



Research Paper

The Mediating Role of Parental Self-efficacy in the Relationship Between Social Loneliness and Family Quality of Life Among Mothers of Children With Autism



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ABSTRACT

Background: Autism spectrum disorder (ASD) exerts significant impacts on family life. Elevated levels of anxiety, stress, isolation, and uncertainty among parents and family members of children with ASD are common consequences.

Objectives: This study aimed to examine the mediating role of parental self-efficacy in the relationship between social loneliness and family quality of life (QoL) among mothers of children with ASD in Mashhad, Iran.

Materials & Methods: This cross-sectional study employed structural equation modeling. The population consisted of all mothers with children aged 4 to 12 years with ASD in Mashhad in 2023. A convenience sample of 372 mothers was selected from rehabilitation, educational, and therapeutic centers for autism in the city. Data were collected using the family QoL scale, the UCLA loneliness scale (ULS), and the parenting self-agency measure (PSAM) scale. Pearson correlation and structural equation modeling were conducted using SPSS and AMOS software, version 24.

Results: Results indicated significant correlations between social loneliness and family QoL ($r=-0.53$, $P<0.001$), social loneliness and parental self-efficacy ($r=-0.60$, $P<0.001$), and parental self-efficacy and family QoL ($r=0.48$, $P<0.001$) among mothers of children with ASD. The relationship between social loneliness and family QoL was significantly mediated by parental self-efficacy ($P<0.001$).

Conclusion: The findings suggest that parental self-efficacy plays a crucial role in mitigating the negative impact of social loneliness on family QoL among mothers of children with ASD. The results underscore the importance of considering both social loneliness and parental self-efficacy when designing interventions to support families of children with ASD.

Keywords:

Quality of life (QoL), Loneliness, Self-efficacy, Autism, Women

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Introduction

Autism spectrum disorder (ASD) is characterized by delayed or abnormal functioning in one or more areas of social interaction, often leading to a disconnection from the external world and disrupting learning and social interaction processes [1]. ASD encompasses impairments in social communication and the presence of restricted, repetitive patterns of behavior, covering a wide range of severe disturbances in how individuals interact and communicate with each other, as well as specific patterns of interaction and activity [2]. ASD is defined by persistent deficits in social communication and social interaction across multiple contexts, the presence of restricted, repetitive patterns of behavior, interests, or activities, and the onset of symptoms in early developmental periods, with differential diagnoses ruled out [3]. The prevalence of ASD in the United States is estimated to be between 1% and 2% in both child and adult samples, with a 3 to 4 times higher prevalence in boys than girls [4]. While the diagnostic criteria for ASD can persist throughout life, they can improve to varying degrees depending on their severity and the receipt of appropriate and timely support [5]. Parents, primarily mothers, bear the responsibility of providing care, therapy, and rehabilitation for a child who is not yet independent, often experiencing denial, confusion, anger, and depression upon the diagnosis of ASD [6, 7].

ASD has a profound impact on family life. Elevated levels of anxiety, stress, isolation, and uncertainty among parents and family members of children with ASD are common consequences [8]. Therefore, family quality of life (QoL) becomes a crucial aspect in such circumstances. Studies have shown that families, particularly mothers of children with ASD, experience more anxiety and worry compared to those with other chronic conditions, significantly affecting their QoL [9]. Since QoL is a multifaceted and subjective concept [10], Brown and Brown [11] define family QoL as a condition in which family needs are met, members feel satisfied with their lives together, and they can effectively carry out important activities. In families with a child with ASD, factors such as the challenges posed by the child's symptoms, the need for specialized care, social isolation, and future concerns expose families to a decreased QoL [12].

Social loneliness in mothers of children with autism is a significant issue. This loneliness may arise due to reduced social and support opportunities, or due to societal stigmatization and misunderstandings about autism [13]. It can negatively impact the mother's mood and mental

health, subsequently affecting the overall quality of family life. Feeling lonely is a distressing mental phenomenon that makes individuals experience feelings of emptiness, sadness, and detachment, and it affects social interactions, lifestyle, and health in various ways [14]. Although feeling lonely is an unpleasant emotional experience, it also emphasizes a cognitive element. This means that feelings of loneliness arise from the perception that one's social connections fail to meet certain expectations [15]. Findings indicate that parents of children with ASD often experience increased loneliness [16, 17]. In fact, many mothers of children with neurodevelopmental disabilities report feelings of exhaustion, lack of interest in social activities, withdrawal from friends and acquaintances, and frequent feelings of loneliness [18]. In this regard, a study by Ghiyasi and Dabiri [15] showed a significant negative correlation between mothers' feelings of loneliness and family QoL.

