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The Relationship Between Sense of Belonging and Life Satisfaction Among University Students: The Mediating Role of Social Isolation and Psychological Distress

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Depression, Social Isolation, Sense of Belonging, Life Satisfaction, Psychological Distress.

Purpose: The present study aimed to investigate the mediating role of social isolation and psychological distress in the relationship between belonging and life satisfaction among university students.

Methodology: In a correlational design, 200 undergraduate students from Ferdowsi University of Mashhad were selected via multi-stage sampling method. Data collection was carried out by measurments, including sense of belonging instrument (Hagerty, & Patusky, 1995), need to belong scale (Kelly,1999), schema questionnaire (Young, 1998), depression, anxiety, stress scale (Lovibond, & Lovibond,1995), psychological distress scale (Kessler et al., 2002) and satisfaction with life scale (Diener, et al., 1985). Data analysis was conducted using pearson correlation coefficient and path analysis.

Findings: The results indicated that the sense of belonging and the need to belong were related to social isolation. Additionally, the mediating role of social isolation and psychological distress in the relationship between nelonging and life satisfaction was confirmed ($P < 0.01$). The fit indices confirmed the goodness of fit of the stated model. Also, psychological distress was significantly related to life satifaction.

Conclusion: These results highlight the importance of laying the groundwork for students' life satisfaction, which requires the implentation of effective interventions and programs to strengthen sense of belonging and, followed by the reduction of social isolation and psychological distress. The limitations of this study and the future directions will be discussed.

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1. Introduction

Increasing evidence shows that psychological well-being and life satisfaction have declined over the past decades (Marquez & Long, 2021). Life satisfaction results from the balance between an individual's desires and their current situation, and the greater the distance between them, the more dissatisfied they will be (Thapa et al., 2013). This is especially important during transitional periods, such as the university years, which require students to adapt to a new environment and face the challenges of student life (Cruwys et al., 2021). During their university years, students experience important life events in areas such as identity, mental health, intimate relationships, completing their studies, and entering the workforce. Given the impact of life events on life satisfaction, the likelihood of life satisfaction changes during this transitional and unstable period is high. Life satisfaction plays a key role in the positive transition from adolescence to adulthood (Hawkins et al., 2009). Studies have shown that life satisfaction is associated with self-esteem (Miller, Zivnuska & Kacmar, 2019), personality traits (Malvaso & Kang, 2022), and emotional intelligence (Ain, Munir, & Suneel, 2021). One study showed that 52% of Iranian students have low life satisfaction (Motevaliyan et al., 2019). One important gap in previous research is that it needs to be clarified how life satisfaction evolves during the transition to adulthood (Henkens, Kalmijn, & de Valk, 2022). Therefore, given the numerous stressors of the university period, understanding the risk and protective factors of student life satisfaction can help better understand this structure and design effective preventive programs and interventions. One of the most important predictors of life satisfaction, which has received less attention in studies, are the related but independent concepts of belongingness and the need for belongingness (Raijman & Geffen, 2018).

The need for belongingness is based on the human motivational need to maintain positive interpersonal relationships and social ties and, therefore, plays a key role in individuals' growth and well-being (Skinner et al., 2008). Belongingness is defined as a general experience that individuals have of being accepted. Belongingness is perceived as perceived social support, feelings of cohesion, importance, acceptance, respect, and value (Strayhorn, 2018). Belongingness is a complex structure due to its components, predictors, and multifaceted consequences (Allen et al., 2021). Some of the most complex social challenges such as loneliness, caring for the elderly, various forms of political and social tribalism, and violence in educational environments, are rooted in the need for belongingness (Lim et al., 2021). Many empirical studies have emphasized the positive outcomes of belongingness in student groups and academic settings. Studies have shown that the sense of belongingness and the need for belongingness are related to social and psychosocial functions (Suhlmann et al., 2018), social cohesion, and life satisfaction (Avcı, 2023), psychological adaptation (Arslan et al., 2021), and academic engagement (Gillen-O'Neel, 2021). Another predictor of life satisfaction is social isolation (Clair et al., 2021).

