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Exploring the relationship between social connectedness and mental wellbeing: the mediating role of psychological resilience among adults in Azerbaijan

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Abstract

Social connectedness can have a significant impact on improving individuals' mental well-being by serving as a pathway through which psychological resilience is enhanced. The objective of this study was to investigate the mediating influence of psychological resilience on the association between social connectedness and mental wellbeing among adults in Azerbaijan. A total of 519 adults, ranging from 18 to 66 years old and representing various regions in Azerbaijan, participated in the research. They completed measures including the Social Connectedness Scale, the Brief Resilience Scale, and the Warwick–Edinburgh Mental Wellbeing Scale. The data were analyzed using structural equation modeling (SEM). The findings from the SEM demonstrated that psychological resilience played a significant mediating role in the relationship between social connectedness and mental wellbeing among Azerbaijani adults. Specifically, when accounting for age and gender, it was observed that psychological resilience partially mediated the link between social connectedness and mental wellbeing. Thus, social connectedness emerges as a crucial factor in promoting individuals' mental well-being by fostering psychological resilience.

Keywords Social connectedness · Psychological resilience · Mental wellbeing · Azerbaijan

1 Introduction

Well-being includes positive qualities such as happiness, high life satisfaction, purposefulness, social connections, and the ability to manage stress. It is a source that determines social, economic and environmental conditions in everyday life, like health [1]. The term 'psychological well-being' is used to describe a person's emotional health and overall functioning [20]. Psychological well-being is related to personal characteristics such as self-confidence, adequate self-esteem, positive outlook on life, goodwill, sociability, and emotional stability [21]. The World Health Organization defines positive mental health as "a state of well-being that enables people to realize their potential, cope with daily stress, work productively, and contribute to society" [51]. Well-being is associated with success at professional, personal and interpersonal levels. That is, individuals with high well-being exhibit greater productivity, more effective learning, increased creativity, more social behaviors, and positive attitudes at work [35]. Feelings of resentment, anger and regret can be observed in people with a low level of psychological well-being. Similar feelings may be manifested regarding a person's past, childhood

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experiences, and future expectations. A feeling of rejection by other people, a desire to withdraw from relationships, ambiguous assessments and judgments about the other person's personality are the characteristic of it [24].

Mental health is an important part of well-being. This aspect of well-being determines how we can function psychologically, emotionally and socially, among others. Mental well-being determines a number of details of our life. This includes how we make friends, socialize, manage stress, and the choices we make in response to these stimuli [8]. Mental well-being refers to how we behave in life and how we respond to its ups and downs. These changes can range from everyday stresses to significant life changes [20]. According to the World Health Organization, indicators of positive mental well-being are emotions including happiness, love, joy, compassion, and overall satisfaction with life. It also relates to a person's sense of belonging and contribution to society [50]. Research conducted among adults in Azerbaijan shows that at the same time, social connection and psychological stability can affect the increase in well-being.

Social connection is a key factor in well-being. People with good social connections are happier and healthier, manage their lives better and find solutions to the problems they face. Research shows that these components of social connectedness affect people's well-being, including their subjective well-being, physical and mental health, and labor market and educational outcomes [3]. The way social connection affects well-being depends on additional factors such as the social norms in a person's social network, the strength of a person's social identity, and personality type [39]. According to a range of studies, there are three general components of social connection—socialization, social support and sense of belonging. These three main components are constantly interacting. Thus, socialization, as a rule, strengthens the desire of people to provide social support, as well as the sense of belonging [52]. At the same time, people are more likely to seek or receive support from the people they connect with, and feel more connected to them. A sense of social connection can significantly contribute to health. Some studies report that social connections are associated with higher levels of well-being [32]. McLoughlin et al. [33] explained that low social connection can lead to depression, anxiety and stress. Similarly, researches have shown that people with low social connection often feel less satisfied with their social relationships [41]. Liao and Weng [28] note that people with a high sense of social connection are active in social life, easily communicate and perceive their surroundings positively. A 3-year longitudinal study by Jose et al. [25] found that social connections increase people's well-being. Brown et al. [8] and Satici [40] suggested that social connection is a significant and positive indicator of well-being. From the conducted studies, it can be concluded that social relations are the most important component of well-being.

