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RESEARCH ARTICLE

Serial Mediators Between Loneliness and Resilience: Mental Well-Being and Difficulty in Emotion Regulation

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ABSTRACT

Loneliness is defined as a situation where there is a mismatch between the relationships an individual desires and feels uncomfortable with, and the relationships they believe they have. Studies have shown that loneliness causes both physiological and mental health problems. Additionally, the relationships between loneliness and psychological concepts have been examined in the literature. One of these psychological concepts, resilience, draws attention as a protective factor for human mental health. Considering the relationship between resilience and loneliness, identifying the mediating factors is crucial for maintaining mental health. This study aimed to reveal the effects of mental well-being and emotion regulation, which are strong predictors of loneliness and are predicted to play a mediating role in this dual relationship, and thus, to identify areas that require psychological intervention. In the present study, the UCLA Loneliness Scale, Brief Resilience Scale, Warwick-Edinburgh Mental Well-Being Scale Short Form, and Difficulty in Emotion Regulation Scale were utilised to obtain data from a total of 640 adult participants over the age of 18. The findings indicated that mental well-being and emotion regulation challenges partially mediated the relationship between loneliness and resilience. Consequently, the current study examined the serial mediating role of mental well-being and difficulty in emotion regulation in the relationship between loneliness and resilience, and the hypothesis was confirmed by the findings. The present study constitutes a cross-sectional investigation. Cross-sectional studies, however, are insufficient for establishing causality. In order to achieve this objective, the emphasis should be placed on causality in longitudinal studies. Furthermore, the development of psycho-education programs has the potential to enhance resilience.

Introduction

Loneliness is widely defined as a subjective, distressing emotional state arising from a perceived discrepancy between desired and actual social relationships (Hawkley & Cacioppo, 2010; Taylor, 2020). Rather than being determined solely by the number of social contacts, loneliness reflects perceived deficiencies in the quality or emotional closeness of relationships, which makes it a fundamentally subjective psychological experience

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(Buecker & Horstmann, 2022; Hawkley & Cacioppo, 2010). In other words, loneliness reflects a perceived deficiency in the quality or quantity of one's social relationships and often involves emotional pain and dissatisfaction. According to the aforementioned definition, loneliness can be conceptualised as both an unpleasant emotional experience and a cognitive aspect. The cognitive aspect of loneliness involves the perception that social expectations are not being met (Heinrich & Gullone, 2006).

Although many factors affect the perception of loneliness, it is influenced mainly by subjective evaluations such as satisfaction with the relationship or perceived social acceptance (Aziz et al., 2021; Fallavollita & Lyons, 2023). In other words, loneliness is largely determined by subjective evaluations, including perceived social connectedness, satisfaction with relationships, and emotional fulfillment. Studies on loneliness showed that having few social networks (Kovacs et al., 2021) or the total number of friends is not a determinant of loneliness (Thompson et al., 2024).

Loneliness is a universal human experience that stems from the fundamental need to belong. In addition to its universality, the phenomenon is of significant consequence for both physical and psychological health. If left unaddressed, it can develop into a chronic and pathological state (Asher & Paquette, 2003; Buecker & Horstmann, 2022; Hawkley & Cacioppo, 2010). Loneliness is increasingly recognized as a significant public health and mental health concern, with strong links to depression, anxiety, stress, and even physical morbidity and mortality (Erzen & Çikrikci, 2018; Holt-Lunstad et al., 2015; Richardson et al., 2017). Recent studies have emphasized that loneliness not only co-occurs with negative affective states but also undermines broader indicators of mental well-being, such as life satisfaction, positive affect, and a sense of purpose (Hawkley & Cacioppo, 2010; VanderWeele et al., 2020). Individuals who perceive chronic social disconnection tend to report lower overall mental well-being, suggesting that loneliness may act as a distal risk factor that erodes positive psychological functioning.

