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The Relationship Between Self-Esteem and Social and Emotional Loneliness Among Women Aged 20-50 Years in Gonabad, Iran, in the Post-COVID-19 Era (2022)

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ABSTRACT

Aims Self-esteem is among the most critical factors influencing psychosocial stress, rooted in family relationships, academic achievement, body image, social interaction, and self-worth. The significance of these factors varies based on individual differences and personal growth. Considering the importance of self-esteem and feelings of social and emotional loneliness, particularly among women in the post-COVID-19 era, we conducted this study.

Materials & Methods The population of this study included all women aged 20-50 years in Gonabad city, Iran, in the post-COVID-19 period of 2021. A total of 384 women participated in the study. The Rosenberg Self-Esteem Scale and the Adult Social and Emotional Loneliness Scale (SELSA-S) were used to measure self-esteem and feelings of loneliness, respectively. Collected data were analyzed using SPSS software (version 21).

Findings The results revealed a significant negative correlation between self-esteem levels and the degree of social and emotional loneliness (p<0.001). Moreover, a significant correlation was found between a history of COVID-19 infection and self-esteem levels (p=0.003). However, no significant correlation was found between a history of COVID-19 infection and the degree of social and emotional loneliness (p=0.46).

Conclusion According to the findings of this study, the higher the level of self-esteem, the lower the level of social and emotional loneliness.

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Introduction

Rosenberg defines self-esteem as a positive or negative attitude toward oneself [1]. Self-esteem can encompass various dimensions, including social, academic, familial, and physical aspects [2]. Coopersmith posits that self-esteem refers to an individual's evaluation of themselves, which is derived from their self-perception and reflects an attitude of approval or disapproval. It is the extent to which an individual believes in their ability to succeed and in their self-worth. Studies have shown that low self-esteem is associated with various negative consequences such as anxiety, depression, physical and psychological disorders, communication difficulties, and deviant behaviors [3–5]. Individuals with a negative self-concept tend to have lower self-esteem, devalue themselves, and often anticipate negative outcomes, feeling defeated by even minor setbacks [6].

Loneliness is characterized by the absence of a positive and satisfying relationship with others. Sullivan attributes this state to a lack of intimacy, which is a fundamental human need. It is a sense of deprivation from social connections and represents an individual's subjective perception of a lack of or inadequate satisfying social relationships, resulting from the deprivation of basic human needs for intimacy [7]. To better understand the multidimensional nature of loneliness, researchers differentiate between emotional loneliness, stemming from a lack of a close and intimate relationship with another person, and social loneliness,

arising from the absence of a significant social network where one feels like a part of a group with shared interests and activities [8]. Loneliness emerges from deficiencies in an individual's social network, both quantitatively and qualitatively, and from a lack of access to close and satisfying relationships with family and others. It often stems from the perception that existing social relationships fail to meet one's expectations [9].

Humanity faced an unprecedented challenge with the sudden outbreak of the COVID-19 pandemic, which brought about fundamental shifts in social, cultural, educational, political, and economic spheres. The pandemic imposed significant restrictions on social interactions, thereby posing a threat to individuals' mental health [10]. In Iran, containment measures primarily focused on home quarantine, leading to disruptions in daily routines and negative psychological and social reactions [11]. Waller et al. highlighted the reduction in social interactions with colleagues, friends, and family as a significant threat to individual well-being [12].

Given the challenges and disruptions to social and family life caused by the COVID-19 pandemic, and the subsequent emotional consequences, the present study aimed to investigate self-esteem and feelings of social and emotional loneliness among women aged 20-50 in Gonabad city during the post-COVID-19 period in 2021.

Materials and Methods

Participants were conveniently sampled from women aged 20-50 in Gonabad city who were willing to participate and met the inclusion criteria: no history of neurological or psychiatric disorders and no history of psychotropic medication use. A background information checklist (including age, personal history of COVID-19 infection, family history of COVID-19, time since COVID-19 infection, employment status, position, education level, economic outlook, level of exposure, psychiatric history, underlying medical conditions, medication use, marital status, family history of psychiatric disorders, age at marriage, menstrual status, and pregnancy status) and the Rosenberg Self-Esteem Scale (1965), which measures global self-esteem and self-worth, and the Adult Social and Emotional Loneliness Scale (SELSA-S) were administered to the participants in person.