Social isolation is a multidimensional construct defined as insufficient quantitative or qualitative interactions (on an individual, group, and societal level) with other individuals (Smith & Lim, 2020). In line with the consequences of a sense of belongingness and the need for affiliation, research has shown that social isolation is also associated with decreased life satisfaction, increased levels of depression, and lower levels of psychological well-being (Usher et al., 2020; Lee & Cagle, 2018; Dahlberg L, McKee, 2018). Most studies have examined social isolation in the elderly population (Nyqvist et al., 2016). However, the perceived level of social isolation has increased among many adolescents and young adults (Smith & Lim, 2020). In one study, it was found that the experience of social isolation, even for less than 10 days, can have long-term effects on individuals' mental health (Brook et al., 2020). Despite the emphasis on the importance of satisfying the need for relationships in individuals' well-being, there is little understanding of the mechanisms linking the sense of belongingness, the need for affiliation, and social isolation with life satisfaction in students (Li et al., 2021). Some research evidence has shown that psychological distress can be an important mediator in this regard (Aruta et al., 2022).

Psychological distress is considered as one of the crucial indicators of mental health in the general population, describing a state of emotional discomfort and suffering that is often associated with symptoms

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of depression and anxiety (Flesia et al., 2023). Two important factors that influence psychological distress are individual and situational factors. Individual factors include personality traits, while situational factors include social components (social support, affiliation) that are known as the most significant factor in distress (Condinata, Satiadarma, & Suyasa, 2021). Some researchers have considered the concept of affiliation and its associated components (need for affiliation, sense of belongingness, isolation, and social rejection) as a fundamental concept in depression. Based on these findings, interpersonal contexts significantly affect individuals' experience of depression and psychological distress (Joiner & Timmons, 2002). Research evidence also supports these theoretical foundations. In one study, affiliation was revealed as the main predictor of depression symptoms in adolescents, predicting around 50% of the variance in these symptoms (Parr et al., 2020). Some research evidence has also shown that students experience higher levels of psychological distress compared to the general population (James et al. et al., 2017). Other study findings have shown that quality of life (Noreen et al., 2021), resilience (Yasien, Nasir, & Shaheen, 2016), academic burnout (Emerson, Hair & Smith, 2023), and psychological well-being (Franzen et al., 2021) are among the most significant outcomes related to the health of psychological distress.

Overall, it seems that satisfying the need for belonging in individuals, experiencing a sense of belonging to others, and not perceiving social isolation are accompanied by lower levels of indifference, sadness, and hopelessness (signs of depression), as well as restlessness and tension (signs of anxiety), which in turn leads to more positive cognitive evaluations of life for individuals. Many studies conducted to explain psychological distress have mainly examined the risk factors associated with increasing distress, and only a few studies have focused on protective factors. Furthermore, only some studies have focused on certain groups such as student groups and individuals pursuing medical and nursing studies (Franzen et al., 2021). Therefore, taking into account the risk and protective factors, this study aimed to investigate the mediating role of psychological distress in the relationship between the sense of belonging to others, the need for belonging, and social isolation with the satisfaction of students with their lives.

2. Methodology

The research design was descriptive-correlational. The statistical population of the study consisted of undergraduate students at Ferdowsi University of Mashhad in the spring semester of the academic year 2022-23. With the consideration of 5 individuals for each model parameter (Tanaka, 1987), the sample size was determined to be 140 individuals, and with the consideration of the possibility of participants dropping out, it was increased to 200 individuals. The sample was selected through a multi-stage random sampling method. First, five academic groups were randomly selected based on the university's educational structure, and then two classes were randomly selected in each group according to the year of admission to the university. Finally, the questionnaires were distributed among 20 students present in the classrooms during the time of data collection.

