the scale development process was undertaken in accordance with five key steps: a qualitative study and literature review, item generation for the scale, content-based validity, administration of the developed scale, and psychometric properties assessment of the scale (DeVellis, 2012; Zhou, 2019). The literature on marital forgiveness was initially reviewed. Subsequently, a qualitative study was conducted with the aim of elucidating the phenomenon of marital forgiveness among Turkish married people. Thirteen married people were interviewed via online application. They were asked to describe their strategies for coping with instances of marital transgression, the impact of such transgressions on their relationship with their spouse, the factors that influenced their decision to forgive their spouse, and the challenges they encountered in the process of forgiveness. The interviews were recorded and subsequently transcribed in their entirety. Thematic analysis was used to analyze the data via the MAXQDA 20 program.

Thematic analysis yielded four main themes: avoidance, desire for revenge, conditional forgiveness and unconditional forgiveness. The findings from the thematic analysis, including the identified codes and relevant quotes, were used to generate items representing the four dimensions. Subsequently, these items were integrated with existing scales, including those proposed by Bugay (2014), Durmuş and Manap (2018), Enright et al. (1998), Fincham and Beach (2002), Fincham et al. (2004), Gordon and Baucom (2003), McCullough and Worthington (1999), and Paleari et al. (2009), to generate additional items. This resulted in the creation of an item pool comprising 55 items. The instrument was submitted to five experts in the field of couple and family relations for content-based validity. These experts were selected to represent the following areas of expertise: one in education, two in psychological counseling and guidance, and two in psychology scholarship. Two of the experts also possess expertise in scale development. By the recommendations of the relevant experts, 17 items were excluded from the scale because they were deemed redundant, as they were found to be synonymous with other items. The items and instructions on the scale were amended in accordance with the recommended corrections. The clarity and understanding of items were checked through a pilot study with a small group of 30 married individuals. Accordingly, 38 items with a 5-point Likert scale (1 = Never False of Me to 5 = Always True of Me) were utilized for explanatory factor analysis with the initial cohort. As a result of explanatory factor analysis, 23 items comprising four subscales were applied to the second group for the purposes of confirmatory factor analysis, validities, and reliability analysis. Marital Offense-Specific Forgiveness Scale (Erkan, 2015), the offense's severity, and the offense's significance were employed to assess the convergent validity of the instrument. The Short Version of the Rumination Scale (Erdur Baker & Bugay, 2012) was employed to assess criterion-based validity. For reliability analysis, the Cronbach alpha test was performed.

Measures

Offense Severity and the Significance of Offense. The participants were requested to recall an offense perpetrated by their spouses within the previous year and to rate the severity of the offense and its significance to them on a 5-point Likert Scale ranging from 1 (never) to 5 (very much).

Marital Forgiveness Scale. The developed scale comprised 38 items for exploratory factor analysis EFA and 23 items for confirmatory factor analysis CFA. The scale employed a 5-point Likert format, with anchoring responses ranging from "never" to "always." Participants were requested to recall a marital transgression that had occurred within the previous year and to indicate the extent to which each statement applied to them.

Marital Offense-Specific Forgiveness (MOFS). The instrument was initially developed by Paleari et al. (2009) and subsequently adapted to Turkish by Erkan (2015). The scale is designed to assess forgiveness within the context of a specific marital transgression. The scale comprises ten items, which can be grouped into two dimensions: avoidance-resentment and benevolence. The avoidance-resentment dimension has six items (e.g., "Since my wife/husband behaved that way, I get annoyed with her/him more easily"). The benevolence dimension has four items (e.g., "I forgave her/him completely, thoroughly"). It is a 7-point Likert scale, with responses ranging from "strongly disagree" to "agree strongly." A total score is not calculated. A higher score on the avoidance-resentment scale indicates higher motivation for avoidance-resentment, whereas a higher score on the benevolence dimension signifies a higher level of benevolent motivation. The Cronbach alpha coefficients for the avoidance-resentment and benevolence scales were .68 and .70, respectively.

The Short Version of the Rumination Scale. The rumination scale was initially developed by Treynor et al. (2003) and subsequently adapted to Turkish by Erdur-Baker and Bugay (2012). The scale comprises ten items, which are rated on a 4-point Likert scale. It has two dimensions: brooding (e.g., Think, "Why do I always react this way?") and reflection (e.g., "Analyze your personality to try to understand why you are depressed"). A total score can be obtained. Participants indicate the frequency with which they engage in the described behaviors on a scale ranging from almost never to almost always. Its Cronbach alpha coefficient was .90. The Cronbach alpha coefficient for the adapted scale was .72.

Demographic Information Form. A demographic information form was completed by each participant, which requested details regarding their age, gender, level of education, duration of the marriage, and whether they have any children.

Data Collection and Analysis

The present study employed a snowball sampling methodology to identify potential participants. The studies were conducted via an online platform, with participants sourced through social media platforms and through the researchers' own networks. Additionally, participants were requested to disseminate the study to married individuals within their social networks. The questionnaires were completed via Google Forms. The participants were informed that the study was investigating the attitudes of married people towards forgiveness in marriage. Upon acceptance of the informed consent, the participants proceeded to complete the demographic information and respond to the questionnaires. The first study required approximately five minutes, and the second required approximately ten minutes.

For both study groups, the data were subjected to a series of tests to ascertain their compliance with the assumptions of normality and the presence of outliers. The univariate normality of the items was evaluated through the calculation of Skewness and Kurtosis. The univariate outliers of items were identified through the calculation of the Z score of each item. The findings indicated that absolute skewness and kurtosis values for both study groups were below 2, and the standardized z-score of items was between ± 3.29 , indicating a normal data distribution (Kline, 2016). Mahalanobis distance was employed for the identification of multivariate outliers. The Mahalanobis value exceeding .001 was deemed to represent multivariate outliers (Tabanick & Fidell, 2013). Ten participants from the initial study group and 14 participants from the subsequent study group were excluded from the subsequent analysis.

The statistical software package SPSS 27 was employed for the purpose of conducting explanatory factor analysis, criterion-related validity, convergent validity, and reliability analysis. Additionally, correlation analysis was employed to assess convergent and criterion-based validity. A Cronbach's alpha test was conducted to assess the reliability of the data. Confirmatory factor analysis was conducted using AMOS 25.

Results

Explanatory Factor Analysis (EFA)

Principal axis factoring with the rotation of direct oblimin was carried out for EFA. The Kaiser-Meyer-Olkin measure verified the adequacy of sampling for the analysis, with a value of $KMO = .94$. The Barlett test of sphericity ($\chi^2(703) = 9100.06, p < .0001$), indicated that the correlations between items were sufficiently significant. In accordance with the recommendations set forth by Tabanick and Fidell (2013) and Worthington and Whittaker (2006), items with a factor loading of less than .40 or items with a cross-loading difference from their highest factor loading of less than .12 were deemed unsuitable for retention and were subsequently removed. Four factors were extracted. The initial factor accounted for 37.43% of the total variance. The second factor accounted for 14.49% of the variance, while the third factor accounted for 4.57% of the variance. The fourth factor accounted for 3.31 % of the total variance. All four factors collectively explained 61.79% of the variance. Although the explained variance of the third and fourth factors was lower, factor retention was unnecessary. If a factor has at least three items and at least two items with higher factor loadings, it can be retained (Tabanick & Fidell, 2013; Worthington & Whittaker, 2006)

Themes in the qualitative study and the context of items were used to name the factors. The factors were named avoidance, unconditional forgiveness, desire for revenge, and conditional forgiveness sequentially. Table 1 shows the results of EFA and Cronbach alpha values for each factor. The Cronbach alpha values were .93 for avoidance, .88 for unconditional forgiveness, .86 for desire for revenge and .87 for conditional forgiveness.

Table 1. The Results of EFA and Reliability Analysis

No	Items	Factor loading			
		1	2	3	4
5	I was cold to my spouse.	.91			
9	I physically distanced myself from my spouse.	.87			
8	I didn't want to talk to my spouse.	.83			
4	I emotionally distanced myself from my spouse.	.82			
30	I withdrew myself from my spouse.	.73			
6	I resent my spouse for what she/he did.	.72			
16	I avoided doing anything in common with my spouse.	.71			
12	It was hard for me to be warm to my spouse.	.69			
11	I lived as if my spouse did not exist, as if she/he was not around me.	.57			
27	I felt like my spouse was a stranger.	.45			
31	I left it all behind because she/he was my spouse.		.88		
33	I preferred to accept what happened and moved on.		.87		
38	I thought it was useless to prolong what she/he put me through.		.74		
35	I felt compassion for my spouse.		.59		
24	I chose to forgive my spouse because of her/his positive qualities.		.55		
13	I accepted the situation, thinking that my spouse had faults and flaws like every human being.		.54		
36	I wanted to make my wife pay for what she/he put me through.			.94	
28	I wanted to see my spouse suffer.			.85	
14	I wanted him/her to be unhappy if I was unhappy.			.65	
23	My spouse hurt me, so I wanted to hurt her/him.			.47	
37	I forgave my spouse for trying to make amends.				.87
2	I forgave my spouse for admitting her/his mistake.				.80
10	I forgave my spouse because I saw that she/he regretted what had happened.				.77
Explained variance		37.43	16.49	4.57	3.30
Eigenvalues		8.99	4.16	1.39	1.11
Cronbach Alpha		.93	.88	.86	.87

Confirmatory Factor Analysis (CFA)

A confirmatory Factor Analysis was carried out to evaluate the construct validity of the scale, which consisted of 23 items derived from the results of the Exploratory Factor Analysis. (EFA). The fit indexes, including χ^2 statistic, the chi-square-to-degrees-of-freedom ratio (χ^2/df), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root-mean-square error of approximation (RMSEA), were employed to assess the suitability of the model (Hu & Bentler, 1999; Tabachnick & Fidell, 2013) The acceptable fit criteria are as follows: the CFI and TLI values must be equal to or greater than .90, the value of χ^2/df must be equal to equal to or lesser than 5, and the values of SRMR and RMSEA must be equal to or less than .08 (Hu & Bentler, 1999; Kline, 2016).

Table 2. The Goodness of Fit Indexes for CFA Models

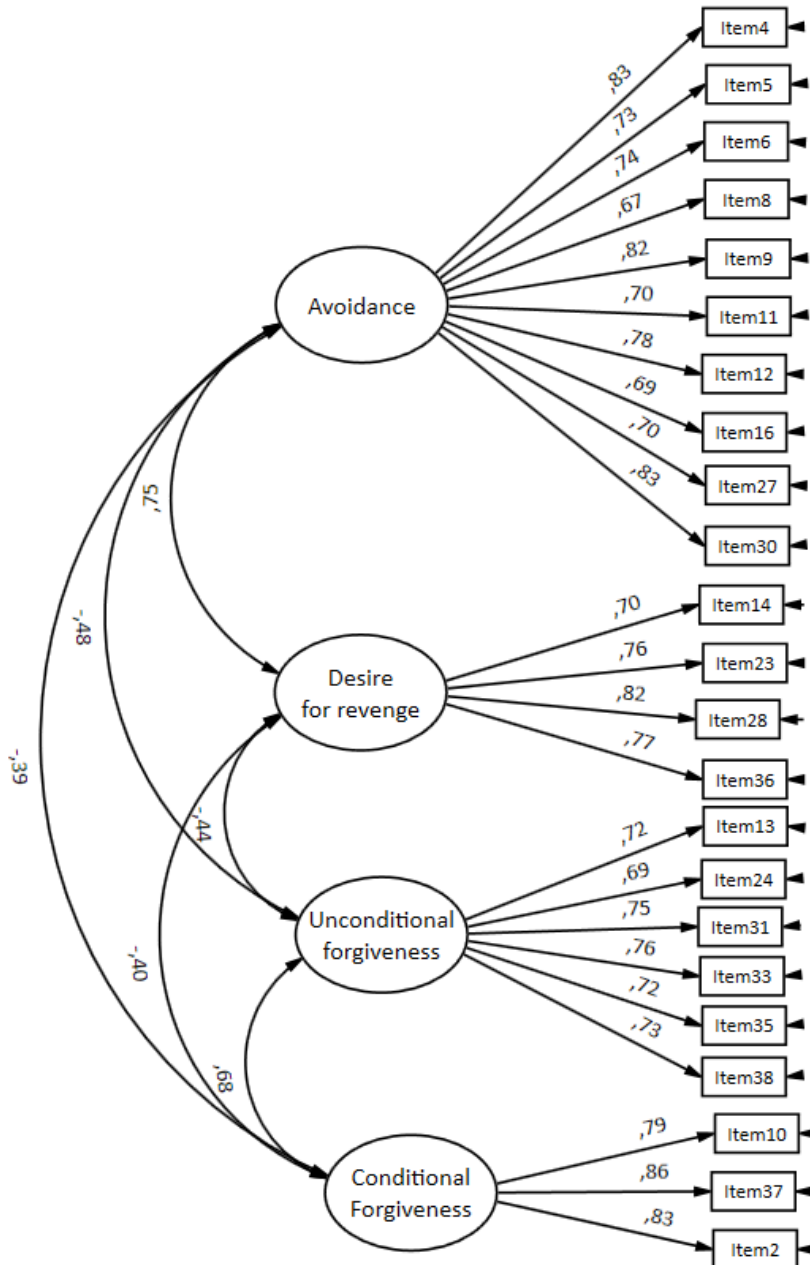
Models	χ^2	χ^2/df	CFI	TLI	SRMR	RMSEA
One Factor CFA Model	1976.16*	8.59	.69	.66	.11	.13
Four Factors CFA Model	655.97*	2.95	.93	.92	.05	.07
Second-order CFA Model	793.75*	3.53	.91	.90	.08	.08

* $p < .001$

As illustrated in Table 2, the results also demonstrated the outcomes of the CFA models. Three CFA analyses were carried out. The results of the one-factor model revealed poor fit, as evidenced by the following indices:

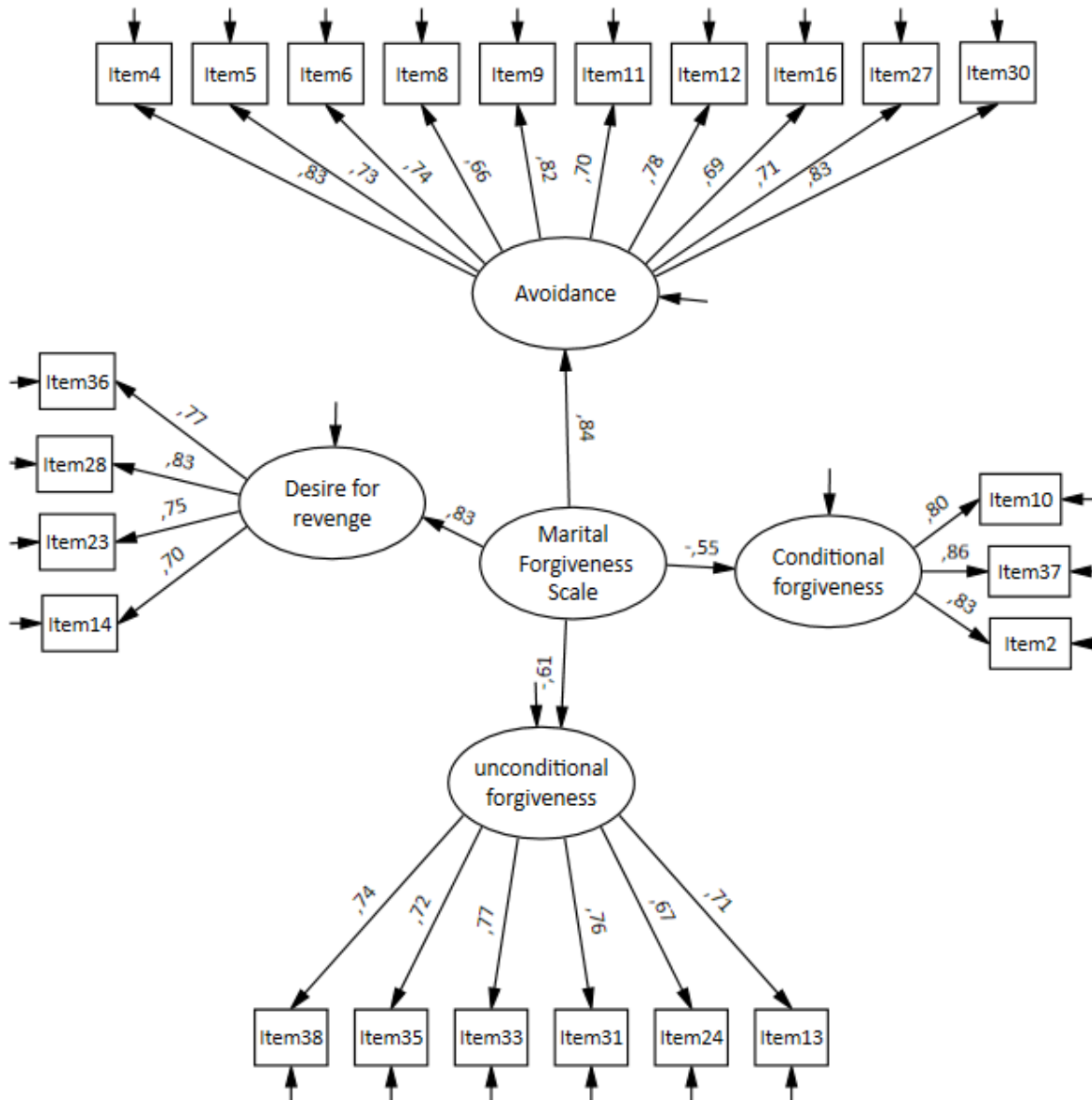
$\chi^2=1976.16$, $\chi^2/df = 8.59$, $p <.001$, CFI=.69, TLI=.66, SRMR=.11, RMSEA =.13. However, the four-factor and second-order models demonstrated an adequate fit to the data. The four-factor model yielded the following results: $\chi^2=763.34$, $\chi^2/df = 3.41$, $p <.001$, CFI=.91, TLI=.90, SRMR=.06, RMSEA =.07. In accordance with the recommendations set forth in the modification indices, the following correlations were incorporated: those between the error terms of item 5 and item 8, as well as the error terms of items 28 and 36.. The modified four-factor CFA yielded a satisfactory fit to the data, as indicated by the following fit indices: $\chi^2=655.97$, $\chi^2/df = 2.95$, $p <.001$, CFI=.93, TLI=. 92, SRMR=. 05, RMSEA =.07 (see Figure 1).

Figure 1. The Four Factors CFA Model



The results of the second-order CFA demonstrated an acceptable fit for the data with $\chi^2=793.75$, $\chi^2/df = 3,53$, $p <.001$, CFI=.91, TLI=.90, SRMR=.08, RMSEA =.08. As illustrated in Figure 2, the total score can be calculated by summing all the sub-dimension scores after reversing the coding of the items pertaining to the avoidance and desire for revenge dimensions.

Figure 2. The Second-order CFA Model



Discriminant Validity

The discriminant validity of the scale was examined through the values of maximum shared variance (MSV) and the square root of the average variance extracted (AVE) based on the results of CFA. The square root of AVE must be greater than correlations across factors. Additionally, the AVE value of a factor must be greater than the MSV value of that factor (Fornell & Larcker, 1981). The results are presented in Table 3. The results indicated that the AVE values were greater than the MSV for each factor, and the square root of AVE for each

factor was greater than all correlations between factors. In light of these findings, it can be concluded that the scale exhibits discriminant validity.

Table 3. CR, AVE, The Square Root Of AVE (In Bold), And Correlations Across Factors

	CR	AVE	MSV	1	2	3	4
1. Avoidance	.93	.56	.56	.75			
2. Desire for revenge	.85	.58	.56	.74*	.76		
3. Conditional forgiveness	.87	.69	.46	-.39*	-.40*	.71	
4. Unconditional forgiveness	.87	.53	.46	-.48	-.44	.68	.73

* $p < .001$

Convergent Validity

The severity, significance, and modus operandi (MOF) of the offense were employed to assess the convergent validity of the developed scale. Consequently, a Pearson Momentum Correlation Coefficient analysis was conducted. The results showed that the MOFS subscales, the offense's severity, and the offense's significance exhibited a statistically significant correlation with avoidance, desire for revenge, conditional forgiveness, and unconditional forgiveness at the .001 level of significance. Additionally, AVE and composite reliability (CR) were calculated to examine the convergent validity of the results obtained from the CFA. The criterion for convergent validity is that the AVE values for each factor exceed .50, and the CR values for each factor must be greater than .70 (Fornell & Larcker, 1981). The results demonstrated that the AVE and CR values provided evidence of convergent validity.

Table 4. The Descriptive Statistics and Correlations across Variables

Variable	M	SD	1	2	3	4	5	6	7	8
1. Offense severity	4.13	1.01	-							
2. Offense significance	4.22	0.95	.71*							
3. Rumination	22.45	4.94	.34*	.30*						
4. Avoidant-Resentment	19.94	7.45	.46*	.40*	.43*					
5. Benevolence	14.43	4.48	-.25*	-.22**	-.16*	-.42*				
6. Avoidance	30.03	10.14	.54*	.50*	.37*	.72*	-.46*			
7. Desire for revenge	10.74	4.97	.34*	.31*	.34*	.63*	-.42*	.66*		
8. Unconditional forgiveness	19.78	5.62	-.24*	-.23*	-.14*	-.44*	.72	-.44*	-.36*	
9. Conditional forgiveness	10.45	3.30	-.17*	.56*	-.25*	-.35*	.47*	-.35*	-.31*	.59*

* $p < .001$

Criterion-Related Validity

The rumination scale was employed to assess the criterion-related validity of the developed marital forgiveness scale. The results of the Correlational analyses are shown in Table 4. The results revealed that rumination was significantly correlated with avoidance ($r=.37, p<.001$), desire for revenge ($r=.34, p<.001$), unconditional forgiveness ($r=-.14, p<.001$) and conditional forgiveness ($r=-.25, p<.001$). These findings indicate that individuals exhibiting heightened avoidance, desire for revenge, and lower levels of both conditional and unconditional forgiveness tend to engage in more frequent rumination.

Reliability

The internal consistency for the reliability of the scale was examined with Cronbach's alpha coefficient. As Kline (2016) notes, a Cronbach alpha value of .70 or above is indicative of a highly reliable scale. The results indicated that the Cronbach's alpha coefficient values were .93 for the avoidance dimension, .84 for the desire for revenge, .87 for unconditional forgiveness and .87 for the conditional forgiveness dimension. The Item-total correlation values ranged from .67 to .79 for the avoidance dimension, from .64 to .74 for the desire for revenge dimension, from .62 to .72 for the unconditional forgiveness dimension, and from .76 to .78 for the

conditional forgiveness dimension. The alpha coefficient for the entire scale was .93. The item-total correlation results are presented in Table 5.

Table 5. The Results of Item-Total Correlation and Alpha

Dimension	Items	M	SD	Item-Total Correlation
Avoidance	Item 4	3.31	1.27	.77
	Item 5	3,59	1.12	.60
	Item 6	3.18	1.33	.67
	Item 8	3.36	1.30	.64
	Item 9	3.14	1.33	.79
	Item 11	2.41	1.32	.67
	Item 12	2.98	1.32	.77
	Item 16	2.59	1.29	.67
	Item 27	2.59	1.42	.71
	Item 30	2.86	1.36	.78
Unconditional forgiveness	Item 13	3.24	1.13	.65
	Item 24	3.42	1.15	.62
	Item 31	3.24	1.21	.72
	Item 33	3.66	1.05	.70
	Item 35	3.30	1.24	.66
	Item 38	3.44	1.20	.68
Conditional forgiveness	Item 2	3.44	1.23	.78
	Item 10	3.48	1.25	.76
	Item 37	3.54	1.22	.76
Desire for revenge	Item 14	2.52	1.35	.64
	Item 23	2.70	1.39	.66
	Item 28	1.98	1.28	.74
	Item 36	1.96	1.27	.69

Discussion

The present study aimed to develop the Marital Forgiveness Scale in accordance with the Social and Psychological Model of Forgiveness (McCullough et al., 1998) within the context of Turkish culture. Consistent with this model, the developed scale comprises four factors, each representing a distinct motivation: avoidance, desire for revenge, unconditional forgiveness, and conditional forgiveness. In contrast to other scales, such as the MOFS (Erkan, 2015) and the Marital Dispositional Scale (Bugay, 2014), this scale includes two positive dimensions of forgiveness: unconditional and conditional forgiveness. The items pertaining to unconditional forgiveness exhibited similarities with those found in existing scales (Bugay, 2014; Erkan, 2015). However, the items pertaining to conditional forgiveness were new in comparison to those included in existing marital forgiveness scales. Additionally, the conditional forgiveness dimension comprised items about the efforts of their spouse about offenses, such as showing remorse and repairing attempts, which supported forgiveness in a collectivist culture (Bugay & Mullet, 2013; Osei Tutu et al., 2018; Sandilya & Shahnawaz, 2014).

According to the Social and Psychological Model of Forgiveness (McCullough et al., 1998), offenses lead people to avoid offenders, feel anger and hatred, and desire revenge on offenders. These emotional situations are negatively correlated with forgiveness. It is asserted that the motivation of avoidance and desire for revenge decreases when the tendency for forgiveness increases. However, it does not mean forgiveness occurs only when avoidance and desire for revenge ends. Forgiveness, avoidance, and desire for revenge coexist. It means that people tend to have lower avoidance and lower desire for revenge when they forgive the offended spouses (McCullough et al., 1998). Findings from studies supported the Social and Psychological Model of Forgiveness. It was found that lower avoidance and desire for revenge were correlated with higher conditional and unconditional forgiveness. The study demonstrated the impact of forgiveness on motivational changes.

The construct validity of the scale was investigated through EFA and CFA. The results of the exploratory factor analysis (EFA) indicated that the scale had four underlying dimensions: avoidance, desire for revenge, unconditional and conditional forgiveness. The results of the CFA were in alignment with those of the EFA. Subsequently, an investigation was conducted into the psychometric properties of the scale, including its convergent, criterion-based, and discriminant validities. Based on the findings of the CFA, the AVE, CR, and MSV were calculated. The results demonstrated the scale's convergent and discriminant validity.

MOFS, offense severity, and significance of offense were used to assess the convergent validity of the developed scale. The results demonstrated that the avoidance, desire for revenge, unconditional forgiveness, and conditional forgiveness subscales exhibited a significant correlation with the dimensions of the MOFS, offense severity, and significance of offenses. It has been well-documented that forgiveness was negatively correlated with offense severity (Palerio et al., 2009; Taysi, 2010) and the significance of the offense to the offended party (Goztepe & Kislak, 2019). The present study revealed a negative correlation between offense severity and the significance of the offense to offended party and both conditional and unconditional forgiveness. Conversely, a positive correlation was observed between these variables and avoidance and the desire for revenge. The findings in the present study were consistent with those of previous studies, thereby supporting the convergent validity of the scale.

The Rumination Scale was employed to assess the criterion-related validity of the scale. The results demonstrated that rumination exhibited a moderate correlation with avoidance and desire for revenge while exhibiting a low correlation with conditional and unconditional forgiveness. These results supported those previously reported by Palerio and her colleagues (2009). The correlation between rumination and the dimension of avoidant-resentment was found to be more robust than its correlation with benevolence. In light of these findings, it can be concluded that the criterion-related validity of the developed scale is supported. In literature, a number of studies have demonstrated a significant relationship between forgiveness and rumination (Karreman & Smith, 2010; McCullough et al., 2007; Palerio et al., 2009).

Finally, the results of the reliability analysis revealed that the Cronbach alpha coefficients for EFA and CFA were higher than .70 for each dimension. It can therefore be concluded that the scale measuring marital forgiveness is sufficiently reliable.

Conclusion

The Marital Forgiveness Scale has contributed to the body of literature by testing and supporting the construct validity with both EFA and CFA in two separate data sets. It was significantly correlated with MOFS and rumination. Based on the analysis results, the scale has significant validity and reliability values in the Turkish sample due to the satisfactory level of the EFA and CFA results of the Marital Forgiveness Scale.

Finally, it was well-documented that forgiveness is essential for close relationships. Additionally, studies emphasized the role of forgiveness in couple therapy. Therefore, the developed scale will be helpful for couples and family therapists in Turkey to find out the motivations of married individuals after any offenses caused by their spouses.

Limitations and Suggestions

The present study had three limitations. One of them was related to the participants. The use of snowball sampling methods to identify participants may introduce bias into the results, as participants may share similar backgrounds. A second limitation was about the issue of gender. The number of male participants was relatively low compared to the number of female participants. A third one was about the educational levels of the participants. The majority of participants in both studies had attained at least a high school diploma. In light of these three limitations, future studies may be conducted to assess the validity and reliability of the scale by utilizing diverse sample groups, including those with lower education attainment, residing in different cities, and comprising an almost equal number of female and male participants.

The findings supported the validity and reliability of the scale. Nevertheless, in order to check the psychometric properties of the scale, it would be beneficial to investigate the relationship between the developed scale and other relational determinants, such as marital adjustment, commitment, and satisfaction (McCullough, 2000).

Author Contributions: This study was produced from doctoral thesis titled “The relations of marital forgiveness with emotional intelligence, conflict resolution styles and alexithymia: Actor-partner interdependence mediation model” prepared by the first author under the supervision of the second author.

Funding Disclosure: The authors received no financial support for the study and authorships

Conflicts of Interest: No potential conflict of interest was reported by authors.

Data Availability: The data used in the research are not available due to ethical issues.

Ethics Approval and Consent to Participate: Social and Human Sciences Ethics Committee of the Ankara Yıldırım Beyazıt University approved the study (16/02/2021-2021/51). Informed consent was obtained from all participants in the study.

References

- Amiri F., Moslemifar, M., Showani, E. & Panahi A. (2020). Effectiveness of forgiveness therapy in treatment of symptoms of depression, anxiety, and anger among female students with love trauma syndrome. *Journal of Advanced Pharmacy Education and Research*, 10 (S1): 98-105.
- Aşçıoğlu Önal, A. & Yalçın, İ. (2017). Forgiveness of Others and Self Forgiveness: The predictive role of cognitive distortions, empathy, and rumination. *Eurasian Journal of Educational Research*. 17. 99-122. <http://doi.org/10.14689/ejer.2017.68.6>.
- Asil, M. R., Abadi, A. S., Ganji, S. I., & Barainian, A. (2014). The effectiveness of forgiveness-based consultancy on marital conflicts of women with severe conflicts referring to court in Koohdasht Town. *Bulletin of Environment, Pharmacology and Life Sciences*, 3(4), 13–19.
- Atçeken, M. (2014). *Dindarlık, evlilik doyumu ve kişilik özelliklerinin bağışlama ile ilişkisi*. [Relation of religiousness, marriage satisfaction and personal characteristics with forgiveness][Unpublished master’s thesis, Haliç University-İstanbul]. Turkish National Thesis Center
- Baskin, T. W., & Enright, R. D. (2004). Intervention Studies on Forgiveness: A Meta-Analysis. *Journal of Counseling & Development*, 82(1), 79–90. <https://doi.org/10.1002/j.1556-6678.2004.tb00288.x>
- Bıyık Sarı, F., & Cihan, H. (2024). Marital Forgiveness Among Turkish Married Individuals: A Qualitative Study. *Marriage & Family Review*, 60(6), 343–369. <https://doi.org/10.1080/01494929.2024.2360104>
- Bugay A. (2014). Measuring the differences in pairs' marital forgiveness scores: construct validity and links with relationship satisfaction. *Psychological reports*, 114(2), 479–490. <https://doi.org/10.2466/21.02.PR0.114k18w5>
- Bugay, A. & Demir, A. (2010). A Turkish version of Heartland Forgiveness Scale. *Procedia Social and Behavioral Sciences*, 5, 1927–1931. <http://doi.org/10.1016/j.sbspro.2010.07.390>
- Bugay, A., & Mullet, E. (2013). Conceptualizing forgiveness, granting forgiveness, and seeking forgiveness: A Turkish-French Comparison. *Review of European Studies*, 5(5), 187-196. <https://doi.org/10.5539/res.v5n5p187>
- Cornish, M. A., Guyll, M., Wade, N. G., Lannin, D. G., Madon, S., & Chason, K. C.(2018). Does Empathy Promotion Necessarily Lead to Greater Forgiveness? *An Experimental Examination*. *Current Psychology*. <http://doi.org/10.1007/s12144-018-9816-8>
- Çelik,E., Çelik, B., Yavaş, Ş., & Süler, M. (2022). Investigation of marital satisfaction in terms of proactive personality, meaning in life, offense-specific forgiveness. *International Journal of Psychology and Educational Studies*, 9(1), 1-11. <https://doi.org/10.52380/ijpes.2022.9.1.348>
- DeVellis, R. F. (2012). *Scale development. Theory and applications* (3rd ed.). Thousand Oaks, CA: Sage.

- Donovan, L. A. N., & Priester, J. R. (2020). Exploring the Psychological Processes That Underlie Interpersonal Forgiveness: Replication and Extension of the Model of Motivated Interpersonal Forgiveness. *Frontiers in Psychology*, 11. <http://doi.org/10.3389/fpsyg.2020.02107>
- Durmuş, E. & Manap, A. (2018). Marital forgiveness scale-event: the validity and reliability of the Turkish version. *Abant İzzet Baysal University Journal of Educational Faculty*, 18(4), 2033-2049. <http://doi.org/10.17240/aibuefd.2018.18.41844-504877>
- Enright, R. D., & Human Development Study Group. (1996). Counseling within the forgiveness triad: On forgiving, receiving, forgiveness, and self-forgiveness. *Counseling and Values*, 40(2), 107-126. <https://doi.org/10.1002/j.2161-007X.1996.tb00844.x>
- Erdur-Baker, Ö. & Bugay, A. (2010). The short version of ruminative response scale: reliability, validity and its relation to psychological symptoms. *Procedia Social and Behavioral Sciences*, 5, 2178–2181. <http://doi.org/10.1016/j.sbspro.2010.07.433>
- Erkan, Z. (2015). Adaptation of the Marital Offence-Specific Forgiveness Scale for use in a Turkish cultural context. *Social Behavior and Personality: An International Journal*, 43(7), 1057–1070. <https://doi.org/10.2224/sbp.2015.43.7.1057>
- Fehr, R., Gelfand, M. J., & Nag, M. (2010). The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates. *Psychological Bulletin*, 136(5), 894–914. <http://doi.org/10.1037/a0019993>
- Fincham, F. D., & Beach, S. R. H. (2002). Forgiveness in marriage: Implications for psychological aggression and constructive communication. *Personal Relationships*, 9(3), 239–251. <https://doi.org/10.1111/1475-6811.00016>
- Fincham, F. D., Beach, S. R. H., & Davila, J. (2004). Forgiveness and Conflict Resolution in Marriage. *Journal of Family Psychology*, 18(1), 72–81. <https://doi.org/10.1037/0893-3200.18.1.72>
- Fincham, F. D., Hall, J., & Beach, S. R. H. (2006). Forgiveness in Marriage: Current Status and Future Directions. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 55(4), 415–427. <https://doi.org/10.1111/j.1741-3729.2005.callf.x-i1>
- Fincham, F. D., Paleari, F. G., & Regalia, C. (2002). Forgiveness in marriage: The role of relationship quality, attributions, and empathy. *Personal Relationships*, 9(1), 27–37. <https://doi.org/10.1111/1475-6811.00002>
- Fincham, F.D. (2000). The kiss of the porcupines: From attributing responsibility to forgiving. *Personal Relationships*, 7: 1–23. <https://doi.org/10.1111/j.1475-6811.2000.tb00001.x>
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50. <https://doi.org/10.2307/3151312>
- Gordon, K. C., Hughes, F. M., Tomcik, N. D., Dixon, L. J., & Litzinger, S. C. (2009). Widening spheres of impact: The role of forgiveness in marital and family functioning. *Journal of Family Psychology*, 23(1), 1–13. <https://doi.org/10.1037/a0014354>
- Gordon, K.C., & Baucom, D.H. (2003). Forgiveness and marriage: Preliminary support for a measure based on a model of recovery from a marital betrayal. *The American Journal of Family Therapy*, 31, 179–199. <http://doi.org/10.1080/01926180390167188>.
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology*, 61(1), 6–15. <https://doi.org/10.1037/0022-006X.61.1.6>
- Gottman, J. M. (2011). *The science of trust: Emotional attunement for couples*. W W Norton & Co.

- Goztepe G. I. & Kislak S. (2019). The predictive role of forgiveness and the level of repetitive thinking on mental health and marital adjustment in married individuals. *Dusunen Adam-The Journal of Psychiatry and Neurological Sciences*, 32, 236-245. <https://doi.org/10.14744/dajpns.2019.00033>
- Harper, Q., Worthington, E. L., Jr, Griffin, B. J., Lavelock, C. R., Hook, J. N., Vrana, S. R., & Greer, C. L. (2014). Efficacy of a workbook to promote forgiveness: a randomized controlled trial with university students. *Journal of Clinical Psychology*, 70(12), 1158–1169. <https://doi.org/10.1002/jclp.22079>
- He, Q., Zhong, M., Tong, W., Lan, J., Li, X., Ju, X., & Fang, X. (2018). Forgiveness, marital quality, and marital stability in the early years of Chinese marriage: An actor–partner interdependence mediation model. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.01520>
- Ho, M., & Fung, H. (2011). A dynamic process model of forgiveness: A cross-cultural perspective. *Review of General Psychology*, 15(1), s. 77-84. <https://doi.org/10.1037/a0022605>
- Ho, M. Y., & Worthington, E. L., Jr. (2020). Is the concept of forgiveness universal? A cross-cultural perspective comparing Western and Eastern cultures. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 39(5), 1749–1756. <https://doi.org/10.1007/s12144-018-9875-x>
- Hook, J., Worthington, E., & Utsey, S. (2009). Collectivism, forgiveness, and social harmony. *Counseling Psychologist*, 37(6), 821–847. <https://doi.org/10.1177/0011000008326546>
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <http://doi.org/10.1080/10705519909540118>
- Joo, M., Terzino, K. A., Cross, S. E., Yamaguchi, N., & Ohbuchi, K. (2019). How Does Culture Shape Conceptions of Forgiveness? Evidence From Japan and the United States. *Journal of Cross-Cultural Psychology*, 50(5), 676–702. <https://doi.org/10.1177/0022022119845502>
- Karadoğan, F.M. & Tagay, O., (2022). Predictive Role of Attachment Styles and Emotion Regulation on Forgiveness in Married People. *Psikiyatride Guncel Yaklasimlar - Current Approaches in Psychiatry* 14, 128–136. <https://doi.org/10.18863/pgy.1117537>
- Karremans, J. C., & Smith, P. K. (2010). Having the Power to Forgive: When the Experience of Power Increases Interpersonal Forgiveness. *Personality and Social Psychology Bulletin*, 36(8), 1010-1023. <http://doi.org/10.1177/0146167210376761>
- Karremans, J. C., Regalia, C., Paleari, F. G., Fincham, F. D., Cui, M., Takada, N., Ohbuchi, K.I., Terzino, K., Cross, S. E., & Uskul, A. K. (2011). Maintaining Harmony Across the Globe: The Cross-Cultural Association Between Closeness and Interpersonal Forgiveness. *Social Psychological and Personality Science*, 2(5), 443–451. <https://doi.org/10.1177/1948550610396957>
- Kline, R. B. (2016). *Methodology in the social sciences. Principles and practice of structural equation modeling* (4th ed.). Guilford Press.
- Leggett, D. G., Roberts-Pittman, B., Byczek, S., & Morse, D. T. (2012). Cooperation, conflict, and marital satisfaction: Bridging theory, research, and practice. *The Journal of Individual Psychology*, 68(2), 182–199.
- McCullough, M. E. (2000). Forgiveness as human strength: Theory, measurement, and links to well-being. *Journal of Social and Clinical Psychology*, 19(1), 43–55. <https://doi.org/10.1521/jscp.2000.19.1.43>
- McCullough, M. E., Bellah, C. G., Kilpatrick, S. D., & Johnson, J. L. (2001). Vengefulness: Relationships with forgiveness, rumination, well-being, and the Big Five. *Personality and Social Psychology Bulletin*, 27(5), 601–610. <http://doi.org/10.1177/0146167201275008>
- McCullough, M. E., Bono, G., & Root, L. M. (2007). *Rumination, emotion, and forgiveness: Three longitudinal studies*. *Journal of Personality and Social Psychology*, 92(3), 490–505. <http://doi.org/10.1037/0022-3514.92.3.490>

- McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiving in close relationships: II. Theoretical elaboration and measurement. *Journal of Personality and Social Psychology*, 75(6), 1586–1603. <https://doi.org/10.1037/0022-3514.75.6.1586>
- Novak, J. R., Smith, H. M., Larson, J. H., & Crane, D. R. (2017). Commitment, Forgiveness, and Relationship Self-Regulation: An Actor Partner Interdependence Model of Relationship Virtues and Relationship Effort in Couple Relationships. *Journal of Marital and Family Therapy*, 44(2), 353–365. doi:10.1111/jmft.12258
- Orbon, M., Mercado J, & Balila J (2015). Effects of forgiveness therapy on recovery among residents of drug rehabilitation centers. *Procedia-Social and Behavioral Sciences*, 165:12-20. <https://doi.org/10.1016/j.sbspro.2014.12.599>
- Osei-Tutu, A., Dzokoto, V.A., Oti-Boadi, M., Belgrave, F.Z., & Appiah-Danquah, R. (2018). Explorations of Forgiveness in Ghanaian Marriages. *Psychological Studies*, 64, 70-82. <https://doi.org/10.1007/s12646-018-0471-9>
- Ozgun, S. (2010). *The predictors of the traumatic effect of extramarital infidelity on married women: Coping strategies, resources, and forgiveness*. [Unpublished Master Thesis, Middle East Technical University-Ankara]. Turkish National Thesis Center
- Özgür, H., & Eldeleklioğlu, J. (2017). REACH affetme modelinin Türk kültürü üzerinde etkililiğinin incelenmesi [Analyzing the effect of REACH Forgiveness Model on the Turkish culture]. *The Journal of Happiness & Well-Being*, 5(1), 98-112.
- Paleari, F. G., Regalia, C., & Fincham, F. (2005). Marital Quality, Forgiveness, Empathy, and Rumination: A Longitudinal Analysis. *Personality and Social Psychology Bulletin*, 31(3), 368–378. <http://doi.org/10.1177/0146167204271597>
- Paleari, F. G., Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: The Marital Offence-Specific Forgiveness Scale (MOFS). *Psychological Assessment*, 21(2), 194–209. <https://doi.org/10.1037/a0016068>
- Sandage, S. J., & Williamson, I. (2005). Forgiveness in cultural context. In E. L. Worthington, Jr. (Ed.), *Handbook of Forgiveness* (pp. 41-55). New York: Brunner Routledge.
- Sandage, S. J., Crabtree, S. A., & Bell, C. A. (2020). Forgiveness and culture: Conceptual issues. In E. L. Worthington, Jr., & N.Wade (Eds.), *Handbook of forgiveness* (2nd ed., pp. 201–211). Routledge.
- Sandilya, G. & Shahnawaz, G. (2014). Willingness to Forgive the Spouse: A Qualitative Study. *Psychological Studies*, 59, 413-418. <https://doi.org/10.1007/s12646-014-0277-3>.
- Tabachnick, B.G., & Fidell, L.S. (2013). *Using Multivariate Statistics*. 6th ed. New Jersey: Pearson Education Inc.
- Taysi, E., Vural, D. Forgiveness Education for Fourth Grade Students in Turkey. *Child Indicators Research*, 9, 1095–1115 (2016). <https://doi.org/10.1007/s12187-015-9364-9>
- Woldarsky Meneses, C., & Greenberg, L. S. (2012). Interpersonal forgiveness in Emotion-focused Couples' Therapy: Relating process to outcome. *Journal of Marital and Family Therapy*, 40(1), 49–67. <http://doi.org/10.1111/j.1752-0606.2012.00330.x>
- Worthington, E. L., Jr., Mazzeo, S. E., & Canter, D. E. (2005). Forgiveness-promoting approach: Helping clients REACH forgiveness through using a longer model that teaches reconciliation. In L. Sperry & E. P. Shafranske (Eds.), *Spiritually oriented psychotherapy* (pp. 235–257). American Psychological Association. <https://doi.org/10.1037/10886-010>
- Worthington, R. L., & Whittaker, T. A. (2006). Scale Development Research: A Content Analysis and Recommendations for Best Practices. *The Counseling Psychologist*, 34(6), 806–838. <https://doi.org/10.1177/0011000006288127>

- Yaman Akpınar, T. & Altunsu Sönmez, Ö. (2021). Relationship between marital offense-specific forgiveness and marital adjustment. *Journal of Social Science of Mus Alparslan University*, 9, 203-210. <http://doi.org/10.18506/anemon.772923>
- Zhou, Y. (2019). A mixed methods model of scale development and validation analysis. *Measurement: Interdisciplinary Research and Perspectives*, 17(1), 38–47. <https://doi.org/10.1080/15366367.2018.1479088>



RESEARCH ARTICLE

Parental Emotional Availability and Well-Being: The Mediating Role of Difficulties in Emotion Regulation

Ayşenaz Ekin DUMAN^a  & Meliha TUZGÖL DOST^b 

^aNevşehir Hacı Bektaş Veli University, Nevşehir, Türkiye. ^bHacettepe University, Ankara, Türkiye.

ARTICLE HISTORY

Received: 04.01.2024

Accepted: 03.04.2024

KEYWORDS

Parental Emotional Availability, Well-Being, Difficulties in Emotion Regulation, University Students

ABSTRACT

This study investigates the mediating role of difficulties in emotion regulation in the relationship between the emotional availability of university students' parents and university students' well-being. The study group comprised 541 university students. Study data were collected using the Emotional Availability of Parents Scale, the PERMA Scale, the Difficulties in Emotion Regulation Scale, and a personal information form. We tested the mediating role of difficulties in emotion regulation in the relationship between the emotional availability of university students' parents and university students' well-being via structural equation modeling. The findings showed that difficulties in emotion regulation play a partial mediating role in the relationship between the mother's emotional availability and well-being. However, difficulties in emotion regulation do not play a role in the relationship between the father's emotional availability and well-being. While the father's emotional availability does not predict difficulties in emotion regulation at a statistically significant level, the mother's emotional availability statistically predicts difficulties in emotion regulation in the negative direction. Furthermore, the emotional availability of both parents statistically predicts university students' well-being in a positive way.

The university years can be considered as a transition period in life when individuals go through a number of academic, psychological, emotional, and social changes. During this period, students can have positive life experiences such as making life decisions independently (Hernández-Torrano et al., 2020), acquiring new knowledge and skills, and expanding their social networks (Alsubaie et al., 2019), but they may also struggle with stressful experiences such as living away from family, adapting to a different environment, or coping with economic and academic difficulties (Gonzales et al., 2022). These stressful experiences make students' lives more difficult (Costello et al., 2022) and negatively affect their productivity, academic success, social relationships, and general health (Dessauvague et al., 2022) and well-being (De Coninck et al., 2019). For these reasons, the university years constitute a risky period in life in terms of maladaptive coping, academic failure (Duffy et al., 2019), and mental health and well-being (Gonzales et al., 2022). It is emphasized in the literature

CORRESPONDING AUTHOR Ayşenaz Ekin DUMAN, aysenazduman@nevsehir.edu.tr, ORCID: 0000-0003-2682-0763, Nevşehir Hacı Bektaş Veli University, Nevşehir, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

that mental health problems are quite common among university students (Westberg et al., 2022) and that students' well-being significantly decreases compared to the years before starting university (Worsley et al., 2022). This decline in students' well-being is a growing concern around the world (Chen & Lucock, 2022). Therefore, there is also growing interest in university students' mental health and well-being (Hernández-Torrano et al., 2020).

Well-being is defined as a complex structure that encompasses psychological functionality and experience at the best possible level (Deci & Ryan, 2008). Wong (2011) described well-being as a structure that helps people feel good, stating that all human efforts are aimed at achieving well-being. According to Seligman (2011), who developed one of the most comprehensive well-being theories, well-being is composed of five main components: positive emotions, engagement, positive relationships, meaning, and accomplishment. Positive emotions reflect a pleasant life characterized by positive feelings, meaning entails having a sense of belonging to something bigger than oneself and acting accordingly, accomplishment is defined as competence and the capacity to fulfill responsibilities, positive relationships involve the presence of positive interactions established with important people in life, and engagement means devoting full concentration to given tasks (Butler & Kern, 2016). According to the World Health Organization (WHO, 2001), well-being is closely related to mental health. Furthermore, well-being is needed for a functional life (Seligman, 2011). For that reason, it is possible to state that well-being has a critical role in people's lives. Recent studies (e.g., Dias-Lopes et al., 2020; Dodd et al., 2021) have shown that university students often report a low level of well-being. In the Global Youth Well-Being Index report cooperatively prepared by the International Youth Foundation and Hilton (2017) to identify the well-being levels of young people aged 15-29, 72% of young Turkish people stated that their lives were stressful. Likewise, according to data from the Life Satisfaction Survey conducted in Turkey, among young people aged 18-24, 56.7% reported that they were happy/well in 2019, but this value decreased to 47.2% in 2020 and 44.5% in 2021 (Turkish Statistical Institute, 2020, 2021, 2022). Furthermore, according to data from that survey for the year 2021, the age group of 18-24 years had the lowest level of well-being. This survey clearly demonstrates that the rate of young adults reporting that they are happy/well has decreased in recent years in Turkey. In light of the related literature and statistics, it is possible to state that university students experience a critical period in terms of well-being. It is necessary to understand the factors that affect students' well-being in order to ensure, protect, and enhance it. Identifying the factors that affect well-being can also guide researchers and experts who want to help students achieve a better life (Punia & Malaviya, 2015). Moreover, it is also necessary to identify the factors that affect well-being in order to make the university years productive (Rand et al., 2020). In the current study, we address the emotional availability of parents and difficulties in emotion regulation as variables predicting students' well-being and we investigate the direct/indirect relationships among the related variables.