The Rosenberg Self-Esteem Scale consists of 10 general statements that measures overall life satisfaction and positive feelings about oneself. Participants are asked to respond to each statement on a four-point Likert scale ranging from strongly agree to strongly disagree. A total score of 30 is considered the highest possible score. Scores above 25 indicate high self-esteem, scores between 15 and 25 represent moderate self-esteem, and scores below 15 suggest low self-esteem.

Rosenberg Self-Esteem Scale is a 10-item four-point Likert scale measuring both positive and negative feelings about self-indicating global self-worth [13]. Reliability has been confirmed throughout a number of studies across a variety of cultures reporting alpha reliabilities ranging from 0.72 up to 0.90 [14].

• Self-Compassion Scale-Short Form is a12-item five-point Likert scale ranging from 1“almost never” to 5“almost always”. A respondent's total score can range from 12 to 60. Higher scores indicate higher self-compassion. The scale also addresses the subdomains such as Self-Kindness, Self-Judgement, Common Humanity, Isolation, Mindfulness, and Over-identified each item contains two questions and a score range from 1 to 10 [15]. The scale suggested good reliability, with a Cronbach's α coefficient of 0.84 and a test-retest reliability of 0.89 over a 2-week interval [16].

The Adult Social and Emotional Loneliness Scale (SELSA-S)

The SELSA-S consists of 14 items and employs a four-point Likert scale for scoring. The total loneliness score is calculated by summing the scores of all items. Emotional loneliness is calculated by summing the scores related to the romantic loneliness and family loneliness dimensions. Social loneliness is represented by the social loneliness dimension score. Lower scores on each dimension indicate higher levels of loneliness in that particular dimension.

The validity and reliability of the SELSA-S have been examined in previous research by Jokar et al. (2013). The results of correlations between this scale and other measures demonstrated satisfactory convergent and discriminant validity [17].

To determine the sample size, Cochran's formula was used, yielding 384 participants. A non-probability convenience sampling method was employed to complete the sample. After obtaining approval from the Research Council and obtaining ethical approval, participants were assured of the confidentiality of all collected information. A demographic information checklist and questionnaires were completed. The collected data were entered into SPSS software (version 21), and data analysis was conducted using appropriate statistical tests. Descriptive statistics such as frequency and percentage (for categorical variables), mean (standard deviation), and median (for continuous variables) were used. The normality of continuous variables was assessed using the Kolmogorov-Smirnov test. Pearson's correlation test was used to examine the relationship between continuous variables, and a one-way analysis of variance was used to examine the relationship between continuous and categorical variables. A *P*-value of less than 0.05 was considered statistically significant for all tests.

Findings

The mean age of the participants was 33.38 ± 8.41 years. A total of 53.9% of the participants had no history of COVID-19 infection. The prevalence of COVID-19 among family members was 65.4%. The majority (91.4%) of participants resided in urban areas, and 40.6% had a bachelor's degree or higher. Most participants (55.5%) reported a moderate economic status. A majority (76.8%) were married. Of the participants, 92.7% reported no family history of neurological or psychiatric disorders. In terms of menstrual status, 68.8% were not menstruating at the time of the survey, and 93.8% were not pregnant (Table 1).

The results of the study showed a significant negative

correlation between self-esteem levels and the degree of social and emotional loneliness (p<0.001; Table 2). This indicates that individuals with higher levels of self-esteem experienced less social and emotional loneliness. Additionally, a significant correlation was found between a history of COVID-19 infection and self-esteem levels (p=0.003; Table 3). However, no significant correlation was found between a history of COVID-19 infection and the degree of social and emotional loneliness (p=0.46; Table 4).

Table 1. Demographic characteristics of the study participants.