Data were collected using the following questionnaires:

The Sense of Belonging Instrument (SOBI): This tool was developed by Hagerty & Patusky (1995) and consists of two subscales: Antecedents of SOBI (SOBI-A) with 9 phrases to measure individuals' motivation to engage meaningfully with others and Psychologically Related Experiences of Belongingness (SOBI-P) with 18 phrases to measure psychologically related experiences of belongingness to others. Participants respond to the items on a four-point Likert scale ranging from strongly disagree (1) to strongly agree (4). Higher scores indicate more positive antecedents and psychological experiences related to belongingness. The content validity and exploratory factor validity of the tool were confirmed in the original study. In addition, discriminant validity was reported by comparing depressed and normal individuals, and convergent validity was reported in relation to perceived social support, while divergent validity was reported in relation to loneliness. The Cronbach's alpha coefficients were reported as desirable at 0.72 and 0.93 for SOBI-A and SOBI-P, respectively, and the retest coefficients after two months were reported as 0.66 and 0.84, respectively. In the study by Tanhaye Reshvanloo & Samadieh (under review),

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exploratory factor validity and predictive validity regarding depression, psychological distress, and life satisfaction were found to be desirable. The Cronbach's alpha coefficients in their study were 0.92 and 0.94, and Spearman-Brown's split-half coefficients were 0.90 for antecedents and 0.92 for psychological experiences related to belongingness. The Cronbach's alpha coefficients in their study were 0.74 for SOBI-A and 0.83 for SOBI-P.

The Need to Belong Scale (NTBS): This scale, introduced by Kelly (1999), consists of 10 phrases that are scored on a scale of 1 (not at all) to 5 (extremely). A higher score indicates a greater unfulfilled need for belongingness. The construct validity and confirmatory factor analysis of the NTBS were examined in the original study and were found to be satisfactory. The structural validity of the scale was also confirmed in the study by Leary, Kelly, Cottrell, & Schreindorfer (2013). They also reported Cronbach's alpha coefficients ranging from 0.78 to 0.87 with a mean of 0.81 in a sample of 15 studies. Tanhaye Reshvanloo, Kareshki, & Jami (2021) reported desirable exploratory and confirmatory factor analysis validity and convergent and divergent validity in two studies of university students. Cronbach's alpha coefficients of 0.95 and 0.91 were obtained in their study. In this study, Cronbach's alpha coefficient was 0.79.

The Young Schema Questionnaire-Short Form (YSQ-SF): This questionnaire, developed by Young (1998), consists of 75 phrases that are rated on a six-point Likert scale ranging from completely untrue (1) to completely true (6) and measures 15 maladaptive schemas. In this study, the subscale of social isolation, consisting of 5 phrases, was used. A higher score indicates a more unfavorable condition. Oei & Baranoff (2007) reported desirable validity and reliability for this questionnaire. Sadooghi, Aguilar-Vafaie, Rasoulzadeh Tabatabaie, & Esfehanian (2008) also reported desirable construct validity and internal consistency in a non-clinical Iranian sample. The Cronbach's alpha coefficient in this study was 0.77.

The Depression, Anxiety and Stress Scale (DASS-21): This scale, developed by Lovibond & Lovibond (1995), consists of 21 phrases, each of which is assigned to one of three sub-scales of 7 phrases. The scale is scored on a four-point Likert scale ranging from never (0) to always (3), and higher scores indicate greater prevalence. The construct validity, exploratory and confirmatory factor analysis, and Cronbach's alpha (0.91) were reported to be satisfactory in the original study of the scale's reliability by Kakemam et al. (2022) reported desirable exploratory and confirmatory factor analysis validity, internal consistency, and convergent validity in an Iranian sample. The Cronbach's alpha coefficient in this study was 0.84.