Resilience is defined as the ability to develop psychologically normally in difficult life conditions, quickly adapt to difficult situations and recover from these situations [29]. Satici [40] notes that resilience positively predicts subjective well-being through the mediating role of hope. Resilience is a desirable trait not only for society but also for its members in the face of various types of challenges [26]. Resilient people tend to cope with stressful situations more quickly and effectively. Resilience promotes well-being, which in turn can positively impact people's work performance [48].

The strong relationship between social relationships and resilience is important for the positive health outcomes of social relationships. The combination of "social connection and resilience" includes external and internal resources, personal and environmental resources that a person uses to successfully solve tasks in difficult situations [18]. Luthar [30] suggest that a strong social connection leads to effective and short-term stress responses and has a positive effect on a person's health during the adaptation process [30]. Social connections can potentially protect against negative physical and mental health outcomes and enhance resilience [5]. Resilience defense mechanisms mediate people`s access to interactions in their proximal (near) and distal (distant) environments [16]. Research shows that resilience is positively and meaningfully related to social relationships and self-esteem. Additionally, people with higher resilience, social connectedness, and self-esteem are less likely to experience depression, hopelessness, suicide, and substance abuse [4].

An analysis of psychological sources shows that resilience and well-being are constantly interconnected. Increased resilience leads to better well-being in people [17, 49]. Resilience, which is directly related to well-being, is the ability to cope with and adapt to new situations [11]. A sense of stability and positive well-being allows people to approach other people and situations with resiliece and optimism. This, in turn, is especially important for young people, given the great changes that occur during the transition to adolescence and adulthood. Signs of resilience and well-being include optimism, the ability to set goals, a positive self-image, and self-esteem [36]. Other researchers have noted that sustainability has a strong positive relationship with well-being, life quality, and life satisfaction [22]. Psychological resilience promotes psychosocial adjustment, which is considered one of the foundations of mental health, as it helps a person deal with difficulties and find different ways of coping with them [10]. So, the mentioned studies show that psychological stability and well-being are interrelated. These positive relationships are of great importance and value for each individual, because they allow people to adapt to themselves and the environment, encourage them to solve their problems better, increase their achievements and resilience, help them maintain internal control and get rid of negative

thoughts. The aim of the research is to determine the mediating role of resilience between social connectedness and mental well-being as a result of the mentioned above theoretical and practical studies.

According to this purpose, the following questions were asked during the research.

1. Do social connectedness significantly predict individuals' well-being??
2. Does social connectedness predict the resilience?
3. Is resilience a predictor of well-being?
4. Does resilience mediate the relationship between social connectedness and well-being?

2 Method

2.1 Participants and procedure

The study employed a convenience sampling method in Baku to gather data. The sample size included 519 participants, consisting of 441 females (85%) and 78 males (15%). The age range of the participants in the study varied from 18 to 66, with an average age of 30.76 (SD = 10.45). Out of the total sample, 259 (49.9%) participants were married, while 260 (50.1%) were single. Approximately half of the participants considered themselves to be at a moderate economic level. Among the participants, 197 (38%) were employed in the public sector, 188 (36.2%) worked in private companies, and 134 (25.8%) were not currently employed. Additionally, 260 (50.1%) participants reported having children, while the remaining 259 (49.9%) did not have children. Participant characteristics were given in Table 1.

2.2 Ethics

The study adhered to the principles stated in the Declaration of Helsinki, and it received ethical approval from the Ethics Committee of the Psychology Scientific Research Institute (ID = T-340). Prior to participation, all subjects were provided with comprehensive information about the study and provided informed consent.

2.3 Measures

The Social Connectedness Scale (SCS) was developed by Lee and Robbins in 1998. The scale has eight items that assess a sense of belongingness on a 6-Likert scale. The Scale measures how connected individuals feel to those around them in their social context. From 1 (strongly disagree) to 6 (strongly agree), the scale accepts responses. A higher score reflects greater social connectedness. The reliability analysis yielded a Cronbach's alpha value of 0.91, indicating good internal consistency among the items.