Variable	Category	Frequency	Percentage
Age (years)	Mean ± SD	33.38 ± 8.41	-
COVID-19 History	Had	177	46.1%
	Had not	207	53.9%
Family History of COVID-19	Had	251	65.4%
	Had not	133	34.6%
Residence	Urban	351	91.4%
	Rural	33	8.6%
Education Level	Illiterate	16	4.2%
	Primary	54	14.1%
	Secondary	135	35.2%
	Diploma	23	6.0%
	Bachelor's	149	38.8%
	Master's	5	1.3%
	Ph.D.	2	0.5%
Economic Status	Very good	12	3.1%
	Good	88	22.9%
	Moderate	213	55.5%
	Bad	37	9.6%
	Very bad	34	8.9%
Marital Status	Single	70	18.2%
	Married	295	76.8%
	Divorced	15	3.9%
	Widowed	4	1.0%
Family History of Psychiatric Disorders	Had	28	7.3%
	Had not	356	92.7%
Menstrual Status	Not menstruating	264	68.8%
	Menstruating	88	22.9%
	Menopausal	32	8.3%
Pregnancy Status	Pregnant	24	6.3%
	Not pregnant	360	93.8%

Table 2. Relationship between Self-Esteem Levels and Social and Emotional Loneliness.

Self-Esteem Level	Subscale	N	Mean	SD	F	*P*-value
Low	Romantic Loneliness	39	14.92	3.84	7.92	<0.001
Medium	Romantic Loneliness	264	16.74	3.37		
High	Romantic Loneliness	81	17.53	2.94		
Low	Familial Loneliness	39	16.71	3.40	20.30	<0.001
Medium	Familial Loneliness	264	18.49	4.53		
High	Familial Loneliness	81	19.81	3.42		
Low	Social Loneliness	39	22.19	2.70	22.70	<0.001
Medium	Social Loneliness	264	20.18	3.58		
High	Social Loneliness	81	20.23	2.99		
Low	Emotional Loneliness	39	21.78	2.68	20.19	<0.001
Medium	Emotional Loneliness	264	23.43	1.92		
High	Emotional Loneliness	81	21.97	2.71		

Table 3. Relationship between COVID-19 History and Self-Esteem Levels.

COVID-19 History	Low Self-Esteem (n) (%)	Medium Self-Esteem (n) (%)	High Self-Esteem (n) (%)	*P*-value	df
Had	13 (7.3%)	114 (64.4%)	50 (28.2%)	0.003	2
Had not	26 (12.6%)	150 (72.5%)	31 (15.0%)		

Table 4. Comparison of Loneliness Levels Between Groups with and Without COVID-19 History.

Subscale	Mean ± SD (Had COVID-19)	Mean ± SD (Had Not COVID-19)	t	df	*P*-value
Romantic Loneliness	17.06 ± 3.18	16.42 ± 3.55	1.85	379	0.061
Familial Loneliness	20.58 ± 3.26	19.83 ± 3.81	2.06	382	0.039
Social Loneliness	22.12 ± 2.71	21.85 ± 2.72	1.00	382	0.55
Overall Emotional Loneliness	59.48 ± 7.31	58.10 ± 8.05	1.75	382	0.46

Discussion

The COVID-19 pandemic, which emerged in 2019, had a profound and immediate impact on human health, economic activity, and social interaction. Emerging evidence suggests that this crisis has significantly affected mental health, and social policies such as physical distancing implemented to curb the disease have led to increased anxiety and social isolation [18–20]. This isolation can result in prolonged loneliness and exhaustion, which, if persistent, can cause serious damage to both physical and mental health [18]. While social isolation and loneliness are distinct concepts, both are recognized as predictors of premature death, depression, cardiovascular disease, and cognitive decline. Various estimates suggest that the prevalence of these conditions may range from one-sixth to one-quarter of the population, highlighting the need for more rigorous population monitoring using standardized methods [19].