Beyond documenting associations, recent studies have emphasized mechanisms that may explain how loneliness leads to poor mental and physical outcomes. Hawkley and Cacioppo (2010) and subsequent empirical studies have identified altered stress reactivity, changes in health behaviors, and dysregulated biological processes (e.g., inflammation) as plausible pathways linking chronic loneliness to disease risk (Hawkley & Cacioppo, 2010; Holt-Lunstad et al., 2015). At the psychological level, difficulties in emotion regulation and lowered mental well-being have been proposed as proximal processes that translate perceived social disconnection into internalizing symptoms and reduced adaptive functioning (Aldao et al., 2010; Masi et al., 2011).

Mental well-being, in contrast, refers to a broad construct encompassing emotional, psychological, and social functioning (Keyes, 2002; Tennant et al., 2007). It includes not only the absence of distress but also the presence of positive functioning, self-acceptance, and emotional balance. The extant literature indicates that elevated levels of mental well-being can function as a protective factor against the adverse psychological consequences of loneliness (İme & Çakır, 2024; Steptoe et al., 2015). However, loneliness may also interfere with mental well-being through its impact on emotional regulation capacities. Emotion regulation refers to the processes by which individuals influence the emotions they experience, when they experience them, and how they express them (Gross, 2015). Individuals experiencing elevated levels of loneliness frequently report greater challenges in managing and modulating their emotional responses, which may intensify feelings of distress and diminish adaptive functioning (Bangee et al., 2014). This finding suggests that emotion regulation difficulties may serve as a proximal mechanism linking loneliness to reduced mental well-being. Resilience, defined as the ability to adapt positively in the face of adversity, trauma, or significant stress (Luthar et al., 2000), is another key psychological variable potentially affected by loneliness. Resilient individuals are typically more capable of maintaining emotional stability and psychological well-being under stress, whereas loneliness may compromise these adaptive systems by increasing emotional dysregulation and diminishing perceived support (Hu et al., 2015). Studies have shown that loneliness is negatively correlated with resilience, and this relationship is often mediated by emotional and cognitive processes such as rumination, regulation, and optimism (Gerino et al., 2017; İme, 2024; Li et al., 2021).

Despite these findings, research integrating loneliness, mental well-being, emotion regulation difficulty, and resilience into a single explanatory framework remains limited. Most existing studies examine bivariate

associations or partial mediation models. Few studies have tested a serial mediation model in which loneliness undermines mental well-being, which in turn contributes to greater difficulty in emotion regulation, ultimately reducing resilience. Such an approach allows a more precise understanding of how distal social experiences translate into intrapersonal outcomes through layered psychological processes (Aldao et al., 2010).

Although loneliness and well-being may demonstrate bidirectional associations (e.g., Domènech-Abella et al., 2017), longitudinal evidence indicates that higher levels of loneliness at baseline significantly predict later declines in mental well-being and increases in emotion regulation difficulties (Hawkley & Cacioppo, 2010; Loades et al., 2020). Another longitudinal study on loneliness found that loneliness in adolescence independently predicted anxiety and depression in young adulthood. Those experiencing both loneliness and low resilience showed significantly higher risks. Such deteriorations in psychological functioning over time may undermine individuals' resilience and coping resources (Parlikar et al., 2025). Accordingly, the current study conceptualizes loneliness as a distal predictor influencing resilience through its sequential impact on mental well-being and emotion regulation difficulties.

The present study aims to address this lacuna by testing a serial mediation model linking loneliness, mental well-being, emotion regulation difficulties, and resilience. This investigation is theoretically and practically significant because it clarifies the sequential pathways through which loneliness influences resilience and identifies potential intervention targets. For instance, if mental well-being exerts an early mediating effect, interventions that enhance psychological well-being may indirectly improve emotion regulation and resilience. Conversely, if emotion regulation plays the central mediating role, then skills-based interventions targeting emotional control and awareness could be prioritized. The present study contributes to a deeper understanding of the mechanisms that protect or endanger psychological adaptation in the face of loneliness by addressing these questions.