The Kessler Psychological Distress Scale (K6): This scale, developed by Kessler et al. (2002), consists of 6 phrases that are scored on a five-point Likert scale ranging from never (0) to all of the time (4). Higher scores indicate greater psychological distress. The validity and reliability of this scale have been examined in various studies and have been confirmed (Kessler et al., 2010). Tanhaye Reshvanloo, Kareshki, Amani, Esfandyari, & Torkamani (2020) confirmed the exploratory and confirmatory factor analysis validity in a population-based study. They also reported desirable convergent validity in relation to depression (0.60), anxiety (0.46), and stress (0.48). Cronbach's alpha coefficients of 0.86 and a test-retest reliability of 0.83 were obtained in their study. The Cronbach's alpha coefficient of this scale in the current study was 0.88.

Satisfaction With Life Scale (SWLS): This scale was developed by Diener, Emmons, Larsen, & Griffin (1985) and consists of 5 statements that are scored on a 7-point Likert scale ranging from completely disagree (1) to completely agree (7). A higher score indicates greater satisfaction with life. In the original study, the factorial validity and convergent relationships of the scale with positive emotions ($r = 0.50$) and negative emotions ($r = -0.37$) were reported as desirable. Maroufizadeh, Ghaheri, Samani, & Ezabadi (2016) reported the convergent validity of the scale in relation to anxiety ($r = 0.41$) and depression ($r = 0.43$) as desirable. In their study, a Cronbach's alpha of 0.89 was obtained. The Cronbach's alpha in the present study was 0.65.

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Participants in this study responded to a comprehensive questionnaire consisting of the above scales and some demographic indicators as a group. Before administering the questionnaires, explanations about the study objectives were given and verbal consent and agreement were obtained from the participants. The responses to the questionnaires were completely voluntary. Data analysis was performed using Pearson correlation coefficient and path analysis with SPSS.27 and AMOS.24 software.

3. Findings

Demographic indicators showed that 62 percent of the participants were female students. The mean age of the participants was 19.67 with a standard deviation of 0.97 and a minimum and maximum of 18 and 23 years. In addition, 77.5 percent of the students were dormitory residents.

Data screening showed that there was no single-variable outlier based on the box plot. The Mahalanobis distance also showed that there were no multi-variable outliers in the data. The descriptive statistics and correlation coefficients of the variables are presented in Table 1.

Table 1. Descriptive statistics and coefficients of correlations

Variable	1	2	3	4	5	6	7
1. A sense of belonging - antecedents	1						
2. A sense of belonging - psychological	0.23**	1					
3. Need for belongingness	-0.35**	-0.25**	1				
4. Social isolation	-0.19**	-0.31**	0.29**	1			
5. Depression	-0.32**	-0.47**	0.31**	0.53**	1		
6. Psychological pressure	-0.36**	-0.31**	0.40**	0.50**	0.55**	1	
7. Satisfaction with life	0.51**	0.51**	-0.35**	-0.35**	-0.45**	-0.49**	1
Mean	27.87	42.58	26.68	10.12	5.25	9.51	21.80
Standard deviation	4.17	8.41	5.68	3.56	4.28	4.86	6.20
Skewness	-0.19	-0.71	-0.08	0.58	0.61	0.09	-0.34
Kurtosis	-0.57	-0.25	-0.22	-0.50	-0.59	-0.67	-0.19

*p≤0.01; **p≤0.05

The results shown in Table 1 indicate that the sense of belonging has a negative relationship with the need for belonging, social isolation, depression, and psychological pressure, and a positive relationship with life satisfaction ($P \leq 0.001$). The need for belonging also has a positive relationship with social isolation, depression, and psychological pressure, and a negative relationship with life satisfaction ($P \leq 0.001$). The relationship between social isolation, depression, and psychological pressure with life satisfaction is also negative and significant ($P \leq 0.01$).