Table 1 Participant characteristics	Variable	N	%
	Gender		
	Female	441	85
	Male	78	78
	Marital status		
	Married	259	49.9
	Single	260	50.1
	Working status		
	Employed in the public sector	197	38
	Employed in the private companies	188	36.2
	Not currently employed	134	25.8
	Presence of children		
	Has children	260	50.1
	No children	259	49.9

The Brief Resilience Scale [44] was developed to evaluate perceived resilience under stress. The scale, which has both favourably and negatively worded items, was created to evaluate a unitary construct of resilience. The BRS has a possible score range of 1 (poor resilience) to 5 (great resilience). Each of the six items on the scale can have your level of agreement or disagreement indicated. When you're done, you'll receive a resilience score between 6 and 30, with higher scores indicating higher degrees of resilience. The reliability analysis yielded a Cronbach's alpha value of 0.70, indicating acceptable internal consistency among the items.

Tennant et al. [46] added the 14-item Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) to assess psychological wellbeing. A 5-point Likert scale was used to rate the responses. Each response to an item on the scale, which can range from 1 to 5, is added up to determine the score. The scale has a minimum score of 14 and a maximum score of 70. Five response options range from "none of the time" to "all of the time" for the 14 statements. The WEMWBS has had substantial validation in adult populations, and both measures are reliable in terms of psychometrics. The reliability analysis yielded a Cronbach's alpha value of 0.90, indicating good internal consistency among the items.

2.4 Data analysis

The statistical analysis for this study utilized IBM SPSS Statistics 22 and AMOS Graphics. Descriptive statistics were calculated to provide an overview of the data. Pearson's correlation analyses were then conducted to examine the relationships among the variables under investigation. To investigate the association between social connectedness and mental well-being, as well as the potential mediating role of psychological resilience, structural equation modeling (SEM) was employed.

The goodness of fit of the SEM model was evaluated using several fit indices recommended by Hu and Bentler [23]. These indices include the χ^2/df ratio (with a value ideally below 5.0), standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA, with a value ideally below 0.08), comparative fit index (CFI), goodness-of-fit index (GFI), incremental fit index (IFI), and Tucker–Lewis index (TLI) (values ideally above 0.90). In this study, the accepted level of significance was set at 0.05, indicating that findings with p-values below this threshold were considered statistically significant.

3 Results

Table 2 displays the descriptive statistics and Pearson correlation coefficients for all study variables. Mental wellbeing exhibited a positive correlation with social connectedness ($r = 0.452$, $p < 0.001$), indicating a significant association between these two variables. Moreover, mental wellbeing demonstrated a positive correlation with psychological resilience ($r = 0.432$, $p < 0.001$). Additionally, social connectedness exhibited a positive correlation with psychological resilience ($r = 0.311$, $p < 0.001$), indicating a significant positive association between these two variables.

Table 2 Descriptive statistics and correlations among study variables

Variable	Mental wellbeing	Social connectedness	Psychological resilience
Mental wellbeing	–		
Social connectedness	.452**	–	
Psychological resilience	.432**	.311**	–
Mean	49.53	33.56	18.84
Standard deviation	10.50	9.76	3.82
Skewness	− .574	− .521	− .012
Kurtosis	.124	− .053	.425

**$p < .001$

3.1 Measurement model

A measurement model was assessed, comprising three latent variables (mental wellbeing, social connectedness, and psychological resilience) and nine observed variables. The fit indices of the measurement model yielded the following results: $\chi^2_{24, N=519} = 64.51$, p < 0.001; χ^2/df = 2.68; CFI = 0.985; GFI = 0.973; IFI = 0.985; TLI = 0.978; SRMR = 0.0321; RMSEA = 0.057, C.I. [0.041, 0.074]. All standardized factor loadings were found to be statistically significant, ranging from 0.490 to 0.912 (ps < 0.001).

3.2 Structural model

After accounting for gender and age as control variables, we examined the mediating role of psychological resilience in the relationship between social connectedness and mental wellbeing (refer to Fig. 1). The results of the goodness-of-fit indices indicated that the proposed mediation model demonstrated an acceptable fit: $\chi^2_{(38, N=519)} = 116.309$, p < 0.001; χ^2/df = 3.061; CFI = 0.972; GFI = 0.962; IFI = 0.972; TLI = 0.959; SRMR = 0.040; RMSEA = 0.063, CI [0.050, 0.076].