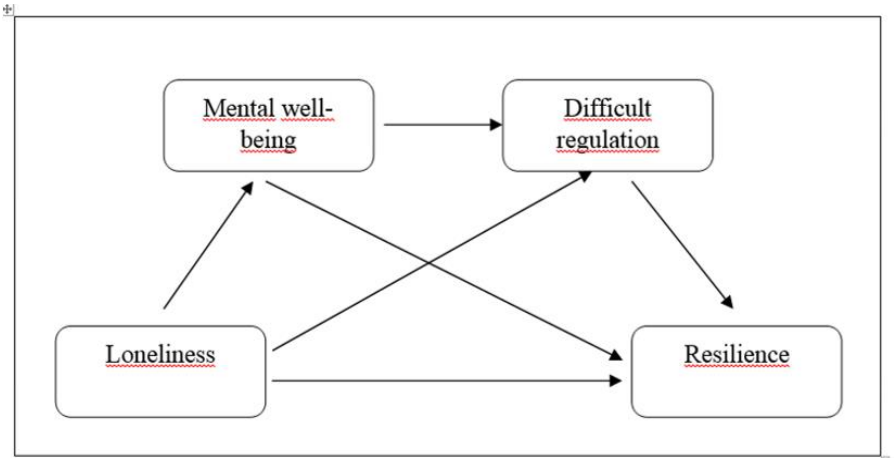


Figure 1. Research model

In the first stage of the research, hypotheses were formulated in line with the primary objective, as shown in Figure 1. The hypotheses are listed below:

H1. There is a statistically significant relationship between loneliness and mental well-being.

H2. There is a statistically significant relationship between mental well-being and resilience.

H3. There is a statistically significant relationship between loneliness and resilience.

H4. There is a statistically significant relationship between loneliness and difficulty in emotion regulation.

H5. There is a statistically significant relationship between difficulty in emotion regulation and resilience.

H6. Mental well-being mediates the relationship between loneliness and resilience.

H7. Difficulty in emotion regulation mediates the relationship between loneliness and resilience.

H8. Mental well-being and difficulty in emotion regulation have a serial mediation effect in the relationship between loneliness and resilience.

Method

Participants and Procedure

A total of 640 university students (118 males and 522 females) over the age of 18 participated in the study and voluntarily completed the consent form. The demographic profile of the sample was as follows: 86.1% of the subjects were aged between 18 and 23 years, while the remaining 13.9% were over 23 years of age. All participants resided in Turkey and were reached online using the convenience sampling method. Furthermore, no financial or material incentives were provided to participants for their participation. Participation in the study was entirely voluntary, and they were informed that they could withdraw from the study at any time without facing any negative consequences.

Ethics

The study protocol has been approved by the Yıldız Technical University Scientific Research and Ethical Review Board (Address: ‘etik.yildiz.edu.tr/dogrula’ Date: 04.03.2024 Report No: 20240302750 Verification Code: 891ec). Furthermore, this research was conducted in accordance with the ethical standards declared in the 1964 Declaration of Helsinki and its subsequent updates.

Data Collection Instruments

UCLA Loneliness Scale

The present scale was developed by Neto (2014) for the purpose of assessing the degree of loneliness. The scale is comprised of a single structure with a total of six items and has a 4-point Likert structure. Itranges from 1, indicating "not at all appropriate", to 4, indicating "completely appropriate." The Turkish adaptation was realised by sarıçam (2023) and the confirmatory factor analysis yielded the following fit index values for the 6-item unidimensional model: $\chi 2(24.37)/sd(9)= 2.71$, AGFI=.92, CFI=.96, GFI=.96, IFI=.96, NFI=.95, NNFI=.94, RFI=92, RMSEA= .076, SRMR=.047. Additionally, the item factor loadings varied from .35 to .70. The scale of assessment ranged from a minimum of six to a maximum of 24. It is evident that elevated scores are indicative of a significant degree of solitude. The Cronbach's alpha coefficient, a measure of internal consistency reliability, was computed as $\alpha = .77$.

Brief Resilience Scale

The scale in question was developed by Smith et al. (2008) for the purpose of evaluating the psychological resilience of individuals. The scale employed was of the 5-point Likert variety, comprising six items. Next, the Turkish adaptation of the scale was carried out by Doğan (2015). employing a numerical system to quantify responses, with 1 representing 'strongly disagree' and 5 representing 'strongly agree'. It has been demonstrated to yield a total of 30 points, and scores on this scale have been demonstrated to be positively correlated with psychological resilience. The scale is unidimensional, and the Turkish adaptation involved the calculation of Cronbach's alpha reliability, which yielded a value of .81. The investigation proceeded to re-evaluate the dependability coefficient, which was determined to be .81.