Before conducting the path analysis, assumptions of normality of both single and multiple variables, lack of multicollinearity, and independence of errors were examined. The results in Table 1 showed that with considering kurtosis (± 2) (Whittaker, & Schumacker, 2022) and skewness (± 7) (West, Finch, & Curran, 1995), normality of single variables was achieved for all variables. The ratio of multivariate kurtosis (643.3) to critical value (295.2) was also equal to 1.87. Whittaker, & Schumacker (2022) consider ratios less than 2 as evidence of normality in multivariate distribution.

In examining the lack of multicollinearity among the predictor variables, if tolerance is less than 1 and VIF is less than 10, the assumption of multicollinearity is met (Pituch, & Stevens, 2016). The results showed that the tolerance coefficients of the predictor variables ranged from 0.42 to 0.67, and the VIF ranged from 1.48 to 2.91. The assumption of independence of errors was examined using the Durbin-Watson statistic. Coefficients close to 1-2 indicate independence of errors (Kutner, Nachtsheim, Neter, & Li, 2004). The coefficient in this study was 1.97.

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Then, the maximum likelihood method was used for model estimation. In assessing model fit, according to the suggestion of Tabachnick & Fidell (2019), coefficients less than 3 for the ratio of chi-square to degrees of freedom ($\chi 2/df$), values of 0.05 or less for the approximate root mean square error of approximation (RMSEA), and values of 0.95 or greater for the goodness-of-fit index (GFI), comparative fit index (CFI), and normalized fit index (NFI) were used. The model fit indices (Table 2) showed that the initial model was not sufficiently satisfactory ($\chi 2/df = 541.9$, GFI = 0.974, CFI = 0.951, NFI = 0.948, RMSEA = 0.207). Path coefficients showed that both dimensions of belongingness, need for belongingness and social isolation, did not have a significant direct effect on life satisfaction ($p > 0.05$). In addition, need for belongingness had no significant direct effect on depression and belongingness-psychological antecedents had no significant direct effect on social pressure ($p > 0.05$). Accordingly, the model was corrected by removing these paths. The fit indices of the corrected model by removing insignificant paths (Table 2) indicated an improved but still unsatisfactory model fit ($\chi 2/df = 188.4$, GFI = 0.955, CFI = 0.927, NFI = 0.910, RMSEA = 0.127). Based on the proposed correction indices, there was covariance between the error terms for depression and psychological pressure, so the model was further corrected by establishing this relationship. The results showed that the final corrected model had an acceptable model fit ($\chi 2/df = 166.2$, GFI = 0.979, CFI = 0.977, NFI = 0.959, RMSEA = 0.077).

Table 2. Fit indices for the structural equation modeling

Model	χ^2/df	GFI	CFI	NFI	RMSEA	TLI	AIC
Initial	9.541	0.974	0.951	0.948	0.207	0.487	71.083
Eliminating insignificant paths	4.188	0.955	0.927	0.910	0.127	0.808	73.507
Adjusted final model	2.166	0.979	0.977	0.959	0.077	0.930	57.159

The Tucker-Lewis Index (TLI) was used to compare the model fit indices above. Little (1997) believed that if the overall model fit indices were satisfactory, the model with the lowest TLI value is the more desirable model, and if the difference between the TLI values of the two models is equal to or greater than 0.05, the models are different from each other. The results in Table 2 showed that the TLI in the initial model was 0.487, in the corrected model based on insignificant paths it was 0.808, and in the corrected model by establishing covariance of error terms it was 0.930. Accordingly, the final corrected model was more desirable than the initial model. Furthermore, the Akaike Information Criterion (AIC) can be relied upon as a measure of model comparison. Several competing models may be ranked based on their AIC values, and the model with the lowest value is the best model (Anderson, Burnham, & White, 1998). Comparison of AIC values showed that the final corrected model was more desirable. The path diagram in the corrected model is presented in Figure 1, and the indirect effects estimation using bootstrapping is presented in Table 3.