The direct effect of social connectedness on psychological resilience was found to be significant ($\beta = 0.428$, p < 0.001). Additionally, a significant direct effect of psychological resilience on mental well-being was observed ($\beta = 0.446$, p < 0.001). To examine the significance of the indirect effects, a bootstrapping procedure with 5000 bootstrap resamples was employed on the mediation model. The bootstrapping analysis revealed that the relationship between social connectedness and mental well-being was partially mediated by psychological resilience, with an indirect effect of 0.191 (95% CI 0.136, 0.263).

4 Discussion

To comprehensively address individuals' mental wellbeing, it is crucial to understand the interplay of various factors. Mental wellbeing refers to an individual's state of psychological and emotional health, characterized by life satisfaction, positive emotions, resilience, and effective coping with stressors. In this context, recognizing the significance of social connectedness and psychological resilience becomes vital as these interconnected concepts play pivotal roles in shaping and promoting individuals' mental wellbeing. We hypothesized that resilience mediates between social connectedness and mental well-being in Azerbaijan. From the results, we found that resilience has a mediating role between social connectedness and well-being. The obtained results were discussed in detail.
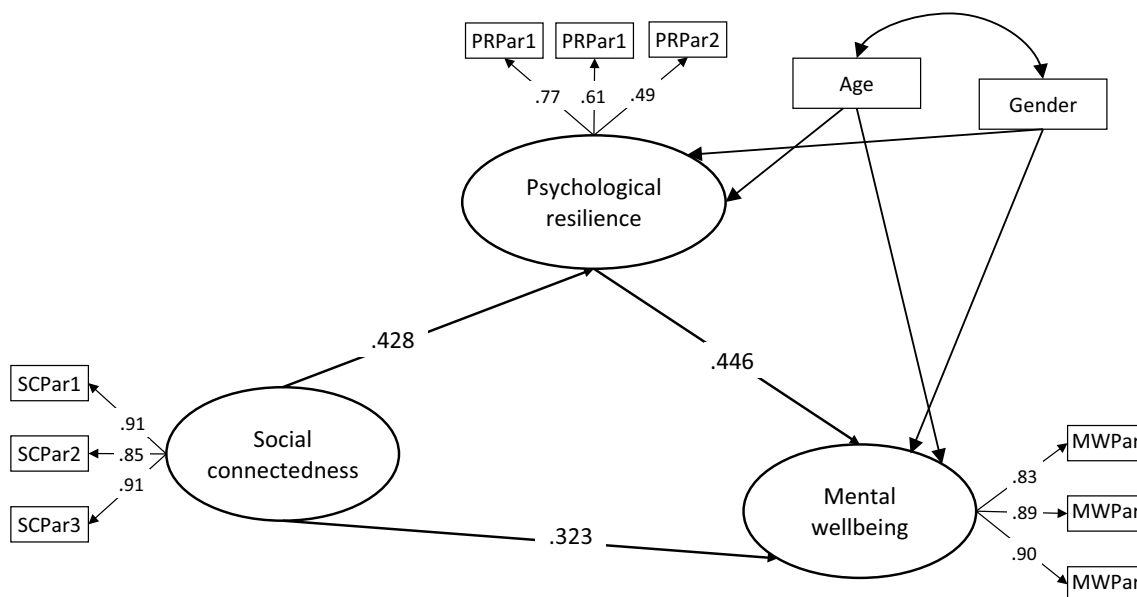

Fig. 1 Mediating role of psychological resilience

Social interactions are important for both physical and mental health. Thus, studies show that anxiety and depression are less in people with extensive social connectedness [6]. At this time, empathy, self-esteem and trust in people are high, as a result, people are more open to cooperation [14]. This, in turn, leads to an increase in well-being. Characterized as one of the main motivational principles of social behavior, social connectedness is commonly regarded as an indicator of a successful life and is associated with many social and mental health benefits [16]. Social connectedness can affect a person's emotions, cognition, and perception. A person with high connectedness can easily participate in social activities [42]. Previous research on social connectedness has shown that social connectedness promotes closeness, a sense of sharing, group attraction [28], life satisfaction, well-being, and mental health.