Warwick-Edinburgh Mental Well-Being Scale Short Form

Tennant et al. (2007) developed a scale to evaluate the mental well-being of individuals. The scale under consideration comprises seven items and is of a 5-point Likert-type design, ranging from 1 (never) to 5 (always). Participants are requested to complete the form by reference to their experiences during the previous fortnight. Participants can acquire a range of 7 to 35 points on the scale. It has been demonstrated that there is a positive correlation between elevated levels of mental well-being and superior scores. In 2019, the Turkish adaptation was conducted by Demirtaş & Baydemir (2019). The scale is unidimensional. The Turkish adaptation of the study involved calculating Cronbach's alpha reliability, which yielded a value of .84. The study re-evaluated the dependability coefficient, which was found to be .84.

Difficulty in Emotion Regulation Scale

The Difficulty in Emotion Regulation Scale, originally developed by Penner et al. (2022), was translated into Turkish by Ekşi & Erik (2023). The scale under consideration comprises eight items and is divided into four sub-dimensions: purpose, impulse, non-acceptance, and strategy. The 5-point Likert-type scale is employed to assign scores to items in the following manner: 1 = almost never (0–10%), 2 = sometimes (11–35%), 3 = about half the time (36–65%), 4 = most of the time (66–90%), and 5 = almost always (91–100%). The scale ranges from a minimum of 8 to a maximum of 40. A high score on the scale is indicative of a substantial degree of difficulty in regulating emotions. The scale demonstrated a high level of internal consistency, with a Cronbach's alpha value of 0.87. The sub-dimensions of the scale also exhibited adequate internal consistency, with Cronbach's alpha values ranging from 0.68 to 0.77.

Data Analysis

The analysis was conducted utilising the SPSS, AMOS and JASP software programs. The normality analyses and descriptive statistics of the variables of loneliness, resilience, mental well-being and difficulties in emotion regulation within the research were conducted with the SPSS program. Subsequently, the reliability of the scales was examined using the JASP program. In the subsequent stage of the investigation, correlation analysis was performed with the SPSS program to examine the relationships between the concepts of loneliness, resilience, mental well-being and difficulty in emotion regulation. Following the identification of a significant relationship between the concepts, structural equation modelling was initiated. According to Kline (2011), structural equation modelling is a powerful method of analyzing data between concepts according to numerous parameters. In the context of conducting SEM, the measurement testing between concepts was first performed, and then path analysis was initiated. If the tested measurement fit values were acceptable, the structural model was initiated. The goodness of fit indices recommended by Hu and Bentler (1999) was taken as a criterion for the results of the tested measurement and SEM. In this context, in addition to chi-square ($\chi 2$) and degrees of freedom, CFI, NFI, TLI, SRMR and RMSEA values were calculated. As critical values, the ratio of $\chi 2$ to degrees of freedom should be less than 5, CFI, NFI and TLI values should be higher than .90, and SRMR and RMSEA values should be lower than .80 (Hu & Bentler, 1999; Tabachnick & Fidell, 2001). Then, in order to ascertain the most suitable modelin SEM, AIC and ECVI values were examined, as well as the chi-square difference test. The model that exhibits the most optimal performance in terms of AIC and ECVI values is to be considered the most suitable (Akaike, 1987; Browne & Cudeck, 1993).

Given that loneliness, resilience, and mental well-being variables were found to be unidimensional in the Structural Equation Model (SEM), the parceling method was employed. The parceling method, as it pertains to concepts related to personality traits, has been demonstrated to reduce the number of observed variables, thereby enhancing reliability and facilitating the demonstration of normal distribution in scale outcomes (Nasser-Abu et al., 2006).. The parcellation process resulted in the creation of two dimensions, each comprising factors pertinent to loneliness, resilience and mental well-being. Furthermore, the incorporation of gender and age control variables was undertaken to provide support and enhance the robustness of the research. In the study, bootstrapping was used to enhancethe significance of the mediation test and to substantiatethe study (Preacher & Hayes, 2008). The bootstrapping process was utilised to augment the sample size to 5,000, and a confidence interval was derived with the bootstrap value. The non-inclusion of zero in this confidence interval suggests that the mediation is significant.