Parental Emotional Availability and Well-Being

Emotional availability is defined as a construct of relationships in which individuals express their feelings and respond to each other's emotional reactions (Emde & Easterbrooks, 1985). On the other hand, "parental emotional availability" was originally used to describe the presence of a supportive mother for a baby who is in the phase of exploring (Mahler et al., 1975). More generally, parental emotional availability reflects the emotional climate, quality, and qualification of a parent-child relationship (Biringen, 2000). Moreover, the emotional bond between a parent and child affects the child's happiness and well-being (Biringen & Easterbrooks, 2012; Kubicek et al., 2013). Parental emotional availability helps children adapt to their environments healthily and supports positive growth (Biringen, 2000; Ziv et al., 2018). A parent who is available emotionally is sensitive to all kinds of signals coming from the child and gives feedback to the child's positive and negative feelings, which is significant for the child's well-being (Biringen et al., 2014). Shaw et al. (2004) stated that emotional support given by a parent can have positive effects on psychological health in the following years. Similarly, Lum and Phares (2005) indicated that a high level of parental emotional availability leads to a decrease in emotional and behavioral disorders among young people. Oppenheim (2012) emphasized that a lack of parental emotional availability can be a risk factor for psychopathology. Studies conducted in recent years (e.g., Özbiler, 2020; Özdoğan, 2020) have revealed that as parental emotional availability increases, young people's level of well-being increases, as well. In light of the related literature

and previous findings, we considered parental emotional availability as a significant variable predicting well-being in the current study.

Difficulties in Emotion Regulation and Well-Being

Emotions that are mostly harmonious can sometimes be destructive (John & Gross, 2004). Emotions may be destructive when they are experienced in the wrong type, intensity, or time, and it becomes necessary to regulate them in such cases (Gross, 2008). Emotion regulation is described as a process that entails regulating the intensity and frequency of emotions, and emotion regulation is claimed to contribute to one's well-being (Gross & Thompson, 2007). For that reason, being able to regulate emotions effectively when necessary is thought to be a basic determinant of mental health (Gross & Munoz, 1995). Being able to regulate emotions flexibly is also important in terms of adaptation and functionality in life (Helion et al., 2019). Gross (2002) stated that well-being is closely related to emotions and emphasized the importance of emotion regulation. Likewise, regulating emotions effectively is considered to be an important component of well-being in the literature as well as in clinical psychology practices (Nyklíček et al., 2011). On the other hand, difficulty in emotion regulation is defined as an inability to cope with emotional experiences or regulate emotions (Leahy et al., 2011). A review of the literature shows that many psychopathologies are associated with emotion regulation difficulties (Thompson & Goodman, 2010). Considering that one of the criteria of well-being is the absence of mental disorders, it is obvious that difficulties in emotion regulation can affect well-being in a negative way. Related studies (Gross & John, 2003; Saxena et al., 2011; Stevenson et al., 2019) have shown that students' levels of well-being decrease as they have more difficulties in emotion regulation. In light of the related literature and findings, we considered difficulties in emotion regulation as a significant variable affecting well-being.

Parental Emotional Availability and Difficulties in Emotion Regulation

Newborn babies need outside support in the regulation of their emotions (Kopp, 1989). This support is given by parents or other people who care for them in the early years of their lives. Positive interactions between parents and children contribute significantly to children's skills of emotion regulation (Easterbrooks & Biringen, 2000). For example, the parent or other person caring for a baby can help the baby regulate emotions by soothing long-lasting cries during stressful moments or by reinforcing the current situation during happy moments (Emde, 1998). For that reason, harmonious interactions with caretakers are crucial for babies to gain the skill of emotion regulation (Field, 1994). Babies who have emotionally available parents develop ways to express their feelings, emotion regulation strategies, skills of empathy, and self-perception over time (Emde & Easterbrooks, 1985). In other words, a parent who is emotionally available helps the baby communicate and regulate emotions through recurring experiences (Emde, 1998). On the other hand, when parents are not available emotionally, when there are periods of long separation, or when parents are experiencing depression, difficulties in emotion regulation emerge for babies (Field, 1994). Hence, parental emotional availability is crucial in ensuring the acquisition of healthy emotion regulation skills (Biringen et al., 2014; Saunders et al., 2015). Related studies in the literature (Gökçe & Yılmaz, 2018; Kelek, 2020) have shown that students have lower levels of difficulties in emotion regulation as parental emotional availability increases. In light of the related literature and findings, we considered parental emotional availability as a significant variable affecting difficulties in emotion regulation in the current study.

The Current Study

University students play critical roles in the development of cities, nations, and societies (Ratanasiripong et al., 2018). That is why university students' well-being is important not just for their individual success and potential (Arslan & Asıcı, 2022) but for societal development as a whole (Ratanasiripong et al., 2018). When considered from this point of view, students' well-being is a phenomenon that should be investigated at both individual and social levels. Related studies (e.g., Parker et al., 2023; Roksa & Kinsley, 2019) have shown that there is a positive relationship between university students' well-being and the emotional support they receive from their parents. In fact, in the Life Satisfaction Survey conducted by the Turkish Statistical Institute (2022), family members ranked first as a source of happiness for individuals. Kağıtçıbaşı (2017) further stated that

adult children’s economic autonomy is accepted while emotional and psychological dependence on the family is maintained in countries like Turkey, where the dominating family model is described as a model of psychological/emotional interdependence. Considering Turkey’s cultural features, it is possible to state that parental emotional availability is a significant factor for university students’ well-being.

A review of the literature shows that there is a limited number of studies to date on the relationship between parental emotional availability and well-being (e.g., Özbiler, 2020; Özdoğan, 2020), and these studies have some important limitations. First, these studies have focused on the relationship between well-being and the emotional availability of only one parent, such as the emotional availability of fathers (Özbiler, 2020). Second, studies that investigated the relationship between well-being and parental emotional availability (Özbiler, 2020; Özdoğan, 2020) did not examine the mediating role of difficulties in emotion regulation. Therefore, the role of effective emotion regulation in increasing well-being has not been studied well in the literature. Considering the fact that parental emotional availability contributes to the development of emotion regulation skills (Easterbrooks & Biringen, 2000) and that emotion regulation has a crucial effect on well-being (Gross, 2002), we believe that addressing these three variables together is important for understanding the dynamics of the relationships among them. Moreover, while designing the current study, we assumed that emotional availability was more persistent and consistent than emotion regulation skills and that the skills of emotion regulation could be improved through various methods. In brief, the current study aims at investigating the mediating role of difficulties in emotion regulation in the relationship between university students’ well-being and parental emotional availability to fill the aforementioned gap in the literature. Accordingly, the research hypotheses were as follows:

H1: The emotional availability of university students’ parents predicts university students’ well-being at a statistically significant level.

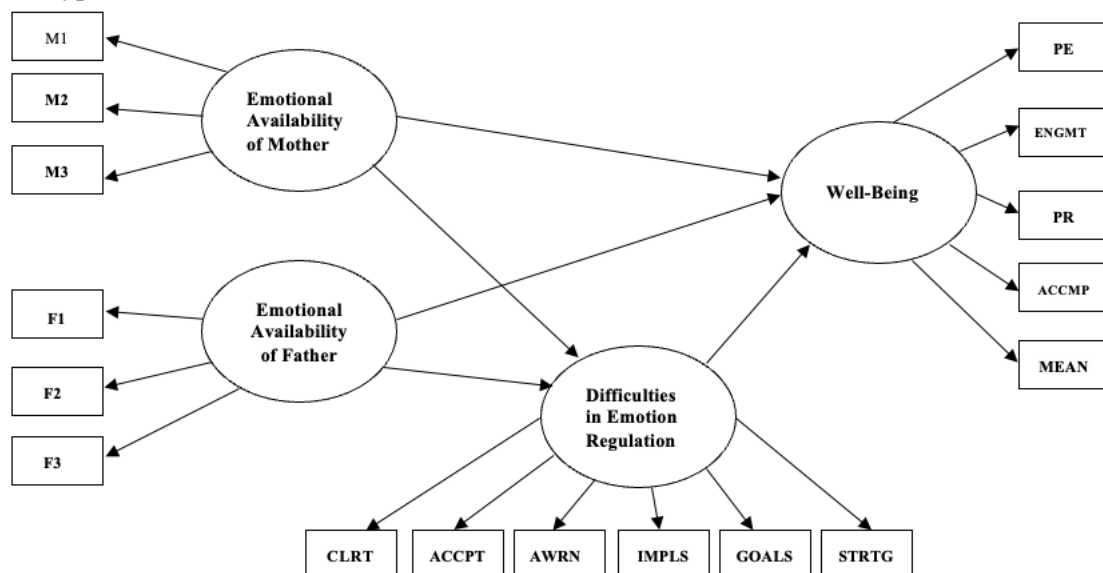
H2: The emotion regulation difficulties of university students predict university students’ well-being at a statistically significant level.

H3: The emotional availability of university students’ parents predicts university students’ emotion regulation difficulties at a statistically significant level.

H4: Emotion regulation difficulties have a statistically significant mediating role between the emotional availability of university students’ parents and university students’ well-being.

Figure 1 provides the conceptual model reflecting the hypotheses of the study.

Figure 1. Hypothetical Model



Note. M1, M2, M3 = Parcels of Emotional Availability of Mother; F1, F2, F3 = Parcels of Emotional Availability of Father; PE = Positive Emotions; ENGMT = Engagement; PR = Positive Relationships; ACCMP = Accomplishment; MEAN = Meaning; CLRT = Clarity; ACCPT = Acceptance; AWRN = Awareness; IMPLS = Impulse; GOALS = Goals; STRTG = Strategies.

Method

Research Model

The current study aims to investigate the mediating role of difficulties in emotion regulation in the relationship between university students' well-being and the emotional availability of their parents. It is a correlational study employing a quantitative method. Correlational studies examine relationships among two or more variables without manipulating any of the variables (Fraenkel et al., 2012). In the current study, we examine both direct and indirect relationships among university students' well-being, their parents' emotional availability, and difficulties in emotion regulation.

Study Group

The study group comprised 541 university students attending different universities in Turkey in the spring semester of the 2020-2021 academic year. During the data collection process, we employed convenience sampling as we gathered the study data online in March and April, while there were precautions in place against the COVID-19 pandemic such as social distancing and partial quarantine. Convenience sampling is not a random sampling method. When it is difficult to employ random sampling methods, the convenience sampling method can be used to reach individuals who are conveniently accessible (Fraenkel et al., 2012). One of the inclusion criteria for enrollment in the current study was to have both parents alive. This criterion was necessary as one of the variables of the current study is parental emotional availability. Table 1 shows the demographic features of the study group.

Table 1. Demographic Features of the Study Group

Variables	Group	<i>n</i>	%
Gender	Female	446	82.4
	Male	95	17.6
Age	18	55	10.2
	19	97	17.9
	20	121	22.4
	21	110	20.3
	22	102	18.9
	23	25	4.6
	24+	31	5.8
Year of Study	English Prep School	8	1.5
	1st	198	36.6
	2nd	89	16.5
	3rd	133	24.6
	4th	101	18.7
	4th+	12	2.2
Total		541	100

Procedure

Before we began collecting the study data, we received permission from the Hacettepe University Ethics Commission (dated 16.02.2021 and numbered E-35853172-300-00001451762) as well as from the researchers who developed the data collection tools. After obtaining the necessary permissions, we transformed the data collection tools and forms to an online platform without making any other changes. The online forms also included a voluntary participation form that provided information about the study, and the participants ticked the consent button located at the end of the form before moving on to the scale items. The participants were required to tick all items in the scales to be able to proceed.

After creating the online forms, we shared the relevant link address via online platforms between the dates of March 15 and April 30, 2021. The online forms included the contact information of the researchers and the

participants were informed that they could contact the researchers when necessary. In addition, we paid special attention to the inclusion of detailed information on voluntary participation, confidentiality, and the protection of the study data as well as potential risks in the voluntary participation form. The data collection process lasted about two months (March and April of 2021) and we had reached 590 university students at the end of that time period.

Before starting to analyze the study data, we checked the data to see whether there were any missing or erroneous data. We found that 26 of the students did not meet the criterion of having both parents alive, and so we removed the responses of those students from the dataset. Furthermore, 23 of the remaining 564 students had given the same responses to all items in the mother and father forms of the Parental Emotional Availability Scale (Gökçe & Yılmaz, 2018). Therefore, we removed the responses of those 23 students from the dataset. We also checked the dataset for outliers and concluded that there were none. After these pre-analysis controls, we started the data analysis with the data gathered from 541 participants.

Data Collection

Measures

University Students' Personal Information

Personal Information Form. In the current study, we used a personal information form to gather information on demographic features such as the students' gender, age, university, year of study, and the parents being alive or not.

Well-Being

PERMA Scale. This scale, which was developed by Butler and Kern (2016) to identify individuals' levels of well-being, is composed of 23 items and 5 dimensions, which are positive emotions, engagement, positive relationships, accomplishment, and meaning. The internal consistency coefficient of the original form of the scale varied between .92 and .95, while the internal consistency coefficient of each sub-dimension varied between .60 and .92. The scale was adapted to Turkish by Demirci et al. (2017) with a study group of university students, and they concluded that the Turkish form also had 23 items and 5 dimensions. The internal consistency coefficient of the whole scale was calculated to be .91 for the Turkish form, while the coefficients of the sub-dimensions varied between .61 and .81. At the end of the reliability analysis that we conducted in the current study, we concluded that the Cronbach alpha internal consistency coefficient was .93 and the values for sub-dimensions varied between .70 and .86.

Parental Emotional Availability

Emotional Availability of Parents Scale. This scale was developed by Lum and Phares (2005) to identify the emotional availability of individuals' parents. The scale is composed of 15 items that ask participants to evaluate the mother and father separately, and it has only one dimension. At the end of the reliability analysis, the Cronbach alpha reliability coefficient of the scale was found to be .92 for the mother's form and .93 for the father's form. On the other hand, the coefficients were respectively .96 and .97 for the mother and father based on data gathered from a non-clinical sample. The scale was adapted to Turkish by Gökçe and Yılmaz (2018), who also concluded that the scale was composed of 15 items and a single dimension. The internal consistency coefficient of the Turkish version was .95 for the mother's form and .97 for the father's form. At the end of the reliability analysis that we conducted in the current study, we concluded that the Cronbach alpha internal consistency coefficient was .98 for the mother's form and .98 for father's form.

Difficulties in Emotion Regulation

Difficulties in Emotion Regulation Scale. This scale was developed by Gratz and Roemer (2004) to identify individuals' difficulties in emotion regulation. The scale is composed of 36 items within 6 dimensions, which are acceptance, goals, impulse, awareness, strategies, and clarity. The Cronbach alpha coefficient for the whole scale was found to be .93 while the coefficients for the sub-scales varied between .80 and .89. The scale was adapted to Turkish by Rugancı and Gençöz (2010), who also concluded that the scale was composed of 6 dimensions and 36 items. The Cronbach alpha coefficient for the whole Turkish form was found to be .94,

while the coefficients for the sub-scales varied between .75 and .90. The Turkish version of the scale was subsequently reviewed by Kavcıoğlu and Gençöz (2011), who made some minor changes in the translation of the scale items. In the current study, we used that revised final version of the scale. At the end of the reliability analysis we conducted in the current study, we concluded that the Cronbach alpha internal consistency coefficient was .95 for the whole scale while the coefficients for the sub-dimensions varied between .77 and .90.

Data Analysis

We first conducted preliminary analysis to test the structural equation model using the IBM SPSS Statistics 22.0 and LISREL 8.80 package programs. We calculated skewness and kurtosis values for normality testing and Pearson product-moment correlation coefficients for multicollinearity. After the preliminary analysis, we conducted structural equation model analysis in two steps. First we tested the measurement model for all the variables to be included in the model, and then we tested mediation through the structural model according to the measurement model and the hypotheses (Şimşek, 2007). As all scores were continuous, we employed the maximum likelihood method for estimation. We interpreted path/regression coefficients obtained from the structural equation model according to the critical value of ± 1.96 , which is the t value at the significance level of $\alpha = .05$. When the coefficients are higher than +1.96 or lower than -1.96, the path is accepted to be significant, while values not meeting those criteria are accepted to be insignificant (Çokluk et al., 2010).

We tested the observed variables in the structural equation model by using the sub-dimensions obtained from the scales rather than the items themselves. As the Parental Emotional Availability Scale is one-dimensional, we used the method of parceling for that scale (Şimşek, 2007). Accordingly, we obtained modified item correlations from the mother and father scales of parental emotional availability, and we listed those correlations and assigned three different parcels for each sub-dimension (e.g., M1, M2, and M3 parcels for the emotional availability of the mother). The method of parceling is often used for one-dimensional structures and it facilitates the fit between the model and data (Bandalos, 2002). The related literature includes many model-data fit indices that determine the fit of structural models. In the current study, we employed the most frequently used indices. Table 2 shows the acceptable values of model-data fit according to these fit indices.

Table 2. Model-Data Fit Indices and References

Index	Critical Value	References
χ^2/df	≤ 3 , perfect model fit	(Kline, 2005)
	≤ 5 , good model fit	
RMSEA, SRMR	$\leq .05$, perfect model fit	(Anderson & Gerbing, 1984; Cole, 1987; Hu & Bentler, 1999; Schumacker & Lomax, 1996; Steiger, 1990)
	$\leq .08$, good model fit	
	$\leq .10$, good model fit	
CFI	$\geq .95$, perfect model fit	(Fan et al., 1999; Schumacker & Lomax, 1996)
	$\geq .90$, good model fit	
GFI	$\geq .95$, perfect model fit	(Hu & Bentler, 1999; Schumacker & Lomax, 1996)
	$\geq .90$, good model fit	
NFI, IFI	$\geq .95$, perfect model fit	(Hu & Bentler, 1999; Sümer, 2000)
	$\geq .90$, good model fit	

Results

Preliminary Analysis

Before testing the model developed in the current study, we evaluated the assumptions of structural equation model analysis. We first addressed normal distribution and the problem of multicollinearity. We calculated the skewness and kurtosis values for normality testing. The coefficient of skewness was found to vary between -0.866 and 0.998, while the coefficient of kurtosis varied between -1.138 and 0.659. According to George and Mallery (2010), values of skewness and kurtosis between -2 and +2 signify the normal distribution of the scores. Therefore, the data obtained in the current study reflected normal distribution, meeting the related assumption of the structural equation model (see Table 3). We then evaluated the problem of multicollinearity based on the Pearson product-moment correlation coefficient. According to Çokluk et al. (2010), a correlation value equal to or higher than .90 signifies the problem of multicollinearity. The results of the correlation analysis conducted in the current study showed that there was no problem of multicollinearity among the variables in the model (see Table 4).

Table 3. Descriptive Statistics Regarding the Dimensions of Scales

Scales	Dimensions	Lowest	Highest	Mean	SD	Skewness	Kurtosis
Emotional Availability of Mother	M1	5	30	22.62	6.87	-0.86	-0.19
	M2	5	30	22.24	6.67	-0.72	-0.41
	M3	5	30	22.30	7.03	-0.74	-0.44
Emotional Availability of Father	F1	5	30	20.18	7.43	-0.45	-0.90
	F2	5	30	18.09	7.66	-0.18	-1.14
	F3	5	30	19.13	7.54	-0.30	-1.06
Well-Being	Positive Emotions	0	10	6.18	1.82	-0.72	0.57
	Engagement	0.33	10	6.78	1.76	-0.67	0.41
	Positive Relationships	0	10	6.40	2.02	-0.64	0.22
	Meaning	0	10	6.38	1.99	-0.87	0.62
	Accomplishment	0.33	10	6.70	1.61	-0.71	0.66
Difficulties in Emotion Regulation	Clarity	5	25	13.04	4.19	0.46	-0.31
	Awareness	6	28	14.96	4.14	0.19	-0.22
	Impulse	6	30	14.66	5.67	0.63	-0.38
	Accept	6	30	12.69	5.63	0.99	0.48
	Goals	5	25	16.75	4.85	-0.13	-0.98
	Strategy	8	40	20.62	7.57	0.54	-0.41

According to Baron and Kenny (1986), measurement models need to be validated in order to provide structural equation models. For this reason, we conducted the analysis of our structural model in two steps. First we tested the measurement model for all variables included in it and then we tested the mediation according to the measurement model and hypotheses (Şimşek, 2007).

Table 4. Results of Correlation Analysis Among the Dependent and Independent Variables

	M1	M2	M3	F1	F2	F3	Positive Emotion	Engagement	Positive Relationships	Meaning	Accomplishment	Clarity	Awareness	Impulse	Accept	Goals	Strategy
M1	1																
M2	.95**	1															
M3	.93**	.95**	1														
F1	.63**	.62**	.62**	1													
F2	.61**	.62**	.65**	.91**	1												
F3	.63**	.63**	.65**	.94**	.94**	1											
Positive Emotion	.31**	.32**	.31**	.32**	.31**	.30**	1										
Engagement	.25**	.29**	.28**	.29**	.29**	.27**	.73**	1									
Positive Relationships	.47**	.46**	.47**	.43**	.42**	.41**	.66**	.62**	1								
Meaning	.31**	.33**	.29**	.26**	.26**	.24**	.69**	.71**	.61**	1							
Accomplishment	.23**	.25**	.24**	.22**	.24**	.21**	.58**	.68**	.53**	.81**	1						
Clarity	-.15**	-.12**	-.10*	-.12**	-.12**	-.11**	-.32**	-.29**	-.37**	-.35**	-.36**	1					
Awareness	-.14**	-.13**	-.13**	-.13**	-.09*	-.10*	-.32**	-.29**	-.39**	-.35**	-.35**	.50**	1				
Impulse	-.23**	-.19**	-.18**	-.18**	-.14**	-.14**	-.41**	-.34**	-.39**	-.33**	-.28**	.47**	.31**	1			
Accept	-.15**	-.13**	-.14**	-.08*	-0.05	-0.07	-.31**	-.22**	-.30**	-.26**	-.24**	.41**	.34**	.63**	1		
Goals	-.12**	-.11**	-.09*	-0.05	-0.05	-0.06	-.29**	-.26**	-.23**	-.30**	-.28**	.30**	.10*	.61**	.39**	1	
Strategy	-.22**	-.19**	-.19**	-.17**	-.15**	-.14**	-.55**	-.44**	-.43**	-.44**	-.36**	.40**	.22**	.77**	.61**	.64**	1

Note. **p < .01, *p < .05.

Step 1: Testing the Measurement Model

In the first step, we conducted confirmatory factor analysis for the measurement model and tested the model-data fit. Table 5 shows the model-data fit values obtained from confirmatory factor analysis.

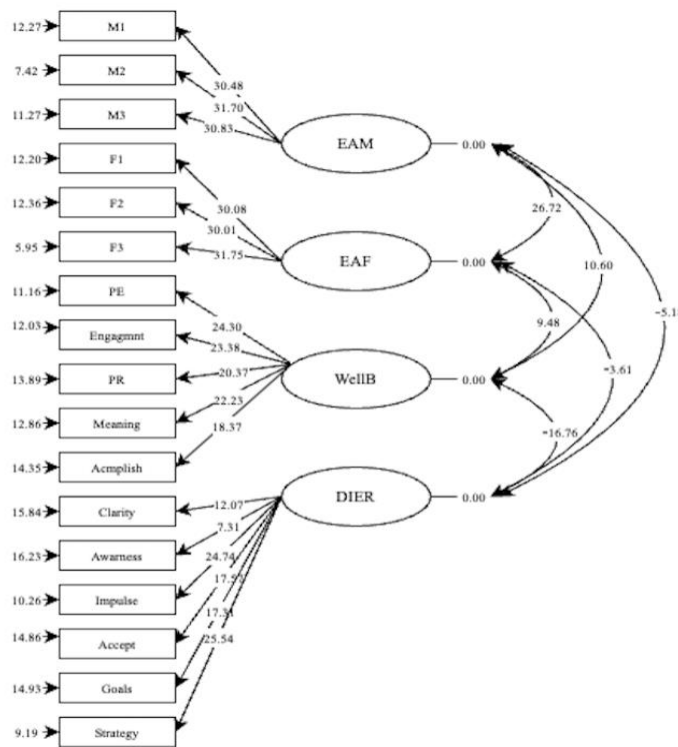
Table 5. Data Fit Values Regarding the Measurement Model

Fit Indices	Value
χ^2/df	4.54
RMSEA	.08
CFI	.97
NFI	.96
IFI	.97
SRMR	.06
GFI	.90

As seen in Table 5, we first calculated the chi-square/df (χ^2/df) value and we concluded that this value was $(504.28/11) = 4.54$, which reflects a good fit. We also found that another important fit value, RMSEA, was .080, which again reflected a good fit. The other considered data fit values were model-data fit values for the general measurement model, and these values confirmed a good fit (CFI = .97, NFI = .96, IFI = .97, SRMR = .06, GFI = .90). Therefore, it was concluded that the model-data fit of the measurement model was appropriate for structural equation analysis.

After examining the model-data fit values, we tested the measurement model to determine the extent to which the observed variables explained the latent variables as well as investigating the relationships between latent variables. Figure 2 presents the related model.

Figure 2. Measurement Model Regarding the Mediating Role of Difficulties in Emotion Regulation in the Relationship Between University Students’ Parents’ Emotional Availability and University Students’ Well-Being



Chi-Square=504.28, df=111, P-value=0.00000, RMSEA= 0.080

Note. EAM = Emotional Availability of Mother; EAF = Emotional Availability of Father; WellB = Well-Being; DIER = Difficulties in Emotion Regulation; M1, M2, M3 = Parcels of Emotional Availability of Mother; F1, F2, F3 = Parcels of Emotional Availability of Father; PE = Positive Emotions; Engagmnt = Engagement; PR = Positive Relationships; Acmplish = Accomplishment; Accept = Acceptance.

Figure 2 shows the t values between the observed variables and latent variables in the model. The regression coefficients between all dimensions and latent variables were statistically significant. All t values were higher than +1.96, which is the critical value at the significance level of .05 (Şimşek, 2007). Therefore, construct validity was confirmed according to the results of confirmatory factor analysis for the measurement model. Table 6 shows the results of correlation analysis performed between latent variables.

Table 6. Results of Correlation Analysis Among Latent Variables

	Emotional Availability of Mother	Emotional Availability of Father	Difficulties in Emotion Regulation	Well-Being
Emotional Availability of Mother	1			
Emotional Availability of Father	.66**	1		
Difficulties in Emotion Regulation	-.23**	-.16	1	
Well-Being	.41**	.38**	-.57**	1

Note. ** $p < .01$, * $p < .05$.

As seen in Table 6, the relationships among latent variables were statistically significant ($p < .05$). The relationship between the emotional availability of the mother and that of the father was the relationship of highest significance, which is to be expected. This finding is likely due to the fact that both of those variables are measured with the same scale. There was a medium-level statistically significant relationship in the positive direction between parental emotional availability and well-being. While difficulties in emotion regulation were negatively related to well-being at a statistically significant medium level, the emotional availability of the mother was negatively related to difficulties in emotion regulation at a statistically significant low level ($p < .05$). There was no statistically significant relationship between the emotional availability of the father and difficulties in emotion regulation ($p > .05$). Therefore, although the measurement model displayed a good fit, the latent variable of difficulties in emotion regulation, which was the mediating variable in the current study, was not related to the emotional availability of the father, which means that the assumption necessary for the mediation model was not satisfied. For that reason, we did not include the path between these two latent variables in the analysis. After testing the measurement model, we moved on to the second step and developed the structural equation model.

Step 2: Testing the Structural Model

In the second step, we checked whether data fit for the structural model was achieved or not. Table 7 shows the data fit values for the structural model.

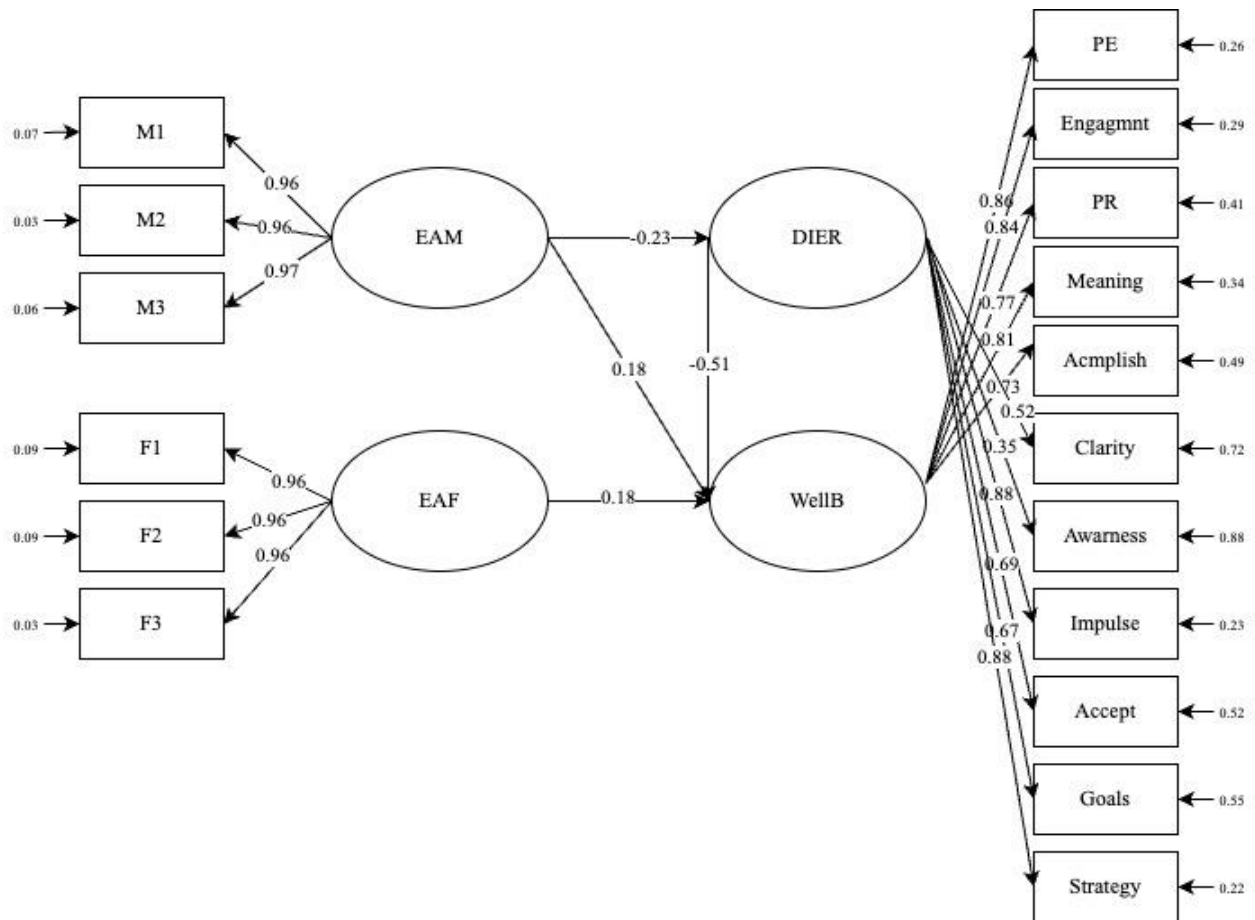
Table 7. Data Fit Values Regarding the Structural Model

Fit Indices	Value
χ^2/df	4.66
RMSEA	.078
CFI	.95
NFI	.96
IFI	.96
SRMR	.067
GFI	.88

As seen in Table 7, the chi-square/df value (χ^2/df) was found to be $(526.63/113) = 4.66$, which means there was a good fit. We also found that another significant fit value, RMSEA, was .078, which signifies a good fit. The other considered data fit values were model-data fit values for the general measurement model, and these values confirmed a good fit (CFI = .96, NFI = .96, IFI = .96, SRMR = .067, GFI = .88). Therefore, it was concluded that the model-data fit of the measurement model was appropriate for structural equation analysis.

After examining the data fit for the structural model, we developed the structural model in terms of the standardized path coefficients. Figure 3 shows the related model.

Figure 3. Structural Model Regarding Standardized Path Coefficients



As seen in Figure 3, the impact of the latent variable of the mother’s emotional availability on the variable of difficulties in emotion regulation was -0.23, while its impact on the variable of well-being was 0.18. The impact of the latent variable of difficulties in emotion regulation on the latent variable of well-being was -0.51. Finally, the impact of the latent variable of the father’s emotional availability on the latent variable of well-being was 0.18.

The coefficient of 0.41 obtained between the independent variable of the measurement model (emotional availability of the mother) and the dependent variable (well-being) also reflected the regression coefficient of the latent variable of the mother’s emotional availability on the latent variable of well-being. In the structural model, when the latent variable of difficulties in emotion regulation, which was simultaneously the mediating variable, was added to the model, the regression coefficient between the two variables was found to be 0.18. Therefore, the power of the relationship between the dependent and independent variables declined but did not lose its significance when the mediating variable was added to the model. According to Baron and Kenny (1986), if the relationship between the dependent and independent variables disappears after the mediating variable is added to the model, complete mediation is indicated, while if the relationship between the dependent and independent variables weakens but does not lose its significance, partial mediation is indicated. Therefore, the findings of this study indicate that difficulties in emotion regulation have a partial mediating role in the effect of the mother’s emotional availability on well-being.

Discussion

Association Between Parental Emotional Availability and Well-Being

In this study, we concluded that the emotional availability of the parents of university students predicts the students' well-being at a statistically significant level in the positive direction. Our findings are consistent with those of some other studies in the literature (e.g., Özbiler, 2020; Özdoğan, 2020). Özdoğan (2020) concluded that university students' subjective and psychological well-being increased when their parents' emotional availability increased. Özbiler (2020), on the other hand, addressed only the father's emotional availability and concluded that university students' subjective well-being increased when the father's emotional availability increased. In some other studies (e.g., Gökçe & Yılmaz, 2018; Rea-Sandin et al., 2020), it was found that as the parents' emotional availability increased, psychological symptoms decreased. There are also studies in the literature (e.g., Ferrari et al., 2015; Galambos et al., 2006; Mendoza et al., 2019) demonstrating that university students who are happy with their relationships with their parents have higher levels of well-being. Parental emotional availability determines the degree to which the child and parents are happy with their shared emotional relationship (Biringen & Easterbrooks, 2012). Thus, parental emotional availability can be considered a criterion for a healthy child-parent relationship. In other words, students who are happy with their relationships with their parents are more likely to have parents who are emotionally available. This idea is reinforced by findings that parental emotional availability determines the quality and health of the child-parent relationship (Biringen, 2000; Emde & Easterbrooks, 1985). Furthermore, parental emotional availability reflects the quality of the relationship between a parent and child (Biringen, 2000), and it affects one's well-being in a positive way (Kubicek et al., 2013). For that reason, it is possible to state that this finding of the current study is an expected one, and positive parent-child relationships including emotional availability affect well-being positively. Additionally, due to Turkey's cultural features, both autonomy and family dependence are maintained as children enter young adulthood (Kağıtçıbaşı, 2017). Therefore, close family relationships continue into the university years in Turkey, which is an important factor that contributes to individuals' well-being.

Association Between Difficulties in Emotion Regulation and Well-Being

Another finding of the current study is that difficulties in emotion regulation predict university students' levels of well-being in the negative direction at a statistically significant level. This is further confirmed by the findings of previous studies in the literature (Gross & John, 2003; Saxena et al., 2011; Stevenson et al., 2019). According to those studies, as difficulties in emotion regulation decrease, there is an increase in university students' subjective (Saxena et al., 2011) and psychological well-being (Stevenson et al., 2019); similarly, as functional emotion regulation skills increase, well-being increases as well (Gross & John, 2003). It is known that the emotions that help individuals hold on to life might sometimes be detrimental (Greenberg, 2017), and effective emotion regulation is closely related to well-being (Nyklíček et al., 2011). Therefore, it can be said that this finding of the current study is both to be expected and consistent with the literature. Some previous studies have also focused on the relationship between psychological problems and difficulties in emotion regulation as well as the relationship between difficulties in emotion regulation and well-being (e.g., Ince, 2020; Pektaş, 2015). According to those studies, as university students experience more difficulties in emotion regulation, they also experience more psychological symptoms (Ince, 2020) and depression (Pektaş, 2015). Since difficulty in emotion regulation is one of the diagnostic criteria for many psychological problems (Thompson & Goodman, 2010), the results of the current study are again consistent with the literature in this regard. Difficulties in emotion regulation negatively affect individuals' well-being and lead to psychological problems. In light of all these findings, it is clear that emotion regulation skills are important and necessary for well-being and psychological health. In fact, it seems that emotion regulation inevitably affects the well-being of individuals as they begin communicating with their caregivers through their emotions immediately after birth. For that reason, the ability to regulate emotions effectively positively affects individuals' psychological health, level of happiness, and well-being regardless of their developmental stage.

Association Between Parental Emotional Availability and Difficulties in Emotion Regulation

The current study has shown that the emotional availability of the mother predicts university students' difficulties in emotion regulation in the negative direction at a statistically significant level. However, the emotional availability of the father does not predict difficulties in emotion regulation at a statistically significant level. Previous studies conducted with young adults (e.g., Gökçe & Yılmaz, 2018; Kelek, 2020) showed that as parental emotional availability increased, the participants' levels of difficulties in emotion regulation decreased. On the other hand, Yüksel (2020) concluded that the emotional availability of only the father was negatively related to difficulties in emotion regulation. Thus, there are divergent findings in the literature. The findings of the current study are not surprising as mothers take care of babies after birth and in the following periods of early childhood in a majority of cases (Lum & Phares, 2005). Mahler et al. (1975) introduced the concept of emotional availability and they put particular emphasis on the mother's emotional and supportive presence while defining it. According to some other related studies (e.g., Clay et al., 2017; Lum & Phares, 2005), the emotional availability of the mother has a stronger effect on teenagers' functionality compared to the emotional availability of the father. Thus, the current study reinforces the findings of related studies in the literature both directly and indirectly. In this context, the mothers being the caretakers of babies (Lum & Phares, 2005) might have affected their emotional availability positively. Moreover, mothers continue to be the ones who provide the most care for children in the subsequent years of childhood, and that might have affected university students' preferences for their mothers to share their emotions. Mothers may be more influential on students' difficulties in emotion regulation for these reasons.

As mentioned above, mothers have a major role in children's developmental processes. On the other hand, it is emphasized that fathers also have important roles in children's psychological health and development (Lamb & Tamis-Lemonda, 2004), and that assumption is supported by studies on emotional availability (e.g., Volling et al., 2002; White & Renk, 2012). The current study has also revealed that when fathers are more available emotionally, students' levels of well-being increase (see Table 6). However, in the current study, there was no statistically significant relationship between the emotional availability of the father and difficulties in emotion regulation (see Table 6). Gender stereotypes about men may explain the differences in findings about the relationships among parental emotional availability, well-being, and emotion regulation. In Turkish culture, men are expected to suppress and hide their emotions and to be strong and successful in line with social messages such as "men don't cry" (Çelik, 2016). In such cases, it might be difficult for men to reflect on their emotions and talk to their children about emotional issues. Individuals who do not share their own feelings and do not recognize the emotional reactions given by children cannot contribute to children's emotion regulation skills. In this context, men often overlook their emotions, goals, and self in order to meet the requirements of "being a man" imposed on them by Turkish society (Çelik, 2016). In other words, men tend to keep their emotions to themselves in order to be accepted by society. This can negatively affect their emotional relationships with their children. At the same time, as a result of these gender stereotypes about men, students might not have considered the lack of an emotional relationship with their fathers to be a problem, and they might not have been negatively affected even if their fathers were not available emotionally.

The findings of the current study regarding mothers and fathers might have been shaped in part by the measurement tool that was used. We used the Emotional Availability of Parents Scale, which was adapted to Turkish by Gökçe and Yılmaz (2018). This measurement tool might have reflected some cultural differences as the behaviors indicating a father's emotional availability might differ in Turkish society and culture. Furthermore, parental emotional availability might be affected by gender roles depending on the child's developmental stage. For instance, fathers' financial support of their children in the university years might be interpreted as a form of emotional availability. For this reason, developing culture-specific measurement tools addressing emotional availability could provide more accurate information about the relationship between the emotional availability of the father and emotion regulation.

Mediating Role of Difficulties in Emotion Regulation

Finally, we investigated the main research problem of the current study and concluded that difficulties in emotion regulation had a partial mediating role in the relationship between the emotional availability of the mother and students' well-being. We also found that difficulties in emotion regulation did not have a mediating role in the relationship between the emotional availability of the father and students' well-being. We could not

identify any other study in the literature focusing simultaneously on parental emotional availability, well-being, and difficulties in emotion regulation. However, Gökçe and Yılmaz (2018) investigated the mediating role of difficulties in emotion regulation in the relationship between general psychological health and parental emotional availability, and they found that difficulties in emotion regulation had a partial mediating role. According to some other studies, difficulties in emotion regulation have a mediating role in the relationship between university students' perception of parental acceptance-refusal and their psychological symptoms (e.g., Ince, 2020), and in the relationship between continuous anxiety and depression (e.g., Pektaş, 2015). Thus, difficulties in emotion regulation have a determinant role in parents' effects on psychological health. In contrast to previous studies, however, the current study found that difficulties in emotion regulation did not have a mediating role in the relationship between the emotional availability of the father and well-being. In other words, studies have demonstrated a significant relationship between the emotional availability of the father and well-being, but difficulties in emotion regulation are not a determinant of that relationship. In this regard, the findings of the current study might be the result of social gender roles or stereotypes and cultural features.

Future Research

While designing the model of the current study, we conducted a literature review and did not find any studies focusing on the mediating role of difficulties in emotion regulation in the relationship between university students' well-being and parental emotional availability. Therefore, similar studies could be conducted with university students in Turkey and other countries. Moreover, the variables of the current study could be addressed in different developmental periods to compare similarities and differences between those developmental stages. Future studies could also include variables that might mediate the relationship between well-being and parental emotional availability, such as emotional self-efficacy or perceived emotional abuse. In the current study, we concluded that difficulties in emotion regulation did not mediate the relationship between the emotional availability of the father and well-being. This might be a result of social gender roles or stereotypes as well as some cultural features. In order to confirm the effect of culture, the mediating role in question could be studied with two separate models by grouping students according to their attitudes about social gender roles, such as those with egalitarian attitudes regarding social gender roles and those who consider men superior to women. Moreover, studies of cultural comparisons could be conducted to reveal the differences more clearly.

Some suggestions for experts working in the field as well as parents can be suggested in light of the findings of the current study. As difficulties in emotion regulation mediate the relationship between the emotional availability of the mother and well-being, experts could conduct group studies to improve students' skills of emotion regulation. Furthermore, as there is a positive relationship between the emotional availability of both parents and well-being, seminars could be held on what emotional availability is and what it encompasses. As it might be difficult to reach university students' parents, studies or seminars could be conducted via online platforms. In the current study, we concluded that the emotional availability of the father did not predict difficulties in emotion regulation at a significant level. Experts in the field could carry out various studies in order to improve the emotional availability of fathers. Furthermore, they could focus on fathers' emotional availability together with factors that can affect their emotional availability and social gender roles/stereotypes imposed on men/fathers. Parents could benefit from such research by participating in studies or programs that will improve their emotional availability.

Limitations

In addition to its strengths, the current study has some limitations. First, the study variables were limited to the features evaluated by the measurement tools selected for the study. Second, only undergraduate students aged 18-24 years who were receiving education at universities located in different provinces of Turkey in the 2020-2021 academic year participated in the current study. For this reason, the study results can only be generalized to groups that have personal or cultural features similar to those of the current study group. Considering that some students might not have an internet connection and students might take scales and questionnaires more

seriously when they are responding with pencil and paper, the fact that the study data were collected via an online platform in March-April 2021, when partial quarantine measures against COVID-19 were in place, can be described as another limitation. We reached university students via the convenience sampling method. Thus, the current study has the limitations of that sampling method. Furthermore, the numbers of male and female participants were not close to each other, which can be considered as another limitation. Finally, this study employed a correlational model, and the lack of causal relationships among the variables may be another limitation. Future studies could investigate the relationships among relevant variables by employing causal comparisons or longitudinal designs.

Author Note: This study was presented as a presentation at the 24th International Psychological Counseling and Guidance Congress held on 17-18-19 November 2023. Moreover, this study was obtained from the master's thesis completed in 2022.

Author Contributions: This study is obtained from a master's thesis prepared by the first author under the supervision of the second author. After the first author completed the reporting of the study, all sections of the manuscript were reviewed and edited by both authors.

Funding Disclosure: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Conflicts of Interest: The authors have no conflicts of interest to declare that are relevant to the content of this article.

Data Availability: The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics Approval and Consent to Participate: Ethical approval of this study was granted by the Hacettepe University Ethics Commission (REF: E-35853172-300-00001451762). The 1964 Declaration of Helsinki and its later amendments or comparable ethical standards were followed in all procedures performed in this study. Informed consent was obtained online from all participants in the study.

References

- Alsubaie, M. M., Stain, H. J., Webster, L. A. D., & Wadman, R. (2019). The role of sources of social support on depression and quality of life for university students. *International Journal of Adolescence and Youth, 24*(4), 484-496. <https://doi.org/10.1080/02673843.2019.1568887>
- Anderson, J. C., & Gerbing, D. W. (1984). The effect of sampling error on convergence, improper solutions, and goodness-of-fit indices for maximum likelihood confirmatory factor analysis. *Psychometrika, 49*(2), 155-173. <https://link.springer.com/article/10.1007/bf02294170>
- Arslan, Ü., & ASICI, E. (2022). The mediating role of solution focused thinking in relation between mindfulness and psychological well-being in university students. *Current Psychology, 41*(11), 8052-8061. <https://doi.org/10.1007/s12144-020-01251-9>
- Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling, 9*(1), 78-102. https://doi.org/10.1207/S15328007SEM0901_5
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Biringen, Z. (2000). Emotional availability: Conceptualization and research findings. *American Journal of Orthopsychiatry, 70*(1), 104-114. <https://doi.org/10.1037/h0087711>
- Biringen, Z., & Easterbrooks, M. A. (2012). Emotional availability: Concept, research, and window on developmental psychopathology. *Development and Psychopathology, 24*(1), 1-8. <https://doi.org/10.1017/S0954579411000617>

- Biringen, Z., Derscheid, D., Vliegen, N., Closson, L., & Easterbrooks, M. A. (2014). Emotional availability (EA): Theoretical background, empirical research using the EA scales, and clinical applications. *Developmental Review, 34*(2), 114–167. <https://doi.org/10.1016/j.dr.2014.01.002>
- Butler, J., & Kern, M. L. (2016). The PERMA-Profil: A brief multidimensional measure of flourishing. *International Journal of Wellbeing, 6*(3), 1-48. <https://doi.org/10.5502/ijw.v6i3.526>
- Chen, T., & Lucock, M. (2022). The mental health of university students during the COVID-19 pandemic: An online survey in the UK. *Plos One, 17*(1), e0262562. <https://doi.org/10.1371/journal.pone.0262562>
- Clay, D., Coates, E., Tran, Q., & Phares, V. (2017). Fathers' and mothers' emotional accessibility and youth's developmental outcomes. *The American Journal of Family Therapy, 45*(2), 111-122. <https://doi.org/10.1080/01926187.2017.1303651>
- Çelik, G. (2016). “Men (Also) cry!”: The construction of masculinity and the cycle of violence in the context of gender roles. *Fe Journal, 8*(2), 1-12. https://doi.org/10.1501/Fe0001_0000000161
- Çokluk, Ö., Şekercioğlu, G., & Büyüköztürk, Ş. (2010). *Multivariate SPSS and LISREL applications for social sciences*. Pegem Publishing.
- Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology, 55*(4), 584-594. <https://doi.org/10.1037/0022-006X.55.4.584>
- Costello, M. A., Nagel, A. G., Hunt, G. L., Rivens, A. J., Hazelwood, O. A., Pettit, C., & Allen, J. P. (2022). Facilitating connection to enhance college student well-being: Evaluation of an experiential group program. *American Journal of Community Psychology, 70*, 314-326. <https://doi.org/10.1002/ajcp.12601>
- De Coninck, D., Matthijs, K., & Luyten, P. (2019). Subjective well-being among first-year university students: A two-wave prospective study in Flanders, Belgium. *Student Success, 10*(1), 33-46. <https://doi.org/10.5204/ssj.v10i1.642>
- Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies, 9*(1), 1-11. <https://doi.org/10.1007/s10902-006-9018-1>
- Demirci, İ., Ekşi, H., Dinçer, D., & Kardaş, S. (2017). Five-dimensional model of well-being: The validity and reliability of Turkish version of PERMA-Profil. *The Journal of Happiness & Well-Being, 5*(1), 60-77. <https://tr-scales.arabpsychology.com/wp-content/uploads/pdf/perma-olcegi-toad.pdf>
- Dessauvague, A. S., Dang, H. M., Nguyen, T. A. T., & Groen, G. (2022). Mental health of university students in southeastern Asia: a systematic review. *Asia Pacific Journal of Public Health, 34*(2-3), 172-181. <https://doi.org/10.1177/10105395211055545>
- Dias-Lopes, L. F., Chaves, B. M., Fabrício A., et al. (2020). Analysis of well-being and anxiety among university students. *International Journal of Environmental Research and Public Health, 17*(11), 1-23. <https://doi.org/10.3390/ijerph17113874>
- Dodd, R. H., Dadaczynski, K., Okan, O., McCaffery, K. J., & Pickles, K. (2021). Psychological wellbeing and academic experience of university students in Australia during COVID-19. *International Journal of Environmental Research and Public Health, 18*(3), 1-12. <https://doi.org/10.3390/ijerph18030866>
- Duffy, A., Saunders, K. E., Malhi, G. S., Patten, S., Cipriani, A., McNevin, S. H., MacDonald, E., & Geddes, J. (2019). Mental health care for university students: a way forward?. *The Lancet Psychiatry, 6*(11), 885-887. [https://doi.org/10.1016/S2215-0366\(19\)30275-5](https://doi.org/10.1016/S2215-0366(19)30275-5)
- Easterbrooks, M. A., & Biringen, Z. (2000). Guest editors' introduction to the special issue: Mapping the terrain of emotional availability and attachment. *Attachment & Human Development, 2*(2), 123–129. <https://doi.org/10.1080/14616730050085518>

- Emde, R. N. (1998). Early emotional development: New modes of thinking for research and intervention. In J. G. Warhol (Eds.), *New perspectives in early emotional development* (pp. 29-45). Johnson & Johnson Pediatric Institute, Ltd.
- Emde, R., & Easterbrooks, M. A. (1985). Assessing emotional availability in early development. In W. K. Frankenburg, R. N. Emde, & J. W. Sullivan (Eds.), *Early identification of children at risk* (pp. 79–102). Plenum.
- Fan, X., Thompson, B., & Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. *Structural Equation Modeling*, 6(1), 56-83. <https://doi.org/10.1080/10705519909540119>
- Ferrari, L., Ranieri, S., Barni, D., & Rosnati, R. (2015). Parent–child relationship and adoptees’ psychological well-being in adolescence and emerging adulthood: Disentangling maternal and paternal contribution. *Family Science*, 6(1), 77-86. <http://dx.doi.org/10.1080/19424620.2015.1081005>
- Field, T. (1994). The effects of mother's physical and emotional unavailability on emotion regulation. *Monographs of the Society for Research in Child Development*, 59(2-3), 208–227. <https://doi.org/10.2307/1166147>
- Fraenkel, J. R., Wallen, N., & Hyun, H. (2012). *How to design and evaluate research in education* (8th ed.). Mc Graw Hill.
- Galambos, N. L., Barker, E. T., & Krahn, H. J. (2006). Depression, self-esteem, and anger in emerging adulthood: Seven-year trajectories. *Developmental Psychology*, 42(2), 350–365. <https://doi.org/10.1037/0012-1649.42.2.350>
- George, D., & Mallery, M. (2010). *SPSS for windows step by step: A simple guide and reference* (10a ed.). Pearson.
- Gökçe, G., & Yılmaz, B. (2018). Emotional availability of parents and psychological health: what does mediate this relationship?. *Journal of Adult Development*, 25, 37-47. <https://doi.org/10.1007/s10804-017-9273-x>
- Gonzales, J. L. A., Lanchipa-Ale, A. P., Puma, E. G. M., Mansilla, E. B. R., & Laura, P. A. S. (2022). Positive dimensions of mental health and personality in a sample of university. *Journal of Medicinal and Chemical Sciences*, 5(7), 1215-1223. <https://doi.org/10.26655/JMCHEMSCI.2022.7.10>
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26(1), 41–54. <https://doi.org/10.1016/j.beth.2006.10.001>
- Greenberg, L. S. (2017). *Emotion-focused therapy* (Revised ed.). American Psychological Association.
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 39(3), 281–291. <https://doi.org/10.1017/S0048577201393198>
- Gross, J. J. (2008). Emotion regulation. In M. Levis., J. M., HavilandJones., ve L. Feldman- Barrett (Eds.), *Handbook of emotions* (pp. 497-512). Guilford Press.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85(2), 348–362. <https://doi.org/10.1037/0022-3514.85.2.348>
- Gross, J. J., & Munoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, 2(2), 151-164. <https://doi.org/10.1111/j.1468-2850.1995.tb00036.x>
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Eds.), *Handbook of emotion regulation* (pp. 3–24). Guilford Press.