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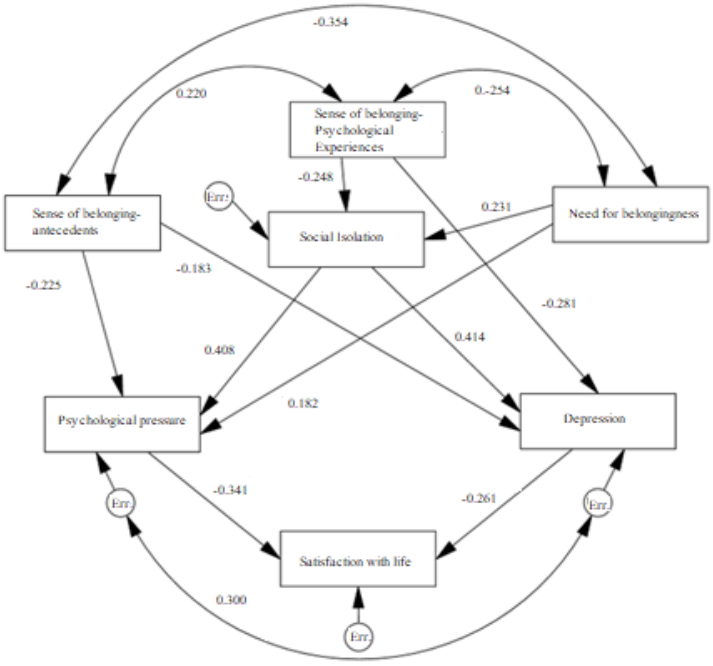

Figure 1. Standardized coefficients of direct effects of the model of predicting the life satisfaction

Table 3. Estimated indirect effects for adjusted model for predicting life satisfaction

Path	b	β	p
Sense of belonging - antecedents to depression to life satisfaction	0.215	0.145	0.001
sense of belonging - antecedents to psychological stress to life satisfaction	0.263	0.177	0.001
Sense of belonging - antecedents to life satisfaction	0.310	0.217	0.001
sense of belonging-psychological experiences to social isolation to depression to life satisfaction	0.054	0.073	0.001
sense of belonging-psychological experiences to social isolation to psychological stress to life	0.055	0.075	0.001
sense of belonging-psychological experiences to depression to life satisfaction	0.156	0.212	0.001
sense of belonging-psychological experiences to life satisfaction	0.130	0.181	0.001
Need for belongingness to social isolation to depression to life satisfaction	-0.076	-0.070	0.001
Need for belongingness to social isolation to psychological pressure to life satisfaction	-0.078	-0.071	0.001
Need for belongingness to psychological pressure to life satisfaction	-0.210	-0.191	0.001
Need for belongingness to life satisfaction	-0.192	-0.181	0.001
Social isolation to depression to life satisfaction	-0.415	-0.238	0.001
Social isolation to mental stress to life satisfaction	-0.540	-0.318	0.001
Social isolation to life satisfaction	-0.424	-0.243	0.001

The results in Table 3 showed that the precursor of belongingness had a direct effect on life satisfaction via depression ($\beta = 0.145$) and psychological pressure ($\beta = 0.177$), with psychological pressure having a greater mediating role. Social isolation did not have a mediating role in this. The psychological antecedents of belongingness had a direct effect on life satisfaction via depression ($\beta = 0.212$). The indirect effect of this variable on life satisfaction was also significant, with a mediating role of social isolation and then depression ($\beta = 0.073$) and psychological pressure ($\beta = 0.075$).

The need for belongingness also had an indirect effect on life satisfaction via psychological pressure ($\beta = 0.191$), and social isolation had a mediating role in the indirect effects of the need for belongingness on

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depression ($\beta = 0.070$) and psychological pressure ($\beta = 0.071$). Finally, social isolation had an indirect effect on life satisfaction via depression ($\beta = 0.238$) and psychological pressure ($\beta = 0.318$). Comparing the effects showed that psychological pressure had a greater mediating role. Comparing the indirect effects of the precursor of belongingness, the psychological antecedents of belongingness, and the need for belongingness on life satisfaction showed that the indirect effect of the precursor of belongingness was greater than that of the other variables.