Results

The following section is dedicated to the presentation of descriptive statistics, reliability, and correlation analyses. Subsequently, the findings derived from the measurement model and the structural model are presented. The results of the bootstrapping process are presented in the following section. The normality assumption of the variables should be within ±2 for skewness and ±7 for kurtosis (Finney & DiStefano, 2006). As illustrated in Table 1, the distribution of skewness falls within the range of (-.118, .834), while the kurtosis distribution spans from (-.399, .175).

An examination of the relationships between variables in Table 1 reveals significant negative correlations between loneliness and resilience ($r = -.31$, $p < .001$), loneliness and mental well-being ($r = -.51$, $p < .001$), difficulty in emotion regulation and resilience ($r = -.56$, $p < .001$), and difficulty in emotion regulation and

mental well-being (r = -.60, p < .001). Furthermore, a positive and significant relationship was identified between loneliness and difficulty in emotion regulation (r = .50, p < .001), as well as between resilience and mental well-being (r = .51, p < .001).

Table 1. Descriptive statistics, reliability coefficients, and correlations among study variables

	N	Mean	SD	Skewness	Kurtosis	McDonald's ω	Cronbach's α	Guttman's λ6	1	2	3
1 Loneliness	640	11.38	4.01	.834	.175	.791	.774	.781	-		
2 Resilience	640	17.71	5.10	-.118	-.171	.844	.842	.824	-.31**	-	
3 Mental well-being	640	24.05	5.21	-.019	-.399	.846	.820	.852	-.51**	.51**	-
4 Difficulty regulating emotion	640	19.43	6.90	.371	-.266	.888	.900	.901	.50**	-.56**	-.60**

**p<.001

Upon examination of the measurement model, it is evident that there are four latent variables and ten observed variables, which consist of loneliness, resilience, mental well-being and difficulty in emotion regulation. The measurement results indicate the following values: x2/SD 3.972, GFI= .965, CFI= .974, NFI= .966, TLI= .960, RFI= .947, IFI= .974, SRMR= .030, RMSA= .068. The factor loadingsrange from.66 and .86.

In the post-measurement structural model, the model in which mental well-being and difficulty in emotion regulation fully mediate between loneliness and resilience of adults was first tested. In the fully mediated model, there is no direct path between the independent variable (loneliness) and dependent variable (resilience). As a result of the analysis, significant results were obtained and the fit values were found to be satisfactory (x2/SD= 3.99, GFI= .963, CFI= .973, NFI= .965, TLI= .960, RFI= .947, IFI= .973, SRMR= .032, RMSA= .068, AIC= 169.849, ECVI .266). The present study examined the partial mediating role of mental well-being and difficulty in emotion regulation between loneliness and resilience in the other model. In partial mediation, there is a direct path exists between the independent variable (loneliness) and the dependent variable (resilience). Following the attainment of substantial results, an examination of the fit values was conducted (x2/SD= 3.97, GFI =.965, CFI= .974, NFI= .966, TLI= .960, RFI= .947, IFI= .974, SRMR= .030, RMSA= .068, AIC= 167.184, ECVI= .262). Given the significance of both models and their acceptable goodness of fit, the Akaike Informatino Center (AIC) and the Expected Cross-Validation Index (ECVI) values, as well as the chi-square difference test, were examined to ascertainwhich model provided a süper explanation. According to the results of the chi-square difference test, it is understood that the direct path establishedtbetween difficulty in emotion regulation and psychological distress is statistically significant and contributes to the model ($\Delta x2$ = 46.65, sd = 1, p < .001). In addition, the AIC and ECVI values of the partial mediation model are smaller than the AIC and ECVI values of the full mediation model. Consequently, the partial mediation model is preferred.