- Helion, C., Krueger, S. M., & Ochsner, K. N. (2019). Emotion regulation across the life span. *Handbook of Clinical Neurology*, 163(3), 257–280. <https://doi.org/10.1016/B978-0-12-804281-6.00014-8>
- Hernández-Torrano, D., Ibrayeva, L., Sparks, J., Lim, N., Clementi, A., Almukhambetova, A., Nurtayev, Y., & Muratkyzy, A. (2020). Mental health and well-being of university students: A bibliometric mapping of the literature. *Frontiers in Psychology*, 11, 1226. <https://doi.org/10.3389/FPSYG.2020.01226/XML/NLM>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Ince, Ş. I. (2020). *The investigation of the mediating role of rejection sensitivity and emotion regulation difficulties in the relationship between perceived parental acceptance-rejection and psychological symptoms in university students* [Unpublished master thesis]. Hacettepe University.
- International Youth Foundation., Hilton. (2017). *Global youth well-being index*. <https://www.youthindex.org/full-report>
- John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, 72(6), 1301–1334. <https://doi.org/10.1111/j.1467-6494.2004.00298.x>
- Kağıtçıbaşı, Ç. (2017). *Family, self, and human development across cultures: Theories and applications* (Classic ed.). Routledge.
- Kavcıoğlu, F. C., & Gençöz, T. (2011). Psychometric characteristics of difficulties in emotion regulation scale in a Turkish sample: New suggestions. *Unpublished raw data*.
- Kelek, Ş. (2020). *The predictors of emotion regulation: Meta emotion, mood and emotional availability of parents* [Unpublished master thesis]. Hacettepe University.
- Kline, R. B. (2005). *Principle and practice of structural equation modelling* (2nd ed.). The Guilford Press.
- Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology*, 25(3), 343-354. <https://doi/10.1037/0012-1649.25.3.343>
- Kubicek, L. F., Riley, K., Coleman, J., Miller, G., & Linder, T. (2013). Assessing the emotional quality of parent–child relationships involving young children with special needs: Applying the constructs of emotional availability and expressed emotion. *Infant Mental Health Journal*, 34(3), 242–256. <https://doi.org/10.1002/imhj.21384>
- Lamb, M. E., & Tamis-LeMonda, C. S. (2004). The role of the father: An introduction. In M. E. Lamb (Eds.), *The role of the father in child development* (pp. 1–31). John Wiley & Sons Inc.
- Leahy, R. L., Tirch, D., & Napolitano, L. A. (2011). *Emotion regulation in psychotherapy*. Guilford Press.
- Lum, J. J., & Phares, V. (2005). Assessing the emotional availability of parents. *Journal of Psychopathology and Behavioral Assessment*, 27(3), 211–226. <https://doi.org/10.1007/s10862-005-0637-3>
- Mahler, M. S., Pine, F., & Bergman, A. (1975). *The psychological birth of the human infant*. Basic Books.
- Mendoza, M. D. C., Queija, I. S.i., & Jim'enez, A' . P. (2019). The role of parents in emerging adults' psychological well-being: A personoriented approach. *Family Process*, 58, 954–971. <https://doi.org/10.1111/famp.12388>
- Nyklíček, I., Vingerhoets, A., & Zeelenberg, M. (2011). Emotion regulation and wellbeing: A view from different angles. In I. Nyklíček., A. Vingerhoets., & M. Zeelenberg (Eds.), *Emotion regulation and well-being* (pp. 1-13). Springer.

- Oppenheim, D. (2012). Emotional availability: Research advances and theoretical questions. *Development and Psychopathology, 24*(1), 131–136. <https://doi.org/10.1017/S0954579411000721>
- Özbiler, Ş. (2020). Resilience as the mediator role of the relationship between emotional availability of fathers and subjective well-being of emerging adults. *Studies in Psychology, 40*(2), 514-531. <https://doi.org/10.26650/SP2019-0075>
- Özdoğan, A. Ç. (2020). The mediating role of loneliness in the relationship between parental emotional availability, romantic relationship quality, and social connectedness and well-being. *Pamukkale University Journal of Education, 52*, 59-85. <https://doi.org/10.9779.pauefd.770592>
- Parker, J., Yacoub, A., Mughal, S., & Mamari, F. (2023). Family support and psychological distress among commuter college students. *Journal of American College Health, 71*(2), 479-488. <https://doi.org/10.1080/07448481.2021.1895805>
- Pektaş, E. (2015). *The investigation of the relationship between perceived parental acceptance-rejection and depression and trait anxiety of university students: The mediator role of emotion regulation* [Unpublished master thesis]. Hacettepe University.
- Porru, F., Schuring, M., Bültmann, U., Portoghese, I., Burdorf, A., & Robroek, S. J. (2022). Associations of university student life challenges with mental health and self-rated health: A longitudinal study with 6 months follow-up. *Journal of Affective Disorders, 296*, 250-257. <https://doi.org/10.1016/j.jad.2021.09.057>
- Punia, N., & Malaviya, R. (2015). Psychological well-being of first year college students. *Indian Journal of Educational Studies: An Interdisciplinary Journal, 2*(1), 60-68.
- Rand, K. L., Shanahan, M. L., Fischer, I. C., & Fortney, S. K. (2020). Hope and optimism as predictors of academic performance and subjective well-being in college students. *Learning and Individual Differences, 81*, 1-8. <https://doi.org/10.1016/j.lindif.2020.101906>
- Ratanasiripong, P., China, T., & Toyama, S. (2018). Mental health and well-being of University Students in Okinawa. *Education Research International, 2018*, 1-7. <https://doi.org/10.1155/2018/4231836>
- Rea-Sandin, G., Vasquez-O'Brien, T. C., & Lemery-Chalfant, K. (2020). The protective role of parent positive personality and emotional availability in toddler problem behavior. *Merrill-Palmer Quarterly, 66*(3), 227-251. <https://doi.org/10.13110/merrpalmquar1982.66.3.0227>
- Roksa, J., & Kinsley, P. (2019). The role of family support in facilitating academic success of low-income students. *Research in Higher Education, 60*, 415-436. <https://doi.org/10.1007/s11162-018-9517-z>
- Rugancı, R. N., & Gençöz, T. (2010). Psychometric properties of a Turkish version of the difficulties in emotion regulation scale. *Journal of Clinical Psychology, 66*(4), 442-455. <https://doi.org/10.1002/jclp.20665>
- Saunders, H., Kraus, A., Barone, L., & Biringen, Z. (2015). Emotional availability: Theory, research, and intervention. *Frontiers in Psychology, 6*, 1-5. <https://doi.org/10.3389/fpsyg.2015.01069>
- Saxena, P., Dubey, A., & Pandey, R. (2011). Role of emotion regulation difficulties in predicting mental health and well-being. *Journal of Projective Psychology ve Mental Health, 18*(2), 147-155. <https://psycnet.apa.org/record/2011-21803-003>
- Schumacker, R. E., & Lomax, R. G. (1996). *A beginner's guide to structural equation modeling*. Lawrence Erlbaum Associates, Publishers.
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Shaw, B. A., Krause, N., & Chatters, L. M. (2004). Emotional support from parents early in life, aging, and health. *Psychology and Aging, 19*(1), 4– 12. <https://doi.org/10.1037/0882-7974.19.1.4>
- Şimşek, Ö. F. (2007). *Introduction to structural equation modeling*. Ekinoks Publishing.

- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25(2), 173-180. https://doi.org/10.1207/s15327906mbr2502_4
- Stevenson, J. C., Millings, A., & Emerson, L. M. (2019). Psychological well-being and coping: The predictive value of adult attachment, dispositional mindfulness, and emotion regulation. *Mindfulness*, 10(2), 256-271. <https://doi.org/10.1007/s12671-018-0970-8>
- Sümer, N. (2000). Structural equation modeling: Basic concepts and applications. *Turkish Psychological Articles*, 3(6), 49-74.
- Thompson, R. A., & Goodman, M. (2010). Development of emotion regulation: More than meets the eye. In A. M. Kring & D. M. Sloan (Eds.), *Emotion regulation and psychopathology* (pp. 38–58). The Guilford Press.
- Turkish Statistical Institute. (2020, February). *Life satisfaction survey, 2019* <https://data.tuik.gov.tr/Bulten/Index?p=Yasam-Memnuniyeti-Arastirmasi-2019-33729#:~:text=Mutlu%20oldu>
- Turkish Statistical Institute. (2021, February). *Life satisfaction survey, 2020* <https://data.tuik.gov.tr/Bulten/Index?p=Yasam-Memnuniyeti-Arastirmasi-2020-37209>
- Turkish Statistical Institute. (2022, February). *Life satisfaction survey, 2021* <https://data.tuik.gov.tr/Bulten/Index?p=Yasam-Memnuniyeti-Arastirmasi-2021-45832>
- Volling, B. L., McElwain, N. L., Notaro, P. C., & Herrera, C. (2002). Parents' emotional availability and infant emotional competence: Predictors of parent-infant attachment and emerging self-regulation. *Journal of Family Psychology*, 16(4), 447–465. <https://doi.org/10.1037/0893-3200.16.4.447>
- Westberg, K. H., Nyholm, M., Nygren, J. M., & Svedberg, P. (2022). Mental health problems among young people—a scoping review of help-seeking. *International Journal of Environmental Research and Public Health*, 19(3), 1430. <https://doi.org/10.3390/ijerph19031430>
- White, R., & Renk, K. (2012). Externalizing behavior problems during adolescence: An ecological perspective. *Journal of Child and Family Studies*, 21(1), 158-171. <https://doi.org/10.1007/s10826-011-9459-y>
- Wong, P. T. P. (2011). Positive psychology 2.0: Towards a balanced interactive model of the good life. *Canadian Psychology*, 52(2), 69–81. <https://doi.org/10.1037/a0022511>
- World Health Organization. (2001). *Strengthening mental health promotion. Geneva, World health organization (Fact sheet no. 220)*. <https://www.who.int/en/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- Worsley, J. D., Pennington, A., & Corcoran, R. (2022). Supporting mental health and wellbeing of university and college students: A systematic review of review-level evidence of interventions. *PLoS one*, 17(7), e0266725. <https://doi.org/10.1371/journal.pone.0266725>
- Yüksel, H. (2020). *The effect of adults' perceptions of their parents' emotional availability and past interparental conflicts on their current emotion regulation difficulties* [Unpublished master thesis]. Bilgi University.
- Ziv, Y., Umphlet, K. L. C., Olarte, S., & Venza, J. (2018). Early childhood trauma in high-risk families: Associations with caregiver emotional availability and insightfulness, and children's social information processing and social behavior. *Attachment & Human Development*, 20(3), 309–332. <https://doi.org/10.1080/14616734.2018.1446738>



RESEARCH ARTICLE

The Relations of Social Support and Well-Being in Mothers of Children with Special Needs During The COVID-19 Pandemic: The Mediating Role of Caregiving Burden

Muharrem KOÇ^a  Özlem HASKAN AVCI^a  Gülşah ELKAAN^b  Sinem KOCADAYI^a  Eyüp Sabır ERBİÇER^a  & Tolga ZENCİR^a 

^aHacettepe University, Ankara, Türkiye. ^bHasan Kalyoncu University, Gaziantep, Türkiye.

ARTICLE HISTORY

Received: 07.01.2024

Accepted: 22.04.2024

KEYWORDS

Special Needs, COVID-19
Pandemic, Caregiving
Burden, Social Support,
Family Counseling

ABSTRACT

This study explores the relationship between social support and well-being in mothers of children with special needs during the COVID-19 pandemic with a specific focus on the mediating role of caregiving burden. The research investigates the challenges faced by families with special needs children, particularly mothers, due to the pandemic-related closure of schools and rehabilitation centers. The closure has intensified the caregiving burden on mothers, requiring full-time support for their children at home. Existing literature suggests a significant impact on the psychological well-being of families with special needs children, emphasizing the need for attention to this vulnerable group during the pandemic. The study formulates hypotheses related to the negative correlation between family support and caregiving burden, the negative correlation between caregiving burden and psychological well-being, and the positive correlation between family support and psychological well-being. Additionally, it hypothesizes that caregiving burden mediates the relationship between family support and psychological well-being. Using a relational research approach, the study employs a quantitative method to analyze data collected from 321 participants. The demographic information of the participants, including age, working condition, marital status, and the type of disability of their children, is presented. Data collection instruments include a Sociodemographic Information Form, Family Support Scale, Caregiving Burden Scale, and Psychological Well-being Scale. Results indicated a positive relationship between family support and psychological well-being, as well as a negative relationship between caregiving burden and psychological well-being. The mediation analysis confirmed that caregiving burden significantly partially mediates the relationship between family support and psychological well-being. The findings highlighted the crucial role of family support in enhancing the psychological well-being of mothers with special needs children. Additionally, the study emphasized the negative impact of increased caregiving burden on psychological well-being. These results contribute to the understanding of the challenges faced by families with special needs children during the COVID-19 pandemic and underscore the importance of targeted interventions to support this vulnerable group. Future research may explore strategies to involve fathers in the caregiving process and further enhance maternal mental health.

Disasters and significant historical events such as wars impact individuals and families on a national or international level. In this context, the COVID-19 pandemic that started in 2019 and led to social isolation has been particularly challenging for families of children with special needs despite affecting all families with children (Asbury et al., 2021; Lee & Kim, 2020). Parents of children with special needs, who already face more physical, social, and emotional challenges compared to parents of typically developing children (Jones

CORRESPONDING AUTHOR Muharrem KOÇ, muharremkoccpdr@gmail.com, ORCID:0000-0002-9138-2205, Hacettepe University, Ankara, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

& Frederickson, 2010), have been further vulnerable due to the problems brought by the pandemic (Park & Nam, 2019). Global quarantine measures resulting in the closure of schools and rehabilitation centers during the COVID-19 pandemic have forced millions of children with special needs to stay at home for months (Wang et al., 2020). The closure of rehabilitation institutions providing necessary support for children with special needs has particularly burdened mothers, requiring them to provide full-time support to their children (Lučić et al., 2020).

Research conducted during the COVID-19 pandemic has highlighted the significant impact of both pre-existing stress factors related to the needs of children with special needs and stress factors arising from pandemic-related restrictions on the psychological health and well-being of families (Alhuzimi, 2021; Grumi et al., 2021; Rose et al., 2020). These studies have emphasized the importance of focusing on factors affecting the psychological well-being of children with special needs and their mothers, who constitute a significant risk group during the COVID-19 period. Psychological well-being is a dynamic construct sensitive to current social and economic conditions (Cummins, 2005). The new economic and social situations arising with the COVID-19 pandemic inevitably impact the psychological well-being of mothers with children with special needs (Embregts et al., 2021; Özmete & Melike, 2023; Rogers et al., 2021). Increased behavioral problems in children with special needs due to restricted educational rights and socialization opportunities during the pandemic have led to elevated stress levels in mothers (Neece et al., 2020), increased caregiving burden (Rogers et al., 2021), and decreased perceptions of self-competence (Cameron, 2020). Additionally, mothers' anxiety levels have increased due to the added responsibilities during the pandemic, distancing from their social circles, coping with economic difficulties, and not being able to allocate sufficient time for themselves (Asbury et al., 2020; Drogomyretska et al., 2020; Manning et al., 2020; Marchetti et al., 2020). The relevant literature revealed that caregiving burden (Arvidsdotter et al., 2016; Chafouleas & Iovino, 2021; Iovino et al., 2021) and perceived social support (Dickinson et al., 2023; Ekas et al., 2010; Hasting et al., 2002; Ren et al., 2020) were among the main factors influencing the mental health and well-being of mothers of children with special needs during the COVID-19 period.

Perceived social support is a broad concept that expresses individuals' satisfaction with being respected, supported, and understood in social life (Norris & Kaniasty, 1996). Especially in stressful and anxiety-inducing situations, receiving support from family, friends, and acquaintances has been a significant factor contributing to individuals' psychological health (Zhou et al., 2013). A study has shown that perceived social support among mothers with children with special needs plays a partial mediating role in the relationship between the burden of raising a child with a disability and depression, anxiety, and stress (Carlson & Miller, 2017). These results indicated that experiencing less social connection and support associated with the increased family burden due to disability was linked to increased reporting of stress, depression, and anxiety (Carlson & Miller, 2017). Another study conducted with parents of children with special needs during the COVID-19 period has also shown that perceived social support positively influenced the psychological well-being of these parents (Ren et al., 2020).

As aforementioned above, perceived social support positively influences the well-being of mothers of children with special needs. Social support is critical in the face of challenges when raising a child with special needs (Armstrong et al., 2005). In situations where social support is lacking, the caregiving burden on parents has increased (Carlson & Miller, 2017; Werner, 2022). Caregiving burden refers to the challenges, restrictions, and difficulties children with special needs and their families have faced in various aspects of their lives (Stoneman, 2005). This study aims to determine the mediating role of perceived caregiving burden in the relationship between perceived family support and the psychological well-being of mothers of children with special needs during the COVID-19 pandemic.

The hypotheses of the research are as follows:

H1: Family support is negatively correlated with caregiving burden.

H2: Caregiving burden is negatively correlated with psychological well-being.

H3: Family support is positively correlated with psychological well-being.

H4: Caregiving burden mediates the relationship between family support and psychological well-being.

Methodology

This research is relational research, one of the quantitative research methods that reveals the relationships between variables. Relational research determines the degree of relationship between two or more variables (Fraenkel et al., 2015). This study examined the mediating role of caregiving burden in the relationship between social support and psychological well-being.

The Study Group

The study group for the research was reached by a convenient sampling method. Since it was thought that the data of the participants with 5% or more missing data in the data set could cause problems in terms of reliability and affect validity, the data of the participants with missing data higher than 5% were excluded and this study was conducted with only 321 mothers who have children with special needs. The ages of the participants ranged between 18 and 60, with 243 (75.70%) participants aged between 25 and 44, 69 (21.50%) between 45 and 60, and 9 (2.80%) between 18 and 24. While 256 (80.70%) of the mothers who participated in the study were not working, seven (2.20%) lost their jobs during the pandemic. While 299 (93.10%) of the participant mothers were married, 22 (6.90%) were divorced. According to the type of disability of the participant mothers' children, the number of participants with autism was 47 (14.60%), 51 (15.90%) with intellectual disability, 38 (11.80%) with learning disability, 80 (24.90%) with hearing and visual disability, 49 (15.30%) with Down Syndrome, 39 (12.10%) with physical disability, and 17 (5.30%) with multiple disabilities. The demographic information of the participants is presented in more detail in Table 1.

Table 1. The Demographic Information (N = 321)

	<i>n</i>	%		<i>n</i>	%
Age			Geographical Region		
18-24	9	2.8	Mediterranean	64	19.9
25-44	243	75.7	Eastern Anatolia	22	6.9
45-60	69	21.5	Central Anatolia	63	19.6
Working Condition			Southeast Anatolia	27	8.4
Public employee	28	8.7	Black Sea	47	14.6
Private sector employee	30	9.3	Marmara	52	16.2
Not working	256	80.7	Aegean	46	14.3
Job loss in a pandemic	7	2.2	Residential Units		
Marital Status			Village	59	18.4
Married	299	93.1	District	135	42.1
Divorced	22	6.9	Province	44	13.7
Child's Type of Disability			Metropolitan	83	25.9
Autism	47	14.6	Income		
Intellectual Deficiency	51	15.9	Under 3000 TL	188	58.6
Learning Disabilities	38	11.8	3000 TL -7000 TL	105	32.7
Hearing/Sight	80	24.9	Over 7000 TL	28	8.7
Down Syndrome	49	15.3	Diagnosis of COVID-19		
Physical Disability	39	12.1	Yes	72	22.4
Multiple Disabilities	17	5.3	No	249	77.6

Data Collection Instruments

Sociodemographic Information Form

The sociodemographic information form prepared by the researchers included questions about the participant's age, employment status, marital status, type of disability of the child, geographical region and residential unit, economic status, and whether the participant was diagnosed with COVID-19.

Family Support Scale

Kaner (2003) developed the scale for parents of children with disabilities. The scale consists of five sub-dimensions: social cohesion support, information support, emotional support and care support, close relationship support, and financial support. The scale has a total of 31 items, including nine items in the

emotional support dimension, eight in the information support dimension, five in the care support dimension, six in the close relationship support dimension, and three in the financial support dimension. An example of scale items is “There is someone who will give me information about my child's education”. The items of the scale are answered on a three-point Likert scale as 1=never, 2=sometimes, and 3=always. The lowest score on the scale is 31, and the highest score is 69. High scores on the scale indicate that parents have sufficient support areas to meet the needs of their children with disabilities.

In contrast, low scores indicate they do not receive enough support and experience deprivation. It was analyzed that the total variance explained by the scale was approximately 61%. In addition, when the scale has inter-factor relationships, a total score can be obtained from the scale. In the context of the criterion validity of the scale, the relationship between the scale and perceived social support was examined, and it was seen that there was a significantly high relationship (Kaner, 2003). In the context of psychometric analysis, the internal consistency coefficient was examined, and the internal consistency Cronbach α coefficient of the scale was analyzed as .95. For this study, the Cronbach α value was calculated as .96.

Caregiving Burden Scale

The 22-item scale developed by Zarit et al. (1980) and adapted into Turkish by İnci and Erdem (2008) was analyzed to have a three-factor structure, and a unidimensional structure was proposed as a result of the analyses (İnci & Erdem, 2008). The scale item “Would you want someone else to care for your relative?” can be an example. A 4-point Likert-type scale was used for scoring the scale: 0=never, 1=rarely, 2=sometimes, 3=quite often, 4=almost always. The lowest score that can be obtained from the scale is 0, and the highest score is 88. A high score on the scale indicates that the caregiving burden is high. The total variance explained by this scale structure was analyzed as 53.55%. When the reliability analyses were examined, the internal consistency coefficient of the scale was examined with Cronbach α and found to be .95. In addition, it was examined with the test-retest technique, and the reliability coefficient was analyzed as .90 (İnci & Erdem, 2008). For the current study, Cronbach's α reliability value was calculated as .90.

Psychological Well-Being Scale

The original form of the scale adapted into Turkish by Telef (2013) was developed by Diener et al. (2010). As a result of the validity studies of the scale, it was analyzed that its eight-item structure was unidimensional, and the total variance it explained was approximately 42% (Telef, 2013). The item “My social relationships are supportive and satisfying” can be given as an example of the items of the scale. In scoring the items of the scale, a 7-point scale was used with 1=strongly disagree and 7=strongly agree. The lowest score that can be obtained from the scale is eight, and the highest score is 56. A high score on the scale indicates a high level of psychological well-being, and a low score indicates a low level of psychological well-being. Within the scope of criterion-related validity studies, the relationship between well-being and need satisfaction was examined, and it was found that there were significant positive relationships between both scales (Telef, 2013). In the reliability analysis of the scale, the internal consistency coefficient was examined, and Cronbach's alpha coefficient was calculated as .80. For this study, the Cronbach α reliability value was calculated as .91.

Data Analysis

The data were obtained by reaching the participants both online and in person in April 2022 after the approval of the ethics committee of Hacettepe University. Moreover, the informed consent form was given to the participants, and they were informed in detail that they could leave at any stage of the research process and about their other rights and conditions. The data collection process was carried out by the researchers. SPSS v26 was used for data analysis, and PROCESS macro (Model 4) was used to test the mediation model (Hayes, 2018). To determine data normality, kurtosis and skewness values, linearity, and variance homogeneity were examined (Abu-Bader & Jones, 2021). As a result of the normality analysis, skewness values were found to be between -.35 and .15, and kurtosis values were found to be between -.74 and -.60. In addition, it was observed that there were significant relationships between predictor, mediator and predicted variables. VIF and tolerance values were found to be .85 and 1.18. These results revealed that the assumptions of mediation analysis were met (Abu-Bader & Jones, 2021; Byrne, 2013; Field, 2016). The study determined family support

as the predictor variable, care burden as the mediator variable, and psychological well-being as the predicted variable.

Results

Table 2. Reliability, descriptive statistics, and correlation values (N= 321)

	1	2	3	α	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
1. Family support	-			.96	69.31	15.19	-.35	-.74
2. Caregiving burden	-.39**	-		.90	56.27	15.67	.16	-.60
3. Psychological Well-being	.32**	-.24**	-	.91	36.18	12.21	-.47	-.65

Note. α : Cronbach's Alpha. ** $p < .01$.

The results of the descriptive, correlation and reliability values of the data are presented in Table 2. As shown in Table 2, there was a positive and significant relationship between psychological well-being and family support ($r = .32, p < .01$). At the same time, there was a negative and significant relationship with care burden ($r = -.24, p < .01$). In addition, there was a negative and significant relationship between burden of care and family support ($r = -.39, p < .01$). In particular, to clarify the uncertainty of multicollinearity, the correlation coefficient between the variables was examined and it was seen that there was not a high level of relationship. Thus, since there was no multicollinearity problem, the mediation analysis can be conducted (Tabachnick & Fidell, 2013). As a result, the regression-based mediation test results suggested by Hayes (2018) are presented in Table 3.

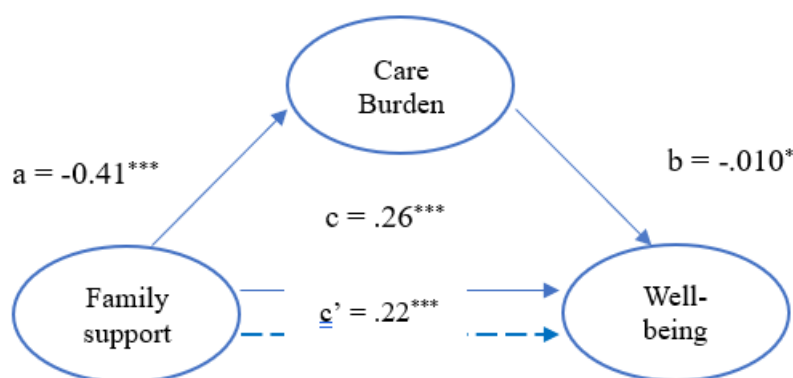
Table 3. Mediation Analysis Results

Effects	Coefficient	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI (LL-UL)	
Direct effect	.22	.05	4.72	<.001	.13	.31
Indirect effect	.04	.02			.002	.09
Total effect	.26	.04	6.03	<.001	.17	.34

Note. SE: Standart Error, LL: Lower Limit, UL: Upper Limit, CI: Confident Interval.

According to the results of the study, psychological well-being was positively associated with family support ($\beta = .26, p < .001$, total effect) and negatively associated with caregiving burden ($\beta = -.01, p < .05$). In addition, there was a significant negative relationship between caregiving burden and family support ($\beta = -.41, p < .001$). The mediation analysis showed that caregiving burden was a significant mediator between family support and psychological well-being ($\beta = .22, p < .001$, direct effect). In contrast, the confidence interval for the indirect effect did not include zero ($\beta = .04, SH = .02, 95\% CI = .002-.09$). In other words, when care burden was not included in the analysis, the level of care burden partially mediated the relationship between family support levels and psychological well-being levels, as a one-unit increase in family support caused a 0.22-unit increase in psychological well-being levels. These results showed that psychological well-being increases as family support increases, but the psychological well-being of mothers with children with special needs is negatively affected due to their high care burden.

When the mediation effect of care burden on the relationship between family support and psychological well-being was examined, the following model emerges (Figure 1), and it was seen that the indirect effect was significant. Since the mediation effect was significant and the relationship between family support and well-being level was significant, it was seen that the caregiving burden had a partial mediation effect. The caregiving burden decreases the relationship between family support and well-being ($c' = .22, p < .001$). Table 3 also showed that the level of indirect effect was significant ($p < .001$).

Figure 1. Mediation Model

Discussion, Conclusion and Limitations

This research encompasses significant findings regarding the caregiving burdens and psychological well-being of mothers of children with special needs. According to the research results, increased family support corresponds to improved psychological well-being. However, the high caregiving burden experienced by mothers of children with special needs adversely affects their psychological well-being. The first hypothesis of the research, indicating the positive impact of family support on perceived caregiving burden, has been confirmed. As family support increases, the perceived caregiving burden decreases. This finding is consistent with previous studies that suggested receiving sufficient support from the environment reduces the caregiving burden for parents of children with special needs (Sivrikaya & Tekinarslan, 2013; Varona et al., 2007). It aligns with previous findings associating maternal stress, maladaptive behavior, and low social support with caregiving burden (Estes et al., 2013).

The second hypothesis, stating that the caregiving burden significantly negatively impacts psychological well-being, has also been confirmed in the current study. As the caregiving burden of mothers with children with special needs increases, their levels of psychological well-being decrease. This result is consistent with studies conducted outside Türkiye indicating high stress levels for mothers of children with special needs (Boztepe et al., 2019; Çetinbakış et al., 2020). Gobrial (2018), in a study with Egyptian mothers, found that an autism diagnosis negatively affected mothers' social lives and mental health, while the caregiving burden increased the risk of stigmatization for both mothers and children. Children with special needs may experience behavioral regression and comprehensive problems due to the inability to access daily school education, rehabilitation training, personalized interventions, and treatments during the COVID-19 pandemic. This situation imposes multiple responsibilities on the caregiver parent, potentially increasing parenting stress and leading to mental health problems (Chen et al., 2020).

The current study has validated the third hypothesis, indicating family support's vivacious and significant impact on psychological well-being. Previous research has reported that social support is a crucial factor in enhancing the coping abilities of parents with children who have special needs (Ekas et al., 2010; Hasting et al., 2002). Furthermore, the parents of children with autism experienced adverse mental health outcomes when they received less family support (Benson & Kersh, 2011). Insufficient social support has been linked to various psychological problems in parents (Duygun & Sezgin, 2003; Karadağ, 2009), while perceived adequate social support has been reported to increase parental life satisfaction (Deniz et al., 2009; Wulffaert, 2009). From a different perspective, receiving professional guidance, interacting with peer groups, extended family members, parent groups with similar concerns, and online communities (e.g., Facebook) have been identified as protective solid factors against parenting stress (Illias et al., 2018). These resources support mental health by assisting parents in coping with stressors (Lowell et al., 2012). Studies have also demonstrated a significant

relationship between receiving social support from family and increased enjoyment of life and optimism among mothers, indicating improved mental health and decreased negative emotions (Al-Kandari et al., 2017; Çetinbakış et al., 2018). Additionally, Chen et al. (2020) reported a significant relationship between parental psychological well-being and family support, a sub-dimension of social support, in a study examining various factors affecting the psychological status of families with children with special needs during the COVID-19 pandemic.

The fourth hypothesis, indicating that the caregiving burden mediates the relationship between family support and psychological well-being, has been observed in the current study. Mothers are most affected by the caregiving burden created in the family due to having a child with special needs (Hodge et al., 2011), and the caregiving burden has been reported to lead to certain discomforts in mothers (Sarı, 2007). While no studies have been found that examine family support, caregiving burden, and psychological well-being together, some studies have reported that social support predicts caregiving burden (Ghosh & Greenberg, 2012; Gönültaş, 2017), and the caregiving burden is more prominent in mothers (Poza et al., 2014) and affects their psychological well-being.

Mothers in families of children with special needs tend to experience more psychological distress than fathers (Foody et al., 2015; Vilaseca et al., 2014), and they also bear a more significant caregiving burden (Roper et al., 2014). Especially during the pandemic, parents of children with special needs had to seek help and support from others to address caregiving issues (Ren et al., 2020). The increased time spent at home by children with special needs during this period, the increased caregiving burden on mothers due to taking on more responsibilities, and the insufficient family support due to measures taken may have adverse effects on the psychological well-being of mothers. The issue of caregiving burden is also related to cultural norms, where mothers often identify themselves with the caregiver role due to societal expectations, leading them to sacrifice personal lives for the sake of the family (Wang et al., 2018). Therefore, the caregiving burden usually falls on mothers rather than fathers. Women, especially during the pandemic, have stayed more at home to take care of their children with disabilities (Vilanova et al., 2022). In this regard, future studies may focus on involving fathers in the caregiving process, in addition to supporting maternal mental health.

Although the valuable insights provided by this study, there are several limitations that need to be acknowledged. Firstly, the research employed a cross-sectional design, limiting the ability to establish causal relationships among variables. Therefore, the extent of associations between variables should be considered as a priori and it is important to supplement with longitudinal studies which would offer a more comprehensive understanding of how social support, caregiving burden, and psychological well-being evolve over time, particularly amidst dynamic circumstances like the COVID-19 pandemic. Furthermore, the study sample was limited to mothers, neglecting the perspectives of fathers or other caregivers. Investigating the role of fathers and examining family dynamics in caregiving could offer a more holistic understanding of the support needs and well-being of families with special needs children. Lastly, the study was conducted in a specific cultural context, and the findings may not be generalizable to other cultural contexts. Future research should aim to explore these relationships across diverse populations to enhance the applicability of findings.

Despite these limitations, the findings of this study carry significant implications for practice and policy. Firstly, the study underscores the importance of providing targeted support interventions for mothers of children with special needs, especially during crises like the COVID-19 pandemic. Mental health professionals and policymakers should prioritize the development and implementation of support programs aimed at alleviating caregiving burden and enhancing social support networks for these mothers. Such interventions could include peer support groups, respite care services, and accessible mental health resources tailored to the unique needs of this population. Moreover, the study highlights the need for studies based on gender-sensitive approaches that recognize the disproportionate caregiving responsibilities shouldered by mothers and seek to involve fathers more actively in caregiving tasks and support processes. Strengthening familial support systems and promoting gender equity in caregiving roles could contribute to improving the overall well-being of families with special needs children. Finally, the study underscores the importance of fostering inclusive and supportive environments within communities and educational institutions to reduce the stigma associated with disabilities and promote social inclusion for children with special needs and their families. By addressing these

implications, mental health professionals, educators, and policymakers can work collaboratively to enhance the well-being and resilience of families facing the challenges of raising children with special needs.

Author Contributions: Muharrem Koc: Played a pivotal role in the conceptualization and design of the study, contributed significantly to drafting and revising the literature review, and provided critical input for the discussion section. Özlem Haskan Avcı: Led the ethical approval process, contributed to the literature review, and participated actively in the discussion and revision phases of the manuscript. Gülşah Elkaan: Took primary responsibility for composing the introduction and discussion sections, conducted data collection and analysis, and provided substantial edits to the manuscript. Sinem Kocadayı: Took responsibility for composing the introduction and discussion sections, conducted data collection and analysis, and provided substantial edits to the manuscript. Eyüp Sabır Erbiçer: Focused on data collection and analysis, collaborated on the literature review. Tolga Zencir: Contributed to the discussion and manuscript revisions.

Funding Disclosure: This study was conducted without any external financial support.

Conflicts of Interest: The authors declare no conflicts of interest related to this study.

Data Availability: The data from this study are available from the corresponding author upon reasonable request.

Ethics Approval and Consent to Participate: Ethical approval for this research was obtained from the Social and Human Sciences Scientific Research and Publication Ethics Committee of Hacettepe University, with the decision dated 30.11.2023 and numbered E-51944218-600-00003226086, following the meeting numbered 2023/12

References

- Abu-Bader, S., & Jones, T. V. (2021). Statistical mediation analysis using the sobel test and hayes SPSS process macro. *International Journal of Quantitative and Qualitative Research Methods*, 9(1), 42-61. <https://ssrn.com/abstract=3799204>
- Alhuzimi, T. (2021). Stress and emotional wellbeing of parents due to change in routine for children with Autism Spectrum Disorder (ASD) at home during COVID-19 pandemic in Saudi Arabia. *Research in Developmental Disabilities*, 108, 103822.
- Armstrong, M. I., Birnie-Lefcovitch, S., & Ungar, M. T. (2005). Pathways between social support, family well-being, quality of parenting, and child resilience: What we know. *Journal of Child and Family Studies*, 14, 269-281.
- Arvidsdotter, T., Marklund, B., Kylén, S., Taft, C., & Ekman, I. (2016). Understanding persons with psychological distress in primary health care. *Scandinavian Journal of Caring Sciences*, 30(4), 687-694.
- Asbury, K., Fox, L., Deniz, E., Code, A., & Toseeb, U. (2021). How is COVID-19 affecting the mental health of children with special educational needs and disabilities and their families?. *Journal of Autism and Developmental Disorders*, 51(5), 1772-1780.
- Benson, P. R., & Kersh, J. (2011). Marital quality and psychological adjustment among mothers of children with ASD: Cross-sectional and longitudinal relationships. *Journal of Autism and Developmental Disorders*, 41(12), 1675-1685.
- Boztepe, H., Kerimoğlu Yıldız, G., Çınar, S., Ay, A. (2019) Çocuğu hastanede yatan ebeveynlerin aile merkezli bakım alma durumlarını etkileyen faktörlerin belirlenmesi. *Acıbadem Üniversitesi Sağlık Bilimleri Dergisi*, 4, 748-755.
- Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. Routledge.

- Cameron, E. E., Joyce, K. M., Delaquis, C. P., Reynolds, K., Protudjer, J. L., & Roos, L. E. (2020). Maternal psychological distress & mental health service use during the COVID-19 pandemic. *Journal of Affective Disorders*, 276, 765-774. <https://doi.org/10.1016/j.jad.2020.07.081>.
- Carlson, J. M., & Miller, P. A. (2017). Family burden, child disability, and the adjustment of mothers caring for children with epilepsy: Role of social support and coping. *Epilepsy & Behavior*, 68, 168-173.
- Cetinbakis, G., Bastug, G., & Ozel-Kizil, E. T. (2020). Factors contributing to higher caregiving burden in Turkish mothers of children with autism spectrum disorders. *International Journal of Developmental Disabilities*, 66(1), 46-53.
- Chafouleas, S. M., & Iovino, E. A. (2021). Comparing the initial impact of COVID-19 on burden and psychological distress among family caregivers of children with and without developmental disabilities. *School Psychology*, 36(5), 358-366. <https://doi.org/10.1037/spq0000426>.
- Chen, S. Q., Chen, S. D., Li, X. K., & Ren, J. (2020). Mental health of parents of special needs children in China during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health*, 17(24), 9519.
- Cramm J. M. & Nieboer A. P. (2011). Psychological well-being of caregivers of children with intellectual disabilities: Using parental stress as a mediating factor. *Journal of Intellectual Disabilities* 15, 101–13.
- Cummins R. A. (2000) Personal income and subjective well-being: a review. *Journal of Happiness Studie*,1,133–58.
- Davis, N. O., & Carter, A. S. (2008). Parenting stress in mothers and fathers of toddlers with autism spectrum disorders: Associations with child characteristics. *Journal of Autism and Developmental Disorders*, 38(7), 1278-1291.
- Dellve, L., Samuelsson, L., Tallborn, A., Fasth, A., & Hallberg, L. R. M. (2006). Stress and well-being among parents of children with rare diseases: A prospective intervention study. *Journal of Advanced Nursing*, 53(4), 392-402.
- Deniz, M. E., Dilmaç, B. ve Arıca, O.T. (2009). Engelli çocuğa sahip olan ebeveynlerin durumluk-sürekli kaygı ve yaşam doyumlarının incelenmesi. *Uluslararası İnsan Bilimleri Dergisi*, 6(1), 953-968.
- Dickinson, H., Smith, C., Yates, S., & Tani, M. (2023). The importance of social supports in education: survey findings from students with disability and their families during COVID-19. *Disability & Society*, 38(8), 1304-1326.
- Diener, E., Lucas, R. E., & Oishi, S. (2002). Subjective well-being: The science of happiness and life satisfaction. *Handbook of Positive Psychology*, 2, 63-73.
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97, 143–156.
- Drogomyretska, K., Fox, R., & Colbert, D. (2020). Brief report: stress and perceived social support in parents of children with ASD. *Journal of Autism and Developmental Disorders*, 50(11), 4176-4182.
- Duygun, T. & Sezgin, N., (2003). Zihinsel engelli ve sağlıklı çocuk annelerinde stres belirtileri, stresle başa çıkma tarzları ve algılanan sosyal desteğin tükenmişlik düzeyine olan etkisi. *Türk Psikoloji Dergisi*, 18(52), 37–52.
- Ekas, N. V., Lickenbrock, D. M., & Whitman, T. L. (2010). Optimism, social support, and well-being in mothers of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 40(10), 1274-1284.
- Ellis, J. T., Luiselli, J. K., Amirault, D., Byrne, S., O'Malley-Cannon, B., Taras, M., ... & Sisson, R. W. (2002). Families of children with developmental disabilities: Assessment and comparison of self-reported

needs in relation to situational variables. *Journal of Developmental and Physical Disabilities*, 14, 191-202.

- Embregts, P., Heerkens, L., Frielink, N., Giesbers, S., Vromans, L., & Jahoda, A. (2021). Experiences of mothers caring for a child with an intellectual disability during the COVID-19 pandemic in the Netherlands. *Journal of Intellectual Disability Research*, 65(8), 760-771. <https://doi.org/10.1111/jir.12859>
- Estes, A., Olson, E., Sullivan, K., Greenson, J., Winter, J., Dawson, G., & Munson, J. (2013). Parenting-related stress and psychological distress in mothers of toddlers with autism spectrum disorders. *Brain and Development*, 35(2), 133-138.
- Field, A. (2016). *Discovering statistics using IBM SPSS Statistics*. Sage.
- Foody, C., James, J. E., & Leader, G. (2015). Parenting stress, salivary biomarkers, and ambulatory blood pressure: A comparison between mothers and fathers of children with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 45(4), 1084- 1095.
- Fraenkel, J. R., Wallen, N. E. & Hyun, H. H. (2015). *How to design and evaluate research in education* (9th edition). Mc Graw Hill Education.
- Ghosh, S., & Greenberg, J. S. (2012). Gender difference in caregiving experience and the importance of social participation and marital satisfaction among aging mothers and fathers of adults with schizophrenia. *Social Work in Mental Health*, 10(2), 146-168.
- Gobrial, E. (2018). The lived experiences of mothers of children with the autism spectrum disorders in Egypt. *Social sciences*, 7(8), 133.
- Gönültaş, N. (2017). *Zihinsel ve fiziksel engelli çocuğa sahip ebeveynlerde algılanan sosyal destek ile bakım verme yükü arasındaki ilişkinin incelenmesi* [Master Dissertation, Beykent University]. CoHE Thesis Center.
- Grumi, S., Provenzi, L., Gardani, A., Aramini, V., Dargenio, E., Naboni, C., ... & Engaging with Families through On-line Rehabilitation for Children during the Emergency (EnFORCE) Group. (2021). Rehabilitation services lockdown during the COVID-19 emergency: The mental health response of caregivers of children with neurodevelopmental disabilities. *Disability and Rehabilitation*, 43(1), 27-32.
- Hastings, R. P., Allen, R., McDermott, K., & Still, D. (2002). Factors related to positive perceptions in mothers of children with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 15(3), 269-275.
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. Guilford Publications.
- Hodge, D., Hoffman, C.D., Sweeney, D.P. (2011). Increased psychopathology in parents of children with autism: Genetic liability or burden of caregiving? *Journal of Developmental and Physical Disabilities*, 23; 227-239.
- Ilias, K.; Cornish, K.; Kummar, A.S.; Park, M.S.-A.; Golden, K.J. (2018). Parenting stress and resilience in parents of children with autism spectrum disorder (ASD) in Southeast Asia: A systematic review. *Front. Psychol.*, 9(9),280 <https://doi.org/10.3389/fpsyg.2018.00280>
- Iovino, E. A., Caemmerer, J., & Chafouleas, S. M. (2021). Psychological distress and burden among family caregivers of children with and without developmental disabilities six months into the COVID-19 pandemic. *Research in Developmental Disabilities*, 114, 103983. <https://doi.org/10.1016/j.ridd.2021.103983>.




- İnci, F. H., & Erdem, M. (2008). Bakım verme yükü ölçeği'nin Türkçe'ye uyarlanması geçerlilik ve güvenilirliği. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*, 11(4), 85-95.
- Jones, A. P., & Frederickson, N. (2010). Multi-informant predictors of social inclusion for students with autism spectrum disorders attending mainstream school. *Journal of autism and developmental disorders*, 40(9), 1094-1103.
- Kaner, S. (2003). Aile Destek Ölçeği: Faktör yapısı, güvenilirlik ve geçerlik çalışmaları. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi*, 4(01).
- Karadağ, G. (2009). Engelli çocuğa sahip annelerin yaşadıkları güçlükler ile aileden algıladıkları sosyal destek ve umutsuzluk düzeyleri. *TAF Preventive Medicine Bulletin*, 8(4), 315-322.
- Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *Journal of intellectual disability research*, 50(3), 172-183.
- Lovell, B.; Moss, M., & Wetherell, M.A. (2012). With a little help from my friends: Psychological, endocrine and health corollaries of social support in parental caregivers of children with autism or ADHD. *Res. Dev. Disabil.*, 33, 682–687. <https://doi.org/10.1016/j.ridd.2011.11.014>
- Lučić, L., Brkljačić, T., & Brajša-Žganec, A. (2020). Effects of COVID-19 related restrictive measures on parents of children with developmental difficulties. *Journal of Children's Services*, 15(4), 229-234.
- Magliano, L., Patalano, M., Sagliocchi, A., Scutifero, M., Zaccaro, A., D'angelo, M. G., ... & Politano, L. (2015). Burden, professional support, and social network in families of children and young adults with muscular dystrophies. *Muscle & Nerve*, 52(1), 13-21.
- Manning, J., Billian, J., Matson, J. Allen, C. & Neelkamal Soares, N. (2020). Perceptions of families of individuals with autism spectrum disorder during the COVID-19 crisis. *Journal of Autism and Developmental Disorders*, (Online Print), 1-9.
- Marchetti, D., Fontanesi, L., Mazza, C., DiGiandomenico, S., Roma, P. & Verrocchio, M. C. (2020). Parenting-related exhaustion during the Italian COVID19 lockdown. *Journal of Pediatric Psychology*, 45, 1114-1123.
- Mortenson, L. Y., Malani, P. N., & Ernst, R. D. (2020). Caring for someone with COVID-19. *JAMA*, 324(10), 1016-1016.
- Neece, C., McIntyre, L. L., & Fenning, R. (2020). Examining the impact of COVID-19 in ethnically diverse families with young children with intellectual and developmental disabilities. *Journal of Intellectual Disability Research*, 64(10), 739-749.
- Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of stress: a test of the social support deterioration deterrence model. *Journal of personality and social psychology*, 71(3), 498-516
- Özmete, E., & Pak, M. (2023). Experiences of mothers with disabled children during the COVID-19 pandemic. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi*, 24(1), 75-93. <https://doi.org/10.21565/ozelegitimdergisi.933981>
- Park, E. Y., & Nam, S. J. (2019). Time burden of caring and depression among parents of individuals with cerebral palsy. *Disability and Rehabilitation*, 41(13), 1508-1513.
- Pozo, P., Sarriá, E., & Brioso, A. (2014). Family quality of life and psychological well-being in parents of children with autism spectrum disorders: A double ABCX model. *Journal of Intellectual Disability Research*, 58(5), 442-458.
- Ren, J., Li, X., Chen, S., Chen, S., & Nie, Y. (2020). The influence of factors such as parenting stress and social support on the state anxiety in parents of special needs children during the COVID-19 epidemic. *Frontiers in Psychology*, 11, 3413.