Research has demonstrated that older adults who demonstrated greater positive adaptation to the pandemic-induced changes [21] and effectively overcame its associated challenges reported reduced social loneliness and stress [22]. Studies examining the impact of protective factors and pandemic-related conditions on predicting feelings of loneliness among Turkish adults during the COVID-19 pandemic found that life satisfaction was the most significant predictor of social loneliness. This finding underscores the importance of life satisfaction on mental health of the older adults, especially in stressful conditions. Additionally, studies have shown that social support acts as a protective factor against loneliness [23] and is negatively correlated with pandemic-related stress [24]. Similarly, high satisfaction with social support networks has been associated with reduced feelings of loneliness and perceived stress [25]. Results from another study comparing loneliness before and after the COVID-19 outbreak showed that the COVID-19 pandemic was associated with increased levels of loneliness. In other words, many participants reported feeling more lonely after the pandemic began compared to before. These studies highlight the negative social impacts of the pandemic, which force individuals to endure longer periods of social distancing and isolation. However, some research has shown that the relationship between the pandemic and loneliness varies among individuals [26, 27].

While several studies suggest that the pandemic exacerbated loneliness across the board, our findings present a more nuanced picture regarding those with a history of infection. Specifically, we found that individuals with a history of COVID-19 reported higher average loneliness scores than those without such a history. Contrary to the study by Koçak et al. (2025), which reported a reduction in emotional family loneliness during the peak of the pandemic, our results indicated that in the post-pandemic period, women who had contracted COVID-19 experienced significantly higher levels of familial loneliness (p=0.039) [28]. This discrepancy may be attributed to the long-term effects of the illness, post-traumatic stress, or shifts in family care dynamics in the months following recovery. Furthermore, while social loneliness did not differ significantly between groups (p=0.55), suggesting that virtual connections might have mitigated broader social isolation, the specific strain on familial bonds remains evident. This lack of significance in other dimensions can also be interpreted as follows: considering the high baseline level of social loneliness among women in this age group (Mean = 58.1 ± 8.05 out of 90), it is possible that the county's extensive social networks, maintained even during restrictions through virtual means, prevented further exacerbation of general social isolation, yet failed to protect against the intimate erosion of familial well-being observed here.

The findings indicated that individuals who reported no contact with anyone infected or suspected of having COVID-19 exhibited lower levels of psychological flourishing, reflecting lower levels of positive psychological functioning and well-being. Additionally, awareness of the hospitalization or death of loved ones due to COVID-19 was not significantly associated with levels of flourishing. Individuals whose families or themselves had no experience of COVID-19 might perceive preventive measures as less important or meaningless. A possible interpretation for these findings could be derived from terror management theory [29] which explains conscious (near defenses) and unconscious (distant defenses) defenses against anxiety arising from the fear of death. According to this theory [30, 31], higher levels of flourishing in individuals with families who experienced COVID-19 symptoms might be due to distant defenses that reduce unconscious concerns about mortality through finding meaning in life, improving relationships, optimism, and increased self-esteem [32]. In addition, a significant and strong correlation between loneliness and psychological symptoms was only observed among participants with higher cognitive levels, and Turkish elderly individuals who felt lonely also reported a lower quality of life [33]. Cohabiting with family may increase concerns about the health of loved ones and greater fear of contracting infectious diseases [25]. Research has shown that increased self-efficacy is associated with reduced social isolation and loneliness. Additionally, interventions to reduce loneliness are more effective when, in addition to providing suggestions for social activities, they emphasize factors that contribute to chronic loneliness such as low self-esteem and negative evaluations of relationships. Studies have shown

that befriending programs, individual and group therapies, shared activities, and social prescribing by healthcare professionals, as well as the use of new information and communication technologies, can effectively reduce loneliness and social isolation.