In line with the findings of the present study, the model in which mental well-being and difficulty in emotion regulation have a partial mediating role between emotional loneliness and resilience of adults was determined. The path coefficients for this model are presentedin Figure 2.

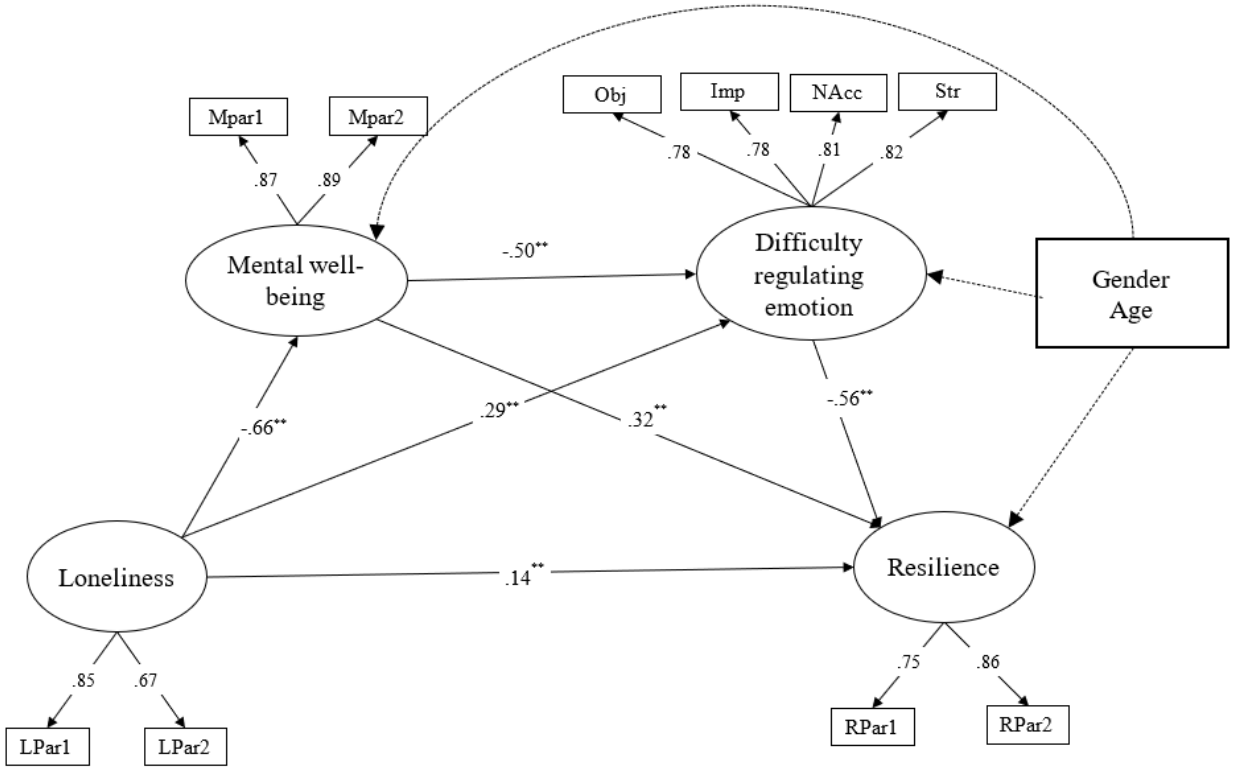


Figure 2. Standardised factor loadings for the partially mediated structural model. *Note*. $N = 640$; ** $p < .001$; *MPar* parcels of mental well-being; *D. Emotion regulation*: difficulties in emotion regulation; *Obj*: objective; *Imp*: impulse; *NAcc*: non-acceptance; *Str*: strategy; *RPar* parcels of resilience; *LPar* parcels of loneliness;

Following the bootstrapping process, which was employed to strengthen and substantiatethe research, it was observedthat the direct path coefficients of loneliness in the results of resilience, mental well-being and difficulty in emotion regulation were significant (bootstrap: -.556, 95% confidence interval, lower limit- upper limit: -1.046, -.599). Considering all these results, it can be positedthat there exists a partial mediating role between loneliness and resilience, with adults' mental well-being and their capacity for emotion regulation serving as mediating variables. In addition, the model posits that mental well-being and difficulty in emotion regulation act as serial mediators between loneliness and resilience.