The amount of variance in life satisfaction explained by the predictor variables was also 0.28, meaning that 28% of the variance in students' life satisfaction was influenced by belongingness, need for belongingness, social isolation, depression and psychological pressure."

4. Conclusion

The present study aimed to investigate the mediating role of social isolation and psychological distress in the relationship between sense of belonging and life satisfaction using a sequential mediation model in a sample of undergraduate students. Based on the theoretical foundations of belongingness (Baumeister & Leary, 1995) and drawing upon the interpersonal connectedness framework (Cox et al., 2020), a conceptual model was proposed and examined using path analysis. The analysis results indicated a good fit of the model with the collected data. Overall, 28% of the variance in students' life satisfaction was explained by the model variables (sense of belonging, need for belonging, social isolation, and psychological distress).

The present study's findings are in line with the belongingness model assumptions (Baumister & Leary, 1995), showing a significant negative relationship between sense of belonging and social isolation. This finding is similar to previous research (Liu, Li, & Kong, 2022; Li et al., 2020). An internal study showed that there is a significant relationship between students' sense of belonging to others and social loneliness (Saeidi et al., 2021). Individuals who do not have a strong sense of belonging mostly experience being overlooked, which can lead to emotional problems such as depression, existential meaningless, social isolation, and even self-harm behaviors (Schlossberg, 1989).

Another finding of this study was that social isolation has a significant positive relationship with psychological distress. This finding is consistent with many previous studies (Brook et al., 2020; Li et al., 2022). Individuals with a pattern of social isolation interpret social events by their expectations of rejection and adopt avoidant-cynical coping strategies when confronted with social challenges, leading to continued social isolation (Hawkley, Browne, & Cacioppo, 2005). This finding is evolvable given that empirical evidence shows that humans have mechanisms to quickly detect social isolation risk. Brain imaging studies have shown that social pain resulting from the feeling of rejection has similar brain activity to physical pain (Watt & Badger, 2009). Since being accepted and seen is crucial for human survival, any feeling of rejection causes pain. Therefore, humans experience resistance and distress even in temporary and time-bound social groups when they lose social ties (MacDonald & Leary, 2005). The results of a study aimed at examining the relationship between social isolation and psychological distress and the prevalence of these variables during the COVID-19 period in a sample of over 7,000 US university students showed that about 65% of the students reported clinical signs of depression, and social isolation. This study showed a significant positive and meaningful relationship between social isolation and psychological distress (Giovenco et al., 2022).

One of the findings of the present research was the confirmation of the mediating role of social isolation in the relationship between the need for belongingness and psychological distress (depression and psychological pressure), which is consistent with previous studies (Hou et al., 2021; Liang et al., 2019). Loneliness occurs when individuals perceive a difference between their expected and actual levels of social support (Tian, 2016). Therefore, students with lower levels of belongingness are more likely to feel lonely and isolated, which leads to experiencing depression and psychological pressure. Another possible explanation for this issue is that satisfying the need for belongingness helps individuals perceive themselves