The present study also examined the relationship between self-esteem and a history of COVID-19. Contrary to the findings by Kupcewicz et al. (2024), who reported a decline in self-esteem during the pandemic, the present results indicate that self-esteem levels among women with a history of COVID-19 were higher or comparable to those in the control group in the post-COVID period ($p = 0.003$). Specifically, a greater proportion of women with a prior infection reported high self-esteem (28.2%) compared to those without such a history (15.0%) [34]. This discrepancy may suggest a process of 'post-traumatic growth' or successful adaptation among survivors, rather than a detrimental impact on their self-worth. The resilience displayed by these women might reflect an adaptive mechanism where overcoming the threat of illness has reinforced their sense of self-value.

Furthermore, the relationship between self-esteem and social loneliness was investigated. The results showed a significant negative correlation between self-esteem levels and the degree of social and emotional loneliness ($p < 0.001$), indicating that higher levels of self-esteem were associated with lower levels of loneliness. Previous studies have reported that older adults with low self-esteem experience higher levels of loneliness, not only in the general population [35, 36] but also among visually impaired elderly individuals [36]. Additionally, other research has shown that loneliness can lead to decreased self-esteem, and older adults who feel lonely experience lower self-worth. Orth et al. have also confirmed that self-esteem has small to moderate effects on various life outcomes, including relationships and job satisfaction [37]. In other studies, self-esteem has been identified as a crucial cognitive factor in life satisfaction and has been examined as a key aspect of mental health in a sample of older adults [38]. Lyng et al. not only found a moderate relationship between self-esteem and life satisfaction but also predicted that life satisfaction could be influenced by self-esteem. An individual's self-perception and evaluations of their thoughts and feelings may influence increased life satisfaction in older adults with high levels of loneliness [39].

Consistent with previous research that reported a positive correlation between self-esteem and well-being [40, 41], our study also found that higher self-esteem was associated with decreased feelings of social loneliness. Higher self-esteem may contribute to increased positive coping mechanisms [42] and improved well-being [41]. Conversely, low self-esteem may lead to a more negative perception of the pandemic and reduced social interactions during this time [43]. Another study conducted on students showed that students, especially women, experienced higher levels of depression during the pandemic [44]. Furthermore, another study examining differences in mental health before and during the pandemic revealed that while mental health indicators decreased in the early stages of quarantine measures, the changes were not significantly different from previous periods [45].

Numerous studies have indicated that factors such as youth, inadequate education levels, being female, and having children have been associated with increased psychological disorders during the COVID-19 pandemic [46]. Such findings emphasize the importance of social and cultural factors in health and suggest that we need to shift our perspective, viewing COVID-19 as a syndrome rather than a pandemic [47]. This new perspective can help us better understand the interaction between social and biological factors and more effectively address its psychological consequences [32].

Limitations

Several limitations should be considered when interpreting these results. First, the use of a convenience sampling method limits the generalizability of the findings to the broader population of women in Iran. Second, the cross-sectional design prevents us from drawing causal conclusions about the relationship between self-esteem and loneliness. Third, the reliance on self-reported measures may introduce response bias. Future longitudinal studies are needed to track changes in self-esteem and loneliness over time and to explore the underlying mechanisms linking pandemic experiences to mental health outcomes.

Conclusion

In conclusion, this study highlights the protective role of self-esteem against social and emotional loneliness among women in the post-COVID-19 era. A history of COVID-19 infection was associated with higher self-esteem, potentially reflecting post-traumatic growth. These findings suggest that interventions aimed at improving self-esteem could effectively reduce loneliness. Future research should employ longitudinal designs and diverse sampling methods to further elucidate these relationships.

Ethical Considerations

This study (Code: IR.GMU.REC.1401.164) was approved by the Research Ethics Committee of Gonabad University of Medical Sciences.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Conflict of Interest

The authors declared that there were no conflicts of interest to report.

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Authors' Contributions

Conceptualization And Supervision: Mitra Tavakolizadeh, Akram Bakhtiari shahri; Investigation, writing Mitra Tavakolizadeh, Akram Bakhtiari shahri, Farnaz Sharifi mood. original draft, writing – review & editing: All authors; Data collection: Mitra Tavakolizadeh, Mahin Tavakolizadeh; Data analysis: Mitra Tavakolizadeh; Manuscript review: All authors.

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