Discussion

The concept of loneliness is a universal experience (Rotenberg, 1999). It is defined as a distressing feeling resulting from quantitative and qualitative deficiencies in the individual's social relationship network (Hawkley & Cacioppo, 2010; Taylor, 2020). In this study, the mediating role of mental well-being and difficulty in emotion regulation between loneliness and resilience was examined, and the serial mediating role of mental well-being and difficulty in emotion regulation was tested. In this context, the hypotheses are discussed below.

Considering the first three hypotheses, the statistical significance of loneliness with regard to mental well-being, difficulty in emotion regulation and resilience was examined. As a result, loneliness was found to have a negative relationship with mental well-being and resilience and a positive relationship with difficulty in emotion regulation. A review of the extant literature reveals a number of notable findings. Firstly, loneliness has been shown to predict resilience in the mediation relationship with resilience (Gerino et al., 2017) Secondly, loneliness has been shown to predict mental well-being (Lyyra et al., 2021). Thirdly, significant relationships have been demonstrated between loneliness and difficulty in emotion regulation (Eres et al., 2021). This finding serves to corroborate the hypotheses formulated in the study. Therefore, it can be interpreted that individuals' experiences of loneliness may be linked to lower resilience, greater difficulties in emotion regulation, and poorer well-being, rather than implying direct causal effects.

In the context of the aforementioned two hypotheses, statistical significance was examined between mental well-being and resilience and between difficulties in emotion regulation and resilience. As a result, statistically significant relationships were identified between mental well-being and resilience, with a positive correlation, and between difficulties in emotion regulation and resilience, with a negative correlation. Consequently, the hypothesis was confirmed. In the literature, significant and positive relationships were found between mental well-being and resilience (Gao et al., 2017; Afita & Nuranasmita, 2023). Conversely, studies have also demonstrated a negative relationship between difficulties in emotion regulation and resilience (Aydın Sünbül, 2016; Arici-Ozcan et al., 2019). The findings suggest that individuals with higher well-being tend to report higher resilience, whereas those with greater emotion-regulation difficulties tend to report lower resilience, without implying directional causation.

Finally, the mediating role of mental well-being and difficulty in emotion regulation between loneliness and resilience was examined, and as a result, the serial mediating role of mental well-being and difficulty in emotion regulation was confirmed. At this stage, the hypothesis was confirmed. A review of the extant literature reveals a body of research indicating a correlation between loneliness and mental well-being (e.g., Chen & Feeley, 2014; Kobos et al., 2022. This correlation has been demonstrated to extend to the relationship between mental well-being and difficulty in emotion regulation (Akıncı, 2015; Hashemi et al., 2018). In conclusion, the extant literature indicates that the ability to regulate emotions is a predictor of resilience (Mouatsou & Koutra, 2021; Polizzi & Lynn, 2021).

Previous longitudinal findings indicate that persistent loneliness can gradually erode individuals' psychological functioning by lowering well-being and impairing emotional regulation capacities (Hawkley & Cacioppo, 2010; Loades et al., 2020). In the context of the current findings, this pattern may suggest that loneliness could function as a long-term vulnerability factor that is correlated with weakened resilience through its impact on emotional and cognitive processes related to well-being. Rather than a simple cause–effect mechanism, this pattern can be understood as a correlational cycle in which diminished well-being and emotion-regulation difficulties co-occur with feelings of loneliness, potentially contributing together to lower resilience over time (Parlikar et al., 2025). Consequently, the present study's model offers a significant empirical depiction of this broader dynamic, underscoring the significance of early psychological interventions that promote well-being and enhance adaptive emotion regulation skills prior to the onset of chronic loneliness.