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as part of the surrounding world and feel less rejected (Duru & Poyrazli, 2011). Individuals with lower levels of social isolation are also more likely to use adaptive and active coping strategies (such as problem-solving) and seek emotional support from their surroundings. In contrast, individuals with higher levels of social isolation are more likely to use passive coping strategies such as avoidance and behavioral disengagement, which are also associated with greater mental health problems (de Mendonça, de Almeida, Garcia, Queiroz Viana, & Maximino, 2022). The results of the present study also showed a significant negative relationship between experiencing psychological pressure and depression and life satisfaction. This finding is consistent with previous studies in the student population and during the coronavirus pandemic (Qamar, Chethiyar, & Equatora, 2021; Rogowska et al., 2021). In line with our findings on psychological distress as a predictive underlying mechanism of life satisfaction, experiencing emotional distress during the COVID-19 pandemic led to a significant decrease in life satisfaction among Vietnamese suspected cases of COVID-19 (Nguyen et al., 2020). A wide range of negative life events and experiences (unexpected and uncontrollable events, including the COVID-19 pandemic) for individuals and especially for students, such as excessive fear and worry of losing loved ones, disease anxiety, challenging transitions from school to university, learning difficulties in online environments, and other psychological pressures, are directly related to the quality of life and can affect students' overall assessment and satisfaction with life (Rogowska et al., 2021).

The main finding of this study was the mediating role of psychological distress in the relationship between social isolation and life satisfaction. This finding is consistent with previous research (Aruta et al., 2022; Hou et al., 2021). According to theoretical foundations and empirical evidence, individuals who experience social rejection and isolation are more susceptible to psychological pressure and anxiety (Brook et al., 2020). Experiencing emotional problems also negatively affects life satisfaction (Qamar et al., 2021). It appears that experiencing psychological distress during the COVID-19 pandemic is an adaptive response to the threat created by this crisis. In this regard, it is explainable why individuals with higher levels of social isolation reported higher levels of psychological pressure and depression and lower levels of life satisfaction (Aruta et al., 2022). Another important explanation is cross-cultural differences. Numerous studies have shown that individuals in collectivistic cultures experienced less psychological concerns and distress during the pandemic than those in individualistic societies (Yap et al., 2021). In collectivistic societies, individuals place a high value on social bonds and a sense of belonging to others, and the need for attachment is also one of their most serious psychological needs. Therefore, being collectivistic in a culture such as the Iranian population can be a protective factor in reducing psychological distress and increasing life satisfaction levels (Gao et al., 2022; Na et al., 2021).

This study has various theoretical and practical applications. The research findings provide strong empirical evidence supporting the belongingness theory (Baumeister & Leary, 1995). Moreover, most of the studies conducted to investigate the factors affecting life satisfaction and the processes leading to psychological distress during the COVID-19 period have focused on Western or East Asian societies (Gao et al., 2022; Na et al., 2021; Yap et al., 2021). From an empirical standpoint, decision-makers and planners in higher education can play an important role in reducing psychological distress and increasing students' mental health by designing large-scale interventions related to the sense of belonging.

This study also has limitations that should be considered for future research. First, although in the current study, feelings of belongingness, the need for belonging, social isolation, and psychological distress were identified as influential factors on life satisfaction, other potential factors in the social and cultural environment at both micro and macro levels (such as economic problems, psychological security, social resilience, social capital, social identity, public trust, etc.) may directly or indirectly affect the life satisfaction of Iranian students. Since studies in Western countries have shown that feelings of isolation are a particular risk for students who are the first in their family to attend university (first-generation students), students who do not live on campus, part-time students, transfer students, older students, and those with poor socioeconomic status (Cooner, 2019), it is recommended that future studies examine the role of these

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factors in the experience of belongingness and social isolation among Iranian students. Second, the participants in this study were a group of undergraduate students at one university. This group can only partially represent the student population at different academic levels nationwide. Therefore, researchers can repeat this study in a larger sample group, in ethnic-cultural contexts with different socio-economic levels and developmental stages. The third limitation relates to examining the relationships between variables in a correlational design, making it difficult to draw definite conclusions about causality. Fourth, the use of questionnaires and self-reporting can be a source of bias. Therefore, conducting qualitative studies and multidimensional evaluations from the perspectives of staff and faculty can enhance this area's theoretical and empirical richness.

Ethical Considerations

All ethical considerations in terms of trust-building and respecting the privacy of participants have been observed.

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Authors' Contributions

All authors have an equal share in the article.

Conflict of Interest

There is no conflict of interest among the authors.

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