Social loneliness in mothers can significantly impact parental self-efficacy. Parental self-efficacy refers to parents' confidence in their ability to manage parenting responsibilities and cope with challenges [19]. The guilt associated with having a child with a disability creates additional stress and pressure within the family dynamic, especially for mothers, as they typically bear the primary responsibility for the child's care. Consequently, they often grapple with feelings of incompetence and inadequacy [20]. Parental self-efficacy is a crucial cognitive construct related to parenting performance. It refers to parents' evaluation of their ability to fulfill their parenting role [21]. Studies conducted on parents of children with ASD have shown that they experience lower levels of self-efficacy compared to parents of typically developing children [22, 23]. Self-efficacy beliefs influence cognitive, motivational, emotional, and decision-making processes, which also play a role in QoL and human functioning. Individuals with high levels of perceived self-efficacy are more likely to respond to problems and challenges with greater confidence and perceive events as external conditions that can be overcome [24]. In line with this, a study by Oktaviani and Allenidekania [25] demonstrated a significant positive correlation between mothers' parental self-efficacy and family QoL.

Given the importance and essential role of mothers in family and societal progress, and considering the various problems and issues faced by mothers of children with ASD in the family and social environment, the need for planning to address their problems is felt. Therefore, in light of the aforementioned information and studies, the present study aimed to examine the mediating role of parental self-efficacy in the relationship between social loneliness and family QoL in mothers of children with ASD.

Materials and Methods

A cross-sectional correlational design was utilized to investigate the associations among study variables through structural equation modeling. Participants comprised mothers of children aged 4-12 years with ASD, recruited via convenience sampling from autism-related centers in Mashhad, Iran, during 2023. Considering the study's complexity and potential data attrition, a target sample size of 400 mothers was established. After data cleaning and outlier exclusion, the final sample consisted of 372 mothers (178 with daughters, 194 with sons). Each mother completed the beach center family QoL scale (25 items), the UCLA loneliness scale (ULS) (20 items), and the parenting self-agency measure (PSAM) (10 items). Inclusion criteria mandated a confirmed ASD diagnosis based on medical records and psychological evaluation, maternal cohabitation with the child, absence of comorbid conditions, and no recent psychological intervention or psychotropic medication use. Participants withdrawing or providing incomplete data were excluded. The questionnaires were administered to participants at autism rehabilitation, educational, and therapeutic centers in Mashhad. Participants were given 60 minutes to complete the questionnaires, and the researcher provided the necessary instructions.

Research instrument

The beach center family QoL scale (FQoL)

The FQoL is a self-report measure comprising 25 items that assess five domains: family interactions, parenting practices, emotional well-being, physical health, and family support for the disabled member. Respondents rate items on a 5-point Likert scale from "very dissatisfied" to "very satisfied." Total scores, ranging from 25 to 125, reflect overall family QoL. Lower scores indicate poorer QoL, while higher scores signify greater life satisfaction [26]. Adapted into Persian by Rajabi et al. [27], the scale demonstrated robust internal consistency (Cronbach's $\alpha=0.93$) in the Iranian context.

The ULS

Loneliness was assessed using the 20-item ULS, a self-report measure with a 4-point Likert response format ranging from "never" to "always." [28]. The ULS yields scores ranging from 20 to 80, with higher scores indicative of greater perceived loneliness. Previous research has established the ULS's reliability (Cronbach's $\alpha=0.89$) [29], which was replicated in the present study.

The PSAM

The PSAM is a 10-item self-report scale designed to evaluate parental self-efficacy [30]. Items are rated on a 7-point Likert scale from "rarely" to "always" to assess parental efficacy, frustration management, conflict resolution, and parenting resilience. Total scores range from 10 to 70, with higher scores indicating greater parental self-efficacy. Previous research has demonstrated acceptable reliability of the PSAM (Cronbach's $\alpha=0.70$) [31].

Statistical analyses

Descriptive statistics, including Mean \pm SD, were calculated to summarize the data. Inferential analyses were conducted using Pearson correlation and structural equation modeling. Manifest (observed) variables included measures of social loneliness, family QoL, and parental self-efficacy. Latent (construct) variables were created to represent these constructs. Family QoL and parental self-efficacy were the endogenous (dependent) variables, while social loneliness was the exogenous (independent) variable. Data were analyzed using SPSS software, version 24 and AMOS software, version 24. Model goodness-of-fit was assessed using the following criteria: Tucker-Lewis index (TLI), comparative fit index (CFI), relative fit index (RFI), normed fit index (NFI), and root mean square error of approximation (RMSEA). A value close to 1.0 for TLI, CFI, RFI, and NFI, and a value below 0.05 for RMSEA, indicate a good model fit.