- Rogers, G., Perez-Olivas, G., Stenfert Kroese, B., Patel, V., Murphy, G., Rose, J. et al. (2021). The experiences of mothers of children and young people with intellectual disabilities during the first COVID-19 lockdown period. *Journal of Applied Research in Intellectual Disabilities*, 34(6), 1421-1430. <https://doi.org/10.1111/jar.12884>
- Roper, S. O., Allred, D. W., Mandlco, B., Freeborn, D., & Dyches, T. (2014). Caregiver burden and sibling relationships in families raising children with disabilities and typically developing children. *Families, Systems, & Health*, 32(2), 241–246. <https://doi.org/10.1037/fsh0000047>
- Rose, J., Willner, P., Cooper, V., Langdon, P. E., Murphy, G. H., & Stenfert Kroese, B. (2020). The effect on and experience of families with a member who has Intellectual and Developmental Disabilities of the COVID-19 pandemic in the UK: Developing an investigation. *International Journal of Developmental Disabilities*, 1-3.
- Sarı, H. Y. (2007). *Zihinsel yetersiz çocuğu olan aileler için “Aile Yüğü Deęerlendirme Ölçeęi” geliřtirilmesi*. [Doctoral Dissertation, Ege University]. CoHE Thesis Center.
- Sivrikaya, T., & Tekinarslan, İ. Ç. (2013). Zihinsel yetersizlięi olan çocuęa sahip annelerde stres, sosyal destek ve aile yüğü. *Ankara Üniversitesi Eęitim Bilimleri Fakültesi Özel Eęitim Dergisi*, 14(02), 17-31.
- Stoneman, Z. (2005). Siblings of children with disabilities: Research themes. *Mental Retardation*, 43(5), 339-350.
- Telef, B. B. (2013). Psikolojik iyi oluř ölçeęi: Türkçeye uyarlama, geçerlik ve güvenilirlik çalıřması. *Hacettepe Üniversitesi Eęitim Fakültesi Dergisi*, 28(28-3), 374-384.
- Varona, R., Saito, T., Takahashi, M., & Kai, I. (2007). Caregiving in the Philippines: A quantitative survey on adult-child caregivers' perceptions of burden, stressors, and social support. *Archives of gerontology and geriatrics*, 45(1), 27-41.
- Vilaseca, R., Ferrer, F., & Olmos, J. G. (2014). Gender differences in positive perceptions, anxiety, and depression among mothers and fathers of children with intellectual disabilities: A logistic regression analysis. *Quality & Quantity*, 48(4), 2241-2253.
- Wang, G., Zhang, Y., Zhao, J., Zhang, J., & Jiang, F. (2020). Mitigate the effects of home confinement on children during the COVID-19 outbreak. *The Lancet*, 395(10228), 945-947.
- Werner, S., Hochman, Y., Holler, R., & Shpigelman, C. N. (2022). Burden and growth during COVID-19: Comparing parents of children with and without disabilities. *Journal of Child and Family Studies*, 31(6), 1535-1546. <https://doi.org/10.1007/s10826-022-02282-5>
- Wulffaert, J., Scholte, E. M., Dijkxhoorn, Y. M., Bergman, J. E. H., Ravenswaaij-Arts, C. M. A. ve BerckelaerOnnes, I. A. (2009). Parenting stress in charge syndrome and the relationship with child characteristics. *Journal of Developmental and Physical Disabilities*, 21, 301–313.
- Zarit, S. H., Reever, K. E., & Bach-Peterson, J. (1980). Relatives of the impaired elderly: Correlates of feelings of burden. *The Gerontologist*, 20(6), 649-655.
- Zhou, L., Sukpasjaroen, K., Wu, Y., Wang, L., Chankoson, T., & Cai, E. (2022). Predicting nursing students' psychological well-being: network analysis based on a model of thriving through relationships. *BMC Medical Education*, 22(1), 463-488



RESEARCH ARTICLE

Exploring Counselor Candidates' Perspectives on Online and Face-to-face Supervision in Individual Counseling Practice: A Comparative Qualitative Study

Sema YAZICI-KABADAYI^a  Mehmet AVCI^a  & Fedai KABADAYI^a 

^aRecep Tayyip Erdoğan University, Rize, Türkiye.

ARTICLE HISTORY

Received: 15.01.2024

Accepted: 19.09.2024

KEYWORDS

Online Supervision, Face-to-Face Supervision, Qualitative, Counselor Candidate

ABSTRACT

The primary purpose of the present study was to explain the differences between online and face-to-face supervision and explore their benefits, challenges, and potential impact on supervisees' outcomes from counselor candidates' perspectives. The present study used a phenomenological pattern and the qualitative research paradigm. The research participants were counselor candidates for a state university's guidance and psychological counseling program. The study group comprised 24 participants, 20 females and 4 males, aged between 19 and 25. The findings were grouped into four themes: counseling process, supervision process, challenges and limitations, and peer opinions. Sub-themes around the four themes were evaluated, and suggestions for the literature and researchers were provided.

In the realm of professional development and clinical training, supervision stands as an indispensable component, providing a structured framework for the acquisition and refinement of skills essential for effective practice (Bernard & Goodyear, 2019). The mode of supervision, whether conducted in person or through online platforms, has emerged as a topic of significant discourse within the counseling field. For counselors, supervision involves the mastery process of an apprentice with a minimum level of knowledge and skills, working with an individual who has successfully fulfilled the competencies in the field (McAdams & Wyatt, 2010). This process is achieved by integrating feedback and sharing knowledge and skills to support the professional development of psychological counselors, increase their self-efficacy, and promote creativity and flexibility when working with their clients (Crockett & Hays, 2015). However, knowledge and skills cannot be quickly developed in supervision, and thus, different supervision models have been proposed to foster students' clinical skills. Supervisors contribute to developing the supervisee's intervention, conceptualization, and personalization skills by assuming the roles of teacher, counselor, and consultant (Atik et al., 2014; Bernard & Goodyear, 2019).

Models and approaches have been developed to facilitate supervision. Supervision models provide structures and guidelines to supervisors, help supervisors serve cohesive supervision, and address supervisee's needs (Perry, 2012; Tarlow et al., 2020). Three broad categories of counseling supervision models exist, namely: (a) psychotherapy-based models, (b) developmental models, and (c) process models. These models can be carried out face-to-face, online, or live (Myers & Smith, 1995). Drawing from supervision models, face-to-face

CORRESPONDING AUTHOR Sema YAZICI-KABADAYI, sema.yazici@erdogan.edu.tr, ORCID: 0000-0002-5221-6829, Recep Tayyip Erdoğan University, Rize, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

supervision emphasizes the significance of the therapeutic relationship in clinical work and the supervisory process (Tarlow et al., 2020). Thus, face-to-face clinical supervision is deeply rooted in relational and experiential learning theories. Because the face-to-face supervision method provides for the unique needs and preferences of both supervisors and supervisees (e.g., personal connection, enhanced rapport, and flexibility in communication), supervisee competence, self-efficacy, and overall therapeutic effectiveness increase accordingly (Butler & Constantine, 2006; Chen & Bernstein, 2000; Crockett & Hays, 2015). Moreover, face-to-face supervision improves client outcomes and enhances clinical skills development with real-time demonstrations (Tan, 2009). However, the demands of supervisors and supervisees and the opportunities afforded by technological advancements result in a transition from face-to-face to online supervision (Eman, 2021).

Over the last century, technology has become an integral part of counseling, successfully integrated into curriculums (Woo et al., 2020). The emergence of online supervision as a viable alternative, prompted by unexpected situations like pandemics and natural disasters, has further solidified this trend. This adaptability of online supervision, made possible by technology, has reassured counseling students who had to complete their individual counseling practices and supervision processes in online environments. Traditionally, face-to-face supervision dominated, epitomizing the mentorship model characterized by physical proximity and immediate, unmediated feedback (Bernard & Goodyear, 2019). However, online supervision has proven its effectiveness in fostering students' development by allowing geographically dispersed individuals to engage in supervisory relationships without the constraints of physical proximity (Bengtson & Jensen, 2015). Supervision relationships are structured similarly to face-to-face supervision, supported by advances in video conferencing, virtual meeting platforms, and synchronous communication tools (De Beer & Mason, 2009).

Recent research has investigated the effectiveness of both online and face-to-face supervision and their impact on supervisee development, revealing mixed findings. Some studies report comparable outcomes between online and face-to-face supervision (Bender & Dykeman, 2016; Chapman et al., 2011; Dickens, 2009; Lahey, 2008; Reese et al., 2009; Sørli et al., 1999; Tarlow et al., 2020), while others identify significant differences influenced by variables, such as supervisee learning styles (Bender et al., 2018; Bernhard & Camins, 2021), technological issues (Bernhard & Camins, 2021; Schmittl et al., 2023) and the nature of the supervisory relationship (Carlisle, 2015; Frye et al., 2022).

The most common benefits of online supervision are access to supervisors' expertise and diverse perspectives, heightened flexibility in scheduling, and accommodating supervisees with demanding professional commitments or those residing in remote or underserved areas (Twist et al., 2016). Additionally, research posits that online supervision may engender a sense of enhanced autonomy and self-efficacy as supervisees navigate the virtual landscape (Butler & Constantine, 2006). In comparative studies, it has been found that supervisors spend more time on their students because online supervision is more flexible than face-to-face supervision (Bender & Dykeman, 2016). Students can study different cases due to their location in other places than their school environment in online supervision (Sorlie et al., 1999). Regardless of the supervisory roles adopted in online supervision, students stated that a better working relationship developed with their supervisors. Students who cannot reveal themselves much due to the increased defensive features in face-to-face supervision can express themselves quickly by forming a sense of trust, a facilitating component in online supervision (Clark, 2004).

However, online supervision also has several drawbacks from the counseling perspective. The absence of physical proximity potentially hinders the establishment of rapport and non-verbal cues, which are integral but crucial components of the supervisory relationship (Schmittl et al., 2023). Technological glitches, ranging from connectivity issues to software malfunctions, impede the seamless flow of communication (Reese et al., 2009). Also, the potential for distractions and lack of controlled environments compromise the depth and quality of supervision sessions (Amanvermez et al., 2020).

Counseling students state that face-to-face training consists of more authentic and concrete interactions with faster and spontaneous discussions (Sorlie et al., 1999), whereas in online supervision, attention can be easily distracted, and internet problems negatively affect the process (Eman, 2021). The supervisors additionally

affirmed that students exhibited comparable performance levels in face-to-face and online supervision modalities, with no discernible disparity (Chapman et al., 2011). Supervisors indicated that acquainting oneself with students and establishing efficient communication channels in online supervision demanded a more extended timeframe than face-to-face interactions. Coker and Schooley (2009) observed that technical complications, such as student challenges, adversely influenced the supervision process. Voice intonations, non-verbal cues, and facial expressions are lacking or difficult to interpret in online supervision, potentially leading to misunderstandings or breakdowns in communication (Maples & Han, 2008).

Some researchers have studied the effectiveness of supervision on supervisees' academic success, sense of belonging, and self-esteem. Since the development of a sense of belonging is affected by supervision, it is stated that the student's academic success, thoughts about the supervision process, and self-esteem can be enhanced in the online supervision process (Lundgren-Resenterra & Crosta, 2019; Peacock et al., 2020).

The Present Study

Clinical supervision and educational technology development speed is increasing (Rousmaniere et al., 2014). With the increasing use of technology in higher education, online supervision has started to be used in counselor education programs, but there is little information about it (Bender & Dykeman, 2016). Digital natives, who have become an increasing percentage of the counseling profession (Perry, 2012), and the rapid transition of clinical supervision to online supervision (Tarlow et al., 2020) revealed the need to examine these processes to improve the supervision processes of counselor candidates. As stated in the "Guide to Best Practices in Individual Psychological Counseling Practice and Supervision" published by the Turkish Psychological Counseling and Guidance Association (2023, p. 15), there is a growing recognition of the need for effective delivery of individual psychological counseling practice and supervision at the undergraduate level in Türkiye. The present study differentiates itself from previous research by providing a comprehensive, phenomenological analysis of online and face-to-face supervision, explicitly focusing on counselor candidates' perspectives. Previous studies have often addressed either the benefits or drawbacks of these supervision modalities in isolation or within specific contexts (Aladağ, 2014; Erbaş et al., 2020; Günlü & Uz-Baş, 2023; Özteke-Kozan, 2018; Koçyiğit-Özyiğit & Atik, 2021), this study compares online and face-to-face supervision methods by analyzing evaluations from students with experience in both types of supervision, thereby providing a more nuanced perspective. By examining students' experiences and perceptions, this research fills a gap in understanding how these supervision methods affect supervisee outcomes and comprehensively highlights both positive and negative dimensions.

In addition, this study is necessary due to the rapid evolution in supervision practices driven by technological advancements and recent global events that have accelerated the shift to online platforms. Despite existing research highlighting various advantages and challenges of online supervision (Günlü & Uz-Baş, 2023; Yüksel-Şahin, 2021), there is a lack of in-depth qualitative analysis from the counselor candidates' viewpoint for both supervision models. Thus, this study addresses the following research questions: (1) What are counselor candidates' perceptions of online and face-to-face supervision? (2) What aspects of online supervision do counselor candidates find most advantageous or limiting, and how do they compare to their experiences with face-to-face supervision? (3) How do counselor candidates' experiences with online and face-to-face supervision influence their preferences for supervision modality and their overall learning outcomes? By addressing these questions, this study aims to clarify the impact of face-to-face and online supervision modalities, providing insights to improve current practices and guide future research in counselor education.

Method

Research Design

This study aims to reveal counselor candidates' online and face-to-face supervision experiences. For this purpose, it was conducted using a phenomenological design. Phenomenology studies aim to reveal the experiences of individuals who experience the phenomenon that researchers focus on (Büyüköztürk et al., 2017) regarding the basic structure of the experience and its meaning (Merriam, 2013). This research tried to reveal what the experiences related to the online and face-to-face supervision process were in line with the experiences of the counselor candidates.

Study Group

In qualitative research, selecting participants aims to identify participants who will help understand the research problem best (Creswell, 2017). Accordingly, in this study, a purposive sampling method based on selecting participants who meet specific criteria was used (Büyüköztürk et al., 2017). While forming the study group, (a) to be a 4th-grade student in the guidance and psychological counseling program in Türkiye, (b) to have taken the counseling practices with individuals' course both face-to-face (Fall 2023) and online (Spring 2023), (c) to have conducted at least six counseling sessions each semester within the scope of this course, and (d) to have completed this course. Online supervisions were conducted via Google Meet for 14 weeks, lasting four hours per week. Face-to-face supervisions were held in a group room for the same duration, totaling four hours per week over 14 weeks. Students who met these conditions and volunteered to participate in this study were included in the research group. The questionnaires were administered at the end of the fall semester after grades were entered into the system not to affect students' performances. All supervisors were full-time faculty members with over ten years of experience in supervision. A total of 24 undergraduate students (20 female, four male) from the guidance and psychological counseling department at a state university participated in this study. The ages of the participants ranged from 19 to 25, with a mean age of 22.29 years. In the autumn semester, 18 participants completed six sessions, four completed seven sessions, and two completed eight sessions. In addition, 12 counselor candidates applied for CBT/CT/REBT, and one candidate applied for Adlerian, positive psychotherapy, gestalt, person-centered therapy, existential, and reality therapy. At the same time, six of them did not prefer therapy. In the spring semester, 16 participants completed six sessions; two completed five sessions, four completed seven sessions, and two completed eight sessions. Moreover, 16 counselor candidates applied CBT/CT/REBT, three eclectic and one person-centered therapy, while four did not have therapy.

Data Collection Instruments

In the scope of this study, "Form for Assessing the Opinions of Counselor Candidates on In-Person and Online Supervision" was developed by the researchers. While creating the data collection instruments, a literature review was conducted, and factors related to the supervision process, psychological counseling practices, personal characteristics, supervisor characteristics, and peers were determined as dimensions. The researchers evaluated the prepared questions regarding the study's scope, comprehensibility, and suitability. After the necessary arrangements, the interview form was finalized. The first part of the form included questions about the participant's age, gender, the number of sessions they conducted in the fall and spring semesters, and the theoretical approach they adopted in these semesters. The second and third parts of the form included ten questions about the online and face-to-face supervision process. These questions were designed to reveal the participants' expectations about the online /face-to-face supervision process, their professional development, the development of their peers, their experiences with the psychological help process, their evaluations of the relationship with the supervisor and feedback, their assessment of the relationship with their groupmates and feedback, the challenges encountered, the contributions of the process and the level of meeting expectations, the limitations of the process and unmet expectations, and their general opinions.

Data Collection

First, the ethical approval was obtained from the Ethics Committee of Recep Tayyip Erdoğan University (22/11/2023, 2023/338). Then, the form for assessing the opinions of counselor candidates on face-to-face and online supervision was transferred to Google Forms. The transferred document included information about the purpose and scope of this research and the use of data. In addition, the consent of the participants was obtained. The interview form was sent to the counselor candidates using e-mail by the researchers. Twenty-four out of a total of 26 candidate participants voluntarily participated in this study, and the documents they filled in constitute the data of this study. The data obtained from Google Forms were analyzed.

Data Analysis

The steps suggested by Creswell (2017) were followed in the data analysis. First, each participant's answers were organized and prepared by transferring them to the computer environment for analysis. Then, all the data were read and analyzed. Then, the data were coded, and themes, sub-themes, and codes were created. Finally,

it was determined how the themes would be presented in the qualitative narrative. MAXQDA 2020 program was used to analyze the responses to open-ended questions descriptively. The findings were presented as percentages and frequencies. Finally, the findings were interpreted.

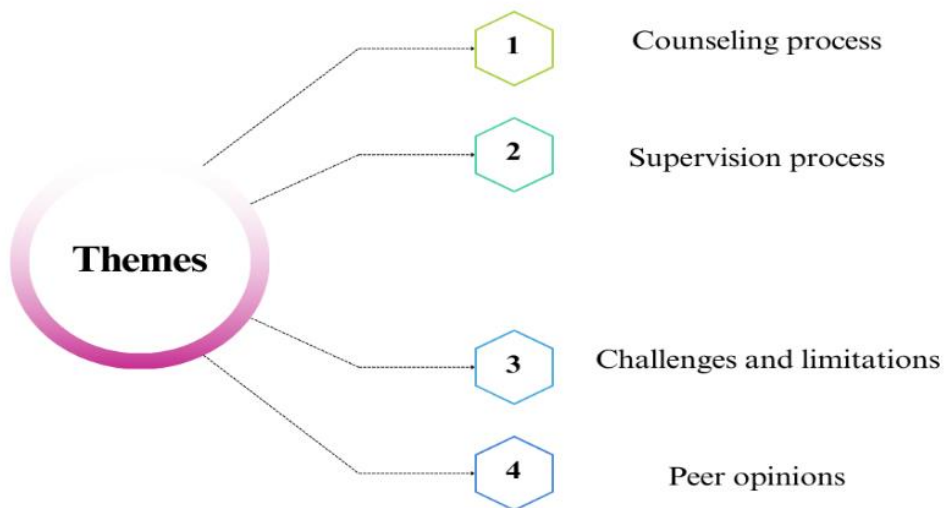
Validity and Reliability

Merriam (2013) suggests using triangulation, participant verification, appropriate and adequate participation in the data collection phase, researcher's position and reflectivity, expert evaluation, audit technique, intensive description, and maximum diversity strategies to solve the validity and reliability problem. In this study, in terms of validity and reliability, more than one researcher checked the accuracy and validity of the findings. In addition, the data were obtained in written form through a structured interview based on the direct statements of the participants in a way that did not leave room for ambiguous interpretations. This also prevented the researcher from including personal assumptions in the data collection. Care was taken to select participants who took courses from different supervisors to ensure that other views were revealed. The findings were presented with direct quotations to reduce the researcher's bias regarding the findings.

Findings

As a result of the analyses, counselor candidates' opinions on online and face-to-face supervision were grouped under four themes: counseling process, supervision process, challenges and limitations, and peer opinions (see Figure 1). The sub-themes, categories, percentages, and frequency values related to the themes are below (Tables 1, 2, 3, and 4).

Figure 1. Themes of the Present Study



Counseling Process

When the participants' views on the online and face-to-face supervision process were analyzed, one of the themes that emerged was the counseling process. The opinions on this theme were divided into two sub-themes: professional factors and personal factors. Significant codes related to both sub-themes were revealed and given in Table 1.

Table 1. Sub-themes and Codes, Frequency, and Percentage Values related to the Theme of the Counseling Process

	Online Supervision	Frequency	Percentage	Face-to-face supervision	Frequency	Percentage
Professional factors	Increased perceived competency	16	42.11%	Increased perceived competency	23	46.94%
	Underdevelopment of counseling skills	6	15.79%	Underdevelopment of counseling skills	5	10.20%
	Non-therapeutic alliance	4	10.53%			
Personal factors	Emotional dysregulation	3	7.89%	Emotional dysregulation	10	20.41%
	Self-control	9	23.68%	Self-control	11	22.45%

In the professional factors sub-theme, the codes increased perceived competency, and the underdevelopment of counseling skills came to the fore in online and face-to-face supervision. Looking at both experiences, it was seen that the code of non-therapeutic alliance was prominent in the online supervision process in terms of professional factors. Participants expressed opinions about the lack of therapeutic context in the online supervision. Some of the answers given by the participants are as follows:

P17: "During the face-to-face supervision process, I received more feedback and corrected my mistakes because I could experience uninterrupted communication with my peers and our teacher."

P 5: "Online supervision was more efficient than face-to-face. I received detailed information and good feedback under all circumstances. The feedback, whether my mistakes or my rights and wrongs, was efficient in correcting myself and improving myself."

P 8: "I do not think I can put too much on it in online supervision; I think this is due to the lack of face-to-face interaction."

P5: "Face-to-face supervision is an inefficient experience, but I believe it will be more productive with really caring supervision."

P 1: "During the online supervision process, I could not provide the conditions required for the counseling environment."

P 22: "During the online supervision process, we had to take audio recordings, we could not find a place for counseling, and our clients went home because the courses were online."

When the participants' statements about professional processes were examined, it was seen that both supervision processes provided increased professional competence but did not contribute to adequate development for some participants. On the other hand, the lack of therapeutic conditions in the online supervision process emerged as an essential problem. Another sub-theme of the Counseling Process theme was personal factors. In this sub-theme, emotional dysregulation and self-control codes came to the fore in the participants' statements for both supervision processes. Some of the answers given by the participants are as follows:

P 22: "It was difficult to record on the phone during face-to-face supervision. Sometimes, the phone was turned off, which caused stress, and I had to show a video recording to our supervisor. Also, not knowing anything caused stress. I want to finish the process by being more beneficial to my client without harming her."

P 6: "The feedback and advice from online supervision was beneficial. In my sessions, finding a client and arranging a place for counseling was quite difficult because it was online. On the other hand, there were times when I observed that I was quite excited and stressed during the sessions."

P 14: "I had difficulty focusing and participating in online supervision. It is already an ordeal for us students"

to open audio and video. It is not easy to find a proper environment. We must wear headphones for confidentiality, but when we turn on the microphone and talk, we may have problems with confidentiality again. That is why I always wanted to attend face-to-face meetings."

P 17: "Online, the focus gets distracted quickly, so close is always better."

P 3: "In face-to-face supervision, I could evaluate more clearly; we could watch and evaluate the videos more concentrated."

When the participant statements related to personal factors were analyzed, the codes about the participants' self-control and emotion regulation problems came to the fore in both supervision processes. In both methods, the participants stated that they had difficulty regulating their negative emotions related to the counseling process and that they similarly had problems with self-control.

Supervision Process

One of the themes that emerged when the participant's views on the online and face-to-face supervision process were analyzed was the supervision process. The opinions on this theme were divided into Characteristics and Roles. Significant codes related to both sub-themes are given in Table 2.

Table 2. Sub-themes and Codes, Frequency and Percentage Values related to the Supervision Process Theme

	Online Supervision	Frequency	Percentage	Face-to-face supervision	Frequency	Percentage
Characteristics	Positive attitude	8	20%	Positive attitude	17	29.31%
	Approachable	7	17.5%	Approachable	8	13.79%
	Inaccessible	4	10%	Inaccessible	7	12.07%
Roles	Teacher	9	22.5%	Teacher	9	15.52%
	Motivator	5	12.5%	Motivator	6	10.35%
	Inspirational	6	15%	Inspirational	8	13.79%
	Contrarian	1	2.5%	Contrarian	3	5.17%

In the characteristics theme, positive attitude and approachability came to the fore for both types of supervision, while in face-to-face supervision, the code inaccessible was also included. Participants stated they did not receive enough support from their supervisors during the face-to-face supervision process. Some of the answers given by the participants are as follows:

P 6: "I evaluate my supervisor positively in face-to-face supervision. Nothing happened in the criticism dimension, and the aspects that could be improved were always mentioned. At this point, the feedback was very supportive for improvement."

P 23: "In online supervision, my relationship with my supervisor was at the level it should be. Giving feedback for each video was an important factor that contributed to me."

P 19: "In online supervision, my supervisor always emphasized our positive qualities with nonjudgmental language. She expressed what she saw as negative in beautiful language. Her communication style made us feel more comfortable, and I was not afraid of my mistakes or telling my mistakes. My relationship with my supervisor and her feedback was perfect."

P 8: "In face-to-face supervision, first of all, I think I was fortunate because of my supervisor's interest in us, his evaluation while watching the video, telling us what we did well without offending us and communicating our mistakes, then asking us first how to do it right and then answering it himself, eliminating our deficiencies was a useful process for me. When she gave feedback, she gave it in the best way I could get. I am grateful for what he contributed to me."

P 1: "During the face-to-face supervision process, my supervisor's feedback was limited and not forward-looking. There was only criticism about the skills in the session. We were told what we should not do, but the part of what we should do was skipped. Since there were no suggestions for the next session, I can say that I had many difficulties, but I improved with my efforts and the support of my peers."

When the statements related to supervisor characteristics were examined, it was seen that the participants could establish positive and positive relationships with their supervisors in both supervision processes. However, they also had experiences that were not effective enough regarding the supervisor's feedback in face-to-face supervision. Thus, they evaluated the supervisor as unreachable in face-to-face supervision. Another sub-theme of the Supervision Process theme was roles. In this sub-theme, the codes teacher, motivator, inspirational, and contrarian came to the fore in both supervision processes. Some of the answers given by the participants are as follows:

P 22: "In face-to-face supervision, my supervisor gave me useful information about my client's problem. Her feedback improved me more. Even if I did something wrong, I was stressed."

P 24: "In online supervision, my supervisor was caring and generous in her feedback. It helped me to realize my improvable aspects and to see the points I could change. It helped me learn different techniques."

P 15: "In face-to-face supervision, my supervisor approached everyone equally. Her aim was only for us to be good counselors. Although her feedback was harsh, it was motivating regarding what we should do."

P 6: "In online supervision, I consider it very positive that our supervisor was caring, accessible, gave motivational speeches, and made the necessary recommendations."

P 21: "I think online supervision is very productive. We see what we need to improve and our strengths and act accordingly."

P 11: "I learned the points where I was wrong in my feedback or where I need to improve."

P 20: "Not being able to see my supervisor's gestures and movements in online supervision bothers me, but I do not have any limitations in verbal feedback."

P 14: "Although our supervisor did her best in online meetings, I had difficulty focusing. Later, when we started face-to-face meetings, I think I was able to explain and express myself better."

When the dimensions related to the supervisor's roles were examined, it was seen that the frequencies of the codes related to the supervisor's roles were higher in the face-to-face supervision process. However, the same codes came to the fore in both supervision processes.

Challenges and Limitations

One of the themes that emerged from the participant's views on the online and face-to-face supervision process was challenges and limitations. The opinions on this theme were divided into technical and process-related problems. The significant codes related to both sub-themes are presented in Table 3.

Table 3. Sub-themes, Codes, Frequency, and Percentage Values Related to Challenges and Limitations Theme

	Online Supervision	Frequency	Percentage	Face-to-face supervision	Frequency	Percentage
Technical issues	Connection issue	7	13.46%	Technical failures	4	7.27%
	Technical failures	5	9.62%	Limited access to resources	4	7.27%
	Limited access to resources	10	19.23%	Time management	9	16.36%
	Time management	3	5.77%			
Process-related problems	Poor feedback	4	7.69%	Poor feedback	13	23.64%
	Less interaction	14	26.92%	Hands-on experience	10	18.18%
	Performance anxiety	6	11.54%	Performance anxiety	14	25.46%
	Screen fatigue	3	5.77%	Limited experience	1	1.82%

The technical issue's theme emphasized technical failures and limited access to resources for both types of supervision, while the online supervision also included the connection issue code. Participants stated that they experienced intense connection problems during the online supervision process. Some of the answers given by the participants are as follows:

P 5: "There may be problems in connecting to the Internet. In addition, time is also a problem we face."

P 24: "In face-to-face supervision, I had problems with timing and finding a place in counseling rooms to record sessions with my client."

P 11: "In online supervision, I had difficulty participating because I did not turn on the microphone too much in the lesson. Other than that, I did not have much difficulty."

P 6: "Finding clients in online supervision was my first difficulty. I know very few people here, and I could not find a client in my environment suitable for this situation. My second challenge was the appropriate environment. It was impossible because I always had family members and nieces and nephews in my own home, and going to and from the client's home was never a suitable option, so the environment I found for this was sometimes not suitable. Apart from that, another difficulty I experienced was that my client spoke little and was very indecisive. It was a process in which I could not exchange information and get advice from my peers."

P 2: "Since no students were in the semester, I had difficulty finding clients. I had to start my sessions late."

When the statements related to technical issues were analyzed, it was seen that the participants experienced similar problems in both supervision processes. In online supervision, in addition to the challenges in the face-to-face supervision process, it was seen that the internet connection required for lessons and sessions was among the problems created by the three stakeholders of the supervision process. It was also observed that access to resources, such as finding clients, counseling rooms, and contacting the supervisor, could frequently create problems in online supervision. Another sub-theme of the challenges and limitation theme was process-related problems. In this sub-theme, the codes of poor feedback, less interaction, performance anxiety, and screen fatigue came to the fore for online supervision. In the face-to-face supervision process, the codes of poor feedback and performance anxiety were also standard. At the same time, the codes of hands-on experience and limited experience also emerged in this sub-theme. Some of the answers given by the participants are as follows:

P 19: "While it was expected to be more productive face-to-face, it was not met, but I think this is not because it is face-to-face, etc., but because of the supervision instructor."

P 2: "It may be that not all our videos were watched due to the duration."

P 23: "I can say that the biggest difficulty was meeting my supervisor face to face. It was difficult to find a suitable time for me and my teacher."

Pt 8: "I had difficulty in online supervision due to the anxiety of being evaluated and not being able to convey myself and the session adequately."

Pt 6: "In face-to-face supervision, only inexperience, excitement control, problems with sentences while applying techniques, and the biggest problem for me in the counseling process, which I experienced the most during the counseling process, maybe that I went with some expectations and the excitement I experienced when the counseling did not develop as I expected."

P 20: "In some meetings, my eyes could get tired from looking at the screen, and in the same way, looking fixedly at one place could bore me."

P 19: "The limitation of online supervision was that there could be communication breakdowns from time to time just because we were not in the same environment. The internet causes it."

P 17: "Due to my inexperience in face-to-face supervision, I had difficulties approaching my client, and I was a little worried about what to do, but I overcame them thanks to the supervisor."

P 1: "I suddenly found myself in the middle of the process like a fish out of water. Not knowing what to do in

this direction was very difficult for me. My supervisor's feedback was also not encouraging. Rather, I was discouraged. However, this changed in the other sessions. I think it was all about my performance. However, I still would have preferred my supervisor to be more encouraging."

The codes that emerged under the sub-theme of problems related to the process showed that online supervision was less prominent in the dimensions of interaction and poor feedback. In contrast, in the face-to-face supervision process, the codes of performance anxiety and hands-on experience were predominantly prominent, in addition to the theme of poor feedback.

Peer Opinions

One of the themes that emerged when the participant's views on the online and face-to-face supervision process were analyzed was peer opinions. The opinions on this theme were divided into two sub-themes: peer evaluations and peer feedback-relationship. Significant codes related to both sub-themes are given in Table 4.

Table 4. Sub-themes and Codes, Frequency, and Percentage Values related to the Theme of Peer Opinions

	Online Supervision	Frequency	Percentage	Face-to-face supervision	Frequency	Percentage
Peer Evaluations	Increased professional qualifications	19	35.18%	Increased professional qualifications	17	26.56%
	Inadequate professional development	4	7.41%	Inadequate professional development	6	9.38%
Peer Feedback-Relationship	Proactive	5	9.26%	Proactive	29	45.31%
	Inadequate	9	16.67%			
	Poor communication	17	31.48%	Inadequate	12	18.75%

In the peer-evaluations sub-theme, the codes increased professional qualifications, and inadequate professional development came to the fore for both types of supervision. Participants stated that they experienced intense connection problems during the online supervision process. Some of the answers given by the participants are as follows:

P 20: "My peers in my online supervision group ended the process by adding knowledge to their professional knowledge."

P 21: "Of course, my peers also improved face-to-face supervision. Each session added a lot to us."

P 14: "In online supervision, some of my peers tried very hard to give themselves. I saw their development, but some of them could not show interest in the lesson when they participated online, and I do not think they showed the necessary development."

P 1: "Some of my peers did not improve; they did not take the process and the lesson seriously. However, this was a minority of the group. In general, all my peers who cared about the feedback and worked and made an effort made progress."

When the statements related to peer evaluations were examined, it was seen that the participants showed professional development and insufficient development in both supervision processes. Another sub-theme of the peer opinion theme was peer feedback-relationship. In this sub-theme, proactive, inadequate, and poor communication codes came to the fore for both supervisions. Some of the answers given by the participants are as follows:

P 4: "In face-to-face supervision, we had the opportunity to talk about each other's strengths and areas for improvement."

P 19: "In online supervision, due to our supervisor's attitude, we talked with our groupmates without judging each other. We always focused on what could be improved and did not make hurtful comments. We had a good relationship where we expressed ourselves comfortably."

P 19: "My groupmates and I did not make comments to each other, etc. Everyone talked about their individual experiences, and we finished the process."

P 6: "I cannot evaluate it very positively. There was no peer feedback, and I attribute this to the fact that we had to proceed completely online, and there was no bonding."

P 14: "I do not think we had proper communication with our friends who attended the meetings online because we could not be face-to-face."

P 20: "I did not get active feedback from my peers who were bored of looking at the screen and did not turn on the camera."

When the dimensions related to peer ideas were examined, it was seen that although the same codes came to the fore in both supervision processes, face-to-face supervision was handled from a more positive perspective regarding peer development and effective communication processes.

Discussion and Conclusion

The current research aimed to reveal counselor candidates' online and face-to-face supervision experiences. The findings showed that four main themes emerged from the experiences of the counselor candidates who experienced the online and face-to-face supervision process: counseling process, supervision process, challenges and limitations, and peer opinions.

The first theme was labeled as the counseling process. This theme included two sub-themes: professional factors and personal factors. In the professional factors sub-theme, it was seen that counselor candidates' perceived competencies increased in both types of supervision. On the other hand, some candidates did not find the increase in their counseling skills sufficient. For this sub-theme, opinions regarding the lack of therapeutic alliance in online supervision were reported. In addition, when the frequencies of the codes were analyzed, it was seen that face-to-face supervision had a higher frequency for the code of increasing competence. In the personal factors sub-theme, emotional dysregulation and self-control codes emerged. When the frequencies of the codes for both supervision groups were examined, it can be stated that counselor candidates reported more emotional dysregulation and increased self-control in the face-to-face supervision process. When the findings obtained for this theme were compared with the findings of the studies in the literature, it was seen that some similar results were obtained. For example, Gainor and Constantine (2002) stated that participants had higher professional competence scores in face-to-face peer supervision groups than in web-based supervision. In addition, qualitative and quantitative findings have shown an equivalence between tele-supervision and face-to-face supervision regarding clinical goals and tasks (Jordan & Shearer, 2019). Moreover, despite increased competence, there are some problems in counseling skills for both supervision processes. That is, the development of some counseling skills was weak in both face-to-face and online supervision. Moreover, unlike face-to-face supervision, online supervision involves non-therapeutic collaboration. Tarlow et al. (2020) also stated that the working alliance in tele-supervision was lower than face-to-face supervision, although not statistically significant. Jordan and Shearer (2019) noted that the differences between both types of supervision may be related to the individual factors of the supervisor or supervisee. One of the themes obtained in this study was personal factors. According to the findings obtained in this respect, although individual factors affecting the supervision process have been confirmed, it can be concluded that these factors are more effective in face-to-face supervision. As a result, our findings are consistent with the literature showing that both supervision processes are perceived similarly regarding the counseling process (Amanvermez et al., 2020; Bender & Dykeman, 2016; Perry, 2012; Tarlow et al., 2020). However, like the literature, the findings that face-to-face supervision makes more meaningful contributions to professional learning and development needs (Jordan & Shearer, 2019; Tarlow et al., 2020) provide additional evidence that face-to-face supervision is more prominent in terms of increased competence.

The second theme was the Supervision Process, which included two sub-themes: characteristics and roles, mainly statements related to the supervisor. In the characteristics sub-theme, the counselor candidates' positive attitude and access to face-to-face and online supervision drew attention. A positive attitude was highly emphasized during face-to-face supervision. Contrary to expectations, there were statements that the supervisor was inaccessible for both processes. Candidates reported more problems related to this situation in face-to-face supervision. In the sub-theme of roles, similar codes emerged for the supervisor roles for both processes: teacher, motivator, inspirer, and contrarian. The findings indicated that there were no significant differences in terms of supervisors for online supervision or face-to-face supervision. The most crucial difference was that the positive attitude of the supervisor was observed more in face-to-face supervision. Gainor and Constantine (2002) state that an appropriate level of professional closeness is necessary for adequate supervision, and therefore more intimate interactions occur in face-to-face supervision. A positive relationship with the supervisor is essential for the quality and effectiveness of supervision (Ratcliffe & Kaluzeviciute-Moreton, 2024). However, the findings show that students use the internet more creatively and comfortably in developing professional identity. At the same time, supervisors prefer face-to-face communication (Perry, 2012), indicating that the finding that emerged in the reflection of positive attitude, which has a vital position in affecting the quality of supervision in the online supervision process, may be related to the way the supervisor and the supervisee use the internet and their competencies in the supervision process. The findings show that the lack of perceptual relationships among the stakeholders of the supervision process is associated with a more positive evaluation of face-to-face supervision (Gainor & Constantine, 2002), which is compatible with the findings obtained in this study. In addition, teacher, motivator, inspirational, and contrarian roles emerged in both supervision processes. Among these roles, teacher and inspirational roles were the most frequently observed codes in both groups. In the study by Amanvermez et al. (2020), counselors who received online supervision reported that the supervisor's role as both a teacher and counselor had positive effects and the benefits gained from the supervisor's experiences. When the findings of the studies are taken together, the face-to-face or online supervision process is similar in supervisor roles, and the instructive role of supervisors comes to the fore.

Different process-related codes emerged in the second sub-theme (process-related problems) in face-to-face and online supervision. In particular, the lack of practical experience in online and face-to-face supervision was striking. Moreover, it was noteworthy that process-related problems increased performance anxiety in face-to-face supervision but less in online supervision. This sub-theme characterized the online supervision process by less interaction and performance anxiety. In face-to-face supervision, on the other hand, unexpectedly poor feedback and performance anxiety came to the fore, while high frequencies were observed in terms of hands-on experience.

The online supervision process lacks real-time communication in all its dimensions. Therefore, it is less likely to replicate the interaction in a face-to-face group experience (Rosenfield, 2012). Rosenfield (2012) interprets the success of web-based group supervision partly because of the strong bonds of trust and friendship that the practice members established during face-to-face contact in a different period. As seen in our findings, face-to-face supervision is likely to offer more opportunities for interaction. The limitations of the virtual environment and the deficiencies arising from the fact that individuals are not physically close to each other in this process can be considered factors that increase the quality of interaction in face-to-face supervision.

Another finding is that the participants with higher performance anxiety defined the face-to-face supervision process. Although supervision is rewarding for many supervisors and counselors, it can create tension or dissatisfaction, negatively affecting the supervision process. This anxiety may be related to hierarchy, authority, power, evaluation and feedback, or confidentiality (Pepper, 1996). In our findings, the increased performance anxiety found in the face-to-face supervision process is attributed to the fact that the online supervision process was not the first supervision experience of the students. Students who had previously experienced face-to-face supervision may have reported less anxiety because they switched to the online supervision process after overcoming the anxiety caused by supervision. Therefore, considering that anxiety is acceptable in the first stages of supervision regardless of the cause of anxiety (Meydan & Koçyiğit-Özyiğit,

2016), the source of decreased performance anxiety in the online supervision process can be considered more in this context.

In the literature, to our knowledge, no studies focused on the online and face-to-face supervision process in terms of feedback. However, Koçyiğit-Özyiğit and Erkan Atik (2021), in their research conducted during COVID-19, found that the supervisor did not allocate enough time to the students in the online supervision process based on student opinions. They attributed this situation to the increasing workload of the supervisor with distance education. In addition, another study conducted in Türkiye revealed that the most challenging factors for supervisors were related to the execution of supervision and evaluation. According to this study, supervisors stated that they had problems with giving timely feedback (Koçyiğit-Özyiğit, 2022). Online supervision allows access to the supervisor (Bender & Dykeman, 2016) and increases the potential of participants to access the service (Tarlow et al., 2020). When the findings are considered, it can be thought that the existing feedback problems were less accessible due to the limited hours of the face-to-face supervision process. However, with online supervision, the feedback received became sufficient with the elimination of time limitations. Findings show supervisors and counselors can communicate successfully and asynchronously in online supervision (Chapman et al., 2011). This may create an opportunity to receive more feedback in online supervision. On the other hand, the findings also show that supervisors' feedback is affected by factors related to the supervisor, the counselor candidate, and the supervision process (Pamukçu et al., 2023). Therefore, the emerging difference needs to be empirically evaluated.

As an unexpected finding, in the process-related problem's sub-theme of the challenges and limitations theme, it was found that face-to-face supervision offered the opportunity for hands-on experience. However, no such code emerged for online supervision. Supervision in counselor education is based on the practical experience of theoretical knowledge under the supervision of the supervisor (Yılmaz & Voltan Acar, 2015). Consistent with the theory that counselors learn and develop as they gain experience (Worthington, 1987), it is theoretically consistent that face-to-face supervision provides more practical experience. In addition, the fact that such a theme did not emerge in online supervision may be because students were not proactive about the counseling experience. Jordan and Shearer (2019) state that since online supervision is a process that requires counselor candidates to be proactive about how they will benefit from supervision, it may be more challenging for candidates who have difficulty taking the initiative. From this point of view, it is thought that counselor candidates who directly experience the supervisor's encouragement and guidance in face-to-face supervision practices can evaluate their practice experiences as increased without their initiative. On the other hand, in online supervision, counselor candidates may not have improved in the online supervision process in terms of practical experience, as they are more likely to proceed in line with their initiatives and act proactively in this process.

The fourth theme was peer opinions, which provided two sub-themes: peer evaluations and peer feedback-relationship. Both groups commonly had increased professional qualifications and insufficient professional development in the peer evaluation sub-theme. In addition, the frequency rates of these codes were similar. This finding was consistent with the findings of the literature, which showed no significant difference between the two processes (Bender & Dykeman, 2016; Jordan & Shearer, 2019; Tarlow et al., 2020). In the second sub-theme, the code of inadequate emerged in both processes regarding peer feedback and relationships, and the frequencies of these codes are similar. On the other hand, counselor candidates stated that their peers were more proactive in the face-to-face supervision process. They also frequently noted that peer communication was weak in the online supervision process. Amanvermez et al. (2020) showed that peers helped each other during peer supervision and contributed to their professional development. However, there were some problems in the online environment; they stated they had positive experiences with online and peer supervision. The inadequate code that emerged in both processes in the findings of this study shows that the other group members did not receive the expectations of the group members well in terms of their participation in the process and their feedback. However, the similar rates of this code in both types were interpreted as this situation may be related to the participants' characteristics rather than the process. The finding that counselor candidates were more proactive in the face-to-face supervision process is consistent with the literature. As emphasized before, candidates may be more suitable for online supervision if they do not have competence concerns, exhibit flexibility and ability to express their needs, and want to work more autonomously. However,

online supervision is not recommended for counselors with difficulty being proactive (Jordan & Shearer, 2019). Studies have shown that in online supervision, not all group members respond to every case; two or three people can work as a team for response and feedback (Myrick & Sabella, 1995). Therefore, the findings were interpreted that a real-time and direct group interaction in face-to-face supervision may produce more effective results in participation and activism in the process. Finally, online supervision emphasized poor communication at a very high rate. Online supervision is appropriate to meet remote needs, as an adjunct to supervision, and when comfort and confidentiality in the relationship are ensured (Twist et al., 2016). In online supervision, nonverbal communication, such as gestures, facial expressions, or tone of voice, is absent (Myrick & Sabella, 1995).

When the findings were evaluated in general, no significant differences were observed regarding the two types of supervision. However, it is seen that the face-to-face supervision process stands out in terms of increased professional competence, more reflection of the positive attitude of the supervisor, providing the opportunity for practical experience, and more proactive peer attitudes. On the other hand, online supervision is characterized by a lack of therapeutic collaboration, less reflection of the supervisor's positive attitude to the process, technical problems related to the process, difficulties in accessing resources, and lower interaction and communication. The challenges encountered in accessing supervision have led to using online tools. However, additional measures are needed to address the limitations of existing platforms (Deane et al., 2015). Findings from both supervisors and students suggest that online supervision is effective in supporting professional development (Perry, 2012). Despite the findings showing that no significant difference was observed between the two supervision processes, the findings revealed a tendency of candidates to prefer face-to-face supervision in line with their learning and development needs (Jordan & Shearer, 2019). In addition, the study found that face-to-face supervision was more effective than web-based supervision (Gainor & Constantine, 2002). In one study, participants stated that it would be appropriate to utilize online supervision but that it should be "mixed with face-to-face meetings" for "effective supervision" (Twist et al., 2016). Although online supervision has been used in counselor education with the increasing use of technology in higher education, little is known about it (Bender & Dykeman, 2016). Therefore, in line with the findings that underline the supervision relationship regardless of the supervision format (Tarlow et al., 2020), it should be considered that how the training program and technology system are set up also affect the supervision results (Jordan & Shearer, 2019), the results of this study can be said that both supervision processes are effective. However, face-to-face supervision in counselor education has significant advantages regarding skills, communication, and process.

In recent years, there has been an increasing shift to online applications in education. These changes allow supervision to be conducted online, thanks to the progress in online communication (Deane et al., 2015). While this has the potential to eliminate the problems of face-to-face supervision in terms of access, it also has some limitations in terms of process. This study compared the online supervision process, which has tended to increase in recent years, with the traditional face-to-face supervision process. The emerging themes provided information about counselor candidates' experiences with face-to-face and online supervision processes. Advantages and disadvantages were identified for both supervision processes. For example, it was observed that it was more challenging to ensure therapeutic cooperation in online supervision; the positive attitudes of the supervisor were reflected more in face-to-face supervision. At the same time, challenges in accessing resources came to the fore in online supervision, and poorer communication could be established. On the other hand, some of the emerging themes depend on the online environment, the candidate counselor's personal characteristics, or the supervisor's role. This study addresses the critical points related to both supervision processes and includes suggestions for organizing the supervision process to conduct effective counselor education. Although the study's design makes it possible for variables unrelated to supervision to affect the results, the fact that the findings obtained overlap with the literature shows that the study's results contribute to the field. The findings reveal the differences and strengths of face-to-face and online supervision processes and shed light on the points to be considered in these processes in counselor education.

Limitations and Recommendations

Although this study has essential contributions, some limitations should be considered when evaluating the findings. First, this study is based on the findings obtained from a relatively small study group studying at a state university. Another limitation of the study is that the data obtained are based on self-report. The third limitation of the study is the problems related to participant diversity. Although the participants in the study received training in both types of supervision, the supervisors differed in this process. Therefore, the differences in terms of the supervisor may also be reflected in the process evaluations in the findings obtained. Fifth, the present form was not submitted for expert opinion in this study. Furthermore, participant confirmation was not applied to the findings, and inter-coder reliability was not calculated. The last limitation of this study is that the supervision process within the scope of counseling practices with individual courses was first conducted face-to-face in the fall semester and then online in the spring semester. From this point of view, the effect of the supervision order was not considered in this study.

Considering the findings obtained and the study's limitations, some suggestions are presented for educational programs, educators, and researchers. Firstly, repeating the research study group on larger samples can provide a broader view of the findings obtained in terms of generalizability. In addition, this study was conducted using a qualitative research design. It may be recommended to replicate the research findings within the scope of quantitative designs and measure whether there is a significant difference between the two types of supervision. Although a similar lesson flow was applied in both supervision processes in this study, the changes that emerged regarding supervisors were not controlled. Therefore, in further studies, standard supervisor protocols can be created when comparing the types of supervision, and studies in which the supervisor variable is kept under control can be conducted. In addition, online supervision was found to have various problems compared to face-to-face supervision. In this direction, empirical studies can be designed to increase the effectiveness of online supervision. Supervision models are changing rapidly in line with the opportunities brought by technology. Given these opportunities and developments, studies focusing on supervisor roles in the online process and aiming to determine effective online supervision processes should be designed. Finally, the findings show that online supervision has some disadvantages regarding technical problems, interactional problems, or factors related to professional development. However, in line with the digital transformation in education in recent years, online supervision processes must be improved. In this direction, measures should be taken to eliminate the identified disadvantages while designing training programs and creating technological infrastructures for training processes.