Social connectedness has both quantitative and qualitative effects on short- and long-term mental and physical resilience. Yildirim [53] found that there is a significant positive relationship between social connectedness and resilience. In particular, as social connectedness increases, so does resilience. There are three ways in which social connectedness influence resilience: behavioral, psychosocial, and physiological. Social relationships partially govern our behavior, but instill a sense of responsibility and concern for others, which leads people to behave in ways that protect their own health and health of others [38]. Boyden and Mann [9] also note that social connectedness is both positively and significantly related to resilience. Thus, people with higher levels of social connectedness and resilience have lower rates of depression, hopelessness, and suicidality. In research conducted by Nitschke et al. [34], increased social connectedness in difficult and uncertain situations were identified as a factor that protects a person's mental health from negative effects and increases resilience.

Resilience and well-being are important for developing effective problem-solving skills, building and maintaining interpersonal relationships, and setting realistic goals. All of these greatly increase a person's ability to function in everyday life [37, 43]. Resilience has a positive relationship with psychological well-being. Souri and Hasanirad [45] found that resilience is a positive and significant predictor of psychological well-being. Optimism mediates this relationship. In addition, positive emotions lead to increased resilience and psychological well-being [13].

Social connectedness positively influences stress tolerance after exposure to trauma and disasters [19]. Psychological resilience is the process of adaptation in the face of adversity, trauma, or significant sources of stress [2]. Chang and Yarnal's [15] support the hypothesis that social connectedness has a positive effect on resilience. Turgut and Chapan [47] in their research with students noted that social connectedness significantly predicts resilience. In general, these results suggest that social connectedness is an important psychological factor that enhances and improves people's resilience. Resilience also plays an important role in improving mental health [7, 53]. Resilience reduces a person's risk of mental disorder as one of the main protective factors of mental health [31]. Resilience protects a person from negative psychological consequences and is considered an important protective factor for adaptive responses in stressful situations such as pandemics [54]. Yildirim [53] notes in his research that resilience has a positive effect on psychological well-being by partially mediating the relationship between mental health and depressive symptoms. Resilience is one of the main protective factors of mental health. People with low levels of resilience can benefit from effective psychosocial interventions to strengthen resilience. [12]. Thus, the aforementioned studies show that there are positive relationships between social connectedness, resilience, and mental health. In these relationships, resilience mediates between social connectedness and mental health.

4.1 Limitation

We would like to point out a number of limitations that should be taken into account when analyzing the results of the research. Firstly, there is a gender imbalance in the survey. The number of women participating in the research is more than men. This can affect the calculation of the results. Secondly, the information was gathered through self-reported surveys, which are subject to subjective methodological biases (such as social desirability and memory recall). Thirdly, as a result of the cross-sectional nature of the data, all conclusions were associational and there was no way to establish a link between the variables.

4.2 Implications

The findings highlight the significance of fostering social connectedness as a means to enhance individuals' mental health outcomes. By uncovering the mediating role of psychological resilience, this study provides valuable insights into the underlying mechanisms through which social connectedness influences mental wellbeing. Moreover, it emphasizes that a person who is connected to their surroundings can cope with negative situations more easily, which helps them distance

themselves from the effects of negative attitudes [27]. These implications have practical implications for the development of interventions and programs aimed at promoting mental wellbeing in Azerbaijan. With a better understanding of the relationship between social connectedness, psychological resilience, and mental wellbeing, policymakers and mental health professionals can design strategies that prioritize social integration and the cultivation of psychological strength. These efforts can contribute to the development of targeted interventions that enhance social connectedness and resilience, ultimately leading to improved mental health outcomes among adults in Azerbaijan.

5 Conclusion

In this research, we have investigated the relationship between social connectedness, resilience and mental health in people during adulthood in Azerbaijan. In the research, we determined that there is an interaction between social connectedness and mental health of people in the period of adulthood in Azerbaijan. According to the results obtained, resilience plays a mediating role here. In other words, a direct correlation was found between social connectedness and mental health, and between resilience and mental health in adults. That is, the higher social connectedness of adults is, the more resilience has a positive effect on mental health.

Declarations

Ethics approval and consent to participate The study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its following updates.

Consent for publication Informed consent was obtained from all the individual participants that were included in the study.

Competing interests The authors declare no competing interests.

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