The serial mediating role of mental well-being and emotion regulation difficulties between loneliness and resilience can be understood within the framework of contemporary affect regulation models. Previous studies have shown that loneliness negatively predicts psychological resilience through decreased well-being and impaired emotional regulation capacities (Gross, 2015). Individuals experiencing persistent loneliness often report lower positive affect and greater emotional dysregulation, which are correlationally linked to weaker adaptive coping with stress (Vanhalst et al., 2012). Experimental and longitudinal evidence indicate that interventions that improve emotion regulation or subjective well-being can increase resilience and reduce loneliness-related distress (Behrouian et al., 2020; Joyce et al., 2018).

From a pragmatic standpoint, these findings yield unambiguous, evidence-based outcomes for clinical psychologists and psychological counsellors. Interventions that combine (a) strategies to reduce loneliness (e.g., structured group activities, social skills or connection-building programs) and (b) emotion-regulation and resilience training (e.g., CBT-informed emotion-regulation modules, mindfulness-based programs) are supported by the literature and show promise in both experimental and real-world trials (Lindsay et al., 2019; Tong et al., 2021; Morrish et al., 2023). For instance, in randomised trials, brief mindfulness training has been shown to reduce daily-life loneliness and increase social contact (Lindsay et al., 2019). Similarly, systematic reviews of loneliness interventions have identified group and mixed interventions, particularly those that foster active social participation, as consistently effective components (Tong et al., 2021; Morrish et al., 2023). Consequently, clinicians may consider implementing integrated modules that combine social reconnection work (behavioural activation, supported group engagement), explicit emotion-regulation skills training, and positive-well-being exercises. This approach aims to prevent and remediate progression from loneliness to diminished resilience.

Conclusion

The study demonstrated that mental well-being and emotion regulation difficulties play a partial mediating role in the relationship between loneliness and resilience. Consequently, the present study examined the serial mediating role of mental well-being and difficulty in emotion regulation between loneliness and resilience. The hypothesis was confirmed by the findings. The relationships between these variables were investigated for the first time. The model can be considered as a quantitative one the purpose of which is to explain the relationship between loneliness, resilience, mental well-being and difficulty in emotion regulation among Turkish adults. It can be posited that the resilience exhibited by individuals experiencing loneliness serves as an indirect predictor of their mental well-being and the efficacy of their emotion regulation skills. It is important to note that individuals may experience unhappiness as a result of intense feelings of loneliness. Furthermore, they may encounter difficulties in managing their emotions, which can lead to depression. Consequently, it can be interpreted as indicating a psychological inability to exhibit resilience. At this juncture, the requisite social support and diverse functional groups to which the individual can belong may be deemed suitable for their circumstances. Furthermore, it is imperative that measures are implemented to enhance the resilience of individuals.

Limitations and Future Research

Although the study examined the mediating effect of mental well-being and emotion regulation difficulties in the relationship between loneliness and resilience, it should be noted that there are some limitations. First, the generalizability of the sample and sample size is limited. The sample consists of only Turkish adults. Therefore, its generalizability can be increased in adults from different cultures and in different large samples. Secondly, the mediating variables may have been conceptualised around different constructs than mental well-being and difficulties in emotion regulation. In the study, the mediation effect between loneliness and resilience was confined to the mediation effect of the aforementioned concepts. Thirdly, the study employs a cross-sectional design, which restricts the ability to infer causality or temporal ordering among variables. Despite the fact that longitudinal studies indicate that loneliness may precede declines in well-being and emotion regulation (Hawkley & Cacioppo, 2010; Loades et al., 2020; Parlikar et al., 2025). it is recommended that future research employ longitudinal or experimental designs to directly test this directionality.

Additionally, although SEM analyses were conducted under the assumption of both univariate and multivariate normality, multivariate normality (Mardia's coefficients) could not be formally tested due to technical constraints. This constitutes a methodological limitation, and future research is encouraged to include formal assessments of multivariate normality in SEM applications. Finally, participants volunteered according to their own willingness about data collection, which may introduce self-selection bias. In consideration of the aforementioned implications of a practical nature, it is recommended that subsequent studies devise and appraise intervention-based longitudinal programmes that integrate emotion regulation training and social support enhancement with a view to fortifying resilience in populations encountering feelings of loneliness.

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Consent to Participate: Informed consent was obtained from all the individual participants that were included in the study.

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