Results

The sample comprised 372 mothers of children with autism, with a Mean \pm SD age of 37.21 \pm 4.19 years. Descriptive statistics and correlational analyses were conducted. As shown in Table 1, the mean social loneliness score was 29.30 \pm 7.69, the mean parental self-efficacy score was 40.01 \pm 9.02, and the mean family QoL score was 75.33 \pm 9.81. Mothers reported significantly elevated levels of social loneliness, as indicated by a mean percentage of 43.50%, suggesting a substantial deviation from the maximum attainable score. While parental self-efficacy was moderate, with a mean percentage of 53.35%, mothers exhibited relatively moderate levels of family QoL, averaging 50.45%. These findings underscore the prevalence of social loneliness among mothers of children with autism and its potential negative impact on both parental self-efficacy and family QoL. Social loneliness was negatively correlated with both family QoL ($r=-0.60$, $P<0.01$) and parental self-efficacy ($r=-0.53$, $P<0.01$). Conversely, a positive correlation emerged between parental self-efficacy and family QoL ($r=0.48$, $P<0.01$).

Table 1. Mean \pm SD and Pearson correlation coefficients of the study variables

Variables	Mean \pm SD	Mean (%)	1	2	3
Social loneliness	29.30 \pm 7.69	15.5	1		
Parental self-efficacy	40.01 \pm 9.02	50	-0.60**	1	
Family QoL	75.33 \pm 9.81	50	-0.53**	0.48**	1

**P<0.01.



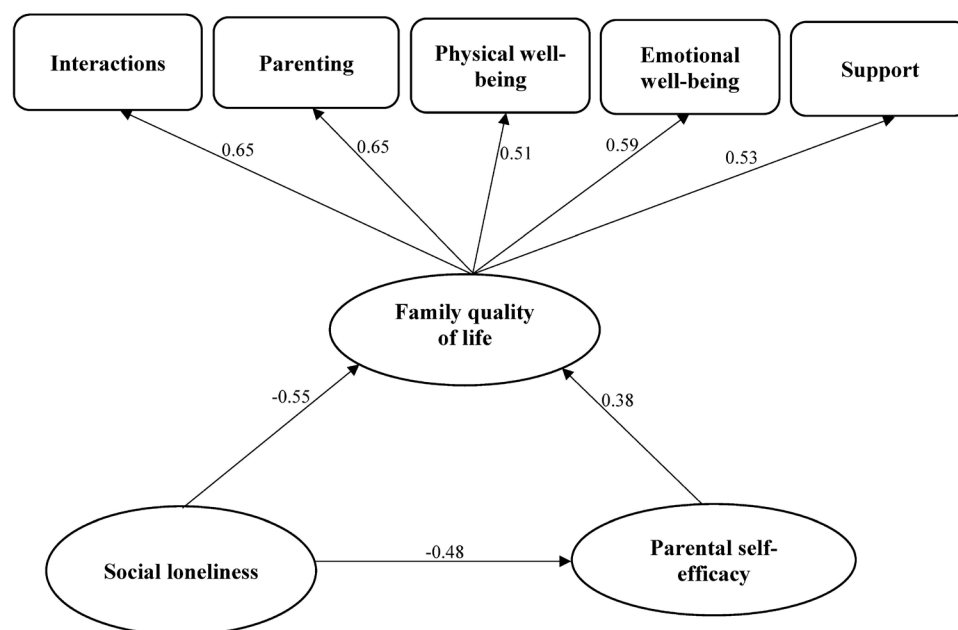
Model fit was assessed using the RMSEA, which yielded a value of 0.025, indicating a good model fit (Table 2). The hypothesized relationships among social loneliness, family QoL, and parental self-efficacy are depicted in Figure 1.

The results of the path analysis indicated significant inverse effect of social loneliness on both family QoL ($\beta=-0.55$, $P<0.001$) and parental self-efficacy ($\beta=-0.48$, $P<0.001$), suggesting that higher levels of social loneliness were associated with lower levels of family QoL and parental self-efficacy. Additionally, parental self-efficacy had a significant direct effect on family QoL ($\beta=0.38$, $P<0.001$), indicating that higher levels of parental self-efficacy were associated with higher levels of family QoL. The indirect effect of social loneliness on family QoL through parental self-efficacy was also significant ($\beta=-0.05$, $P<0.001$), suggesting that social loneliness indirectly influenced family QoL through its

impact on parental self-efficacy. The overall model explained 43.7% of the variance in family QoL ($R^2=0.437$). This indicates that the model was a good fit for the data and that the variables included in the model accounted for a substantial portion of the variability in family QoL.