Author Contributions: All researchers were involved in this research design. All authors contributed equally to writing the study's literature section and collecting the data analysis, findings, discussion, and conclusion sections.

Funding Disclosure: The authors received no financial support for this article's research, authorship, and/or publication.

Conflicts of Interest: The authors declared no potential conflicts of interest regarding this article's research, authorship, and/or publication.

Data Availability: Data are available upon request from the first author.

Ethics Approval and Consent to Participate: The ethical approval was obtained from the Ethics Committee of Recep Tayyip Erdoğan University (22/11/2023, 2023/338).

References

- Amanvermez, Y., Zeren, S. G., Erus, S. M., & Genç, A. B. (2020). Supervision and peer supervision in an online setting: Experiences of psychological counselors. *Eurasian Journal of Educational Research*, 20(86), 249-268.
- Aladağ, M. (2014). Psikolojik danışman eğitiminin farklı düzeylerinde bireyle psikolojik danışma uygulaması süpervizyonunda kritik olaylar. *Ege Eğitim Dergisi*, 15(2), 428-475. <https://doi.org/10.12984/eed.82217>

- Atik, Z. E., Arıcı, F., & Ergene, T. (2014). Süpervizyon modelleri ve modellere ilişkin değerlendirmeler. *Turkish Psychological Counseling and Guidance Journal*, 5(42), 305-317.
- Bender, S., & Dykeman, C. (2016). Supervisees' perceptions of effective supervision: A comparison of fully synchronous cybersupervision to traditional methods. *Journal of Technology in Human Services*, 34(4), 326-337. <https://doi.org/10.1080/15228835.2016.1250026>
- Bender, S., Rubel, D. J., & Dykeman, C. (2018). An interpretive phenomenological analysis of doctoral counselor education students' experience of receiving cybersupervision. *The Journal of Counselor Preparation and Supervision*, 11(1). <https://digitalcommons.sacredheart.edu/jcps/vol11/iss1/7/>
- Bengtsen, S. S., & Jensen, G. S. (2015). Online supervision at the university-A comparative study of supervision on student assignments face-to-face and online. *Tidsskriftet Læring og Medier (LOM)*, 8(13), 1-23.
- Bernard, J. M., & Goodyear, R. K. (2019). *Fundamentals of clinical supervision* (6th ed.). Pearson Education.
- Bernard, J. M., & Goodyear, R. (2014). *Fundamentals of clinical supervision* (5th ed.). Upper Saddle River, NJ: Pearson Education Inc.
- Bernhard, P. A., & Camins, J. S. (2021). Supervision from afar: Trainees' perspectives on telesupervision. *Counselling Psychology Quarterly*, 34(3-4), 377-386. <https://doi.org/10.1080/09515070.2020.1770697>
- Butler, S. K., & Constantine, M. G. (2006). Web-based peer supervision, collective self-esteem, and case conceptualization ability in school counselor trainees. *Professional School Counseling*, 10(2), 146-152. <https://doi.org/10.1177/2156759X0601000205>
- Büyüköztürk, S., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz, S., & Demirel, F. (2017). *Bilimsel araştırma yöntemleri*. Pegem Akademi.
- Carlisle, R. M., III. (2015). *An examination of supervisory working alliance, supervisee demographics, and delivery methods in synchronous distance supervision*. [Doctoral dissertation, Old Dominion University]. https://digitalcommons.odu.edu/chs_etds/36
- Chapman, R. A., Baker, S. B., Nassar-McMillan, S. C., & Gerler, E. R., Jr. (2011). Cybersupervision: Further examination of synchronous and asynchronous modalities in counseling practicum supervision. *Counselor Education and Supervision*, 50(5), 298-313. <https://doi.org/10.1002/j.1556-6978.2011.tb01917.x>
- Chen, E. C., & Bernstein, B. L. (2000). Relations of complementarity and supervisory issues to supervisory working alliance: A comparative analysis of two cases. *Journal of Counseling Psychology*, 47(4), 485-497. <https://doi.org/10.1037/0022-0167.47.4.485>
- Clark, A. T. (2004). *An exploration of combined distance and direct supervision experiences*. [Doctoral dissertation, Oregon State University]. <https://www.proquest.com/dissertations-theses/exploration-combined-distance-direct-supervision/docview/305143702/se-2>
- Coker, J. K., & Schooley, A. (2009). *Investigating the effectiveness of clinical supervision in a CACREP accredited online counseling program*. Paper presented at the 2009 ACES Conference, San Diego, CA.
- Creswell, J. W. (2017). *Nitel araştırmacılar için 30 temel beceri* (H. Özcan, Çev.), Anı.
- Crockett, S., & Hays, D. G. (2015). The influence of supervisor multicultural competence on the supervisory working alliance, supervisee counseling self-efficacy, and supervisee satisfaction with supervision: A mediation model. *Counselor Education & Supervision*, 54, 258-273. <https://doi.org/10.1002/ceas.12025>

- De Beer, M., & Mason, R. B. (2009). Using a blended approach to facilitate postgraduate supervision. *Innovations in Education and Teaching International*, 46(2), 213–226. <https://doi.org/10.1080/14703290902843984>
- Deane, F. P., Gonsalvez, C., Blackman, R., Saffioti, D., & Andresen, R. (2015). Issues in the development of e-supervision in professional psychology: A review. *Australian Psychologist*, 50(3), 241–247. <https://doi.org/10.1111/ap.12107>
- Dickens, A. D. H. (2009). *Satisfaction of supervisory working alliance: Distance versus face-to-face* (Publication No. 3400640) [Doctoral dissertation, Regent University]. ProQuest. <https://www.proquest.com/docview/205438001?pqorigsite=gscholar&fromopenview=true>
- Eman, S. (2021). Shifting from face-to-face learning to zoom online teaching, research, and internship supervision in a technologically developing' female students' university in Pakistan: A psychology teacher's and students' perspective. *Psychology Teaching Review*, 27(1), 42–55.
- Erbaş, M. M., Koç, İ., & Esen, E. (2020). Psikolojik danışman adaylarının süpervizyon sürecine ilişkin görüşlerinin incelenmesi: Manisa Celal Bayar Üniversitesi örneği. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, (53), 183-205. <https://doi.org/10.21764/maeuefd.607215>
- Frye, W. S., Feldman, M., Katzenstein, J., & Gardner, L. (2022). Modified training experiences for psychology interns and fellows during COVID-19: Use of telepsychology and telesupervision by child and adolescent training programs. *Journal of Clinical Psychology in Medical Settings*, 29(4), 840–848. <https://doi.org/10.1007/s10880-021-09839-4>
- Gainor, K. A., & Constantine, M. G. (2002). Multicultural group supervision: A comparison of in-person versus web-based formats. *Professional School Counseling*, 6(2), 104-111. <https://www.jstor.org/stable/42732399>
- Günlü, A., & Uz Baş, A. (2023). Pandemi döneminde bireyle psikolojik danışma uygulaması dersi deneyimi: Fenomenolojik bir araştırma. *Afyon Kocatepe Üniversitesi Sosyal Bilimler Dergisi*, 25(4), 1211-1232. <https://doi.org/10.32709/akusosbil.1075498>
- Jordan, S. E., & Shearer, E. M. (2019). An exploration of supervision delivered via clinical video telehealth (CVT). *Training and Education in Professional Psychology*, 13(4), 323. <https://psycnet.apa.org/doi/10.1037/tep0000245>
- Koçyiğit-Özyiğit, M. (2022). Challenges and ethical issues in counseling supervision from faculty supervisors' perspective. *Participatory Educational Research*, 9(5), 305–329. <https://doi.org/10.17275/per.22.116.9.5>
- Koçyiğit-Özyiğit, M., & Atik, Z. E. (2021). Covid-19 sürecinde psikolojik danışma ve süpervizyon:#evdekal deneyimi. *Başkent University Journal of Education*, 8(1), 253-274.
- Lahey, S. (2008). *A quantitative examination of distance and traditional counselor education supervision modalities*. [Doctoral dissertation, Regent University]. ProQuest. <https://www.proquest.com/docview/304818701?pqorigsite=gscholar&fromopenview=true>
- Lundgren-Resenterra, M., & Crosta, L. (2019). Beyond personal expectations: Research supervision framed as a collective Endeavour in online structured doctoral programmes. *International Journal of Doctoral Studies*, 14, 703. <https://doi.org/10.28945/4439>
- Maples, M. F., & Han, S. (2008). Online counseling in the United States and South Korea: Implications for counseling college students of the millennial generation and the networked generation. *Journal of Counseling & Development*, 86(2), 178–183. <https://doi.org/10.1002/j.1556-6678.2008.tb00495.x>
- McAdams III, C. R., & Wyatt, K. L. (2010). The regulation of technology-assisted distance counseling and supervision in the United States: An analysis of current extent, trends, and implications. *Counselor Education and Supervision*, 49(3), 179–192. <https://doi.org/10.1002/j.1556-6978.2010.tb00097.x>

- Merriam, S. B. (2013). *Nitel Araştırma* (S. Turan, Çev.). Ankara: Nobel.
- Meydan, B., & Koçyiğit-Özyiğit, M. (2016). Süpervizyon ilişkisi: Psikolojik danışma süpervizyonunda kritik bir öge. *Ege Eğitim Dergisi*, 17(1), 225–257. <https://doi.org/10.12984/eed.74105>
- Myers, J.E. & Smith, A.W. (1995). A national survey of on-campus clinical training in counselor education. *Counselor Education and Supervision*, 35(1), 70–81.
- Myrick, R. D., & Sabella, R. A. (1995). Cyberspace: New place for counselor supervision. *Elementary School Guidance & Counseling*, 30(1), 35–44. <https://www.jstor.org/stable/42871190>
- Özteke-Kozan, H. İ. (2018). Psikolojik danışman adaylarının danışma uygulamasına yönelik kaygıları: Nitel bir yaklaşım. *OPUS International Journal of Society Researches*, 9(16), 109-137. <https://doi.org/10.26466/opus.476077>
- Pamukçu, B., Meydan, B., Koçyiğit-Özyiğit, M., Pehlivan, Y. & Akkaya, M. S. (2023). Psikolojik danışman eğitiminde süpervizör geri bildirimini. *Anadolu Üniversitesi Eğitim Fakültesi Dergisi (AUJEF)*, 7(1), 202–226. <https://doi.org/10.34056/aujef.1182374>
- Peacock, S., Cowan, J., Irvine, L., & Williams, J. (2020). An exploration into the importance of a sense of belonging for online learners. *International Review of Research in Open and Distributed Learning*, 21(2), 18–35. <https://doi.org/10.19173/irrodl.v20i5.4539>
- Pepper, N. G. (1996). Supervision: A positive learning experience or an anxiety provoking exercise? *Australian Social Work*, 49(3), 55–64. <http://dx.doi.org/10.1080/03124079608415690>
- Perry, C. W. (2012). Constructing professional identity in an online graduate clinical training program: Possibilities for online supervision. *Journal of systemic Therapies*, 31(3), 53–67. <https://doi.org/10.1521/jsyt.2012.31.3.53>
- Ratcliffe, K., & Kaluzeviciute-Moreton, G. (2024). Telesupervision in counselling and psychotherapy: A systematic review of the literature. *British Journal of Guidance & Counselling*, 52(5), 801–814. <https://doi.org/10.1080/03069885.2023.2264480>
- Reese, R. J., Aldarondo, F., Anderson, C. R., Lee, S. J., Miller, T. W., & Burton, D. (2009). Telehealth in clinical supervision: A comparison of supervision formats. *Journal of Telemedicine and Telecare*, 15(7), 356–361. <https://doi.org/10.1258/jtt.2009.090401>
- Rosenfield, L. (2012). Web-based supervisor training: Real relationships in cyberspace. *Smith College Studies in Social Work*, 82(2-3), 216–229. <https://doi.org/10.1080/00377317.2012.693025>
- Rousmaniere, T., Abbass, A., & Frederickson, J. (2014). New developments in technology-assisted supervision and training: A practical overview. *Journal of Clinical Psychology*, 70(11), 1082–1093. <https://doi.org/10.1002/jclp.22129>
- Schmittl, E. M., Lettenberger-Klein, C., Oliver, T., Butterfras, R. F., & Adamson, D. W. (2023). Intentionality in academic telesupervision: A phenomenological study of faculty telesupervisors' experiences. *Contemporary Family Therapy*, 45, 61–74. <https://doi.org/10.1007/s10591-021-09601-w>
- Sørli, T., Gammon, D., Bergvik, S., & Sexton, H. (1999). Psychotherapy supervision face-to-face and by videoconferencing: A comparative study. *British Journal of Psychotherapy*, 15(4), 452–462. <https://psycnet.apa.org/doi/10.1111/j.1752-0118.1999.tb00475.x>
- Tan, S. Y. (2009). Developing integration skills: The role of clinical supervision. *Journal of Psychology and Theology*, 37(1), 54-61. <https://doi.org/10.1177/009164710903700106>
- Tarlow, K. R., McCord, C. E., Nelon, J. L., & Bernhard, P. A. (2020). Comparing in-person supervision and telesupervision: A multiple baseline single-case study. *Journal of Psychotherapy Integration*, 30(2), 383–393. <https://psycnet.apa.org/doi/10.1037/int0000210>

- Turkish Psychological Counseling and Guidance Association (2023). *Bireyle psikolojik danışma uygulaması ve süpervizyonu: En iyi uygulamalar kılavuzu*. Türk PDR Derneği Press. <https://drive.google.com/file/d/1NmfCISR9n66b0mUnDXRxKYoKpFPDP/view>
- Twist, M. L., Hertlein, K. M., & Haider, A. (2016). Electronic communication in supervisory relationships: A mixed data survey. *Contemporary Family Therapy*, 38, 424–433. <https://doi.org/10.1007/s10591-016-9391-9>
- Woo, H., Bang, N. M., Lee, J., & Berghuis, K. (2020). A meta-analysis of the counseling literature on technology-assisted distance supervision. *International Journal for the Advancement of Counselling*, 42, 424–438. <https://doi.org/10.1007/s10447-020-09410-0>
- Worthington, E. L. (1987). Changes in supervision as counselors and supervisors gain experience: A review. *Professional Psychology: Research and Practice*, 18(3), 189–208. <https://psycnet.apa.org/doi/10.1037/0735-7028.18.3.189>
- Yılmaz, O., Voltan Acar, N. (2015). Psikolojik danışman eğitiminde süpervizyonun önemi ve grupla psikolojik danışmadaki rolü. *Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi*, 15(1), 342–356. <https://doi.org/10.17240/aibuefd.2015.15.1-5000128610>
- Yüksel-Sahin, F. (2021). Psikolojik Danışmanların Covid-19'a, Yüz yüze ve çevrimiçi psikolojik danışma yapmaya, yüz yüze ve çevrimiçi eğitim almaya ilişkin görüşlerinin incelenmesi. *IBAD Sosyal Bilimler Dergisi*(9), 496-522. <https://doi.org/10.21733/ibad.799721>



RESEARCH ARTICLE

Exploring Mothers' Risk Tolerance In Children's Play: Investigating Parental Styles And Various Factors Predicting Children's Risk-Taking Behaviors

Simge YILMAZ UYSAL^a  & Binaz BOZKUR^a 

^a Mersin University, Mersin, Türkiye.

ARTICLE HISTORY

Received: 15.01.2024

Accepted: 24.06.2024

KEYWORDS

Mothers' Allowance
Risky Play, Parental
Attitudes, Risky Play,
Risk-Taking, Preschool
Children

ABSTRACT

This study investigated the factors related to mothers' tolerance of their children's involvement in risky play through a correlational research model. The participants in the research consisted of 324 mothers with preschool-aged children. The study employed the Risky Game Allowance Scale (Mothers' Form), the Parental Attitude Scale, and the Demographic Information Form as data collection instruments. Correlation and hierarchical regression analyses were used in the research. Results indicated that mothers with university degrees and those who were employed were more permissive regarding risky play. Additionally, older mothers were more inclined to endorse risky play. Overprotective parenting was associated with less approval of risky play, while democratic and permissive parenting showed higher approval for risky play. The findings highlight that mothers' age, educational level, employment status and parenting attitudes are significant predictors of tolerance for children's risky play. These results underscore the importance of a balanced parenting approach that encourages children's exploration and risk-taking within defined boundaries.

Risky play involves activities full of uncertainty and excitement, providing children with the advantages of taking beneficial risks (Little & Wyver, 2008; Stephenson, 2003). According to Sandseter (2007), risky play is defined as activities involving uncertainty and excitement, encouraging physical exploration of unfamiliar environments or scaling elevated locations. These feelings of uncertainty and excitement are characteristics that appeal to children's play preferences (Sutton-Smith, 1997).

More specifically, the reported contributions of taking risks for children encompass the development of attributes such as creativity, decision-making, problem-solving, concentration, risk management, coping with challenges, adaptability to new situations, self-esteem, self-confidence, and resilience skills (Lester, Jones, & Russell, 2011; Sandseter & Kennair, 2011). Aside from these advantages, it is well-documented that children derive enjoyment from engaging in risky activities (Sandseter, 2007; Sandseter et al., 2021).

Despite the well-known benefits of risky play, it has been observed that parents often have concerns about their children's participation in such activities. The primary concern among parents is the risk of injury (Jelleyman et al., 2019; Morrongiello et al., 2016; Sandseter et al., 2020), because they want to protect their

CORRESPONDING AUTHOR Binaz Bozkur, b.bozkur@hotmail.com, ORCID: 0000-0002-3821-7489, Mersin University, Mersin, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counselling and Guidance Association

children from harm (Carver, Timperio, & Crawford, 2008; Oliver et al., 2023; Veitch et al., 2006). Furthermore, Carver et al. (2008) reported that a significant proportion of parents restricted their children's risky play because of the possibility of their children breaking bones or sustaining serious injuries. Oliver et al. (2023) attributed parents' concerns regarding their children's engagement in risky play to the social pressure they feel to maintain their children's safety. Therefore, parents may be hesitant to endorse their children's involvement in risky play and may even restrict their participation in such activities (Arlinkasari et al., 2023; Little, 2010, 2015).

In the context of Turkey, parental concerns regarding children's participation in risky play are a frequently encountered issue. Parents frequently prioritize their children's safety, significantly limiting their involvement in such activities (Arlinkasari et al., 2023; Sicim-Sevim & Bapoğlu-Dümenci, 2020). Therefore, it is considered highly important to investigate the factors that influence parents' concerns about their children's participation in risky play within the context of Turkish culture. Additionally, it is important to consider various factors influencing parents' decisions regarding risky play. In addition to safety concerns, demographic factors including age, gender, employment status, and educational statuses (Akdemir et al., 2023); and parents' perceptions of risk (McFarland & Laird, 2018; Ryan et al., 2024) played a significant role in parents' decisions to limit their children's risk-taking during play.

Several studies have highlighted the influence of mothers' age on their attitudes towards their children's engagement in risky play. Research indicates that older mothers tend to be more permissive regarding their children's risk-taking behaviors (Averett et al., 2011), which may be attributed to the accumulation of relevant experiences as they age (Harper, 2017; Nesbit et al., 2021; Oliver et al., 2023; Woolley et al., 2009). If a mother's personal experiences include a high tolerance for risk, her acceptance of her child's risk-taking is also found to be higher (Yılmaz-Uysal & Çiğ, 2022). Furthermore, numerous studies suggest that mothers of younger children are more likely to limit their children's engagement in risky play compared to mothers of older children (Oliver et al., 2022; Yılmaz-Uysal & Çiğ, 2022).

Considering demographic variables in terms of parents' gender, it was found that mothers are generally more cautious than fathers about their children's engagement in risky play (Brussoni et al., 2018; Schoeppe et al., 2015). Moreover, parental employment status has been found to have a positive impact on parents' attitudes towards children's risky play. Finally, it has been noted that parents with higher levels of education are more inclined to support their children's participation in risky play than those with lower levels of educational backgrounds (Akdemir et al., 2023).

Given the critical role of parental tolerance in shaping their children's engagement in risky play, it is imperative to explore the predictors of the relationship between parenting styles and allowing risky play. Several researchers (i.e., Akdemir et al., 2023; Cevher-Kalburan & Ivrendi, 2016; Larson et al., 2011) have highlighted that children's play behaviors can be influenced by parenting styles. An example of this is that over-protective parental attitudes can have adverse consequences, constraining children's engagement in risky play.

To comprehensively explore the impact of the aforementioned factors, the present study pursues three main objectives: 1) to compare mothers' levels of allowing risky play with preschool children in terms of various variables (educational status, employment status, place of residence and number of children); 2) to examine the relationship between mothers' age and parental attitudes and the factors affecting their allowing risky play; 3) to investigate the predictive role of various variables (mothers' age, mothers' educational status, employment status and parental attitudes) in determining mothers' inclination to encourage their children's risk-taking during play.

The outcomes of this research may contribute to a deeper comprehension of the factors that shape children's engagement in risky play and the potential implications for their developmental trajectory. Furthermore, an understanding of the factors that influence parents' attitudes toward risky play could facilitate the development of interventions and strategies that encourage children's play opportunities while addressing and alleviating parents' concerns.

Methodology

In the present study, a correlational research model was employed to examine the factors associated with mothers' tolerance for their children's involvement in risky play. A correlational study is one in which cause-and-effect relationships cannot be established due to the nature of the study, as variables cannot be changed or

controlled (Erkuş, 2011). This model was selected to identify and analyze the relationships between mothers' demographic characteristics (age, education level, and employment status.) and their parenting attitudes (overprotective, democratic, and permissive) in relation to their tolerance for risky play.

Participants

In this study, a convenience sampling method, which is a type of purposive sampling, was utilized. To reach the study group, we contacted mothers of students enrolled in preschool institutions in a province located in the Mediterranean Region through parent communication groups on social media. A total of 324 mothers with children aged between 4 and 6 years participated in the study. To meet the predefined inclusion criteria, participants had to be mothers and have basic literacy skills. Those who did not meet these criteria were excluded from the study. The average age of the participating mothers was 34.49 ± 5.07 years. Of the participants, 74.4% lived in urban areas, while 25.6% resided in rural regions. Regarding the number of children, 29.3% had one child, whereas 70.7% had two or more children. In terms of employment status, 47.5% were employed, while 52.5% were not working. An examination of the participants' educational background showed that 64.2% had a university degree, while 35.8% had a high school diploma or less.

To determine the minimum sample size required for hierarchical regression analysis in this study, calculations were made using G*Power 3.1 according to the following parameters: Medium effect size 0.15, $\alpha = 0.05$, power = 0.95, two tested steps and 7 predictors. The minimum calculated sample size was determined as 153 participants. However, 324 mothers were reached in our study, which is more than twice the specified minimum sample size. This large sample size increases the reliability and generalizability of the results, enabling statistical analyses to produce more sensitive and reliable findings. Therefore, the sample size of our study is sufficient and appropriate in terms of the validity and reliability of the research findings.

Measures

Risky Game Allowance Scale (Mothers' Form). The Risky Game Allowance Scale (Mothers' Form) evaluates mothers' permission for their 2-6-year-old children attending preschool education to engage in risky play. This scale, developed by Ünüvar and Kanyılmaz in 2017, consists of 21 items and four sub-dimensions. These sub-dimensions are Playing at Very Risky Heights, Playing with Dangerous Equipment, Playing at Low-Risk Heights and Playing Close to Dangerous Natural Elements. It also presents an overall score, rendering it applicable for utilization in this study. In the original study, the internal consistency of the scale was evaluated using Cronbach's alpha (α), resulting in a coefficient of .88, which is indicative of an acceptable level of reliability (Ünüvar & Kanyılmaz, 2017). In this study, the α coefficient for the total score was found to be .93, indicating a high level of internal consistency.

The Parental Attitude Scale. The Parental Attitude Scale was utilized in this study to assess the parental attitudes of mothers with children aged 2-6 years. The scale, developed in 2008 by Karabulut-Demir and Şendil, comprises four sub-dimensions and a total of 46 items. The sub-dimensions are categorized as authoritarian attitude, democratic attitude, permissive attitude and over-protective attitude. In the original study, the internal consistency coefficient of the scale was obtained by calculating α , which was .76 for authoritarian, .83 for democratic, .74 for permissive and .75 for over-protective attitude (Karabulut-Demir & Şendil, 2008). In the current study, α coefficients were calculated as .78 for authoritarian, .82 for democratic, .78 for over-protective and .77 for permissive attitude. These values indicate that the scale has an acceptable level of internal consistency.

Demographic Information Form. To collect demographic data from participants, the authors created a Demographic Information Form for this study. The form covers various aspects, such as age, educational and employment status, place of residence, and number of children.

Data Collection

Data collection was carried out online using Google Forms. The data collection procedure was voluntary. Participants were required to provide their informed consent during data collection through a Google form. Participants who did not consent were not allowed to proceed with the data collection process. Additionally, a mechanism was employed to prevent individuals from submitting data multiple times from the same device,

which enhanced data security.

Data Analysis

The data in the study were analyzed using SPSS 25.00 software package. Prior to the analyses, a test was performed to assess normality assumption. The kurtosis and skewness coefficients for all measurements were found to be within the range of ± 2 , as recommended by George and Mallery (2003). To investigate the relationships between the variables under examination, the Pearson Product Moment Correlation Coefficient was employed. Furthermore, hierarchical multiple regression analysis was conducted to determine the extent to which the variables predicted mothers' tolerance for risk-taking.

Prior to conducting the regression analysis, the assumptions of the model were subjected to a comprehensive examination. To satisfy the multicollinearity assumption, the correlation coefficient between variables must be less than 0.80. To ensure independence of errors, the Durbin-Watson value should approximate 2 (Field, 2009). Furthermore, the Variance Inflation Factor (VIF) value must be below 10, and the tolerance value should exceed 0.10 (Hair et al., 2014). The results of the analyses revealed linear data, absence of multicollinearity issues (VIF: 1.65-1.09; Tolerance: .91-.60), and independent errors (Durbin-Watson: 2.09), indicating that no issues with multicollinearity or residuals were found. Thus, all assumptions were met accordingly. The predetermined order of entry of independent variables sets into the regression model aligned with the research questions. In order to ascertain the requisite sample size for the multiple regression analysis, an a priori power analysis was conducted with respect to the total R^2 value. This analysis was based on the assumption of seven predictor variables, a power level of .95, and an alpha level of .05. The G*Power software (Faul et al., 2007) was used for this analysis, which determined that a sample size of 153 participants was necessary to detect a medium effect size ($f^2 = .15$; Cohen, 1988).

Results

Preliminary analysis

To assess potential differences in mothers' allowance towards risky play based on the categorical variables examined in this study, independent samples t-tests were performed. The outcomes of these analyses are reported in Table 1.

Table 1. Results of t-tests for Mothers' Allowance of Risky Play Across Categorical Variables

Categorical variables	Categories	N	Mean	SD	Df	t	p
Education level	University degree	208	53.23	16.07	322	8.42	.00
	High school or lower	116	39.72	12.43			
Employment status	Employed	154	50.78	15.28	322	2.55	.01
	Unemployed	170	46.22	16.74			
Place of residence	Urban	241	49.40	16.12	322	1.92	.06
	Rural	83	45.45	16.17			
Number of children	1	94	50.50	16.94	322	1.49	.14
	2 and above	229	47.53	15.88			

* $p < 0.05$

Table 1 displays the t-test results, depicting the mean scores of participants' allowance towards risky play, as influenced by their educational level, employment status, place of residence, and number of children variables. The analysis revealed no statistically significant differences in participants' allowance of risky play based on place of residence and number of children variables. However, a significant difference was observed based on participants' educational level, favoring university graduates. Similarly, a significant difference was found based on employment status, favoring working mothers. Table 2 provides descriptive statistics, and Pearson correlations, for the continuous variables examined in the study.

Table 2. Descriptive Statistics and Correlations Among the Variables (N=324)

Variables	Mean	SS	1	2	3	4	5	6
Age	34.49	5.07	-					
Democratic	75.21	6.26	-.12*	-				
Authoritarian	19.15	4.69	.05	-.38**	-			
Over-protective	31.01	5.76	-.25**	-.04	.10	-		
Permissive	19.96	4.57	.08	-.15**	.20**	.02	-	
Allowing risky play	48.38	16.20	.21**	.16**	-.02	-.48**	.19**	-

* Correlation level of significance: $p < .05$, ** $p < .01$

Table 2 reveals noteworthy findings regarding the relationships between allowing risky play and various variables. Specifically, a positive and statistically significant association of low magnitude was observed between allowing risky play and the age variable. This indicates that as participants' age increases, their inclination towards allowing risky play also increases. Furthermore, a positive and statistically significant relationship of low magnitude was observed between the level of allowing risky play and both democratic and permissive parental attitudes. This implies that as participants' democratic and permissive parental attitudes increase, their propensity to allow risky play also increases. Conversely, participants' allowing risky play exhibited a moderate and negative statistically significant relationship with over-protective parental attitudes. This signifies that as over-protective parental attitudes intensify, the inclination towards allowing risky play diminishes. Finally, the results indicated that there was no statistically significant correlation between the allowing risky play and the authoritarian parental attitude.

Hierarchical regression analysis (HRA)

The HRA was employed to predict participants' allowance of risky play. The variables were entered into the regression model in two sequential blocks. To determine the demographic control variables for analysis, the results of t-tests and correlation analyses were carefully considered. Firstly, the selected demographic variables as control variables were included in the model. Subsequently, the variables associated with parental attitudes were entered as the second step (refer to Table 3). The outcomes of the HRA are presented in Table 3.

Table 3. The HRA with Risk as a Dependent Variable

Variable	Step 1				Step 2				
	B	SE	B	t	B	SE	β	t	VIF
Employment	-4.26	1.97	-.13	-2.16*	-4.75	1.77	-.15	-2.68	1.45
Education level	14.80	2.05	.44	7.21*	8.60	1.96	.26	4.39	1.45
Age	.40	.17	.13	2.38*	.26	.16	.08	1.69	1.10
Democratic					.47	.13	.18	3.69	1.21
Authoritarian					.18	.17	.05	1.03	1.21
Over-protective					-1.11	.14	-.40	-7.83	1.25
Permissive					.659	.17	.19	3.93	1.09
F		23.92*				24.58*			
R ²		.18				.35			

Note: * $p < .05$., 1= Employed, 0= unemployed, 1= university degree, 0= high school or lower

The findings pertaining to the HRA are presented in Table 3. The predictors of employment status, education level, age, and parental attitudes accounted for 35.3% of the variance, yielding a significant model ($p < .001$).

During the initial step, demographic variables alone accounted for 26% of the risk variance ($R = .428$; $R^2 = .183$). Subsequently, the inclusion of democratic, authoritarian, over-protective, and permissive parental attitude variables in the second step resulted in an increased variance explanation of 33.3% ($R = .594$; $R^2 = .368$, $p < .001$). More precisely, the parental attitude variables added in the second step explained an additional 17% of the variance. Upon closer examination of the values presented in the table, it is evident that employment status, education level, and age significantly predict the variables of allowing risky play. Regarding parental attitudes, over-protective, democratic, and permissive parental attitudes emerged as significant predictors of allowing risky play, whereas authoritarian parental attitude did not yield significant predictions of allowing risky play.

Discussion

The current study examined the factors influencing mothers' decisions to permit risky play among their preschool children. Findings indicated that mothers who were employed and/or possessed a university degree were more inclined to permit risky play among their preschool-aged children. Additionally, the study observed that older mothers exhibited a greater tendency to permit such activities. Tolerant and democratic parental attitudes were positively associated with the willingness to allow risky play, whereas overprotective attitudes were negatively associated. Notably, mothers' age, educational level, and employment status emerged as significant determinants of their willingness to allow risky play. However, authoritarian parental attitudes did not significantly impact mothers' decisions regarding risky play.

An important finding of this study reveals that working mothers are more tolerant of their children's engagement in risky games. The findings of Akdemir and colleagues (2023) also support this perspective. Working mothers' access to childcare and education services can facilitate the creation of environments suitable for risky play (Kangas & Rostgaard, 2007; Lewis, 2003). These services provide safe and supervised spaces where children can engage in risky activities (Boyd et al., 2010). Moreover, working mothers can model and encourage risk-taking based on their own courageous experiences (Aughinbaugh & Gittleman, 2004; Little, 2015; Twigger-Ross & Breakwell, 1999). Such experiences can help working mothers encourage risk-taking in their children and better understand the benefits of risky play on children's personal development and growth. However, there are also studies in the literature suggesting that working mothers may be less inclined to allow their children to engage in risky play due to time constraints and housework (Oliver et al., 2022). These opposing views suggest that the relationship between working mothers' attitudes towards risky play may be complex and context-dependent.

The current research suggests that mothers with a university degree exhibit a higher inclination to support and permit risky play, consistent with prior literature (e.g., Cevher- Kalburan & Ivrendi, 2016). Several factors may contribute to the positive association between mothers' higher educational attainment and permissiveness towards risky play. Specifically, some studies (e.g., Akdemir et al., 2023; Karaca & Aral, 2020) propose that higher levels of education correlate with a more progressive parenting approach that underscores the significance of allowing children to engage in activities involving risk-taking. Risk-taking is acknowledged as a pivotal factor in children's development of autonomy and independence (Murray & Hrusa Williams, 2020). Consequently, mothers with higher educational levels are reported to be more inclined to encourage risk-taking in their children compared to parents with lower educational backgrounds (Akdemir et al., 2023; Cevher-Kalburan & Ivrendi, 2016).

The study findings reveal a positive correlation between mothers' age and their endorsement of risky play, indicating that older mothers are more likely to permit such activities compared to younger mothers. This propensity among older mothers may stem from their accumulated parenting experience, which fosters a sense of trust and a tolerant attitude (Morrongiello & Major, 2002). Additionally, the environments in which older parents were raised were often less risk-averse, potentially contributing to their encouragement of their children's engagement in risky play (Gill, 2007). Conversely, younger and less experienced parents may adopt a more cautious approach towards risky play, influenced in part by the prevailing culture of risk aversion in recent years (Yılmaz, 2020). Understanding the reasons for different attitudes towards risky play requires considering parents' age and parenting experience.

The finding that mothers with democratic and permissive parental attitudes tended to permit more risky play aligns with previous research emphasizing the positive influence of these parenting styles on children's

autonomy and development. Yanuarsari et al. (2021) discovered that children raised under democratic parenting tend to cultivate independence, responsibility, courage to take risks, and self-confidence. Furthermore, such children demonstrate improved academic performance and the development of their inherent abilities. Similarly, the present study's findings indicated that permissive parenting increased permission for risky play. However, according to Yanuarsari et al. (2021), children raised with permissive parenting tend to exhibit lower levels of independence, slower development, decreased motivation, and a lack of self-control and confidence. This contradictory finding may suggest that societal considerations significantly influence parents' decisions to grant freedom to their children (Brussoni et al., 2012; Little, 2015). Essentially, societal pressures may compel parents to adhere to socially accepted norms rather than prioritize their children's best interests (Jelleyman et al., 2019). In the study by Yanuarsari et al. (2021), mothers who exhibit permissive parenting attitudes may protect their children from risky situations and prevent them from meeting their real needs in order to be perceived as "good mothers". However, in this study, mothers may have a better understanding of the benefits of risky play for children and may encourage their children to take risks during play.

The opposite relationship between overprotective parental attitudes and allowing risky games is consistent with similar research results in the literature (Cevher-Kalburan & Ivrendi, 2016; Ungar, 2009). Such parents' high levels of concern about child safety and well-being may cause them to take a more cautious approach to risky games that they perceive as potentially dangerous and harmful (Morrongiello et al., 2009; Şimşek, 2023; Tandy, 1999; Valentine & McKendrick, 1997; Yokum, 2018). These concerns of overprotective parents may constitute an obstacle to their children's development and learning as a result of risk-taking (Eager & Little, 2011). Preventing risk-taking at a young age may negatively affect the development of children's risk management skills, which may make them more vulnerable to risky situations (Brussoni, 2020; Brussoni & Olsen, 2013).

Implications and Future Directions

The current study revealed that mothers with higher educational levels and working mothers were more likely to allow their children to engage in risky play compared to mothers with lower educational levels and unemployed mothers. The findings also indicated that as the age of the mothers increased, their tendency to permit risky play also increased. Additionally, democratic and tolerant parental attitudes were positively associated with the tendency to allow risky play, while overprotective parental attitudes decreased this tendency.

The research findings have significant implications for the fields of child development, child psychology, counseling, and early childhood education. The variation in mothers' attitudes towards risky play based on their educational level and employment status necessitates the design of parent education programs that consider these differences. Programs targeting highly educated and employed mothers should emphasize the benefits of risky play in fostering children's independence and problem-solving skills. Conversely, support programs should be primarily designed for young, unemployed mothers to build their confidence in permitting risky play.

Given that parents' age also influences their attitudes towards risky play, child development specialists and counselors should provide individualized guidance and support services that take parental age into account. Promoting democratic and tolerant parental attitudes can help children develop independence, responsibility, and problem-solving skills. In this context, counselors and early childhood educators should collaborate with parents to understand their attitudes towards risk-taking and independence and integrate these insights into educational programs. This approach can create a consistent and safe environment that supports children's development.

Conclusion and Limitations

In conclusion, the research illuminates how parental attitudes, education, and age influence the extent to which risky play is allowed in children. It underscores the importance of adopting a balanced parenting approach that encourages children's exploration and risk-taking within controlled parameters. Early childhood educators can utilize this information to collaborate effectively with parents and create environments that facilitate healthy

child development through appropriate risky play experiences.

Despite its important contributions, this research has limitations. Potential social acceptance errors may affect the data, as it was collected through self-report scales. To address this, future studies should use a triangulation approach, incorporating data from various sources to enhance validity and reliability. Furthermore, the cross-sectional design of the study precludes the establishment of cause-and-effect relationships. Future research should employ experimental and longitudinal methods to explore these relationships more comprehensively.

Ethical approval: The study was approved by the Social and Human Sciences Scientific Research and Publication Ethics Committee of Mersin University (04.07.2023, 140). The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

Declaration of no conflicts of interest: The authors declare no competing interests relevant to the content of this article.

Data availability: Data generated and/or analyzed during this study are available upon reasonable request from corresponding author.

References

- Akdemir, K., Banko-Bal, Ç., & Sevimli-Celik, S. (2023). Giving children permission for risky play: Parental variables and parenting styles. *Journal of Outdoor and Environmental Education*, 26,1-18. <https://doi.org/10.1007/s42322-023-00122-8>
- Alat, Z., Akgümüş, O., & Cavali, D. (2012). Outdoor activities: Early childhood teachers' beliefs and practices. *Mersin University Journal of the Faculty of Education*, 8(3), 47–62.
- Arlinkasari, F., Cushing, D. F., & Miller, E. (2023). Boys play soccer, girls watch on the corner': Gendered play and spaces in Jakarta public playgrounds. *Asian Journal of Social Science*, 51(1), 32-42. <https://doi.org/10.1016/j.ajss.2022.06.001>
- Aughinbaugh, A., & Gittleman, M. (2004). Maternal employment and adolescent risky behavior. *Journal of Health Economics*, 23(4), 815-838. <https://doi.org/10.1016/j.jhealeco.2003.11.005>
- Averett, S. L., Argys, L. M., & Rees, D. I. (2011). Older siblings and adolescent risky behavior: Does parenting play a role?. *Journal of Population Economics*, 24, 957-978. <https://doi.org/10.1007/s00148-009-0276-1>
- Ball, D. J. (2002). *Playgrounds-risks, benefits and choices*. London: Health & Safety Executive (HSE) contract research report. Middlesex University.
- Boyd, W., Thorpe, K., & Tayler, C. (2010). Preferences of first-time expectant mothers for care of their child: 'I wouldn't leave them somewhere that made me feel insecure'. *Australasian Journal of Early Childhood*, 35(2), 4-12. <https://doi.org/10.1177/183693911003500202>
- Brussoni, M. (2020). Outdoor risky play. Burns, T., & Gottschalk, F. In *Education in the digital age: Healthy and happy children*. Educational Research and Innovation. OECD Publishing.
- Brussoni, M., & Olsen, L. L. (2013). The perils of overprotective parenting: Fathers' perspectives explored. *Child: Care, Health and Development*, 39(2), 237-245. <https://doi.org/10.1111/j.1365-2214.2011.01361.x>
- Brussoni, M., Gibbons, R., Gray, C., Ishikawa, T., Sandseter, E. B., Bienenstock, A., Chabot, G., Fuselli, P., Herrington, S., Janssen, I., Pickett, W., Power, M., Stanger, N., Sampson, M., & Tremblay, M. S. (2015). What is the relationship between risky outdoor play and health in children? A systematic review. *International Journal of Environmental Research and Public Health*, 12(6), 6423–6454. <https://doi.org/10.3390/ijerph120606423>
- Brussoni, M., Ishikawa, T., Han, C., Pike, I., Bundy, A., Faulkner, G., & Mâsse, L. C. (2018). Go play outside! Effects of a risk-reframing tool on mothers' tolerance for, and parenting practices associated with, children's risky play: Study protocol for a randomized controlled trial. *Trials*, 19, 173. <https://doi.org/10.1186/s13063-018-2552-4>
- Brussoni, M., Olsen, L. L., Pike, I., & Sleet, D. A. (2012). Risky play and children's safety: Balancing priorities for optimal child development. *International Journal of Environmental Research and Public Health*, 9(9), 3134-3148. <https://doi:10.3390/ijerph9093134>

- Carver, A., Timperio, A., & Crawford, D. (2008). Playing it safe: The influence of neighborhood safety on children's physical activity - A review. *Health & Place, 14*, 217-227. <https://doi.org/10.1016/j.healthplace.2007.06.004>
- Cevher-Kalburan, N., & Ivrendi, A. (2016). Risky play and parenting styles. *Journal of Child and Family Studies, 25*, 355-356. <https://doi.org/10.1007/s10826-015-0236-1>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum.
- Eager, D. & Little, H. (2011). *Risk deficit disorder* (Paper Presentation). Proceeding of IPWEA International Public Works Conference, Canberra, 21-24 August 2011.
- Erkuş, A. (2011). *Davranış bilimleri için bilimsel araştırma süreci*. Seçkin Yayınevi.
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191. <https://doi.org/10.3758/BF03193146>
- Field, A. (2009). *Discovering statistics using SPSS: Book plus code for E version of text* (Vol. 896). London, UK: SAGE Publications Limited.
- George, D., & Mallery, P. (2003). *Frequencies SPSS for Windows step by step: A simple guide and reference*. Allyn & Bacon.
- Gill, T. (2007). *No fear: Growing up in a risk averse society*. Calouste Gulbenkian Foundation
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th Edition). Pearson Education.
- Harper, N. J. (2017). Outdoor risky play and healthy child development in the shadow of the “risk society: A forest and nature school perspective. *Child and Youth Services 38*(4), 318-334. <https://doi.org/10.1080/0145935X.2017.1412825>
- Jelleyman, C., McPhee, J., Brussoni, M., Bundy, A., & Duncan, S. (2019). A cross-sectional description of parental perceptions and practices related to risky play and independent mobility in children: the New Zealand state of play survey. *International Journal of Environmental Research and Public Health, 16*(2). <https://doi.org/10.3390/ijerph16020262>
- Kangas, O., & Rostgaard, T. (2007). Preferences or institutions? Work-family life opportunities in seven European countries. *Journal of European Social Policy, 17*, 240-256. <https://doi.org/10.1177/0958928707078367>
- Karabulut-Demir, E., & Şendil, G. (2008). Ebeveyn tutum ölçeği (ETÖ) (Parenting attitude scale (PAS), *Türk Psikoloji Yazıları, 11*(21), 15-25.
- Karaca, N. H., & Aral, N. (2020). Investigation of the factors affecting parents' views on risky play of children. *International Journal of Early Childhood Education Studies, 5*(2), 86-92
- Larson, L. R., Green, G. T., & Cordell, H. K. (2011). Children's time outdoors: Results and implications of the national kids survey. *Journal of Park and Recreation Administration, 29*(2), 1-20.
- Lavrysen, A., Bertrands, E., Leyssen, L., Smets, L., Vanderspikken, A., & Graef, P. D. (2015). Risky-play at school: Facilitating risk perception and competence in young children. *European Early Childhood Education Research Journal, 25*, 89-105. <https://doi.org/10.1080/1350293X.2015.1102412>
- Lester, S., Jones, O., & Russell, W. (2011). *Supporting school improvement through play: An evaluation of South Gloucestershire's Outdoor Play and Learning programme*. Available at: <http://outdoorplayandlearning.org.uk/wp-content/uploads/2016/07/supporting-school-improvement-through-play-1.pdf>.
- Lewis, J. (2003). Developing early years childcare in England, 1997-2002: The choices for (working) mothers. *Social Policy & Administration, 37*(3), 219-238. <https://doi.org/10.1111/1467-9515.00335>

- Little, H. (2010). Relationship between parents' beliefs and their responses to children's risk-taking behavior during outdoor play. *Journal of Early Childhood Research*, 8(3), 315-330. <https://doi.org/10.1177/1476718X10368587>
- Little, H. (2015). Mothers' beliefs about risk and risk-taking in children's outdoor play. *Journal of Adventure Education & Outdoor Learning*, 15(1), 24-39. <http://dx.doi.org/10.1080/14729679.2013.842178>
- Little, H., & Wyver, S. (2008). Outdoor play: Does avoiding the risks reduce the benefits?. *Australasian Journal of Early Childhood*, 33(2), 33-40. <https://doi.org/10.1177/183693910803300206>
- McFarland, L., & Laird, S. G. (2018). Parents' and early childhood educators' attitudes and practices in relation to children's outdoor risky play. *Early Child Education Journal*, 46(2), 159-168. <https://doi.org/10.1007/s10643-017-0856-8>
- Morrongiello, B. A., & Lasenby-Lessard, J. (2007). Psychological determinants of risk taking by children: an integrative model and implications for interventions. *Injury Prevention*, 13(1), 20-25. <https://doi.org/10.1136/ip.2005.011296>
- Morrongiello, B. A., & Major, K. (2002). Influence of safety gear on parental perceptions of injury risk and tolerance for children's risk taking. *Injury Prevention*, 8(1), 27-31. <http://dx.doi.org/10.1136/ip.8.1.27>
- Morrongiello, B. A., Zdzieborski, D., & Normand, J. (2010). Understanding gender differences in children's risk taking and injury: A comparison of mothers' and fathers' reactions to sons and daughters misbehaving in ways that lead to injury. *Journal of Applied Developmental Psychology*, 31(4), 322-329. <https://doi.org/10.1016/j.appdev.2010.05.004>
- Morrongiello, B. A., Zdzieborski, D., Sandomierski, M., & Lasenby-Lessard, J. (2009). Video messaging: What works to persuade mothers to supervise young children more closely in order to reduce injury risk? *Social Science & Medicine*, 68(6), 1030-1037. <https://doi.org/10.1016/j.socscimed.2008.12.019>
- Murray, E. J., & Williams, P. H. (2020). Risk-tasking and Assessment in Toddlers During Nature Play: The Role of Family and Play Context. *Journal of Adventure Education and Outdoor Learning*, 20(3), 259-273. <https://doi.org/10.1080/14729679.2019.1660193>
- Nesbit, R. J., Bagnall, C. L., Harvey, K., & Dodd, H. F. (2021). Perceived barriers and facilitators of adventurous play in schools: A qualitative systematic review. *Children*, 8(8), 681. <https://doi.org/10.3390/children8080681>
- Niehues, A. N., Bundy, A., Broom, A., & Tranter, P. (2015). Parents' perceptions of risk and the influence on children's everyday activities. *Journal of Child and Family Studies*, 24(3), 809-820. <https://doi.org/10.1007/s10826-013-9891-2>
- Niehues, A. N., Bundy, A., Broom, A., & Tranter, P. (2016). Reframing healthy risk taking: parents' dilemmas and strategies to promote children's well-being. *Journal of Occupational Science*. 23(4), 449-463. <https://doi.org/10.1080/14427591.2016.1209424>
- Oliver, B. E., Nesbit, R. J., McCloy, R., Harvey, K., & Dodd, H. F. (2022). Parent perceived barriers and facilitators of children's adventurous play in Britain: A framework analysis. *BMC Public Health*, 22(636). <https://doi.org/10.1186/s12889-022-13019-w>
- Oliver, B. E., Nesbit, R. J., McCloy, R., Harvey, K., & Dodd, H. F. (2023). Adventurous play for a healthy childhood: Facilitators and barriers identified by parents in Britain. *Social Science & Medicine*, 323, 115828. <https://doi.org/10.1016/j.socscimed.2023.115828>
- Ryan, Z. J., Stockill, H., Nesbit, R. J., FitzGibbon, L., & Dodd, H. F. (2024). Parents' Perception of Risk in Play: Associations with Parent and Child Gender. *Journal of Child and Family Studies*, 1-8. <https://doi.org/10.1007/s10826-024-02844-9>
- Sandseter, E. B. H. (2007). Risky play among four- and five-year-old children in preschool. In S. O'Brien, P. Cassidy, & H. Shonfeld (Eds.), *Vision into practice. Making quality a reality in the lives of young children*, conference proceedings. Dublin: CECDE.

- Sandseter, E. B. H., Cordovil, R., Hagen, T. L., & Lopes, F. (2020). Barriers for outdoor play in early childhood education and care (ECEC) institutions: Perception of risk in children's play among European parents and ECEC practitioners. *Child Care in Practice*, 26(2), 111-129. <https://doi.org/10.1080/13575279.2019.1685461>
- Sandseter, E. B. H., & Kennair, L. E. O. (2011). Children's risky play from an evolutionary perspective: The anti-phobic effects of thrilling experiences. *Evolutionary Psychology*, 9(2), 257-284. <https://doi.org/10.1177/147470491100900212>
- Sandseter, E. B. H., Kleppe, R., & Sando, O. J. (2021). The prevalence of risky play in young children's indoor and outdoor free play. *Early Childhood Education Journal*, 49, 303-312. <https://doi.org/10.1007/s10643-020-01074-0>
- Schoeppe, S., Duncan, M. J., Badland, H. M., Alley, S., Williams, S., Rebar, A. L., & Vandelanotte, C. (2015). Socio-demographic factors and neighborhood social cohesion influence adults' willingness to grant children greater independent mobility: A cross-sectional study. *BMC Public Health*, 15(1), 1-8. <https://doi.org/10.1186/s12889-015-2053-2>
- Sicim-Sevim, B. S., & Bapoğlu-Dümenci, S. (2020). Çocukların riskli oyunla ilgili algıları ile ebeveyn tutumları arasındaki ilişkinin incelenmesi. *Uluslararası Erken Çocukluk Eğitimi Çalışmaları Dergisi*, 5(1), 1-15. <https://doi.org/10.37754/652841.2020.511>
- Stephenson, A. (2003). Physical risk-taking: Dangerous or endangered? *Early Years*, 23(1), 35-43. <https://doi.org/10.1080/0957514032000045573>
- Sutton-Smith, B. (1997). *The ambiguity of play*. Harvard University Press.
- Şimşek, M. (2023). *Knowledge about, practice in, attitude toward risky play: A case study from a school in Türkiye* (Unpublished Doctoral Dissertation). Bilkent University.
- Tandy, C. A. (1999). Children's diminishing play space: A study of inter-generational change in children's use of their neighborhoods. *Australian Geographical Studies*, 37(2), 154-164. <https://doi.org/10.1111/1467-8470.00076>
- Twigger-Ross, C. L., & Breakwell, G. M. (1999). Relating risk experience, venturesomeness and risk perception. *Journal of Risk Research*, 2(1), 73-83. <https://doi.org/10.1080/136698799376998>
- Ungar, M. (2009). Overprotective parenting: Helping parents provide children the right amount of risk and responsibility. *American Journal of Family Therapy*, 37(3), 258-271. <https://doi.org/10.1080/01926180802534247>
- Ünüvar, P., & Kanyılmaz, E. S. (2017). 4-6 yaş çocukları için riskli oyunlara izin verme ölçeğinin geliştirilmesi. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 9(22), 510-523. <https://doi.org/10.20875/makusobed.318028>
- Valentine, G., & McKendrick, J. (1997). Children's outdoor play: Exploring parental concerns about children's safety and the changing nature of childhood. *Geoforum*, 28(2), 219-235. [https://doi.org/10.1016/S0016-7185\(97\)00010-9](https://doi.org/10.1016/S0016-7185(97)00010-9)
- Veitch, J., Bagley, S., Ball, K., & Salmon, J. (2006). Where do children usually play? A qualitative study of parents' perceptions of influences on children's active free-play. *Health and Place*, 12(4), 383-393. <https://doi.org/10.1016/j.healthplace.2005.02.009>
- Woolley, H., Pattacini, L., & Somerset Ward, A. (2009). *Children and the natural environment: experiences, influences and interventions*. Natural England.
- Yanuarsari, R., Muchtar, H. S., & Sintiwati, N. (2021). *The influence of single parent parenting in forming early childhood independence*. The 2nd International on Meaningful Education, Bandung.
- Yılmaz, S. (2020). Preschool children's preferences to take risks in outdoor play: Turkish Sample. *International Journal of Education Technology & Scientific Researches*, 5(11), 580-595.

Yılmaz, S., & Çığ, O. (2022). Oyunda risk alma toleransı ölçeği'nin (ORAT) Türkçe'ye uyarlanması: Geçerlik ve güvenilirlik çalışması. *Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi*, 55(55), 198-218. <https://doi.org/10.15285/maruaebd.992823>

Yokum, C. (2018). *Early childhood education and care practitioners' beliefs and perceptions about preschool children's risky play* [Doctoral Dissertation, Kansas State University]. Kansas State University.



RESEARCH ARTICLE

The Role of Character Strengths in Positive Youth Development: Prediction of Resiliency, Subjective Well-Being, and Academic Achievement

Ömer Faruk KABAKÇI^a  & Tuncay ERGENE^b 

^aUludağ University, Bursa, Türkiye. ^bHacettepe University, Ankara, Türkiye.

ABSTRACT

There is a growing emphasis on evaluating the holistic growth of young individuals using a competency-based approach. Character strengths are inherent characteristics that facilitate positive growth of young individuals, viewed from a perspective that emphasizes their strengths and skills. These resources are believed to be associated with certain indications of the positive development of young individuals. These indicators encompass broad traits that can have an impact on the whole lives of young individuals, both within and outside of educational settings. It covers academic success and the characteristics of resilience and overall well-being, which are important not only in an educational setting but also in all aspects of life. The objective of this study was to determine the significance of character strengths on essential indicators of positive growth. The study included participants in grades 9 through 12. The high school comprises a total of 733 pupils throughout all grade levels. The data were gathered with the Youth Inventory of Character Strengths and Virtues (VIA-Youth), Subjective Well-Being Scale for Adolescents, Student Resilience Scale, and Demographic Information Form. The data was analyzed using Multiple Linear Stepwise Regression. The findings demonstrated that distinct character strengths have varying predictive effects on certain measures of positive development among high school students, including resilience, subjective well-being, and academic achievement.

ARTICLE HISTORY

Received: 16.01.2024

Accepted: 25.03.2024

KEYWORDS

Character strengths,
resiliency, positive youth
development, well-being,
academic achievement

Strengths-based counseling in psychology and psychological counseling fields is gaining recognized as a fast increasing approach, which is in contrast to the problem-oriented perspective that focuses on insufficiency. This paradigm shift is of great importance and relates to the essential abilities that individuals need to properly navigate challenges in life (Smith, 2006). The strengths-based approach prioritizes enhancing an individual's developmental competencies/resources over reducing risky behaviors. Increasing developmental assets leads to a reduction in risky behaviors and an improvement in well-being (Benson et al., 2004). Building developmental assets and implementing strengths-based youth development strategies and programs effectively enhance the well-being of young individuals, hence enhancing their developmental resources. Strengthening character traits as developmental assets is believed to contribute to the positive growth and well-being of young individuals.

The majority of research on individual differences mostly centers around assessing maladaptive behavior in contrast to strengths, with a lesser emphasis on studying positive traits. Recent research has concentrated on character strengths as a comprehensive classification of 24 positive strengths that form part of the good characteristics exhibited by young individuals. Steen et al. (2003) suggest that character strength classification

CORRESPONDING AUTHOR Ömer Faruk KABAKÇI, omerfaruk@uludag.edu.tr, ORCID: 0000-0002-6191-1305, Uludağ University, Bursa, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

can be used in both practical and research studies to examine the development of strength of character. Furthermore, it acts as a basis for discerning the impacts of both genetics and environment on positive characteristics (Steger et al., 2007). This classification initially established the components of moral character and subsequently developed techniques for evaluating these components within the framework of individual differences. The classification of 24 character strengths (Park & Peterson, 2006; Peterson & Seligman, 2004) was based on six moral virtues as shown in Table 1. The classification, characterized by its comprehensive framework, guides the application of various research methodologies.

Table 1. Character strengths and virtues

Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
1.Creativity	6.Honesty	10.Kindness	13.Fairness	16.Forgiveness	20.Appr. of beauty
2.Curiosity	7.Bravery	11.Love	14.Leadership	17.Humility	and excellence
3.Love of learning	8.Persistence	12.Social	15.Citizenship	18.Prudence	21. Gratitude
4.Open-mindedness	9.Zest	intelligence		19.Self-control	22. Hope
5.Perspective					23. Humor
					24. Spirituality

These strengths are thought to encompass attributes that contribute to the healthy development of young individuals. Character strengths are considered to be multidimensional constructs, such as moral competence, which are studied to gain a deeper understanding of their growth and their beneficial effect on the optimal development of young individuals (KeungMa, 2012; Park, 2004a). Character traits and healthy childhood development are considered complex systems that mutually impact each other. Character is a system that promotes the best possible growth and development in young people while also protecting against mental or physical problems. The positive youth development process encompasses numerous character qualities. Positive youth development structures encompass various factors such as humor (Duan et al., 2023), attachment (Lee, 2006), spirituality (Lau, 2006), and belief in the future in terms of hope and optimism (Sun & Lau, 2006).

Furthermore, it is emphasized that hope (Bowers & Bowers, 2023) and self-control and hope (Schmid et al., 2011) have a beneficial influence on positive youth development. Indeed, traits such as perspective, kindness, social intelligence, citizenship, spirituality, humor, and leadership are cultivated through a variety of interventions in high school, encompassing both academic and extracurricular activities, within the framework of voluntary and structured adolescent development programs (Park, 2004a). The character strengths approach also encompasses the themes pertaining to autonomy, spirituality, hope for the future, moral competence, and attachment that are dealt with in positive youth development programs (Catalano et al., 2004). Character strengths are attributes that have a significant impact on fostering positive development in young people through various means. Park (2004a) argues that character traits and the routes to positive youth development are multifaceted. Considering this, an appropriate approach would involve analyzing positive youth development by assessing many aspects such as subjective well-being, resilience, and academic performance.

Indicators of positive development in youth

Positive youth development is an approach that emphasizes strengths and aims to accomplish desired results and advantages for young people, enabling them to grow and develop positively throughout their lives (Park, 2004a; Phelps et al., 2009; Steen et al., 2003; Zhou et al., 2020). The study by Catalano and Toumbourou (2009) establishes a direct correlation between this phenomenon and the growth of resilience, life satisfaction, academic achievement, and character qualities in young individuals. These indications are described in more detail below.

An essential focus of the research aimed at fostering positive youth development is the need to enhance resilience. Positive youth developers, as defined by Snyder and Lopez (2007), apply the findings of resilience research to assist young individuals in cultivating their personal assets through various initiatives. Positive youth development and resilience mutually reinforce one other. According to Lee et al. (2012), there are eight possible links between the growth of young people and their ability to bounce back from challenges. Four individuals hold the belief that resilience precedes positive youth development, whereas four others believe that resilience follows positive youth development. Measurement approaches integrate both resilience and healthy adolescent development to assess the overall degree of protective characteristics in young individuals during primary and secondary education (Dotterweich, 2006). These theoretical considerations demonstrate a strong correlation between resilience and positive youth development. In this study, resilience has been examined primarily as a

component of positive youth development.

Positive youth development, resilience, and subjective well-being are considered holistically (Shek & Chai, 2020). The presence of positive youth development factors is associated with greater happiness in life due to their ability to improve the cognitive, psychological, and social resources of young individuals (Park, 2004b). According to Bird and Markle (2012), programs that focus on achieving specific goals and promoting positive development in young people can enhance their overall sense of well-being. Urke et al. (2021) in their prospective study found that positive youth development constructs predicted mental well-being. The study conducted by Sun and Shek (2010) revealed that positive youth development was a significant predictor of life satisfaction among secondary school students. Individuals exhibiting limited positive growth had diminished life satisfaction and increased problem behaviors. This study will examine the subjective well-being levels of young individuals as an indicator of their healthy development.

Academic achievement is one of the expected goals for optimal youth development, in addition to resilience and wellness. Academic achievement is considered a favorable aspect of positive youth development, encompassing school grades, school attendance, and test outcomes, all of which contribute to academic competence (Lerner et al., 2005). Adolescents have the potential to grow and progress in a manner that enables them to achieve their desired academic accomplishments (Pizzolato, 2011). After-school programs that prioritize both adult connections and academic help are implemented within the context of youth development to achieve these objectives and offer diverse learning opportunities (Restuccia & Bundy, 2003). According to many research (Beck & Nora, 2019; Lerner et al., 2011; Pizzolato, 2011), positive youth development has positive correlations with academic achievement and programs designed for young individuals contribute to beneficial youth development, with a key aspect of these programs being the enhancement of academic performance. Shek & Chai (2020) found that the positive youth development qualities predicted academic well-being in a longitudinal study. A study done by Catalano et al. (2004) found that 19 youth development programs examined in this study positively impact the development of indirect competencies such as school involvement and academic success. Devoting oneself to school is a factor that safeguards against school dropouts and other risky behaviors, as it fosters the growth and progress of young individuals (Li, 2011; Monahan et al., 2010).

Many researchers have approached the topic of young people's positive development in different and comprehensive ways, as evidenced by studies conducted by Lerner et al. (2005) and Lerner et al. (2011). Nonetheless, this study incorporated Catalano and Toumbourou's (2009) notion of positive development, which primarily emphasized these three indicators in relation to their connection to character strengths.

Indicators of positive development and character strengths

The correlation between character strengths and positive development markers, as shown above, has been extensively examined in previous studies. Subjective well-being, a significant factor particularly in youth, is a key component associated with character strengths in predicting psychological adjustment in adulthood. Research has shown that all 24 character strengths, as identified by Lounsbury et al. (2009), are positively linked to and can predict life satisfaction. Life satisfaction is considered a part of subjective well-being, as indicated by Brdar and Kashdan (2010) and Park (2004b). Several studies (Brdar et al., 2011; Park, 2004b, Park, and Peterson, 2006) have also examined the predictive abilities of strengths. Previous studies have shown that qualities such as spirituality (Tuzgöl Dost, 2004) contribute to subjective well-being. Additionally, research has found a connection between positive character strengths such as optimism, zest, curiosity, and humor, and well-being and happiness (Brdar & Kashdan, 2010; Karris, 2007). Empirical research has additionally shown that the cultivation of character strengths has a positive impact on overall well-being (Proctor et al., 2011; Proyer et al., 2013). It is worth mentioning that, hope, zest, and love are consistently recognized as the three competence domains that are most strongly linked to well-being among character strengths. Exploring subjective well-being in terms of character strengths is expected to enhance the understanding of both structures. However, it remains uncertain which specific character strengths should be possessed and utilized in order to achieve higher levels of well-being (Linley et al., 2010).

In order for young individuals to maintain their well-being and psychological health, it is essential for them to cultivate both resilience and character strengths. This is considered to be a positive indicator of their development (Hutchinson et al., 2010). Resilience refers to the ability to effectively cope with life's pressures and overcome obstacles in order to achieve success. Consequently, strong children and young individuals possess essential competencies. Research indicates that social intelligence (Zolkoski & Bullock, 2012), optimism (Bernat, 2009), and hope (Scagliola, 2011) are character strengths that promote resilience (Hutchinson et al., 2010). Employing a

strategy that focuses on utilizing strengths is crucial for establishing an environment that promotes resilience (Jamieson, 2010). According to contemporary resilience theories, it is of greater importance to focus on strengths rather than risks (Leadbeater et al., 2005). The primary focus of the models is to enhance the capacities related to character strengths in the process of building resilience. Furthermore, considering the current focus on character education and healthy youth development, the correlation between character strengths and resilience is regarded as highly significant (Karris, 2007).

Character strengths are also evaluated based on their effect on academic performance to guarantee their favorable growth. The period of schooling has a crucial role in the maturation of adolescents. For example, maintaining a good outlook on life is necessary to stay motivated in the process of learning. Expressing thankfulness can lead to a sense of enjoyment in academic pursuits, and having perseverance is crucial for accomplishing goals (Weber & Ruch, 2012a). Exercising self-discipline can motivate students to engage in longer and more focused study sessions, while maintaining an open-minded attitude can facilitate easier access to class. Prudence has a crucial role in both successful time management and academic achievement, leading to a higher academic average (Lounsbury et al., 2009). Karris' (2007) study revealed that character strengths, including perseverance, were a significant predictor of academic performance. Park and Peterson (2006; 2009) found similar results, indicating that traits such as persistence, fairness, love, gratitude, honesty, hope, and a perspective are all predictors of academic performance. Lounsbury et al. (2009) identified five character traits that have a positive correlation with high academic performance: perseverance, open-mindedness, self-control, openness to learning, and prudence. In a separate study conducted by Park and Peterson in 2005, it was found that character strengths related to the virtue of temperance were able to predict academic performance in English, mathematics, and science courses, even while taking into account ability test scores. Weber and Ruch's comprehensive study (2012a) found that certain character strengths were associated with high grades and other indicators of academic performance, such as academic self-efficacy, positive classroom behavior, and happiness with school life. When examining the comprehensive set of data, it is noteworthy that some character strengths, such as prudence, love of learning, self-control, perseverance, gratitude, and zest, have a significant impact on academic accomplishment. This study emphasizes the importance of academic development as a crucial aspect of positive development. It argues that character strengths play a significant role in promoting the well-being and academic performance of young individuals (Park & Peterson, 2009). There is limited research on character strengths in non-Western populations (Proctor et al., 2011). Further investigation should focus on the correlation between character qualities and overall well-being across different age groups, cultures, and situations (Brdar et al., 2011). Additional research is deemed necessary to explore the global applicability of this classification. Research that provides cross-cultural data on the specific behaviors and competencies to prioritize, methods for developing each competency, and the relative importance of different strengths will be beneficial (Park & Peterson, 2006). This study aims to increase the utilization of the Character Strengths Inventory in Turkey and to offer cultural insights by conducting research in the nation.

Positive youth development is a competency-based approach that prioritizes the positive qualities of young individuals, seeks to enhance these qualities through various programs, and is highly valued by all sectors of society, especially high school students. The literature has mostly focused on three prominent indicators of positive youth development, namely subjective well-being, resilience, and academic achievement. This study aimed to investigate the predictive effect of character strengths on resilience, subjective well-being, and academic achievement. It was hypothesized that these three key indicators of positive youth development may have a significant correlation with character strengths. In this regard, the objective of this study was to determine whether character strengths have a positive predictive effect on resilience, subjective well-being, and academic success.

Method

This study is a correlational research with a quantitative aspect that seeks to investigate the relationships between character strengths, resiliency, well-being, and academic achievement. The next sections will detail the research participants, measurement tools, data collection, and analysis methodologies.

Participants

The data was provided by an overall total of 759 students from the 9th, 10th, 11th, and 12th classes. A total of 26 forms that were considered invalid were excluded from the analysis, and the data of 733 students were thereafter examined. The participants consisted of 441 (60.2%) females and 292 (39.8%) males. Out of the participants, one individual (0.1%) was 14 years old, 135 individuals (18.4%) were 15 years old, 199 individuals (27.1%) were 16 years old, 249 individuals (34.0%) were seventeen years old, and 141 (19.2%) were 18 years old, 6 (0.8%) were 19 years old, and 2 (0.3%) were 20 years old. A total of 194 students, accounting for 26.5% of the student

population, are enrolled in the ninth grade. Similarly, there are 182 students (24.8%) in the tenth grade, 199 students (27.1%) in the eleventh grade, and 158 students (21.6%) in the twelfth grade. The age range of the group was 6, with participants ranging from 14 to 20 years old. The average age of the group was 16.57, with a standard deviation of 1.04.

Data collection tools

Adolescent Subjective Well-Being Scale: It is a scale measuring the subjective well-being of adolescents. The assessment of students' subjective well-being at the university and high school levels was mostly conducted using Diener's (1984) technique, as described by Tuzgöl Dost (2004) and Zen (2005). The 37-item scale comprises subjective assessments, along with positive and negative emotional expressions, about the aspects that impact life satisfaction. The responses span from "completely agree" to "completely disagree" on a five-point Likert-type scale. The scale's upper limit is 185 and its lower limit is 37. A high rating signifies elevated levels of subjective well-being, whereas a low rating signifies diminished levels of subjective well-being. Statements such as "I typically experience vitality and vigor", "I lead a life aligned with my desires and principles", and "There are few activities that bring me pleasure in my life" serve as examples of statements within this scale. The component analysis employed to assess the construct validity resulted in the generation of a unidimensional structure. The scale's validity was confirmed by discrimination and criteria validity assessments. The internal consistency coefficient was calculated to be .91, whilst the test-retest reliability value, measured using the scale with two-week intervals, was .82. This study revealed an internal consistency coefficient of .92 for the scale.

Values in Action Inventory of Strengths for Youth (VIA-Youth; Park & Peterson, 2005; Park & Peterson, 2006; Peterson & Seligman, 2004): The VIA-Youth is an inventory that assesses the strengths of young individuals. It was developed by Peterson and Seligman in 2004, and further refined by Park and Peterson in 2005 and 2006. This is a modified version of the 240-item adult form designed for children and young people aged 10 to 17. It was developed using the character strengths theory as a foundation. The self-report measuring instrument consists of 198 items, and respondents provide ratings on a Likert scale ranging from one to five. A rating of five indicates perfect agreement, while a rating of one indicates no alignment. A high score on the inventory signifies the existence of robust and favorable character strengths. The inventory consists of 24 subscales, each designed to evaluate a distinct character strength. It is classified into six distinct dimensions of virtue. The subscale scores are calculated by taking the average of the replies provided for the relevant scale. It can be utilized to acquire the scores for subscales and dimensions of virtue. The translation method for the Turkish adaptation of the inventory (Kabakçı, 2013; Kabakci et al., 2019) involved the use of both forward and backward translation steps. The construct validity was examined using confirmatory factor analysis following the completion of inter-rater reliability and linguistic equivalence investigations, which yielded results in favor of the translation process. The inventory's six dimensions and twenty-four subscales structure were supported by strong fit indices and factor loads. The tests undertaken to assess the convergent validity of the questionnaire revealed that the fifteen character strengths had substantial positive relationships ($p < .05$, $p < .01$) with values ranging from .21 to .56. Furthermore, it was determined that there were strong and statistically significant ($p < .01$) associations between the subscales. The reliability tests revealed that the Cronbach's Alpha coefficients for the subscales varied between .64 and .85, while for the virtues dimensions, they ranged from .80 to .91. The test-retest reliability value for the dimensions of virtues varied from .84 to .89, while for the subscales it ranged from .72 to .85. Regarding the corrected item-total correlations, which were evaluated using a threshold of .20, it was found that all items exhibited a significant and positive association with the total scores. The inventory consisted of a total of 197 items in its final state. Illustrative instances include the statement "I prioritize people I know, even if it is unfair to others." "Regardless of receiving an apology, I will persist in feeling upset towards the individual," and "I am often regarded as humorous by others."

The Student Resiliency Scale: It was developed by Arastaman (2011) to test high school students' resilience levels, building on the resilience frameworks of Henderson and Milstein (1996), Oswald et al. (2003), and the California Healthy Kids Survey Resilience Assessment Module of Constantine & Benard (2001). The 17-item scale yields scores that range from 17 to 85 depending on how each item is answered on a five-point scale from (1) never to (5) always. Factor analysis was utilized with the Varimax Rotation Method to establish the construct validity. It was discovered that the scale had a four-factor structure, with each factor accounting for 51% of the total variance. The measure comprises subscales that assess initiatives and communication, self-efficacy and hope, problem-solving skills, and determination. The internal consistency coefficients ranged from .60 for problem solving skills to .69 for self-efficacy and hope. The item-total correlations ranged from .31 to .66. For this study,

the scale's internal consistency coefficients were determined as follows: .71 for the determination subscale, .49 for the initiative and communication subscale, .75 for self-efficacy and hope, .70 for problem-solving skills, and .84 for the whole scale. Exemplary statements encompass "I possess a sense of pride in my accomplishments and capabilities," "I possess the knowledge and skills to surmount obstacles as they arise," and "When confronted with a challenge, I promptly take initiative and confront it head-on."

Personal Information Form: A short form was developed by the researchers that collects demographic information from participants, including age, gender, academic achievement, and socioeconomic status (SES).

Data Collection Process

Because the Character Strengths and Virtue Youth Inventory is lengthy and may require the presence of a psychological counselor to help respondents refocus (LaFollette, 2010), all applications were filled out with a researcher present in each class during the data collection phase. The students were provided with information about the objective of the study, emphasized on the importance of providing truthful responses to ensure the study's validity and reliability, and were given instructions on how to complete the scales as a form of practice. Typically, a single class hour allowed students to engage in application practice for a duration of 25–45 minutes. Students engage in a 25–45 minute application duration, and a single class hour is generally enough for answering the questions.

Data analysis

In order to ascertain differences among individuals, researchers should utilize consistent statistical techniques while conducting investigations that involve same variables and diverse populations (Hutchinson et al., 2010). Given the frequent utilization of multiple regression analysis in character strength research, the objective of this study was to reveal the potential correlation between character strengths in students and their subjective wellbeing, resilience, and academic success (Proctor et al., 2011; Weber & Ruch, 2012;). Meeting the conditions for multiple regression analysis was checked by assessing the linearity with scatterplots showing the assumption had been met. The P-P plot for the model proved that the assumption of normality of the residuals had also been met. Furthermore, the conditions was analyzed detailed by examining the Durbin Watson coefficient to check for auto-correlation in the residuals of regression analysis (DW=1.30-2.05), and evaluating collinearity to address the issue of multicollinearity (Tolerance=.43-.96; VIF=1.04-2.35). The correlation coefficient was employed to examine the associations between the scores of the character strengths subscale and the dependent variables of academic achievement, resilience, and subjective well-being. The study established a maximum limit for the margin of error at 0.05.

Ethical Approval

The research received approval from the Bursa Uludağ University Social and Humanities Research and Publication Ethics Committee, with the document number E-92662996-044-32397. Ministry of National Education, The Bursa Provincial Directorate of National Education granted the applicants the required permission with the document number B.08.4.MEM.4.16.00.07-050/16605.

Findings

The study presents descriptive statistics and correlations within the framework of its conclusions. Next, the findings of the regression analysis are displayed.

Relationships between criteria factors and character strengths and descriptive statistics

Figure 2 displays the correlation coefficients that show the relationships between the mean values and descriptive statistics of the research variables.

Figure 2. The values for correlation, mean, and standard deviation for the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	1																										
2	.48**	1																									
3	.52**	.50**	1																								
4	.48**	.31**	.55**	1																							
5	.56**	.32**	.44**	.55**	1																						
6	.25**	.19**	.41**	.49**	.40**	1																					
7	.43**	.30**	.40**	.40**	.47**	.46**	1																				
8	.42**	.28**	.58**	.52**	.44**	.50**	.39**	1																			
9	.39**	.27**	.46**	.34**	.41**	.32**	.36**	.51**	1																		
10	.34**	.35**	.45**	.44**	.47**	.46**	.50**	.40**	.40**	1																	
11	.26**	.16**	.32**	.30**	.38**	.34**	.36**	.37**	.54**	.47**	1																
12	.41**	.24**	.44**	.50**	.58**	.48**	.40**	.45**	.42**	.56**	.49**	1															
13	.29**	.22**	.43**	.46**	.32**	.49**	.46**	.42**	.28**	.50**	.22**	.41**	1														
14	.43**	.28**	.36**	.42**	.62**	.33**	.46**	.44**	.37**	.46**	.40**	.43**	.24**	1													
15	.30**	.28**	.47**	.49**	.48**	.46**	.40**	.49**	.40**	.58**	.42**	.55**	.52**	.49**	1												
16	.008	.03	.17**	.13**	.09*	.18**	.12**	.13**	.15**	.30**	.19**	.24**	.33**	.07	.32**	1											
17	.13**	.04	.26**	.26**	.21**	.44**	.29**	.27**	.10**	.41**	.21**	.36**	.46**	.17**	.39**	.25**	1										
18	.33**	.13**	.43**	.60**	.46**	.44**	.30**	.57**	.29**	.29**	.28**	.49**	.37**	.34**	.38**	.04	.26**	1									
19	.14**	.00	.28**	.39**	.18**	.32**	.12**	.37**	.18**	.22**	.20**	.42**	.42**	.14**	.37**	.33**	.33**	.48**	1								
20	.36**	.39**	.52**	.39**	.32**	.30**	.32**	.32**	.39**	.48**	.34**	.39**	.32**	.28**	.38**	.16**	.21**	.23**	.15**	1							
21	.27**	.22	.43**	.42**	.31**	.47**	.39**	.49**	.53**	.45**	.59**	.47**	.40**	.32**	.42**	.23**	.33**	.40**	.31**	.35**	1						
22	.42**	.23**	.47**	.48**	.45**	.37**	.35**	.55**	.60**	.28**	.49**	.44**	.29**	.35**	.35**	.12**	.18**	.48**	.30**	.31**	.55**	1					
23	.35**	.27**	.19**	.20**	.41**	.11**	.27**	.12**	.39**	.34**	.33**	.32**	.05	.32**	.25**	.02	.03	.10**	-.02	.30**	.23**	.23**	1				
24	.19**	.14**	.28**	.27**	.19**	.38**	.27**	.33**	.30**	.33**	.34**	.30**	.28**	.20**	.29**	.15**	.23**	.28**	.22**	.19**	.56**	.33**	.12**	1			
25	.42**	.24**	.48**	.44**	.50**	.40**	.42**	.53**	.64**	.43**	.63**	.50**	.33**	.45**	.46**	.12**	.20**	.43**	.24**	.32**	.59**	.69**	.35**	.35**	1		
26	.14**	.17**	.20**	.18**	.15**	.17**	.11**	.19**	-.00	.16**	.07	.13**	.15**	.18**	.17**	.10**	.13**	.13**	.05	.15**	.14**	.09**	.01	.19**	.19**	1	
27	.53**	.37**	.58**	.51**	.56**	.42**	.44**	.66**	.55**	.41**	.42**	.53**	.36**	.48**	.43**	.06	.20**	.51**	.33**	.38**	.46**	.65**	.26**	.30**	.65**	.15**	1
X	30.45	30.51	32.17	30.53	29.02	28.36	32.11	32.48	28.89	36.50	35.78	31.00	34.18	28.50	30.32	24.27	32.14	28.94	28.83	33.84	33.90	30.07	34.93	34.09	138.95	2.97	64.10
Ss	5.37	5.39	5.34	4.69	4.88	4.32	4.71	5.81	5.36	5.03	6.25	4.58	5.67	6.16	5.17	6.09	5.78	5.11	6.20	5.17	5.00	5.77	6.23	6.16	20.37	.88	8.96

N=733 *p<.05 **p<.01

1=Creativity 2=Curiosity 3=Love of learning 4=Open-mindedness 5=Perspective 6=Honesty 7=Bravery 8=Perseverance 9=Zest 10=Kindness 11=Love 12=Social intelligence 13=Fairness 14=Leadership 15=Citizenship 16=Forgiveness 17=Humility 18=Prudence 19=Self control 20=Appreciation of beauty and excellence. 21=Gratitude 22=Hope 23=Humor 24=Spirituality 25=Subjective well-being 26=Academic success 27=Resilience

Figure 2 demonstrates that the correlations between the variables vary from .00 to .69. Upon comparing the subscales scores of character strengths, it was seen that perspective and leadership showed the highest relationship coefficient ($r=.62$), while curiosity and self-control had the lowest correlation value ($r=.00$). The correlation between subjective well-being and forgiveness is the least significant ($r=.12$), whereas the correlation between subjective well-being and hope is the most significant ($r=.69$). Examining the correlation between the strengths of character and resilience, it was seen that the relationship between forgiveness and resilience was the least significant ($r=.16$), but the relationship between perseverance and resilience was the most robust ($r=.66$). Regarding the relationship between academic performance and character strengths, the study revealed that the connection between zest and academic achievement was the least significant ($r=.00$), although the correlation between academic success and love of learning was the most significant ($r=.20$). Furthermore, the study revealed a robust correlation ($r=.65$) between academic achievement and subjective well-being and resilience, along with a statistically significant positive correlation with both ($r=.19$ and $.15$). Studies have shown that character strengths generally have moderate relationships with resilience and subjective well-being, while academic performance has relatively weak associations with other factors. Due to the statistical significance of the correlations between the variables ($p<.05$; $p<.01$), a multiple stepwise regression analysis was performed. The resulting values can be found in the next section.

Character strengths and Subjective Well-Being

The predictive effect of character strengths on subjective well-being was investigated by hierarchical multiple regression analysis. The analysis of subjective well-being levels in young individuals revealed the existence of seven distinct regression models, as presented in Table 3. The results of the final step, when all variables have been included in the model, are displayed in the table. The predictive factors of hope, love, zest, perspective, gratitude, citizenship, and forgiveness character strengths account for 65% of the variance in subjective well-being ($R^2=.65$). Out of the 24 strengths, it was found that only 7 were included in the regression model. The remaining 17 variables were excluded as they did not have a meaningful effect on predicting the levels of subjective well-being.

Table 3. Results of the hierarchical regression model for predicting subjective well-being by character strengths

	B	β	t
Constant	20.77		5.47*
Hope	1.11	.31	10.26*
Love	.77	.24	7.91*
Zest	.70	.18	6.05*
Perspective	.47	.11	4.17*
Gratitude	.51	.13	4.14*
Citizenship	.34	.09	3.09**
Forgiveness	-.18	-.05	-2.26***
R ²	.65		
F	189.70*		

Note. N=733, * $p<.001$, ** $p<.01$, *** $p<.05$

The regression analysis conducted using ANOVA demonstrated that the seven independent variables is statistically significant ($F_{7, 723}=189.70$, $p=.000$), showing that the model itself is also significant. The predictor variables are ranked in order of importance based on their standardized regression coefficients (β). The order of importance is as follows: hope (.31), love (.24), zest (.18), appreciation (.13), perspective (.11), citizenship (.09), and forgiveness (-.05). All the strengths included in the 7 regression models are statistically significant predictors of subjective well-being. The significance thresholds of these predictors are .05, .01, and .001, as determined by the t-test on the regression coefficients. As the levels of hope, love, zest, perspective, appreciation, and citizenship, in addition to forgiveness, increase, the levels of subjective well-being also increase. There is a negative correlation between forgiveness scores and subjective well-being. While the other seven strengths were shown to have a positive correlation with subjective well-being, forgiveness was found to have a negative correlation with it.

Character Strengths and Resilience

The study utilized hierarchical multiple regression analysis to investigate the predictive power of character strengths on resilience. The sub-dimensions of resilience and the resilience total regression score are together displayed in Table 4. The conclusions of the final step were incorporated into the outcomes. The ANOVA results

from the regression analysis, presented in Table 4, indicate that the inclusion of the independent variables in the model has a significant effect. Furthermore, it can be seen that all factors in the regression model are statistically significant predictors of resilience at the significance levels of .001, .01, and .05. This is verified by the examination of the t-test results on the significance of the regression coefficients. The results indicated a strong correlation between character strengths and resilience, including its many sub-dimensions.

Table 4. The results of hierarchical regression analysis of character strengths predicting resilience

	<i>Resiliency Total</i>			<i>Initiative and communication</i>			<i>Problem solving skills</i>			<i>Self-efficacy and hope</i>			<i>Determination</i>		
	B	β	t	B	β	t	B	β	t	B	β	t	B	β	t
Constant	10.30		5.74*	5.93		7.58*	1.54		2.15***	3.02		4.34*	.28		.52
Perseverance	.37	.24	7.60*							.05	.10	2.85**	.33	.61	19.19*
Hope	.40	.26	8.27*				.15	.30	8.94*	.21	.41	11.81*			
Perspective	.17	.09	2.78**	.07	.11	2.51***	.15	.25	6.85*	.06	.10	2.94**			
Originality	.16	.09	3.06**	.07	.14	3.44**	.07	.13	3.66*	.07	.13	3.80*			
Forgiveness	-.12	-.08	-3.41**	-.03	-.06	1.10***	-.04	-.08	2.58***						
Love of learning	.14	.08	2.59***							.06	.11	3.12**	.09	.15	4.82*
Social intelligence	.16	.08	2.68**	.08	.13	3.16**									
Zest	.14	.08	2.75**	.01	.19	4.90*									
Leadership	.10	.07	2.30***	.04	.09	2.31***									
Self-control	.11	.07	2.72**				.10	.21	6.20*						
Curiosity	.11	.07	2.44***	.06	.11	3.20**	-	-	-						
Appr.beau.excell.				.10	.19	5.32*	-.04	-.06	2.15***						
Open-mindedness															
Gratitude				-.06	-.11	-2.63**									
Love				.04	.09	2.27***									
Prudence							.06	.11	3.05**						
Humility										-.06	-.13	-4.47*			
Spirituality										.04	.08	2.78**			
R ²		.64			.62			.46			.48			.51	
F		118.05*			40.05*			89.59*			95.90*			378.86*	

Note. N=733, p<.001, **p<.01, ***p<.05

Table 4 presents the eleven unique regression models that were identified from the stepwise regression analysis's findings for predicting the resilience levels of young individuals. The variables of persistence, hope, perspective, originality, love of learning, social intelligence, forgiveness, zest, leadership, self-control, and curiosity collectively account for 64% (R²=.64) of the total variance in resilience. A total of 13 factors were deemed irrelevant and were therefore omitted from the regression model as they did not have a significant effect on predicting resilience levels. On the other hand, 11 out of the 24 variables were considered relevant and were included in the model. The standardized regression coefficients (β) reveal the ranking of predictor variables in terms of importance. At the top is hope (.26), followed by perseverance (.24), perspective (.09), originality (.09), love of learning (.08), social intelligence (.08), zest (.08), forgiveness (-.08), leadership (.07), self-control (.07), and curiosity (.07). The participants' resilience scores exhibit a positive correlation with their scores on perseverance, hope, perspective, creativity, love of learning, social intelligence, zest, leadership, self-control, and curiosity. There is a negative relationship between resilience scores and forgiveness scores.

Seven regression models were derived from the analysis done to determine the predictive effect of character strengths on self-efficacy and hope. The independent factors of hope, creativity, perseverance, humility, love of learning, perspective, and spirituality contribute to 48% of the variance in "self-efficacy and hope" (R²=.48). Out of the 24 factors, only seven were determined to be included in the regression model. Conversely, the remaining 17 variables were omitted from the model since they were shown to have no significant correlation with the levels of "self-efficacy and hope." The predictor categories are ranked in order of importance based on their standardized regression coefficients (β). The first order is as follows: hope (.41), creativity (.13), persistence (.10), humility (-.13), love of learning (.11), perspective (.10), and spirituality (.08). The participants' scores on "self-efficacy and hope" exhibit a positive correlation with their scores on creativity, perseverance, love of learning, perspective, and spirituality. As the level of humility increases, the scores for "self-efficacy and hope" decline.

Further, seven different regression models were found in relation to predicting character strengths on problem-solving abilities. The predictive strengths that account for 46% of the variance in problem-solving abilities include hope, perspective, self-control, forgiveness, originality, prudence, and appreciation of beauty and

excellence ($R^2=.46$). Out of the 24 elements, it was found that only 7 were included in the regression model. The remaining 17 variables were excluded and did not have a significant effect on the prediction of problem-solving abilities. The standardized regression coefficients (β) reveal the ranking of predictor variables in terms of relevance. Hope (.30) is the most important, followed by perspective (.25), self-control (.21), forgiveness (-.08), creativity (.13), prudence (.11), and appreciation of beauty and excellence (-.06). Students' problem-solving abilities exhibit a positive correlation with their levels of hope, perspective, self-control, forgiveness, originality, and prudence. As forgiveness and appreciation of beauty and excellence increase, problem-solving abilities decrease.

Two separate regression models were discovered to examine the connection between character strengths and determination. The factors of perseverance and love of learning contribute to 51% of the total variation in terms of determination ($R^2=.51$). Out of the 24 components, 22 were eliminated from the regression model since they were found to have no meaningful impact on predicting the determination levels. The study of the standardized regression coefficients (β) revealed that perseverance (.61) was identified as the most significant predictor variable, followed by love of learning (.15). The participants' levels of determination increase accordingly with their scores on perseverance and love of learning.

Eleven regression models were identified to investigate the predictive effect of character strengths on initiative and communication. Factors such as perspective, appreciation of beauty and excellence, zest, creativity, curiosity, open-mindedness, social intelligence, leadership, gratitude, love, and forgiveness are predictive of "Initiative and communication" and account for 38% of the overall variability ($R^2 = .38$). Consequently, it was concluded that out of the 24 factors, 11 were included in the regression model while 13 were excluded, and it was shown that these variables had no significant effect on the levels of "Initiative and communication." The variables are ranked in order of importance as follows: zest (.19), appreciation of beauty and excellence (.19), creativity (.14), social intelligence (.13), perspective (.11), curiosity (.11), gratitude (-.11), open-mindedness (-.10), love (.09), leadership (.09), and forgiveness (-.06). The scores on the "Initiative and communication" scale increase in parallel with the students' levels of perspective, appreciation of beauty and perfection, zest, creativity, curiosity, social intelligence, leadership, and love. Conversely, these scores increase when the students' levels of open-mindedness, gratitude, and forgiveness decrease.

Character Strengths and Academic Achievement

The results of the stepwise regression analysis indicated seven different regression models for predicting academic achievement, as shown in Table 4. The outcomes of the final step, in which all variables were completely included in the model, were displayed in the results table. The strengths of forgiveness, perseverance, curiosity, leadership, and love of learning collectively contribute to 12% of the total variation in academic accomplishment ($R^2=.12$). Out of the total of 24 strengths, only seven were identified as having a prediction effect in the regression model. The other 17 variables did not have any significant effect on academic achievement.

Table 5. Character strengths predicting academic achievement

	B	β	t
Constant	1.06		3.91*
Love of learning	.02	.10	2.03***
Spirituality	.02	.14	3.70*
Zest	-.04	-.24	-5.50*
Leadership	.02	.12	2.88**
Perseverance	.02	.12	2.47***
Curiosity	.02	.10	2.36***
Forgiveness	.01	.08	2.16***
F	13.55*		
R ²	.12		

Note. N=720 * $p < .001$, ** $p < .01$, *** $p < .05$

ANOVA regression analysis demonstrated that the effect of seven independent variables is statistically significant ($F_{7, 713}=13.55$, $p=.000$), showing the model's significance. The predictor factors are ranked in descending order of importance according to the standardized regression coefficients (β). Zest (-.24), spirituality (.14), perseverance (.12), leadership (.12), love of learning (.10), curiosity (.10), and forgiveness (.08) are the top factors. Furthermore, it has been noted that all of the variables included in the 7 regression models are statistically significant predictors of academic achievement at the levels of .001, .01, and .05. This is supported by the t-test results about the

statistical significance of the regression coefficients. Academic achievement ratings increase in parallel with scores for love of learning, spirituality, leadership, perseverance, curiosity, forgiveness, and zest. There is a negative relationship between academic achievement scores and zest scores, meaning that as zest scores increase, academic achievement scores decrease.

Discussion and Conclusion

This study examined the predictive effect of twenty-four character strengths on subjective well-being, resilience, and academic success as indications of positive development. The findings are categorized into three sections, while considering the factors and maintaining a sequential order.

Subjective well-being

The subjective well-being is found to be affected by the strengths of hope, love, zest, perspective, gratitude, citizenship, and forgiveness. Based on the explained variance rate and the order of importance of the predictor variables, the results indicated that hope and zest were the most prominent character strengths. A study with similar results revealed a high correlation between character strengths and well-being. Hope was found to have the greatest influence among the nine character characteristics that were used to develop a model for predicting subjective well-being (Toner et al., 2012). Hope, prudence, zest, and leadership were significant predictors of both life satisfaction and happiness. The results of the research done by Proctor et al. (2011) align with the conclusions of this study. Life satisfaction was positively correlated with hope, zest, love, and gratitude.

Based on the results of a prior investigation (Ciarrochi et al., 2007), hope has been identified as a favorable indicator of both academic achievement and overall well-being among high school students. Research conducted with low-income youth (Vacek et al., 2010) found a substantial correlation between hope and subjective well-being. Across several sample groups, it is evident that hope consistently predicts happiness. The finding is noteworthy as it pertains to the demographic of young individuals who are now in the early stages of considering their future professional paths and personal aspirations. The psychological well-being of the investigated student group is likely to be influenced by hope, since they are regarded to possess typical psychological features.

Another finding indicated that, alongside hope, the effect of the love character had a positive effect on subjective well-being. The investigation of love can be observed in various literature works, focusing on character strengths, particularly attachment and occasionally support from society. Love and Murdock (2004) found a positive correlation between secure attachment and well-being, while Karreman and Vingerhoets (2012) found a negative correlation between anxious attachment and well-being. Adolescents can cultivate a sense of mutual love and compassion for their overall emotional health by adopting a non-anxious attachment style. They undergo a phase in which they have the ability to articulate their emotions. This resource is really beneficial for enhancing levels of wellbeing. Adolescents that have loving parents tend to have higher levels of wellbeing and stronger emotional connections (Baril et al., 2007). Furthermore, research has revealed that loving and passionate relationships serve as strong markers of overall life happiness and fulfillment (Kim & Hatfield, 2004). From this standpoint, it is possible that the various manners in which individuals have experienced love and been loved in the past have positively influenced the overall welfare of the participants. Adolescents can experience love in different ways, either through social support or attachment processes. These distinct patterns of experiencing love can have an important effect on their overall well-being.

The study considered the zest as a noteworthy factor, in addition to the hope and love. Like the previously mentioned study, Brdar and Kashdan's (2010) research found significant and overwhelmingly positive connections between all types of character strengths and wellbeing. A separate study found that zest, evaluated through measures of vitality, vigor, and activity, has a vital role in improving psychological well-being (Swencionis et al., 2012). According to the study conducted by Ryan and Frederick (1997), there is a correlation between having an optimistic outlook on life and experiencing vitality, psychological stability, and physical well-being. Zest exhibits a favorable correlation with physical health, psychological well-being, and life happiness, while displaying a negative correlation with depression and anxiety. These studies emphasize that the energy levels, activity levels, and zest of young individuals often indicate their state of wellbeing. Researchers have concluded that there is a correlation between happiness and zest among high school students, similar to the connection between love and daily life.

Despite a small amount of explained variance, it was found that the intensity of gratitude significantly and robustly predicted subjective well-being. This is consistent with the findings documented in the literature (Froh et al., 2009; Toussaint and Friedman, 2009). The term "Being grateful for oneself" is commonly employed in

Turkish society in order to emphasize the notion of gratitude. This characteristic is highly regarded and strengthened as an indication of positive emotions, even in the most basic forms of interaction and connections between adults and high school pupils. This mindset is commonly recognized in Turkish society, characterized by the belief in finding satisfaction in one's own possessions and striving for happiness without desiring what others possess. This situation has the potential to foster unity within society and evoke a feeling of inclusion. Research suggests that Turkish high school students who were raised in a such society that values gratitude may experience a positive influence on their subjective well-being.

Certain character strengths might have negative effects on one's well-being, despite their inherent benefits. For instance, the effect of curiosity on life satisfaction and happiness can either be negative (Proctor et al., 2011) or have no impact on the model (Toner et al., 2012). However, in this study, curiosity was not included as a predictor variable. Individuals may not assign equal importance to different character strengths, and the ability of character strengths to predict life happiness may differ between cultures (Peterson et al., 2007). Turkish culture may have different determinants of well-being compared to other cultures. The model identified forgiveness as a factor with the lowest ranking, and it was observed to have a strong negative correlation with subjective well-being, exhibiting a very low variance. The potential variation in forgiveness practices between eastern and western cultures suggests that the distinctive child-rearing approaches and the significance attributed to forgiveness within Turkish culture may have played a role in this outcome (Suwartono et al., 2007). Furthermore, it is worth considering the presence of additional elements, such as uncertainty avoidance and power distance, which are associated with forgiveness and can account for cultural variations in forgiveness, particularly within the framework of parenting (Lennon, 2013). Furthermore, based on subsequent life experiences, forgiveness can be a trait that necessitates a more developed perspective on relationships and may become more evident. Given that forgiveness necessitates life experience and emotional maturity, it is apparent that its absence in young individuals could have adversely affected their well-being in this particular study.

Resilience

The resilience total score was predicted by the strengths of perseverance, hope, perspective, creativity, love of learning, social intelligence, forgiveness, zest, leadership, self-control, and curiosity. The character strengths that were shown to be the most significant are hope, perseverance, and perspective. The strengths of perseverance and a strong desire for learning were shown to be indicators of the "determination" aspect of resilience. The sub-dimension "Initiative and communication" was found to be predicted by the sense of beauty and excellence, as well as perspective strengths. The strengths of hope and originality were prominently displayed in connection to the "self-efficacy and hope" sub-dimension. Ultimately, optimism and a perspective were identified as the most significant predicted character strengths for "problem solving skills."

Several studies have additionally confirmed the finding that perseverance is one of the elements that predict resilience in this particular study. The aforementioned research indicate that persistence is crucial in overcoming barriers (Houston, 2010), is a key factor in developing resilience (Ewert & Yoshino, 2011), and has a significant impact on resilience from a young age (Powers, 2008). Resilience refers to the ability to adjust constructively when faced with adversity. Perseverance, on the other hand, is a specific form of resilience. It is crucial to emphasize that the stages of seeking assistance, addressing issues, contemplating, and achieving self-recovery are integral components of the perseverance process (Powers, 2008). Given that these characteristics are associated with facing challenges in life, it is evident that persistence has a positive influence on resilience. Persistence, which effects resilience, may involve a challenging process.

The findings indicated that the hope had the capacity to predict resilience. According to Lloyd and Hastings (2009), hope strengthens resilience. The resilience of adolescents may be enhanced when they possess a belief that the obstacles encountered throughout their high school years can be overcome, provided they put effort towards this goal, and draw upon their previous experiences as a source of assistance in coping these challenges. Research has established that hope has an impact on coping strategies (Stanton et al., 2002). Additionally, it has been found that those with high levels of hope experience a decreased stress response and a more successful emotional recovery (Ong et al., 2006).

Another important predictor of resilience was the perspective strength. Hartman (2000) identified the perspective as an indication of resilience and overall well-being. Considering this, resilience is a crucial attribute from various standpoints. The impact of the perspective and its associated elements on young individuals' reactions remains uncertain and requires additional investigation (Peterson & Seligman, 2004). The ability to see things from many perspectives can be a valuable asset that needs to be cultivated in various aspects of life, such as the capacity of

young individuals to forgive. Nevertheless, the results of this study regarding the effect of perspective on prediction can be regarded as a novel contribution to comprehending the resilience of young individuals.

The strengths of hope, creativity, perseverance, humility, love of learning, perspective, and spirituality were identified as important factors in predicting the "self-efficacy and hope" aspect of resilience. The subscale of "self-efficacy and hope" contains items that contribute to one's self-esteem and sense of hope. When examining the studies conducted from this viewpoint, certain results emerge, such as the gradual decrease of hope and self-esteem in adolescents over time (Heaven & Ciarrochi, 2008), or the positive correlation between hope and self-esteem (Tsuzuki, 2012). An argument may be made that the interaction between hope and self-esteem is crucial in predicting resilience. Therefore, while assessing and fostering resilience, it is important to consider both hope and self-esteem. The study may have revealed the predictive capacity of hope, as it serves as the linking element between the "self-efficacy and hope" sub-dimension and the hope character strength. The study conducted by Rego et al. (2009) revealed that creativity, an important predictive variable, interacts with hope, and that hope has the ability to impact the generation of innovative solutions to obstacles. Hope might potentially foster the inclination of young individuals to openly articulate themselves, thereby aligning with their need for autonomy. Adolescence is frequently associated with heightened cerebral growth. It is believed that students' distinctive qualities, such as their ability to think independently and solve problems, will predict their levels of "hope and self-efficacy." It can be asserted that the connection between creativity and hope/self-efficacy has an effect of some sort.

The character strengths of hope, multidimensional perspective, self-control, forgiveness, creativity, prudence, and appreciation of beauty and excellence were identified as predictors of the "problem solving skills" aspect of resilience. The literature emphasizes the importance of perspective in problem-solving (Staudinger et al., 1998). Expanding the vision can lead to the development of alternative solutions. This tool is essential for problem-solving in this manner. Research conducted by Chang (1998) indicates that hope has a significant impact on an individual's capacity to approach problem-solving in a productive and logical manner. Students with high expectations tend to perceive problems in a positive way. They have the potential to generate innovative and unforeseen solutions as a consequence. Furthermore, they may address challenges with greater determination due to their continuous hope.

The variable of "determination" was strongly predicted by the strengths of perseverance and love of learning. The study conducted by Lundman et al. (2007) evaluated perseverance, a component of resilience, in relation to the ability to overcome adversities. The similarity is believed to foster persistence, which in turn cultivates determination. It is hypothesized that determination may lead to the development of perseverance, which ultimately affects resilience. The study found a significant correlation between the predictor variable of love of learning strength and activities that involve perseverance, such as using the internet, reading books, and going to the movies (Ruch et al., 2010). The research incorporates determination subscale items that encompass behaviors necessitating determination, such as productive study. Thus, cultivating a profound love of learning can foster a heightened sense of determination.

The character strengths that predict resilience in the "initiative and communication" sub-dimension include multidimensional perspective, appreciation of beauty and excellence, zest, creativity, curiosity, open-mindedness, social intelligence, leadership, gratitude, love, and forgiveness. Peterson and Seligman (2004) argue that having a strong perspective enhances one's ability to listen and communicate ideas. The significance of these traits as crucial communication skills may have influenced this sub-dimension. Furthermore, the heightened sensitivity to experience during adolescence contributes to the formation of a unique viewpoint (Staudinger & Pasupathi, 2003). During the high school years, young people have a greater capacity to be open to new experiences compared to elementary and secondary school. This increased receptiveness may have influenced their qualities of initiative and communication, leading to a broader perspective.

Engagement in cultural activities had a positive correlation with the capacity to recognize and value beauty and excellence, which is also a significant predictor (Ruch et al., 2010). This study suggests that participating in extracurricular social activities such as sports, music, and theater, as well as having a love for beauty and excellence, may be linked to the development of character strength. These activities are considered to be indicative of initiative and effective communication.

Academic Achievement

The love of learning, spirituality, zest, leadership, perseverance, curiosity, and forgiveness were strong predictors

of academic achievement. The primary strengths were a strong inclination towards love of learning, a deep sense of spirituality, and zest, listed in order of importance. Zest had a detrimental effect on academic success, while other elements had a positive effect. The presence of a strong inclination towards love of learning was identified as a factor that significantly and favorably influenced academic achievement. This strength, encompassing qualities such as an enthusiasm for acquiring new knowledge, maintaining composure in the midst of difficulties, and recognizing effective learning methods, is a very advantageous characteristic for teachers when observed in their pupils and fostered by educational institutions (Covington, 1999; Peterson & Seligman, 2004). This is in addition to research that have found no correlation between both factors (Mason, 2008). Students may have cultivated their potential for a love of learning through educational direction, so enhancing their academic achievements in schools. The success may have also been enhanced by teachers' promotion of learning habits such as attentive engagement in lessons and self-directed study. In addition, fostering children's enthusiasm for acquiring knowledge through inventive approaches that perceive learning as a dynamic progression, such as instructing them on effective learning techniques in educational settings and promoting lifelong learning, could enhance their academic achievements.

Spirituality, another predictive strength, was identified as the second predictor of academic performance. According to Johnson (2008), research examining the relationship between spirituality and well-being highlights that spirituality has a positive influence on both academic performance and overall well-being. Out of the 19 research examined in this topic, 16 of them (84%) have found a correlation between religion and engagement in religious activities and improved academic performance. In addition, Wood and Hilton (2012) observed that faith positively influences academic achievement by promoting excellence, equipping individuals to face challenges, and providing a sense of purpose by implementing academic strategies. According to the findings and existing research on character strengths (Peterson & Seligman, 2004), it can be inferred that the students of the research participants may attribute a spiritual meaning to their educational experiences. Additionally, in times of failure, they may turn to their spiritual beliefs for comfort and respond by praying. This could perhaps serve as a source of incentive for youth to excel in their academic pursuits. In addition, this course also explores subjects such as spirituality, ethical behavior, religious devotion, and a sense of meaning in life. Consequently, students may have prioritized academic achievement as their ultimate goal, driven by their religious beliefs, and their spirituality may have exerted a beneficial influence on their academic performance.

Additionally, it is crucial to acknowledge the study conducted on the advantages of hope, creativity, and zest. Zest, which refers to a state of feeling awake and energetic, is expected to have a positive impact on academic success. This is because it promotes alertness, energy expenditure, and high attention to academic activities, all of which are necessary for achieving success in education. However, it is noteworthy that Turkey's circumstances are exceptional in that there is a negative association between academic achievement and zest, which goes against the expected norm. The study conducted by Ergene (2011) highlights the specific issue of students in Turkey

facing significant pressure to get exceptional results on tests. This interaction could potentially be the underlying factor contributing to the adverse correlation between enthusiasm and academic performance. Furthermore, the power of hope produced comparable outcomes. This study contradicted the findings of previous studies (Chang, 1998; Ciarrochi et al., 2007) that suggested hope is a dependable indicator of academic achievement among high school students. The existence of obstacles that students encounter in their academic endeavors and efforts to prepare for their careers may have had a role in the absence of optimism as a predictive factor, similar to the negative impact of a lack of enthusiasm. Ultimately, it was determined that creativity did not serve as a predicting factor in this study. The school system in Turkey is often criticized for its lack of intellectual rigor. The omission of creativity as a predictive indicator could be attributed to the school system's inadequate emphasis on valuing creative thinking.

Perseverance and curiosity, two characteristics that are recognized to be linked to academic achievement, made positive and somewhat consistent contributions to the model. Perseverance is necessary for several endeavors, such as attending classes and adhering to regulations, which are crucial for achieving academic success throughout high school. Furthermore, one can contend that the potency of curiosity, including attributes such as acquisition of knowledge, anticipation of the future, and a fervent desire for further learning, is vital for academic success given these qualities.

Park and Peterson (2006) also identified a weak relationship between character strengths and academic achievement. Character strengths had a lesser degree of variability in predicting academic achievement compared to resilience and well-being in this study. This suggests that a student's character characteristics are strongly correlated with other positive aspects of their personal development, which are not related to academics.

The study revealed a substantial correlation between several character strengths and the positive development attributes of young individuals in Turkey, such as academic achievement, well-being, and resilience. These data further support the idea that character strengths are culturally applicable. Additionally, it was found that certain elements were more apparent in this study than in studies that included persons from other cultures when analyzed in light of cultural differences. Further research should consider different indicators as this study is limited to examining the impact of character strengths on particular positive youth development markers. Another limitation was that the participants exclusively consisted of high school students. Adolescents, namely those in secondary school, should be included in future research as the cultivation of character strengths-based positive youth development is crucial during early stages of life.

Author Contributions: Ö.F.K.: literature search, concept, design, data collection, statistical analysis, interpretation of data, manuscript preparation; T.E.: concept, design, manuscript editing, manuscript review. All authors contributed to and approved the final version of the article.

Author Note: Authors thank The Scientific and Technological Research Council of Turkey (TUBITAK), for providing partly financial support. This study is partly based on the corresponding author's doctoral thesis. The first results of this investigation were presented during the Istanbul World Congress of Psychological Counselling and Guidance.

Funding Disclosure: The Scientific and Technological Research Council of Turkey (TUBITAK) provided financial support for conducting part of the research in the U.S.

Conflicts of Interest: No potential conflict of interest was reported by the authors.

Data Availability: The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical Disclosure: The research received approval from the Bursa Uludağ University Social and Humanities Research and Publication Ethics Committee, with the document number E-92662996-044-32397.

References

- Arastaman, G. (2011). *Öğrenci Yılmazlığına Etki Eden Faktörlere İlişkin Ankara İli Genel Lise ve Anadolu Lisesi Yönetici, Öğretmen ve Öğrenci Görüşleri [The opinions of general and anatolian high school administrators, teachers and students in ankara province in relation to factors affecting student resiliency]*. [Master's Thesis]. Ankara University.
- Baril, M. E., Crouter, A. C., & McHale, S. M. (2007). Processes linking adolescent well-being, marital love, and coparenting. *Journal of Family Psychology, 21*(4), 645-654. <https://doi.org/10.1037/0893-3200.21.4.645>
- Benson, P. L., Mannes, M., Pittman, K. & Ferber, T. (2004). Youth development, developmental assets, and public policy. In R.M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology*, 2nd edition (pp. 781-814). John Wiley & Sons, Inc. <https://doi.org/10.1002/9780471726746.ch25>
- Beck, M. & Nora, W. (2019). Promoting academic achievement within a positive youth development framework. *Norsk Epidemiologi, 28*(1-2), 79-87 <https://doi.org/10.5324/nje.v28i1-2.3054>.
- Bernat, F. P. (2009). Youth resilience: Can schools enhance youth factors for hope, optimism, and success? *Women & Criminal Justice, 19*(3), 251–266. <https://doi.org/10.1080/08974450903001610>
- Bird, J. M. & Markle, R. S. (2012). Subjective well-being in school environments: Promoting positive youth development through evidence-based assessment and intervention. *American Journal of Orthopsychiatry, 82*(1), 61–66. <https://doi.org/10.1111/j.1939-0025.2011.01127.x>
- Bowers, R.M. & Bowers, E.P. (2023). A Literature review on the role of hope in promoting positive youth development across non-WEIRD contexts. *Children 10*(2), 346-364. <https://doi.org/10.3390/children10020346>
- Brdar, I. & Kashdan, T. B. (2010). Character strengths and well-being in Croatia: An empirical investigation of structure and correlates. *Journal of Research in Personality, 44*(1), 151-154. <https://doi.org/10.1016/j.jrp.2009.12.001>
- Brdar, I., Anić, P., & Rijavec, M. (2011). Character strengths and well-being: Are there gender differences? In I.

- Brdar (Ed.), *The human pursuit of well-being: A cultural approach*, (pp. 145-156). Springer. https://doi.org/10.1007/978-94-007-1375-8_13
- Catalano, R. F. & Toumbourou, J. W. (2009). Positive youth development. In S.J. Lopez (Ed.), *The encyclopedia of positive psychology*, vol. 2. (pp. 759-765). Wiley-Blackwell.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S. & Hawkins, J. D. (2004). Positive youth development in the united states: Research findings on evaluations of positive youth development programs. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 98-124. <https://doi.org/10.1177/0002716203260102>
- Chang, E. C. (1998). Hope, problem solving ability, and coping in a college student population: Some implications for theory and practice. *Journal of Clinical Psychology*, 54(7), 953-962. [https://doi.org/10.1002/\(SICI\)1097-4679\(199811\)54:7<953::AID-JCLP9>3.0.CO;2-F](https://doi.org/10.1002/(SICI)1097-4679(199811)54:7<953::AID-JCLP9>3.0.CO;2-F)
- Ciarrochi, J., Heaven, P. C. L. & Davies, F. (2007). The impact of hope, self-esteem, and attributional style on adolescents' school grades and emotional well-being: A longitudinal study. *Journal of Research in Personality*, 41(6), 1161–1178. <https://doi.org/10.1016/j.jrp.2007.02.001>
- Constantine, N. A. & Benard, B. (2001). *California Healthy Kids Survey Resilience Assessment Module: Technical Report*. Puplic Health Institute.
- Covington, M. V. (1999). Caring about learning: The nature and nurturing of subject-matter appreciation. *Educational Psychologist*, 34(2), 127-136. https://doi.org/10.1207/s15326985ep3402_5
- Duan, W., Yu, X. & Tang, X. (2023). “Humor A B C” program: Specific strength intervention in facilitating the positive development of left-behind children. *Journal of Happiness Studies* 24(4), 1605–1624. <https://doi.org/10.1007/s10902-023-00653-3>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542-575. <https://doi.org/10.1037/0033-2909.95.3.542>
- Dotterweich, J. (2006). *Positive youth development resource manual*. Act for Youth Upstate Center Of Excellence.
- Ergene, T. (2011). The Relationships among test anxiety, study habits, achievement, motivation, and academic performance among turkish high school students. *Education and Science*, 36(160), 320-330.
- Ewert, A. & Yoshino, A. (2011). The influence of short-term adventure-based experiences on levels of resilience. *Journal of Adventure Education and Outdoor Learning*, 11(1), 35-50. <https://doi.org/10.1080/14729679.2010.532986>
- Froh, J. J., Yurkewicz, C. & Kashdan, T. B. (2009). Gratitude and subjective well-being in early adolescence: Examining gender differences. *Journal of Adolescence*, 32(3), 633-650. <https://doi.org/10.1016/j.adolescence.2008.06.006>
- Hartman, P. S. (2000). *Women developing wisdom: Antecedents and correlates in a longitudinal sample* [Unpublished doctoral dissertation]. Michigan University.
- Heaven, P. & Ciarrochi, J. (2008). Parental styles, gender and the development of hope and self-esteem. *European Journal of Personality*, 22(8), 707–724. <https://doi.org/10.1002/per.699>
- Henderson, N. & Milstein, M. (1996). *Resiliency in schools*. Corwin Press.
- Hoyt, L. T., Chase-Lansdale, P. L., McDade, T. W. & Adam, E. K. (2012). Positive youth, healthy adults: Does positive well-being in adolescence predict better perceived health and fewer risky health behaviors in young adulthood? *Journal of Adolescent Health*, 50(2), 66-73. <https://doi.org/10.1016/j.jadohealth.2011.05.002>
- Hutchinson, A. K., Stuart, A. D., & Pretorius, H. G. (2010). Biological contributions to well-being: The relationships amongst temperament, character strengths and resilience. *Journal of Industrial Psychology*, 36(2), 1-10. <https://doi.org/10.4102/sajip.v36i2.844>
- Jamieson, A. (2010). *Resiliency and protective factors*. Positive Human Development.
- Johnson, B. R. (2008). A tale of two religious effects: Evidence for the protective and prosocial impact of organic religion. In K.K. Kline (Ed.), *Authoritative communities the scientific case for nurturing the whole child*

(pp. 187-225). Springer. https://doi.org/10.1007/978-0-387-72721-9_9

- Kabakçı, Ö.F. (2013). *Karakter güçleri açısından pozitif gençlik gelişiminin incelenmesi [The investigation of positive youth development in terms of character strengths]* [Doctoral Dissertation, Hacettepe University]. Hacettepe University.
- Kabakci, O. F., Ergene, T., & Dogan, N. (2019). Character strengths in Turkey: Initial adaptation study of values in Action inventory of strengths for youth (VIA-Youth) and life satisfaction in young People. *International Journal of Educational methodology*, 5(3), 489-501. <https://doi.org/10.12973/ijem.5.3.489>
- Karreman, A. & Vingerhoets, J. J. M. (2012). Attachment and well-being: The mediating role of emotion regulation and resilience. *Personality and Individual Differences*, 53(7), 821-826. <https://doi.org/10.1016/j.paid.2012.06.014>
- Karris, M. E. (2007). *Character strengths and well-being in a college sample*. [Doctoral Dissertation, University of Colorado]. University of Colorado.
- KeungMa, H. (2012). Moral competence as a positive youth development construct: A conceptual review. *The ScientificWorld Journal*, 2012, 1-8. <https://doi.org/10.1100/2012/590163>
- Kim, J. & Hatfield, E. (2004). Love types and subjective well-being: A cross-cultural study. *Social Behavior & Personality: An International Journal*, 32(2), 173-182. <https://doi.org/10.2224/sbp.2004.32.2.173>
- LaFollette, A. M. (2010). The values in action inventory of strengths: A test summary and critique. *Graduate Journal of Counseling Psychology*, 2(1), 7-14. <https://epublications.marquette.edu/gjcp/vol2/iss1/3>
- Lau, P. S. (2006). Spirituality as a positive youth development construct: Conceptual bases and implications for curriculum development. *Journal of Adolescent Medicine and Health*, 18(3), 363-70. <https://doi.org/10.1515/IJAMH.2006.18.3.363>
- Leadbeater, B., Dodgen, D., & Solarz, A. (2005). The resilience revolution: A paradigm shift for research and policy. In R. D. Peters, B. Leadbeater & R. J. McMahon (Eds.), *Resilience in children, families, and communities: Linking context to practice and policy* (pp. 47-63). Kluwer. https://doi.org/10.1007/0-387-23824-7_4
- Lee, T. Y. (2006). Bonding as a positive youth development construct: Conceptual bases and implications for curriculum development. *Journal of Adolescent Medicine and Health*, 18(3), 483-92. <https://doi.org/10.1100/2012/481471>
- Lee, T. Y., Cheung, C. K., & Kwong, W. (2012). Resilience as a positive youth development construct: A conceptual review. *The ScientificWorld Journal*, 2012, 1-9. <https://doi.org/10.1100/2012/390450>
- Lennon, R. E. (2013). *A meta-analysis of cultural differences in revenge and forgiveness*. [Master's thesis, University of North Florida]. University of North Florida.
- Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., Naudeau, S., Jelicic, H., Alberts, A., Ma, L., Smith, L. M., Bobek, D. L., Richman-Raphael, D., Simpson, I., Christiansen, E. D., & von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-h study of positive youth development. *The Journal of Early Adolescence*, 25(1), 17-71. <https://doi.org/10.1177/0272431604272461>
- Lerner, R. M. & Lerner, J. V. et al. (2011). *Report of the findings from the first seven years of the 4-H study of positive youth development*. Institute for Applied Research in Youth Development.
- Li, Y. (2011). School engagement: What it is and why it is important for positive youth development. *Advances in Child Development and Behavior*, 41, 131-60. <https://doi.org/10.1016/B978-0-12-386492-5.00006-3>
- Linley, P. A., Nielsen, K. M. Gillett, R. & Biswas-Diener, R. (2010). Using signature strengths in pursuit of goals: Effects on goal progress, need satisfaction, and well-being, and implications for coaching psychologists. *International Coaching Psychology Review*, 5(1), 6-15. <https://doi.org/10.53841/bpsicpr.2010.5.1.6>
- Lloyd, T. J. & Hastings, R. (2009). Hope as a psychological resilience factor in mothers and fathers of children with intellectual disabilities. *Journal of Intellectual Disability Research*, 53(12), 957-968.

<https://doi.org/10.1111/j.1365-2788.2009.01206.x>

- Lounsbury, J. W., Fisher, L. A., Levy, J. J. & Welsh, D. P. (2009). An investigation of character strengths in relation to the academic success of college students. *Individual Differences Research*, 7(1), 52-69.
- Love, K. M. & Murdock, T. (2004). Attachment to parents and psychological well-being: An examination of young adult college students in intact families and stepfamilies. *Journal of Family Psychology*, 18(4), 600-608. <https://doi.org/10.1037/0893-3200.18.4.600>
- Lundman, B., Strandberg, G., Eisemann, M., Gustafson, Y. & Brulin, C. (2007). Psychometric properties of the Swedish version of the Resilience Scale. *Scandinavian Journal of Caring Science*, 21(2), 229-237. <https://doi.org/10.1111/j.1471-6712.2007.00461.x>
- Mason, M. M. (2008). *Defining love of learning: Its relationship to intrinsic motivation for college, sensation-seeking, and global innovativeness*. [Doctoral Dissertation, Claremont Graduate University]. Claremont Graduate University.
- Monahan, K. C., Oesterle, S. & Hawkins, D. (2010). Predictors and consequences of school connectedness the case for prevention. *The prevention researcher*, 17(3), 3-6.
- Ong, A. D., Edwards, L. M. & Bergemana, C. S. (2006). Hope as a source of resilience in later adulthood. *Personality and Individual Differences*, 4(7), 1263-1273. <https://doi.org/10.1016/j.paid.2006.03.028>
- Oswald, M., Johnson, B., & Howard, S. (2003). Quantifying and evaluating resilience promoting factors: Teachers' beliefs and perceived roles. *Research in Education*, 70(1), 50-64. <https://doi.org/10.7227/RIE.70.5>
- Özen, Ö. (2005). *Ergenlerin öznel iyi oluş düzeyleri [Subjective well-being of adolescents]* [Unpublished master's thesis]. Hacettepe University.
- Park, N. (2004a). Character Strengths and Positive Youth Development. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 40-54. <https://doi.org/10.1177/0002716203260079>
- Park, N. (2004b). The role of subjective well-being in positive youth development. *The ANNALS of the American Academy of Political and Social Science*, 591(1), 25-39. <https://doi.org/10.1177/0002716203260078>
- Park, N., & Peterson, C. (2005). The values in action inventory of character strengths for youth. In K. A. Moore & L. H. Lippman (Eds.), *What do children need to flourish: Conceptualizing and measuring indicators of positive development* (pp. 13–23). Springer. https://doi.org/10.1007/0-387-23823-9_2
- Park, N. & Peterson, C. (2006). Moral competence and character strengths among adolescents: The development and validation of the Values in Action Inventory of Strengths for Youth. *Journal of Adolescence*, 29, 891–909. <https://doi.org/10.1016/j.adolescence.2006.04.011>
- Park, N. & Peterson, C. (2009). Character strengths: Research and practice. *Journal of College & Character*, 10(4), 1-10. <https://doi.org/10.2202/1940-1639.1042>
- Peterson, C., Park, N. & Seligman, M. E. P. (2006). Greater strengths of character and recovery from illness. *The Journal of Positive Psychology*, 1(1), 17–26. <https://doi.org/10.1080/17439760500372739>
- Peterson, C., Ruch, W., Beerman, U., Park, N., & Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *Journal of Positive Psychology*, 2(3), 149-156. <https://doi.org/10.1080/17439760701228938>
- Peterson, C. & Seligman, M. E. P. (2004). *Character strengths and virtues a handbook and classification*. Oxford University Press.
- Phelps, E., Zimmerman, S., Warren, A. E. A., Jeličić, H., Eye, A. V. & Lerner, R. M. (2009). The structure and developmental course of Positive Youth Development (PYD) in early adolescence: Implications for theory and practice. *Journal of Applied Developmental Psychology*, 30(5), 571-584. <https://doi.org/10.1016/j.appdev.2009.06.003>
- Pizzolato, J. E. (2011). Purpose plus: Supporting youth purpose, control, and academic achievement. *New Directions for Youth Development*, 132, 75-88. <https://doi.org/10.1002/yd.429>
- Powers, S. E. (2008). *Social-emotional resilience in middle school girls*. [Doctoral Dissertation, Indiana State University]. Indiana State University.

- Proctor, C., Maltby, J. & Linley, P. A. (2011). Strengths use as a predictor of well-being and health-related quality of life. *Journal of Happiness Studies*, *12*(1), 153-169. <https://doi.org/10.1007/s10902-009-9181-2>
- Proyer, R. T., Ruch, W., & Buschor, C. (2013). Testing strengths-based interventions: A preliminary study on the effectiveness of a program targeting curiosity, gratitude, hope, humor, and zest for enhancing life satisfaction. *Journal of Happiness Studies*, *14*, 275–292. <https://doi.org/10.1007/s10902-012-9331-9>
- Rego, A., Machado, F., Leal, S. & Cunha, M. P. E. (2009). Are hopeful employees more creative? An empirical study. *Creativity Research Journal*, *21*(2-3), 223-231. <https://doi.org/10.1080/10400410902858733>
- Restuccia, D. & Bundy, A., (2003). *Positive youth development a literature review*. KIDS COUNT.
- Ruch, W., Proyer, R. T., Harzer, C., Park, N., Peterson, C. & Seligman, M. E. P. (2010). Values in Action Inventory of Strengths (VIA-IS) adaptation and validation of the german version and the development of a peer-rating form. *Journal of Individual Differences*, *31*(3), 138-149. <https://doi.org/10.1027/1614-0001/a000022>
- Ryan, R. M. & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, *65*(3), 529-565. <https://doi.org/10.1111/j.1467-6494.1997.tb00326.x>
- Schmid, K. L., Phelps, E. & Lerner, R. M. (2011). Constructing positive futures: Modeling the relationship between adolescents' hopeful future expectations and intentional self regulation in predicting positive youth development. *Journal of Adolescence*, *34*(6), 1127-1135. <https://doi.org/10.1016/j.adolescence.2011.07.009>
- Shek, D. T. L., & Chai, W. (2020). The impact of positive youth development attributes and life satisfaction on academic well-being: a longitudinal mediation study. *Frontiers in Psychology*, *11*, 02126. <https://doi.org/10.3389/fpsyg.2020.02126>
- Smith, E. J. (2006). The strength-based counseling model. *The Counseling Psychologist*, *34*(1), 13-79. <https://doi.org/10.1177/0011000005277018>
- Snyder, C.R. & Lopez, S.J. (2007). *Positive psychology the scientific and practical explorations of human strengths*. Sage Publications.
- Stanton, A. L., Parsa, A., & Austenfeld, J. L. (2002). The adaptive potential of coping through emotional approach. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 148-158). Oxford University Press. <https://doi.org/10.1093/oso/9780195135336.003.0011>
- Staudinger, U. M., Maciel, A. G., Smith, J. & Baltes, P. B. (1998). What predicts wisdom-related performance? A first look at personality, intelligence, and facilitative experiential contexts. *European Journal of Personality*, *12*(1), 1-17. [https://doi.org/10.1002/\(SICI\)1099-0984\(199801/02\)12:1<1::AID-PER285>3.0.CO;2-9](https://doi.org/10.1002/(SICI)1099-0984(199801/02)12:1<1::AID-PER285>3.0.CO;2-9)
- Staudinger, U. M. & Pasupathi, M. (2003). Correlates of wisdom-related performance in adolescence and adulthood: Age graded differences in “paths” toward desirable development. *Journal of Research on Adolescence*, *13*(3), 239-268. <https://doi.org/10.1111/1532-7795.1303001>
- Steen, T. A., Kachorek, L. V., & Peterson, C. (2003). Character strengths among youth. *Journal of Youth and Adolescence*, *32*(1), 5–16. <https://doi.org/10.1023/A:1021024205483>
- Steger, M. F., Hicks, B. M., Kashdan, T. B., Krueger, R. F., & Bouchard, T. J. (2007). Genetic and environmental influences on the positive traits of the values in action classification, and biometric covariance with normal personality. *Journal of Research in Personality*, *41*(3), 524–539. <https://doi.org/10.1016/j.jrp.2006.06.002>
- Sun, R. C., & Lau, P. S. (2006). Beliefs in the future as a positive youth development construct: Conceptual bases and implications for curriculum development. *International Journal of Adolescent Medicine and Health*, *18*(3), 409-416. <https://doi.org/10.1515/ijamh.2006.18.3.409>
- Sun, R. C. F. & Shek, D. T. L. (2010). Life satisfaction, positive youth development, and problem behaviour among Chinese adolescents in Hong Kong. *Social Indicators Research*, *95*(3), 455-474. <https://doi.org/10.1007/s11205-009-9531-9>

- Suwartono, C., Prawasti, C.Y., & Mullet, E. (2007). Effect of culture on forgivingness: A Southern Asia–Western Europe comparison. *Personality and Individual Differences*, 42(3), 513-523. <https://doi.org/10.1016/j.paid.2006.07.027>
- Swencionis, C., Wylie-Rosett, J., Lent, M. R., Ginsberg, M., Cimino, C., Wassertheil-Smoller, S., Caban, A., & Segal-Isaacson, C. J. (2013). Weight change, psychological well-being, and vitality in adults participating in a cognitive behavioral weight loss program. *Health Psychology*, 32(4), 439-446. <https://doi.org/10.1037/a0029186>
- Teti, M., Martin, A., Ranade, R., Massie, J., Malebranche, D., Tschann, J. & Bowleg, L. (2012). “I’m a keep rising. I’m a keep going forward, regardless”: Exploring black men’s resilience amid sociostructural challenges and stressors. *Qualitative Health Research*, 22(4), 524-533. <https://doi.org/10.1177/1049732311422051>
- Toner, E., Haslam, N. Robinson, J. & Williams, P. (2012). Character strengths and wellbeing in adolescence: Structure and correlates of the Values in Action Inventory of Strengths for Children. *Personality and Individual Differences*, 52(5), 637–642. <https://doi.org/10.1016/j.paid.2011.12.014>
- Toussaint, L. & Friedman, P. (2009). Forgiveness, gratitude, and well-being: The mediating role of affect and beliefs. *Journal of Happiness Studies*, 10, 635-654. <https://doi.org/10.1007/s10902-008-9111-8>
- Tsuzuki, M. (2012). Dynamic changing process of hope in early adolescence: Analysis of individual differences during the transition from elementary school to junior high school. *Japanese Psychological Research*, 54(3), 253-262. <https://doi.org/10.1111/j.1468-5884.2012.00527.x>
- Tuzgöl Dost, M. (2005). Öznel iyi oluş ölçeği'nin geliştirilmesi: Geçerlik güvenirlik çalışması [Developing subjective well-being scale: Validity and reliability study]. *Turkish Psychological Counseling and Guidance Journal*, 3(23), 103–110.
- Urke, H.B., Holsen, I. & Larsen, T. (2021) Positive youth development and mental well-being in late adolescence: the role of body appreciation. Findings from a prospective study in Norway. *Frontiers in Psychology*, 12, 696198. <https://doi.org/10.3389/fpsyg.2021.696198>
- Vacek, K. R., Coyle, L. D., & Vera, E. M. (2010). Stress, self-esteem, hope, optimism, and well-being in urban, ethnic minority adolescents. *Journal of Multicultural Counseling and Development*, 38(2), 99-111. <https://doi.org/10.1002/j.2161-1912.2010.tb00118.x>
- Weber, M. & Ruch, W. (2012). The role of a good character in 12-year-old school children: Do character strengths matter in the classroom? *Child Indicators Research*, 5(2), 317-334. <https://doi.org/10.1007/s12187-011-9128-0>
- Wood, J. L. & Hilton, A. A. (2012). Spirituality and academic success: Perceptions of African American males in the community college. *Religion & Education*, 39(1), 28-47. <https://doi.org/10.1080/15507394.2012.648576>
- Zhou Z., Shek D.T.L., Zhu, X, Dou, D. (2020). Positive youth development and adolescent depression: a longitudinal study based on mainland Chinese high school students. *International Journal of Environmental Research and Public Health*. 17(12), 4457. <https://doi.org/10.3390/ijerph17124457>.
- Zolkoski, S. M. & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review*, 34(12), 2295–2303. <https://doi.org/10.1016/j.childyouth.2012.08.009>



RESEARCH ARTICLE

Satisfaction Model in Romantic Relationships: Basic Psychological Needs, Mindfulness, Relationship Quality, Attribution Styles

Sezen GÜLEÇ^a  & Mehmet BILGIN^b 

^aSivas Cumhuriyet University, Sivas, Türkiye. ^bÇukurova University, Adana, Türkiye.

ARTICLE HISTORY

Received: 19.01.2024

Accepted: 18.06.2024

KEYWORDS

Romantic Relationship
Satisfaction, Basic
Psychological Needs,
Mindfulness, Relationship
Quality, Attribution Styles

ABSTRACT

Relationships are an important component of human mental health. In this study, the relationships between romantic relationship satisfaction and basic psychological needs, mindfulness, relationship quality, and attribution styles in university students were examined within the framework of the proposed model of Satisfaction in Romantic Relationships. The study sample consisted of 1057 university students from Türkiye. According to the results of the study, basic psychological needs predict Romantic Relationship Satisfaction. The relationship between basic psychological needs and romantic relationship satisfaction is mediated by causality-responsibility attribution styles, mindfulness, and relationship quality. Relationship quality and mindfulness mediate the relationship between causality-responsibility attribution styles and romantic relationships satisfaction. Mindfulness predicts romantic relationships satisfaction. In the relationship between mindfulness and romantic relationship satisfaction, the relationship quality mediates for the I.Structural Model, and the mediating effect is not significant for the II.Structural Model.

During young adulthood, individuals generally prioritize establishing rapport with members of the opposite sex. In this developmental phase, commitment to family relationships often declines, while commitment to friendships and romantic partnerships increases (Jorgensen-Wells et al., 2021; Seifert & Hoffnung, 1997). Romantic relationships, which frequently serve as a foundation for emotional connections and partner selection, become a central focus in this life stage (Arnett, 1997; Lindsey, 2020). The presence of healthy romantic relationships in young adulthood significantly facilitates individuals' adaptation to various life challenges (Furjman & Schaffer, 2003). Consequently, fulfilling romantic relationships are among the fundamental needs of university students (Küçükarslan & Gizir, 2013).

The quality of an individual's relationship with an intimate partner occupies a significant place in their life, as it is closely tied to the perception of support received from those on whom they rely. Romantic partners are primary sources of this anticipated support (McLeod et al., 2020; Pierce et al., 1991). Perceiving adequate support from one's romantic partner has a substantial positive impact on relationship satisfaction (Cramer, 2002; Çağ, 2011; Lawrence et al., 2008). Another key factor that enhances the quality, dynamics, and satisfaction within romantic relationships is the fulfillment of basic psychological needs (Eşici, 2014; Galliher

CORRESPONDING AUTHOR Sezen GÜLEÇ, gulecsezen@gmail.com, ORCID 0000-0003-4045-1650, Sivas Cumhuriyet University, Sivas, Türkiye.

This is an article under the terms of the Creative Commons Attribution License. As the original work is properly cited, reproduction in any medium is permitted.

© 2024 The Authors. Turkish Journal of Counseling Psychology and Guidance is published by Turkish Psychological Counseling and Guidance Association

et al., 1998; Glasser, 2003). In these relationships, partners who actively support each other's psychological needs foster greater closeness and intimacy (Legault, 2017). Rooted in Self-Determination Theory, these basic psychological needs emphasize an inherent human tendency toward well-being, with a focus on personality development within social contexts.

According to the theory, the individual strives to integrate different parts of his personality, and the satisfaction of basic psychological needs is required for this integration. These needs are in the form of autonomy, competence, and relevance. The need for autonomy is characterized as the capacity to self-regulate behavior and accept responsibility for one's actions. The need for competence is defined as the perception of being capable of effectively performing tasks, while the need for relatedness is understood as a sense of belonging achieved through forming close relationships with others (Deci & Ryan, 1985; 2000). Individuals with a high level of need satisfaction are expected to take responsibility for their choices because they make their choices autonomously (Deci & Ryan, 1985). The ways in which individuals interpret events within their relationships, including whether they attribute responsibility to their partners, significantly impact relationship satisfaction. These interpretations reflect individuals' attribution styles within the relational context. Attribution involves inferences regarding the cause of an event or the assignment of responsibility. In close relationships, negative attributions lead individuals to view their partners in a negative light, which can heighten conflict, hinder reconciliation, and diminish overall relationship satisfaction (Fincham & Bradbury, 1993; Thomas & Weston, 2020).

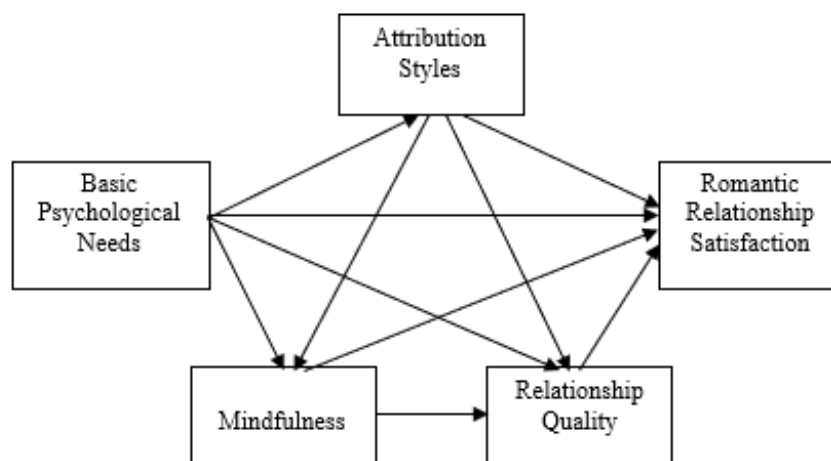
Relationship difficulties often center more on the "past" and "future" rather than the "present." Mindfulness, defined as nonjudgmental awareness of the present moment, has been shown to positively influence close relationships. By fostering mindfulness, individuals are more likely to respond constructively and forgivingly, without retribution or judgment, focusing on positive aspects of themselves and their partners. Examining mindfulness in relation to basic psychological needs reveals positive associations with the needs for competence (Martin et al., 2017) and autonomy (Karabacak & Demir, 2017). Furthermore, intrinsic motivation has been found to predict mindfulness (Levesque & Brown, 2007). Research also suggests that individuals with a satisfied need for autonomy demonstrate high mindfulness skills, and those with greater mindfulness report higher satisfaction in fulfilling autonomy, competence, and relatedness needs (Chang et al., 2015; Ryan et al., 2005).

Romantic relationships are widely recognized as closely linked to individual happiness (Demir & Weitekamp, 2007). One possible explanation is that individuals devote a substantial portion of their time to interactions with their romantic partners (Collins & Laursen, 2004). Satisfaction within romantic relationships, therefore, appears to be theoretically associated with the fulfillment of basic psychological needs, mindfulness, relationship quality, and attribution styles.

Purpose of the Present Study

The primary aim of the present study is to investigate the relationships between romantic relationship satisfaction and factors such as basic psychological needs, mindfulness, relationship quality, and attribution styles among university students. The hypothesized model, developed in alignment with the study's objectives, is presented in Figure 1. As shown in Figure 1, the hypotheses tested in this study are outlined below. Attribution styles encompass causality and responsibility sub-dimensions, each of which was examined using two distinct models during the model testing phase. The research hypotheses are as follows:

1. Hypothesis: Basic psychological needs directly predict satisfaction in romantic relationships and indirectly through the causality attribution style, mindfulness, and relationship quality.
2. Hypothesis: The causality attribution style directly predicts satisfaction in romantic relationships and indirectly through relationship quality and mindfulness.
3. Hypothesis: Basic psychological needs directly predict satisfaction in romantic relationships and indirectly through the responsibility attribution style, mindfulness, and relationship quality.
4. Hypothesis: The responsibility attribution style directly predicts satisfaction in romantic relationships and indirectly through relationship quality and mindfulness.
5. Hypothesis: Mindfulness directly predicts satisfaction in romantic relationships and indirectly through the relationship quality.

Figure 1. Hypothesis Model

Methodology

Participants

The research sample comprises 1,057 university students from Türkiye who were enrolled during the 2018-2019 academic year across various faculties and departments at Sivas Cumhuriyet University, located in the province of Sivas, Türkiye. All participants were engaged in romantic relationships at the time of the study. The sample was constructed using the stratified sampling method, a type of random sampling.

The sample included 584 female and 473 male students. Of these, 153 students (14.5%) were from the Faculty of Education (total students: 2,819), 25 (2.4%) from the Faculty of Science (total students: 1,144), 418 (39.4%) from the Faculty of Engineering (total students: 4,816), 40 (3.8%) from the Faculty of Medicine (total students: 1,429), and 421 (39.9%) from the Faculty of Economics and Administrative Sciences (total students: 4,666). The number of participants was determined by calculating the proportion of students in each faculty relative to the university's total student population (51,636) following the stratified sampling approach.

Participants' ages ranged from 18 to 27, with a mean age of 20.75. Students who were not in a romantic relationship at the time of data collection were excluded from the study. The duration of romantic relationships among participants varied from 2 months to 7 years. Individuals experiencing severe psychiatric conditions (such as acute phases of schizophrenia or other psychotic disorders) that could interfere with scale responses were also excluded from the study.

Procedure

The study was approved by the Ethics Committee of Sivas Cumhuriyet University (Date 01.02.2019). All procedures performed in studies involving human participants were in accordance with the ethical standards of the Sivas Cumhuriyet University Ethics Committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. Following the acquisition of permissions and ethics committee approval, data on the student populations of individual faculties and the total student body at Sivas Cumhuriyet University were retrieved from the university's official website. Careful calculations determined the required data sample from each faculty. Data collection was focused on the Faculty of Education, Faculty of Science, Faculty of Engineering, Faculty of Medicine, and the Faculty of Economics and Administrative Sciences, selected due to their substantial student populations.

The designated faculties were visited at different times, with randomly selected classes included in the data collection process. Prior to data collection, students were provided with a thorough ethical explanation of the study, emphasizing that participation was entirely voluntary. The data collection form included a control item aligned with the criterion of "being in a romantic relationship." The collected data were subsequently reviewed,

and any data not meeting the specified criteria were excluded from the analysis.

Measures

Relationship Assessment Scale (RAS): The scale was developed by Hendrick (1988) to measure satisfaction in romantic relationships, and a study of adaptation of the scale to the Turkish sample was carried out by Curun (2001). Confirmatory factor analysis fit indices calculated with the single-factor structure of the RAS using the data collected in this study are as follows: CMIN / DF = 2.45, GFI = .99, CFI = 99.1, and RMSEA = .037. When the fit index values are examined, it is seen that the scale fits the data well. The Cronbach Alpha coefficient was calculated as .81.

Basic Psychological Needs Scale in Relationship (BPNSR): Basic Psychological Needs Scale is a series of scales developed to determine the satisfaction level of the basic psychological needs of individuals in many areas of life, including general, work, physical activity and interpersonal relations, and has different versions in these fields. This study uses the interpersonal relations version developed by La Guardia et al. (2000). This version was adapted into Turkish by Güleç (2020) for romantic relationships. The scale consists of 3 sub-dimensions and 9 items: basic psychological needs autonomy (3 items), competence (3 items), and relatedness (3 items). Using the data collected in this study, the confirmatory factor analysis fit indices calculated with the single-factor structure of the Basic Psychological Needs in Relationships Scale are as follows: CMIN / DF = 3.44, GFI = .98, CFI = 92.10, and RMSEA = .05. When the fit index values are examined, it is seen that the scale fits the data well. The Cronbach Alpha coefficient was calculated as .60.

Mindful Attention Awareness Scale (MAAS). The Turkish adaptation of the Mindful Attention Awareness Scale (MAAS), originally developed by Brown and Ryan (2003), was created by Özyeşil et al. (2011). For the current study, a single-factor confirmatory factor analysis was conducted, yielding the following fit indices: CMIN/DF = 4.44, GFI = .95, CFI = .80, and RMSEA = .06. Based on these fit indices, the scale demonstrates an acceptable fit with the data. The Cronbach's alpha coefficient for the scale was calculated at .69.

Quality of Relationship Inventory (QRI). The Quality of Relationship Inventory (QRI), originally developed by Pierce et al. (1991), was adapted for a Turkish sample by Özabacı (2011). The inventory comprises a three-factor structure: social support, conflict, and depth. In this study, analyses were conducted using the scale's total score. Confirmatory factor analysis of the scale, based on data collected for the study, produced the following fit indices: CMIN/DF = 4.72, GFI = .95, CFI = .80, and RMSEA = .06. The Cronbach's alpha coefficient for the scale was .62.

Relationship Attribution Measure (RAM). The Relationship Attribution Measure (RAM), developed by Fincham and Bradbury (1992) to assess attributional styles in relationships, was adapted into Turkish by Tutarel Kışlak (1999). In scoring, the total scores for both the causality and responsibility sub-dimensions are derived by separately calculating the causality dimensions (stability, generality, focus) and the responsibility dimensions (intention, motive, blame). For the current study, confirmatory factor analysis was conducted using the six-factor structure of the scale, yielding the following fit indices: CMIN/DF = 5.86, GFI = .98, CFI = .87, and RMSEA = .07. These fit indices indicate that the scale demonstrates an acceptable fit with the data. The Cronbach's alpha reliability coefficient for the scale was .60.

Data Analysis

SPSS 22.0 and AMOS 22.0 package programs were used to analyze the data. Descriptive statistics and correlation of variables were carried out in SPSS program, while testing of structural equation model was conducted in AMOS. In addition, the mediating effect of variables was examined in the tested model. The mediating effects were determined by bootstrapping analysis.

Results

Descriptive Statistics and Correlation Analysis Regarding the Variables of the Satisfaction Model in Romantic Relations

The coefficients of skewness and kurtosis of model variables are among the accepted values ($-10 < \text{kurtosis} < 10$; $-3 < \text{skewness} < 3$) (Kline, 2011). Correlation results was found that all of the indicator variables were in statistically significant relationships ($p < .05$; $p < .01$). In line with this information obtained, it was concluded that the relationships between research variables can be tested with the structural equation model. Descriptive

statistics of the research variables are presented in Table 1 and correlation coefficients are presented in Table 2.

Table 1. Descriptive Statistics of Variables

Variables	Range	M	Sd	Skewness	Kurtosis	Cronbach alpha
Autonomy	12.00	18.57	2.35	-1.23	1.11	.60
Competence	13.00	18.09	2.76	-1.13	.99	
Relatedness	13.00	18.42	2.41	-1.10	.99	
Romantic Relationship Satisfaction	37.00	40.40	6.41	-.98	.94	.81
Mindfulness	21.00	76.93	4.45	.05	-.77	.69
Relationship Quality	17.00	55.77	3.38	-.47	-.38	.62
Intent	6.00	5.65	1.55	.88	.20	.60
Motive	8.00	6.31	1.69	.53	-.29	
Blame	6.00	5.68	1.09	.38	-.19	
Stability	8.00	6.89	1.81	.64	-.11	
Generality	12.00	9.03	2.13	-.32	-.03	
Focus	8.00	7.66	1.61	.04	-.29	

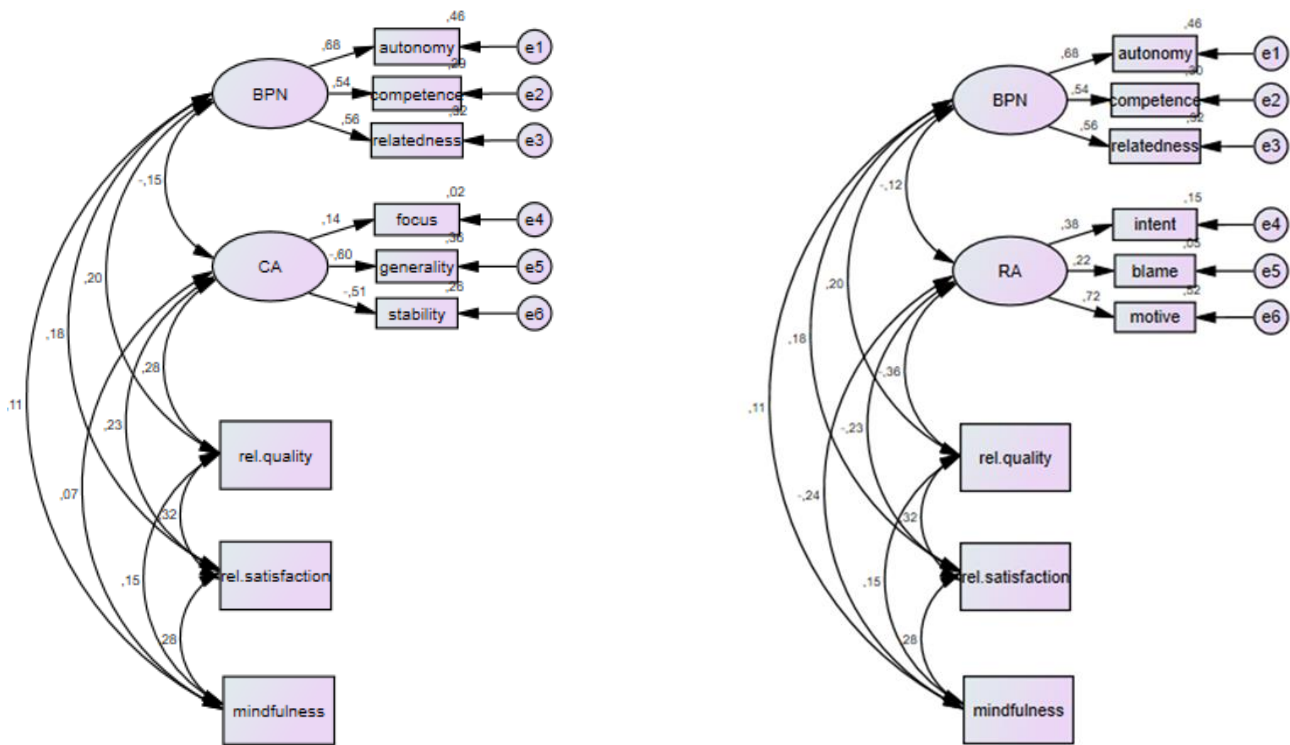
Table 2. Pearson Product Moment Correlation Coefficients of Research Variables

	Autonomy	Competence	Relatedness	Romantic Relationship Satisfaction	Mindfulness	Relationship Quality	Intent	Motive	Blame	Stability	Generality
Autonomy	1										
Competence	.36**	1									
Relatedness	.38**	.32**	1								
Romantic Relationship Satisfaction	.16**	.06*	.09**	1							
Mindfulness	.06*	.14**	.01	.28**	1						
Relationship Quality	.16**	.10**	.08*	.31**	.15**	1					
Intent	-.003	.07*	.01	-.08**	-.06	-.19**	1				
Motive	-.07*	-.07*	-.03	-.15**	-.18**	-.24**	.28**	1			
Blame	-.08**	.08**	-.08**	-.12**	-.05	-.08**	.16**	.17**	1		
Stability	.03	.01	.07*	-.14**	-.09**	-.18**	.12**	.22**	.09**	1	
Generality	.05	.06*	.04	-.14**	-.02	-.15**	.19**	.23**	.11**	.30**	1
Focus	-.07*	-.11**	-.003	.06*	-.08*	-.04	.05	.09**	.01	.03*	-.15**

* $p < .05$, ** $p < .01$

The measurement models is presented in Figure 2. The fit index values for measurement models are these $\chi^2/sd=3.65$; CFI=.94; GFI=.98; NFI=.92; RMSEA=.050 (including the causality attribution) and $\chi^2/sd=3.41$; CFI=.94; GFI=.99; NFI=.92; RMSEA=.05 (including the responsibility attribution).

Figure 2. Measurement Models

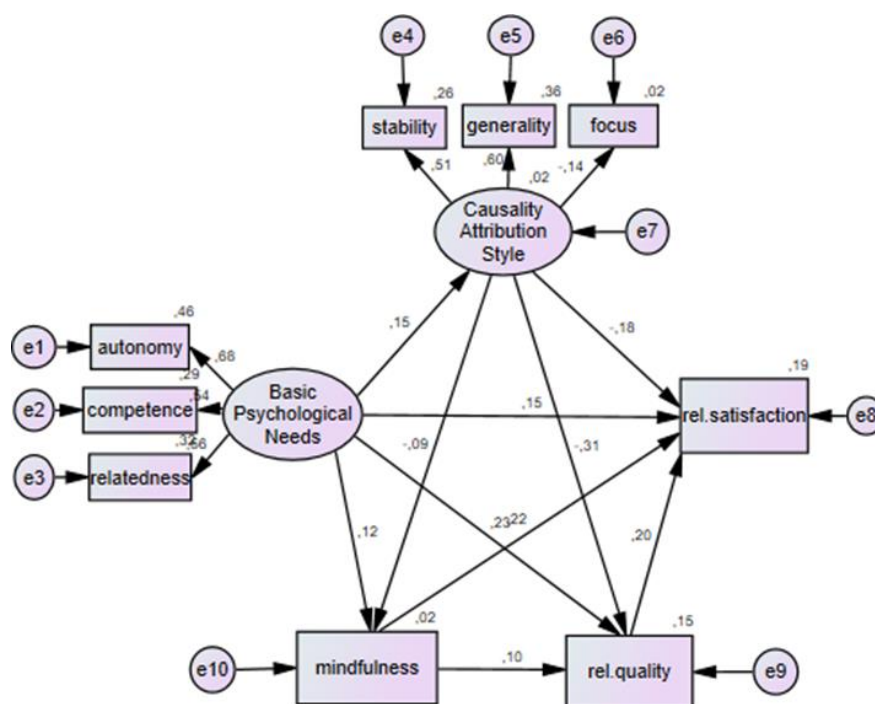


Hypothesis 1-2-5: Findings Regarding the Explanation of Satisfaction in Romantic Relationships with Basic Psychological Needs, Causality Attribution Style, Mindfulness, and Relationship Quality

Figure 3 shows the I. Structural Model and path coefficients proposed to test Hypothesis 1-2-5. The fit index values for Structural Model I are these: $\chi^2/df=3.66$; CFI=.94; GFI=.98; NFI=.92; RMSEA=.05; SRMR=.03. Bryne (2010) measures good fit; $\chi^2 /df<5$ CFI >.90 GFI>.90 NFI>.80 RMSEA<.07. Looking at all fit indices, it can be interpreted that the data fits the model perfectly.

According to the path coefficients, basic psychological needs, mindfulness, relationship quality, and causality attribution style directly predicts romantic relationship satisfaction. A one-unit increase in basic psychological needs scores leads to increases of ($b=.70, \beta = .15, t = 3.71, p < .001$) in romantic relationship satisfaction, and ($b=.41, \beta = .12, t = 3.09, p = .002$) in mindfulness, and ($b=.53, \beta = .23, t = 5.44, p < .001$) in relationship quality; on the other hand, it causes a decrease of ($b=-.10, \beta = -.15, t = -2.54, p = .011$) in causality attribution style scores. Again, when Figure II is examined, it can be stated that one unit of increase in mindfulness scores leads to increases of ($b=.31, \beta = .22, t = 7.49, p < .001$) in romantic relationship satisfaction, and ($b=.08, \beta = .11, t = 3.35, p < .001$) in relationship quality. One-unit increase in relationship quality is reflected in romantic relationship satisfaction as an increase of ($b=.38, \beta = .20, t = 5.98, p < .001$). Figure II show that one unit of increase in causal attribution style leads to decreases of ($b=-1.27, \beta = -.18, t = -3.74, p < .001$) in romantic relationship satisfaction, ($b=-.44, \beta = -.09, t = -1.98, p = .047$) in mindfulness, and ($b=-1.13, \beta = -.31, t = -5.74, p < .001$) in relationship quality. In the model test, it has been determined that Mindfulness has an indirect effect of ($b=.03, \beta = .02$), the Relationship Quality of ($b=.09, \beta = .03$) and the Causality Attribution Style of ($b=-.58, \beta = -.08$) on the relationship between Basic Psychological Needs and Romantic Relationship Satisfaction. In the relationship between Causality Attribution Style and Romantic Relationship Satisfaction, Mindfulness has an indirect effect of ($b=-.04, \beta = -.01$) and Relationship Quality of ($b=-.04, \beta = -.01$). Finally, in the relationship between Mindfulness and Romantic Relationship Satisfaction, Relationship Quality has an indirect effect of ($b=.03, \beta = .02$).

Figure 3. Structural Model I: Standardized Path Coefficients



Testing Structural Model I revealed that mindfulness, relationship quality, and causality attribution style mediate the relationship between basic psychological needs and romantic relationship satisfaction. Furthermore, mindfulness and relationship quality serve as mediating factors between causality attribution style and romantic relationship satisfaction. Additionally, relationship quality mediates the relationship between mindfulness and romantic relationship satisfaction. Bootstrapping analysis was conducted to determine the effect of mediation. In the relationship between basic psychological needs and romantic relationship satisfaction, bootstrapping analysis results were found to be ($\beta = .02, p < .10, 90\% \text{ CI} = -.03, .000$) for mindfulness, ($\beta = .03, p < .10, 90\% \text{ CI} = -.08, -.005$) for relationship quality and ($\beta = -.08, p < .10, 90\% \text{ CI} = -.01, .08$) for causality attribution style. In the relationship between causality attribution style and romantic relationship satisfaction, bootstrapping analysis scores were determined as ($\beta = -.01, p < .05, 95\% \text{ CI} = -.12, -.05$) for mindfulness and ($\beta = -.01, p < .05, 95\% \text{ CI} = -.02, -.000$) for relational quality. In the relationship between mindfulness and romantic relationship satisfaction, bootstrapping analysis score of relationship quality is ($\beta = .02, p < .05, 95\% \text{ CI} = .01, .03$).

Hypothesis 3-4-5: Findings Regarding the Explanation of Satisfaction in Romantic Relationships with Basic Psychological Needs, Responsibility Attribution Style, Mindfulness, and Relationship Quality

In Figure 4, Structural Model II and path coefficients proposed to test Hypothesis 3-4-5 are shown. The fit index values for Structural Model II are as follows: $\chi^2/df=3.42$; CFI=.94; GFI=.99; NFI=.92; RMSEA=.048; SRMR=.03. Bryne (2010) measures good fit; $\chi^2 /df < 5$ CFI > .90 GFI > .90 NFI > .80 RMSEA < .07. Looking at all fit indices, it can be interpreted that the data fits the model perfectly.

According to Figure 4, basic psychological needs directly and significantly predict romantic relationship satisfaction, mindfulness, relationship quality, and responsibility attribution style. Mindfulness, relationship quality, and responsibility attribution style directly and significantly predict romantic relationship satisfaction. responsibility attribution style directly and significantly predicts mindfulness and relationship quality. The relationship between mindfulness and relational quality was not found statistically significant. A one-unit increase in basic psychological needs scores leads to an increase of ($b=.50, \beta = .11, t = 2.86, p = .004$) in

romantic relationship satisfaction, ($b=.28$, $\beta = .08$, $t = 2.15$, $p = .03$) in mindfulness, and ($b=.38$, $\beta = .15$, $t = 3.85$, $p < .001$) in relationship quality; on the other hand, it leads to a decrease of ($b=-.05$, $\beta = -.11$, $t = -2.17$, $p = .03$) in responsibility attribution style scores. A one-unit increase in mindfulness scores causes an increase of ($b=.30$, $\beta = .21$, $t = 7.08$, $p < .001$) in romantic relationship satisfaction. A one-unit increase in relationship quality is reflected in romantic relationship satisfaction as a ($b=.44$, $\beta = .23$, $t = 7.14$, $p < .001$) increase. Figure 3 shows that one unit of increase in responsibility attribution style leads to decreases of ($b=-.90$, $\beta = -.08$, $t = -1.93$, $p = .049$) in romantic relationship satisfaction, ($b=-1.70$, $\beta = -.23$, $t = -4.86$, $p < .001$) in mindfulness, and ($b=-1.84$, $\beta = -.32$, $t = -6.17$, $p < .001$) in relationship quality. In the model test, in the relationship between Basic Psychological Needs and Romantic Relationship Satisfaction Mindfulness exhibit a sort of influence by ($b=.08$, $\beta = .03$), Relationship Quality was ($b=.11$, $\beta = .05$) It has been determined that it has an indirect effect of. Mindfulness has an indirect effect by ($b=-.02$, $\beta = -.01$) and Relationship Quality by ($b=-.08$, $\beta = -.01$) on the relationship between Responsibility Attribution Style and Romantic Relationship Satisfaction.

In testing Structural Model II, as illustrated in Figure 4, it was observed that mindfulness, relationship quality, and responsibility attribution style serve as mediators in the relationship between basic psychological needs and romantic relationship satisfaction. Additionally, both mindfulness and relationship quality function as intermediaries in the association between responsibility attribution style and romantic relationship satisfaction. However, relationship quality does not exhibit a mediating effect in the connection between mindfulness and romantic relationship satisfaction. Bootstrapping analysis was conducted to determine the effect levels of mediation. In the relationship between basic psychological needs and romantic relationship satisfaction bootstrapping analysis scores were found to ($\beta = .03$, $p < .05$, 95% CI = .005, .05) for mindfulness, ($\beta = .05$, $p < .05$, 95% CI = .01, .07) for relationship quality, and ($\beta = -.13$, $p < .05$, 95% CI = .05, .11) for responsibility attribution style. In the relationship between responsibility attribution style and romantic relationship satisfaction, bootstrapping analysis scores were determined as ($\beta = -.02$, $p < .05$, 95% CI = -.17, -.10) for mindfulness and ($\beta = -.08$, $p < .05$, 95% CI = -.03, -.001) for relationship quality.

Discussion

The current study examined the factors influencing mothers' decisions to permit risky play among their preschool children. Findings indicated that mothers who were employed and/or possessed a university degree were more inclined to permit risky play among their preschool-aged children. Additionally, the study observed that older mothers exhibited a greater tendency to permit such activities. Tolerant and democratic parental attitudes were positively associated with the willingness to allow risky play, whereas overprotective attitudes were negatively associated. Notably, mothers' age, educational level, and employment status emerged as significant determinants of their willingness to allow risky play. However, authoritarian parental attitudes did not significantly impact mothers' decisions regarding risky play.

An important finding of this study reveals that working mothers are more tolerant of their children's engagement in risky games. The findings of Akdemir and colleagues (2023) also support this perspective. Working mothers' access to childcare and education services can facilitate the creation of environments suitable for risky play (Kangas & Rostgaard, 2007; Lewis, 2003). These services provide safe and supervised spaces where children can engage in risky activities (Boyd et al., 2010). Moreover, working mothers can model and encourage risk-taking based on their own courageous experiences (Aughinbaugh & Gittleman, 2004; Little, 2015; Twigger-Ross & Breakwell, 1999). Such experiences can help working mothers encourage risk-taking in their children and better understand the benefits of risky play on children's personal development and growth. However, there are also studies in the literature suggesting that working mothers may be less inclined to allow their children to engage in risky play due to time constraints and housework (Oliver et al., 2022). These opposing views suggest that the relationship between working mothers' attitudes towards risky play may be complex and context-dependent.

The current research suggests that mothers with a university degree exhibit a higher inclination to support and permit risky play, consistent with prior literature (e.g., Cevher- Kalburan & Ivrendi, 2016). Several factors may contribute to the positive association between mothers' higher educational attainment and permissiveness towards risky play. Specifically, some studies (e.g., Akdemir et al., 2023; Karaca & Aral, 2020) propose that higher levels of education correlate with a more progressive parenting approach that underscores the significance of allowing children to engage in activities involving risk-taking. Risk-taking is acknowledged as

a pivotal factor in children's development of autonomy and independence (Murray & Hrusa Williams, 2020). Consequently, mothers with higher educational levels are reported to be more inclined to encourage risk-taking in their children compared to parents with lower educational backgrounds (Akdemir et al., 2023; Cevher-Kalburan & Ivrendi, 2016).

The study findings reveal a positive correlation between mothers' age and their endorsement of risky play, indicating that older mothers are more likely to permit such activities compared to younger mothers. This propensity among older mothers may stem from their accumulated parenting experience, which fosters a sense of trust and a tolerant attitude (Morrongiello & Major, 2002). Additionally, the environments in which older parents were raised were often less risk-averse, potentially contributing to their encouragement of their children's engagement in risky play (Gill, 2007). Conversely, younger and less experienced parents may adopt a more cautious approach towards risky play, influenced in part by the prevailing culture of risk aversion in recent years (Yılmaz, 2020). Understanding the reasons for different attitudes towards risky play requires considering parents' age and parenting experience.

The finding that mothers with democratic and permissive parental attitudes tended to permit more risky play aligns with previous research emphasizing the positive influence of these parenting styles on children's autonomy and development. Yanuarsari et al. (2021) discovered that children raised under democratic parenting tend to cultivate independence, responsibility, courage to take risks, and self-confidence. Furthermore, such children demonstrate improved academic performance and the development of their inherent abilities. Similarly, the present study's findings indicated that permissive parenting increased permission for risky play. However, according to Yanuarsari et al. (2021), children raised with permissive parenting tend to exhibit lower levels of independence, slower development, decreased motivation, and a lack of self-control and confidence. This contradictory finding may suggest that societal considerations significantly influence parents' decisions to grant freedom to their children (Brussoni et al., 2012; Little, 2015). Essentially, societal pressures may compel parents to adhere to socially accepted norms rather than prioritize their children's best interests (Jelleyman et al., 2019). In the study by Yanuarsari et al. (2021), mothers who exhibit permissive parenting attitudes may protect their children from risky situations and prevent them from meeting their real needs in order to be perceived as "good mothers". However, in this study, mothers may have a better understanding of the benefits of risky play for children and may encourage their children to take risks during play.

The opposite relationship between overprotective parental attitudes and allowing risky games is consistent with similar research results in the literature (Cevher-Kalburan & Ivrendi, 2016; Ungar, 2009). Such parents' high levels of concern about child safety and well-being may cause them to take a more cautious approach to risky games that they perceive as potentially dangerous and harmful (Morrongiello et al., 2009; Şimşek, 2023; Tandy, 1999; Valentine & McKendrick, 1997; Yokum, 2018). These concerns of overprotective parents may constitute an obstacle to their children's development and learning as a result of risk-taking (Eager & Little, 2011). Preventing risk-taking at a young age may negatively affect the development of children's risk management skills, which may make them more vulnerable to risky situations (Brussoni, 2020; Brussoni & Olsen, 2013).

Discussion

Discussion on the Direct Prediction of Satisfaction in Romantic Relationships by Basic Psychological Needs, Attribution Styles, Mindfulness, and Relationship Quality

The findings of the study indicate that basic psychological needs are positive predictors of romantic relationship satisfaction. This suggests that when individuals experience fulfillment of their basic psychological needs within their romantic relationships, their overall satisfaction with these relationships increases. This outcome is supported by previous literature (Eryılmaz & Doğan, 2013; Hadden et al., 2015; Knee et al., 2005; La Guardia & Patrick, 2008). Research further indicates that individuals with a strong sense of autonomy are more capable of understanding their partners' perspectives, as they exhibit greater empathy and honesty. This ability contributes to their effectiveness in establishing and sustaining relationships (Hodgins & Liebeskind, 2003; Hodgins et al., 1996). Deci and Ryan (2014) state that couples in very close relationships

meet each other's basic psychological needs, or that meeting basic psychological needs by partners will increase intimacy in a romantic relationship. In addition, supporting basic psychological needs means better dual functionality and more trust in the relationship, which meets the most desirable romantic relationship. In addition to functionality, the commitment and consistency of partners in a romantic relationship increase the satisfaction of the relationship. Supporting essential psychological needs promotes commitment and coherence in the relationship (Vallerand & Bissonette, 1992). In the Self-Determination Theory, the innate needs of the individual are autonomous, competent, and related/socialization. Individuals whose needs are supported in their romantic relationships are expected to achieve greater satisfaction from their relationships (Knee et al., 2005).

Another finding is that attribution styles negatively predict romantic relationship satisfaction. The negative prediction situation indicates that the increase in attribution styles scores will decrease romantic relationship satisfaction. In other words, from the point of view of causality attribution style, individuals' interpretations of their partners' negative behaviors will not change this negative behavior of their partner. Romantic relationship satisfaction also decreases when this behavior is true for other aspects of the relationship and is a result related to the partner (personality traits, etc.). There are studies that have obtained parallel findings to this finding (Durtschi et al., 2011; Fitzpatrick et al., 2001; Flechter et al., 1987; Johnson, 2014; Zuschlag, 1987). When one partner perceives the other's actions as intentionally negative or self-serving, they may attribute blame to the partner for this behavior, which can lead to a decline in romantic relationship satisfaction. Existing literature supports this finding (Durtschi et al., 2011; Fitzpatrick et al., 2001; Fletcher et al., 1987; Johnson, 2014; Zuschlag, 1987).

The relationship of attributional styles to marital quality has been studied in different cultures. It has been found that it has acquired a universal character rather than a cultural context (Sabourin et al., 1991). When the marriage quality is evaluated according to the style of attribution, marriage quality is related to depression (Fincham et al., 1989), negative affect (Karney et al., 1994), violence in relationship (Fincham et al., 1997), and anger (Senchak & Leonard, 1993). Attribution styles, which are frequently studied in marriage, have also been studied in the romantic relationships of unmarried individuals, and similar results have been obtained (Johnson, 2014). The attributions of partners regarding their behavior towards each other are generally related to relationship quality (Bradbury & Fincham, 1990; Thompson & Snyder, 1986). Even the relationship between attribution and relationship quality is one of the phenomena in the literature focusing on close relationship (Fincham, 2003). In particular, attributes that emphasize the impact of negative events in relationships and minimize the impact of positive events are linked to lower relationship quality. Accordingly, for example, attributing responsibility for a negative partner behavior (for example, coming home late) means seeing it as reflecting intentional, accusatory, and selfish motivation (i.e. the spouse is self-centered), which is more likely to promote conflict. Therefore, the burdening of responsibility occurs more frequently among partners who have more intensive problems than do others. This is because assuming responsibility tends to be more prominent in the functioning of marriages that clinically seek support, and these spouses are prone to responsibility attribution (Davey et al., 2001).

The study results also indicate that mindfulness positively predicts romantic relationship satisfaction. This positive predictive relationship suggests that higher mindfulness scores correspond with increased satisfaction in romantic relationships. A review of the literature reveals findings consistent with this result (Brown & Ryan, 2003; Brown & Ryan, 2004; Epstein & Baucom, 2002; Karabacak & Demir, 2016; Kozłowski, 2012; Jones et al., 2011; Wachs & Cordova, 2007). Gambrel and Keeling (2010) state that mindfulness can be used to increase relationship satisfaction since it improves main focus, communication, and empathy skills. Mindfulness also predicts romantic relationship satisfaction by providing constructive responses in the relationship (Barnes et al., 2007; Gesell et al., 2020). Assuming that individuals with a high level of mindfulness will not be able to react automatically to conflict situations in the relationship, mindfulness can be expected to positively affect romantic relationship satisfaction. Wach and Cardova (2007) found that mindfulness predicts relationship satisfaction through increasing emotional skills.

Relationship quality is another variable whose effect has been investigated in the research and found as a predictor of Satisfaction in Romantic Relationships. Research findings indicate that the increase in the quality of the relationship will also increase the satisfaction in romantic relationships. The high quality of the

relationship means that the perceived social support and depth (feeling important and safe) in the romantic relationship is high and the conflict is low (Özabacı, 2011). Accordingly, parallel findings are observed in the literature (Boldaz Telli, 2019; Çağ, 2011; Darcan Ayer, 2016; Gökçe Yücel, 2013; Kirschbaum et al., 1995; Komproue et al., 1997; Lawrence et al., 2008). Research on relationships demonstrates that spousal support, along with feelings of significance and safety within the relationship, substantially influences relationship outcomes (Özabacı, 2011). Consequently, individuals who feel valued and secure in their relationships, perceive adequate support from their partners, and report minimal conflict or discord are likely to experience higher levels of satisfaction in their romantic relationships.

Discussion on the Mediating Effect of Attribution Styles, Mindfulness, and Relationship Quality in the Relationship Between Basic Psychological Needs and Satisfaction in Romantic Relations

The research found that attribution styles have a mediating effect on satisfaction in romantic relationships and basic psychological needs. The findings support that relationship quality mediates the relationship between basic psychological needs and satisfaction in romantic relationships. Several studies support this finding. For instance, Knee et al. (2005) highlighted the significance of basic psychological needs in understanding how individuals approach and manage conflict within their romantic relationships. Their research further revealed that individuals whose basic psychological needs, particularly the need for autonomy, are supported within their romantic relationships exhibit less defensive behavior in conflict situations, display greater understanding, and consequently derive higher satisfaction from the relationship. In addition, supporting the basic psychological need benefits not only the individual but also the partner in terms of their response to the conflict. By supporting their basic psychological needs, partners are unconsciously more moderate and understanding in conflict situations in their relationships. Relationships that involve being more moderate and understanding can be considered to be strong in terms of social support, and in such relationships, conflicts are experienced less and more constructively. The literature shows that individuals whose basic psychological needs are supported in their relationships are more open to their partners when they are emotionally distressed (Ryan et al., 2005), and this openness is reflected in the other partner (Knee et al., 2005). The more open the partners are with each other increases the depth in the relationship. As a result, it can be argued that basic psychological needs will increase satisfaction by increasing the quality of the relationship.

Another finding of the research is that mindfulness has a mediating role in the relationship between basic psychological needs and satisfaction in romantic relationships. The field literature supports this finding. There is a strong relationship between the satisfaction of basic psychological needs and self-determination behavior and mindfulness (Brown & Ryan, 2003). Hodgins and Knee (2002) suggest that individuals achieve autonomy by cultivating mindfulness, which helps them disengage from automatic responses. This perspective emphasizes the habitual nature of individuals' behaviors; when behaviors become automatic, autonomy and the fulfillment of basic psychological needs are compromised. Research indicates that individuals whose basic psychological needs are met have greater control over their behaviors (Deci & Ryan, 2000). Given that mindfulness involves focusing on the present and regulating reactions, individuals with fulfilled psychological needs are expected to demonstrate higher levels of mindfulness. Such individuals are more likely to shift from reacting to the daily dramas of life to observing them with a detached, objective perspective (Shapiro et al., 2006). In other words, when basic psychological needs are satisfied, individuals are more likely to remain present, enabling them to approach situations rationally and with an objective, third-person perspective. Within relationships, this enhanced mindfulness not only fosters rational responses but also encourages more constructive behavior toward various events (Barnes et al., 2007; Quinn-Nilas, 2020; Smedley et al., 2021), ultimately contributing to greater satisfaction in romantic relationships (Kozlowski, 2012; Wachs & Cordova, 2007).

Discussion on the Mediating Effect of Mindfulness and Relationship Quality in the Relationship Between Attribution Styles and Satisfaction in Romantic Relations

The findings indicate that mindfulness mediates the relationship between attribution styles and romantic relationship satisfaction, a result supported by existing literature. Individuals who are able to distinguish new situations based on past experiences and make rational evaluations about experiences are individuals with high

levels of mindfulness (Brown et al., 2007). Individuals who make negative attribution are more likely to exhibit reactive behaviors rather than rational assessments (Ulusoy & Duy, 2013). This suggests that negative attributions may diminish relationship satisfaction by reducing mindfulness. Negative attributions are also linked to ruminative thoughts, which hinder individuals from remaining present and may contribute to aggressive behaviors (Bishop et al., 2004; Shapiro et al., 2006). This dynamic is likely to further decrease satisfaction in romantic relationships. Research indicates that negative emotions adversely impact mindfulness, and such negative cognitive patterns tend to evoke negative emotions in individuals. Furthermore, studies have found a negative relationship between depression and mindfulness (Ülev, 2012) and a positive relationship between mindfulness and attributional styles (Fincham et al., 1989). Withdrawal from relationships and a decline in relationship satisfaction are also recognized as common symptoms of depression.

In the present study, relationship quality was found to mediate the relationship between attribution styles and satisfaction in romantic relationships. This finding aligns with the broader literature, which offers further support for this result. Generally, individuals who make conflict-promoting attributions are less likely to report trust, satisfaction, and positive feelings toward their romantic partner (Fincham et al., 2000). Negative attributions that foster conflict within relationships are frequently identified as sources of persistent negative emotions and even perceptions of betrayal. By constantly giving negative reactions, people who make negative attributes can intensify negative affection not only for themselves, but also for their partners (Johnson, 2014). This negative affection and lack of trust in your partner will negatively affect the quality of the relationship. Also, Johnson (2014) found that individuals who make more conflict-promoting attributes will lose trust and depth in their relationships. There is a link between their attribution style and the subsequent behavior of the partners towards each other. Several studies have found a relationship between attributional styles and subsequent positive and negative behaviors. For example, Bradbury and Fincham (1992) state that conflict-promoting attributional styles are linked to low problem-solving skills and increased negative behaviors toward partners. Similarly, another study demonstrates that individuals who make negative attributions are less adept at resolving issues with their partners (Miller & Bradbury, 1995). It is anticipated that the relationship quality of couples who struggle to effectively resolve conflicts will decline, leading to a corresponding decrease in their overall relationship satisfaction.

Discussion Regarding the Mediating Effect of the Relationship Quality Between Mindfulness and Satisfaction in Romantic Relations

The relationship between mindfulness and satisfaction in romantic relationships found that the relationship quality has a mediating effect. The literature supports this finding. Hodgins and Knee (2002) state that individuals with higher mindfulness can use their awareness skills before automatically responding to feedback from their environment. They reported that people with lower mindfulness may react more aggressively in conflicting situations. Mindfulness focuses on skills such as being deliberately flexible in increasing attention across situations and reducing ruminative thoughts and emotions that can lead to aggressive reactions (Bishop et al., 2004; Shapiro et al., 2006). The decrease in ruminative thoughts and emotions will decrease the reactive behaviors and conflict; therefore, it will contribute to the quality of the relationship (Ökten, 2016).

Mindfulness focuses directly on experience with mind and body, without the origin of the event, assumptions, expectations, and desires. For example, a person who smiles at his friend in a hallway, if his friend does not smile at him, explains: "My friend did not smile when I smiled at him." The explanation of a person with a low level of mindfulness is as follows: "He should have smiled at me because I know he saw me. He must be angry with me, and he doesn't want to be my friend." (Bishop et al., 2004). When this example is evaluated in terms of romantic relationships, it is thought that individuals who make evaluations equivalent to the evaluation of a person with a low level of mindfulness may go through such experiences as having conflict with their partners and not feeling important in a relationship. In the context of Self-Determination Theory, it can be interpreted that the fact that mindfulness is associated with a lower defense rate (Brown et al., 2007; Ryan et al., 2005) will increase the quality of the relationship by helping the individual to end up with reconciliation.

Implications and Limitations

The literature review supports that the relationships of married individuals are examined frequently, but there are still not enough studies on the romantic relationships of unmarried individuals. As romantic relationships play a substantial role in the lives of university students transitioning from late adolescence to young adulthood,

understanding the dynamics of these relationships becomes crucial. The significance of this topic, along with the tendency for individuals to select future marital partners during their university years, suggests that further research should focus on this area. Practitioners can address the problems that their clients within the scope of the variables and findings of the Satisfaction Model in Romantic Relationships tested in this research. In addition, it is suggested that psychological counselors who work with the exploration of a partner before marriage can theoretically provide information from the data of this research in the psychoeducation and psychological counseling services they provide.

In line with the results of this study, group psychological counseling programs can be developed, enabling individuals to recognize the attributions they make about their partners' behaviors in their romantic relationships, restructuring their cognitive processes, and teaching mindfulness exercises in their romantic relationships. Similarly, in line with the results of the research, support can be provided to couples who are found to have low relationship satisfaction in terms of meeting the basic psychological needs of themselves and their partners in their romantic relationships by taking the assumptions of the theory into account and by reading the literature on Self-Determination Theory presented in the present study and in other sources. The limitation of this study is the use of a cross-sectional evaluation and self-report scales. It is recommended that the relevant variables should be evaluated by longitudinal studies. This study focused only on university students. Future studies may want to expand this to those who do not go to the university, or older people. Another limitation is that this is from one university in Turkey. It can be expanded to other ethnic groups within Turkey and to other areas and then to big universities to small colleges to see if there are any differences.

Author Contributions. The study derived from the first author's doctoral thesis

Funding Disclosure. No funding was received to assist with the preparation of this manuscript. The authors have no relevant financial or non-financial interests to disclose.

Conflicts of Interest. The authors declare no competing interests relevant to the content of this article.

Data Availability. Data generated and/or analyzed during this study are available upon reasonable request from corresponding author.

Ethical approval: The study was approved by the Ethics Committee of Sivas Cumhuriyet University (Date 01.02.2019). The procedures employed in this study were conducted in accordance with the tenets set forth in the Declaration of Helsinki. The study was supported by Çukurova University Scientific Research Projects Unit as project number 10530.

References

- Arnett, J. J. (1997). Young people's conceptions of the transition to adulthood. *Youth & Society*, 29(1), 3-23. <https://doi.org/10.1177/0044118X97029001001>
- Barnes, S., Brown, K. W., Krusemark, E., Campbell, W. K., & Rogge, R. D. (2007). The role of mindfulness in romantic relationship satisfaction and responses to relationship stress. *Journal of Marital and Family Therapy*, 33(4), 482-500. <https://doi.org/10.1111/j.1752-0606.2007.00033.x>
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230-241. <https://doi.org/10.1093/clipsy.bph077>
- Boldaz-Telli, A. (2019). *An investigation of differentiation of self in married couples according to relationship satisfaction, relationship adjustment, conflict resolution reactions, jealousy in relationship, forgiveness in relationship and emotional dependency* [Master's Thesis, Üsküdar University]. Üsküdar University.
- Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychological Bulletin*, 107(1), 3-33. <https://doi.org/10.1037/0033-2909.107.1.3>
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822-848.

<https://doi.org/10.1037/0022-3514.84.4.822>

- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18(4), 211-237. <https://doi.org/10.1080/10478400701598298>
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2012). *Bilimsel araştırma yöntemleri*. Pegem Akademi.
- Bryne, B. M. (2010). *Structural equation modelling with amos: basic concepts, applications and programming*, (2nd ed.), Routledge. Taylor and Francis Group.
- Chang, J. H., Huang, C. L., & Lin, Y. C. (2015). Mindfulness, basic psychological needs fulfillment, and well-being. *Journal of Happiness Studies*, 16(5), 1149-1162. <https://doi.org/10.1007/s10902-014-9551-2>
- Collins, W. A. (2003). More and myth: the developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence*, 13(1), 1-24. <https://doi.org/10.1111/1532-7795.1301001>
- Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin*, 32(2), 201-219. <https://doi.org/10.1177/0146167205280907>
- Cramer, D. (2002). Relationship satisfaction and conflict over minor and major issues in romantic relationships. *The Journal of Psychology*, 136(1), 75-81. <https://doi.org/10.4324/9781315540023-8>
- Curun, F. (2001). *The Effects of sexism and sex role orientation on romantic relationship satisfaction* [Master's Thesis, Middle Earth Technical University]. Middle Earth Technical University.
- Çağ, P. (2011). *Evli bireylerde eş desteği ve evlilik doyumu* [Master's Thesis, Hacettepe University]. Hacettepe University.
- Darcan Ayer, F. (2016). *Evlilik doyumunun, eş desteği, evlilik iletişim şekilleri ve psikolojik iyi oluş ile ilişkisi* [Master's Thesis, Beykent University]. Beykent University.
- Davey, A., Fincham, F. D., Beach, S. R., & Brody, G. H. (2001). Attributions in marriage: Examining the entailment model in dyadic context. *Journal of Family Psychology*, 15(4), 721. <https://doi.org/10.1037/0893-3200.15.4.721>
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19(2), 109-134. [https://doi.org/10.1016/0092-6566\(85\)90023-6](https://doi.org/10.1016/0092-6566(85)90023-6)
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01
- Deci, E. L., & Ryan, R. M. (2014). Autonomy and need satisfaction in close relationships: relationships motivation theory. *In Human Motivation and Interpersonal Relationships*, 53-73. https://doi.org/10.1007/978-94-017-8542-6_3
- Demir, M., & Weitekamp, L. A. (2007). I am so happy 'cause today I found my friend: Friendship and personality as predictors of happiness. *Journal of Happiness Studies*, 8(2), 181-211. <https://doi.org/10.1007/S10902-006-9012-7>
- Di Dio, P. (2004). Need Satisfaction In romantic relationships: Relations to communion, unmitigated communion and well being. *The Sciences and Engineering*, 64(8-B), 4031. <https://www.proquest.com/docview/305310147?pq-origsite=gscholar&fromopenview=true>
- Durtschi, J. A., Fincham, F. D., Cui, M., Lorenz, F. O., & Conger, R. D. (2011). Dyadic processes in early marriage: Attributions, behavior, and marital quality. *Family Relations*, 60(4), 421-434. <https://doi.org/10.1111/j.1741-3729.2011.00655.x>
- Epstein, N., Baucom, D. H., & Baucom, D. H. (2002). *Enhanced cognitive-behavioral therapy for couples: a*

- contextual approach* (Vol. 1). American Psychological Association. <https://doi.org/10.1037/10481-000>
- Eryılmaz, A., & Doğan, T. (2013). The mediator role of need satisfaction between subjective well-being and romantic relationships quality. *Eurasian Journal of Educational Research*, 53, 79-96. <https://files.eric.ed.gov/fulltext/EJ1060384.pdf>
- Eşici, H. (2014). *Romantik ilişki kalitesinin erken dönem uyumsuz şemalar, bağlanma ve psikolojik ihtiyaçlar açısından incelenmesi* [Doctoral Dissertation, Gazi University]. Gazi University.
- Fincham, F. D. (2003). Marital conflict: Correlates, structure, and context. *Current Directions in Psychological Science*, 12(1), 23-27. <https://doi/pdf/10.1111/1467-8721.01215>
- Fincham, F. D., Beach, S. R., & Bradbury, T. N. (1989). Marital distress, depression, and attributions: Is the marital distress-attribution association an artifact of depression? *Journal of Consulting and Clinical Psychology*, 57(6), 768–771. <https://doi.org/10.1037/0022-006X.57.6.768>
- Fincham, F. D., & Bradbury, T. N. (1992). Assessing attributions in marriage: The Relationship Attribution Measure. *Journal of Personality and Social Psychology*, 62(3), 457–468. <https://doi.org/10.1037/0022-3514.62.3.457>
- Fincham, F. D., & Bradbury, T. N. (1993). Marital satisfaction, depression, and attributions: A longitudinal analysis. *Journal of Personality and Social Psychology*, 64(3), 442–452. <https://doi.org/10.1037/0022-3514.64.3.442>
- Fincham, F. D., Bradbury, T. N., Arias, I., Byrne, C. A., & Karney, B. R. (1997). Marital violence, marital distress, and attributions. *Journal of Family Psychology*, 11(3), 367–372. <https://doi.org/10.1037/0893-3200.11.3.367>
- Fincham, F. D., Harold, G. T., & Gano-Phillips, S. (2000). The longitudinal association between attributions and marital satisfaction: Direction of effects and role of efficacy expectations. *Journal of Family Psychology*, 14(2), 267–285. <https://doi.org/10.1037/0893-3200.14.2.267>
- Fitzpatrick, M. A., Reis, H., & Vangelista, A. (2001). *Attribution, communication behavior, and close relationships*. Cambridge University Press.
- Fletcher, G. J., Fincham, F. D., Cramer, L., & Heron, N. (1987). The role of attributions in the development of dating relationships. *Journal of Personality and Social Psychology*, 53(3), 481–489. <https://doi.org/10.1037/0022-3514.53.3.481>
- Furman, W., & Shaffer, L. (2003). *The role of romantic relationships in adolescent development*. In Florsheim P (Ed.), *Adolescent romantic relations and sexual behavior* (pp. 3–22).
- Gallagher, R.C., Welsh, D.P., Rostosky, S.S., & Kawaguchi, M.C. (1998). *Power in adolescent romantic relationships and its association with well-being*. *Adolescent romantic relations: Interpersonal processes in developmental perspective*. Symposium presented at the biennial meeting of the Society for Research on Adolescence, San Diego, CA.
- Gambrel, L. E., & Keeling, M. L. (2010). Relational aspects of mindfulness: implications for the practice of marriage and family therapy. *Contemporary Family Therapy*, 32(4), 412-426. <https://doi.org/10.1007/s10591-010-9129-z>
- Gesell, N., Niklas, F., Schmiedeler, S., & Segerer, R. (2020). Mindfulness and romantic relationship outcomes: The mediating role of conflict resolution styles and closeness. *Mindfulness*, 11, 2314-2324. <https://doi.org/10.1007/s12671-020-01449-9>
- Glasser, W. (2003). *Seçim teorisi* (çev: Müge İzmirli). Hayat Yayınları.
- Gökçe Yücel, F. (2013). *Examining the relationship between projective identification, conflict resolution styles, gender roles and marital satisfaction* [Master's Thesis, İstanbul Bilgi University]. İstanbul Bilgi University.

- Güleç (2020). *Romantik ilişkilerde doyum modeli: temel psikolojik ihtiyaçlar, bilinçli farkındalık, ilişki niteliği ve yüklenme tarzları* [Doctoral Dissertation, Çukurova University]. Çukurova University.
- Hadden, B. W., Rodriguez, L. M., Knee, C. R., & Porter, B. (2015). Relationship autonomy and support provision in romantic relationships. *Motivation and Emotion*, 39(3), 359-373. <https://doi.org/10.1007/s11031-014-9455-9>
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and The Family*, 93-98. <https://doi.org/10.2307/352430>
- Hodgins, H. S., & Liebeskind, E. (2003). Apology versus defense: Antecedents and consequences. *Journal of Experimental Social Psychology*, 39(4), 297-316. [https://doi.org/10.1016/S0022-1031\(03\)00024-6](https://doi.org/10.1016/S0022-1031(03)00024-6)
- Hodgins, H. S., Liebeskind, E., & Schwartz, W. (1996). Getting out of hot water: Facework in social predicaments. *Journal of Personality and Social Psychology*, 71(2), 300-314. <https://doi.org/10.1037/0022-3514.71.2.300>
- Hodgins, H. S., & Knee, C. (2002). The integrating self and conscious experience. In E. L. Deci, R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 87-100). Rochester, NY US: University of Rochester Press.
- Jones, K. C., Welton, S. R., Oliver, T. C., & Thoburn, J. W. (2011). Mindfulness, spousal attachment, and marital satisfaction: a mediated model. *The Family Journal*, 19(4), 357-361. <https://doi.org/10.1177/1066480711417234>
- Johnson, C. B. (2014). *The roles of commitment and attributions on uninvolved partnerresponses to imagined sexual infidelity* [Doctoral Dissertation, Purdue University]. Purdue University.
- Jorgensen-Wells, M. A., James, S. L., & Holmes, E. K. (2021). Attachment development in adolescent romantic relationships: a conceptual model. *Journal of Family Theory & Review*, 13(1), 128-142. <https://doi.org/10.1111/jftr.12409>
- Karney, B. R., Bradbury, T. N., Fincham, F. D., & Sullivan, K. T. (1994). The role of negative affectivity in the association between attributions and marital satisfaction. *Journal of Personality And Social Psychology*, 66(2), 413-424. <https://doi.org/10.1037/0022-3514.66.2.413>
- Karabacak, A., & Demir, M. (2017). Özerklik, bağlanma stilleri, bilinçli farkındalık ve duygu düzenleme arasındaki ilişkilerin incelenmesi. *Bayburt Eğitim Fakültesi Dergisi*, 12(23), 271-291. <https://dergipark.org.tr/en/download/article-file/320790>
- Kirschbaum, C., Klauer, T., Filipp, S. H., & Hellhammer, D. H. (1995). Sex-specific effects of social support on cortisol and subjective responses to acute psychological stress. *Psychosomatic Medicine*, 57(1), 23-31.
- Kline, R.B. (2011). *Principles and practice of structural equation modeling*. Guilford Press.
- Knee, C. R., Lonsbary, C., Canevello, A., & Patrick, H. (2005). Self-determination and conflict in romantic relationships. *Journal of Personality and Social Psychology*, 89(6), 997-1009. <https://doi.org/10.1037/0022-3514.89.6.997>
- Komproe, I. H., Rijken, M., Ros, W. J., Winnubst, J. A., & tHart, H. (1997). Available support and received support: Different effects under stressful circumstances. *Journal of Social and Personal Relationships*, 14(1), 59-77. <https://doi.org/10.1177/0265407597141003>
- Kozłowski, A. (2013). Mindful mating: exploring the connection between mindfulness and relationship satisfaction. *Sexual and Relationship Therapy*, 28(1-2), 92-104. <https://doi.org/10.1080/14681994.2012.748889>
- Küçükarslan, M., & Gizir, C. (2013). Romantik inançlar ölçeği'nin uyarlanması: Geçerlik ve güvenirlik çalışmaları. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 9(2), 461-469. <https://dergipark.org.tr/en/download/article-file/160864>
- La Guardia, J. G., & Patrick, H. (2008). Self-determination theory as a fundamental theory of close

- relationships. *Canadian Psychology/Psychologie Canadienne*, 49(3), 201-209. <https://doi.org/10.1037/a0012760>
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Basic psychological needs scales. *Journal of Personality and Social Psychology*, 79, 367-384. <https://doi.org/10.1037/0022-3514.79.3.367>
- Lawrence, E., Bunde, M., Barry, R. A., Brock, R. L., Sullivan, K. T., Pasch, L. A., White G. A., Dowd, C. E. & Adams, E. E. (2008). Partner support and marital satisfaction: support amount, adequacy, provision, and solicitation. *Personal Relationships*, 15(4), 445-463. <https://doi.org/10.1111/j.1475-6811.2008.00209.x>
- Legault, L. (2017). Self-determination theory. *Encyclopedia of Personality and Individual Differences*, 1-9.
- Levesque, C., & Brown, K. W. (2007). Mindfulness as a moderator of the effect of implicit motivational self-concept on day-to-day behavioral motivation. *Motivation and Emotion*, 31(4), 284-299. <https://doi.org/10.1007/s11031-007-9075-8>
- Lindsey, E. W. (2020). Relationship context and emotion regulation across the life span. *Emotion*, 20(1), 59-62. <https://doi.org/10.1037/emo0000666>
- McLeod, S., Berry, K., Hodgson, C., & Wearden, A. (2020). Attachment and social support in romantic dyads: A systematic review. *Journal of Clinical Psychology*, 76(1), 59-101. <https://doi.org/10.1002/jclp.22868>
- Martin, J. J., Byrd, B., Wooster, S., & Kulik, N. (2017). Self-determination theory: The role of the health care professional in promoting mindfulness and perceived competence. *Journal of Applied Biobehavioral Research*, 22(4), e12072. <https://doi.org/10.1111/jabr.12072>
- Miller, G. E., & Bradbury, T. N. (1995). Refining the association between attributions and behavior in marital interaction. *Journal of Family Psychology*, 9(2), 196-208. <https://doi.org/10.1037/0893-3200.9.2.196>
- Ökten, M. (2016). *Modeling the relationship between romantic jealousy and relationship satisfaction: The mediator roles of rumination, co-rumination and self-compassion* [Master's Thesis, Middle Earth Technical University]. Middle Earth Technical University.
- Özabacı, N. (2011). İlişki niteliği ölçeği'nin türkçe uyarlaması: Geçerlik ve güvenilirlik çalışması. *Eğitim ve Bilim*, 36(162), 159-167. <http://egitimvebilim.ted.org.tr/index.php/EB/article/view/774/318>
- Özyeşil, Z., Arslan, C., Kesici, Ş., & Deniz, M. E. (2011). Bilinçli farkındalık ölçeği'ni Türkçeye uyarlama çalışması. *Eğitim ve Bilim*, 36(160), 224-235. <http://eb.ted.org.tr/index.php/EB/article/view/697>
- Pierce, G. R., Sarason, I. G., & Sarason, B. R. (1991). General and relationship-based perceptions of social support: Are two constructs better than one? *Journal of Personality and Social Psychology*, 61(6), 1028-1039. <https://doi.org/10.1037/0022-3514.61.6.1028>
- Quinn-Nilas, C. (2020). Self-reported trait mindfulness and couples' relationship satisfaction: A meta-analysis. *Mindfulness*, 11, 835-848. <https://doi.org/10.1007/s12671-020-01303-y>
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and cultures. *Personal Relationships*, 12(1), 145-163. <https://doi.org/10.1111/j.1350-4126.2005.00106.x>
- Sabourin, S., Lussier, Y., & Wright, J. (1991). The effects of measurement strategy on attributions for marital problems and behaviors. *Journal of Applied Social Psychology*, 21(9), 734-746. <https://doi.org/10.1111/j.1559-1816.1991.tb00545.x>
- Satıcı, B. (2018). *Genç yetişkinlerde mükemmeliyetçilik ile romantik ilişki doyumunu arasında duygusal zekâ ve bilinçli farkındalığın aracılık rollerinin incelenmesi* [Doctoral Dissertation, Yıldız Teknik University]. Yıldız Teknik University.
- Seifert, K., & Hoffnung, L. (1997). *Child and adolescent behavior*. Houghton Mifflin.

- Senchak, M., & Leonard, K. E. (1993). The role of spouses' depression and anger in the attribution-marital satisfaction relation. *Cognitive Therapy and Research*, 17(4), 397-409. <https://doi.org/10.1007/BF01177662>
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373-386. <https://doi.org/10.1002/jclp.20237>
- Smedley, D. K., Leavitt, C. E., Allsop, D. B., Nance, M., James, S. L., & Holmes, E. K. (2021). Mindfulness and sexual mindfulness as moderators between conflict resolution and sexual and relationship satisfaction. *Journal of Sex & Marital Therapy*, 47(8), 814-828. <https://doi.org/10.1080/0092623X.2021.1958962>
- Sümer, N., & Cozzarelli, C. (2004). The impact of adult attachment on partner and self-attributions and relationship quality. *Personal Relationships*, 11(3), 355-371. <https://doi.org/10.1111/j.1475-6811.2004.00087.x>
- Thomas, R. A., & Weston, R. (2020). Exploring the association between hostile attribution bias and intimate partner violence in college students: Romantic relationships and friends with benefits. *Journal of Aggression, Maltreatment & Trauma*, 29(5), 557-576. <https://doi.org/10.1080/10926771.2019.1587561>
- Thompson, J. S., & Snyder, D. K. (1986). Attribution theory in intimate relationships: A methodological review. *American Journal of Family Therapy*, 14(2), 123-138. <https://doi.org/10.1080/01926188608250629>
- Tutarel-Kışlak, Ş. (1999). İlişkilerde yüklem ölçüğünün güvenilirlik ve geçerlik çalışması. *3p Psikiyatri, Psikoloji, Psikofarmakoloji Dergisi*, 7(3), 193-199.
- Tutarel-Kışlak, Ş. (2002). İlişkilerde mutluluk ölçüğü (İMÖ): Güvenirlik ve geçerlik çalışması. *Kriz Dergisi*, 10(1), 37-43.
- Ulusoy, Y., & Duy, B. (2013). Öğrenilmiş iyimserlik psiko-eğitim uygulamasının öğrenilmiş çaresizlik ve akılcı olmayan inançlar üzerindeki etkisi. *Educational Sciences: Theory & Practice*, 13(3), 1431-1446. <https://doi.org/10.12738/estp.2013.3.1469>
- Ülev, E. (2014). *Üniversite öğrencilerinde bilinçli farkındalık düzeyi ile stresle başa çıkma tarzının depresyon, kaygı ve stres belirtileriyle ilişkisi* [Master's Thesis, Hacettepe University]. Hacettepe University.
- Vallerand, R. J., & Blssonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. *Journal of Personality*, 60(3), 599-620. <https://doi.org/10.1111/j.1467-6494.1992.tb00922.x>
- Wachs, K., & Cordova, J. V. (2007). Mindful relating: Exploring mindfulness and emotion repertoires in intimate relationships. *Journal of Marital and Family Therapy*, 33(4), 464-481. <https://doi.org/10.1111/j.1752-0606.2007.00032.x>
- Whisman, M. A., & Allan, L. E. (1996). Attachment and social cognition theories of romantic relationships: Convergent or complementary perspectives?. *Journal of Social and Personal Relationships*, 13(2), 263-278. <https://doi.org/10.1177/0265407596132006>
- Yıkılmaz, M., & Güdül, M. D. (2015). Üniversite öğrencilerinde yaşam doyumu, yaşamda anlam ve bilinçli farkındalık arasındaki ilişkiler. *Ege Eğitim Dergisi*, 16(2), 297-315. <https://dergipark.org.tr/en/download/article-file/681643>
- Zuschlag, M. K. (1987). *Attribution for conflict in close relationships and its relation to memory and relationship evaluation* [Master's Thesis, University of Massachusetts]. University of Massachusetts.