Discussion

The present study investigated the mediating influence of parental self-efficacy on the association between social loneliness and family QoL among mothers of children with ASD. The first finding revealed a significant negative correlation between social loneliness and family QoL. This finding is consistent with the results of Ghiyasi and Dabiri's study [15], which demonstrated a significant negative correlation between mothers' feelings of loneliness and family QoL. To explain this finding, research suggests that social loneliness in mothers of children with ASD has a significant impact on fam-

**Figure 1.** Mediating role of parental self-efficacy on the relationship between social loneliness and family QoL

Notes: Circles represent latent constructs and squares represent manifest variables.

Table 2. Model fit indices of the research

Fit Indicators	χ^2	df	(χ^2/df)	TLI	CFI	RFI	NFI	RMSEA
Values	13.64	11	1.24	0.99	0.99	0.96	0.98	0.025

**Table 3.** Path coefficients of direct and indirect relationships between variables in the research model

Path	β	P
Social loneliness → family QoL	-0.55	0.001
Social loneliness → parental self-efficacy	-0.48	0.001
Parental self-efficacy → family QoL	0.38	0.001
Social loneliness → family QoL the mediating role of parental self-efficacy	-0.05	0.001



ily QoL [2]. Mothers of these children may feel lonely and isolated due to the unique challenges they face in caring for and raising their children. This loneliness can harm several aspects of family QoL. Social loneliness can lead to increased anxiety and depression in mothers [14]. These psychological problems not only affect the mothers themselves but also impact the entire family. When a mother is in a poor emotional state, she may not be able to care for her child properly, thereby harming the family's QoL.

Mothers experiencing social loneliness may benefit from reduced social support [15]. This lack of support can lead to feelings of inadequacy and hopelessness. Without a suitable support network, mothers may be unable to cope effectively with the daily challenges of life. Social loneliness among mothers can lead to a decrease in the quality of relationships between family members. When a mother is grappling with negative emotions, her interactions with her spouse and children may be affected. This can lead to tension and family conflict [17]. Mothers experiencing social loneliness may have difficulty performing daily activities, such as participating in social activities or even daily tasks. This issue can significantly impact the overall quality of family life. Feelings of loneliness can increase the emotional burden on mothers. This emotional burden can directly impact family QoL and lead to fatigue and an inability to perform tasks.

Another finding revealed a significant negative correlation between social loneliness and parental self-efficacy. This implies that social loneliness has a significant negative relationship with parental self-efficacy. This finding

is consistent with the results of the study conducted by Farhadpour et al. [32]. To explain this finding, it can be said that ASD is associated with numerous challenges that can have profound effects on families, especially mothers. The social loneliness of mothers with autistic children can have a significant impact on their parental self-efficacy [23]. This relationship can be examined for several reasons. Mothers who experience social loneliness may feel that they have less support when facing the challenges of raising an autistic child. This feeling of isolation can lead to decreased self-confidence and parental self-efficacy, as mothers may doubt their ability to manage their child's specific needs. Social loneliness can lead to psychological problems such as anxiety and depression. These psychological problems, in turn, can negatively impact parental self-efficacy. Mothers who are in a poor psychological state are likely to feel more incapable of fulfilling their parental role [32]. Mothers who feel lonely may naturally experience physical and emotional exhaustion. This fatigue can lead to a decrease in motivation to learn and use parenting skills, and consequently reduce their self-efficacy.

Furthermore, results indicated a significant positive correlation between parental self-efficacy and family QoL. This signifies that parental self-efficacy has a significant positive relationship with family QoL. This finding aligns with the results of Oktaviani and Allenidekania's study [25], which demonstrated a significant positive correlation between mothers' parental self-efficacy and family QoL. To explain this finding, it can be stated that parental self-efficacy refers to parents' ability and confidence in managing challenges and tasks related to child-rearing. In the case of mothers with autis-



tic children, this concept becomes particularly important and can directly impact family QoL [1]. Mothers with high self-efficacy feel more empowered to manage the needs of their autistic child. This sense of control can improve their psychological state and consequently enhance family QoL. High self-efficacy enables mothers to view daily challenges with a more positive outlook. This positive attitude can contribute to creating a supportive and constructive family environment and enhance QoL [22]. Mothers who are confident in their abilities are more likely to participate in social and group activities. This participation can reduce feelings of loneliness and improve social and family relationships. Parental self-efficacy can strengthen relationships between family members. Mothers who feel empowered and capable in raising their children may have better interactions with their spouses and other family members. Mothers with high self-efficacy usually have a greater ability to provide emotional support to their children and spouses. This emotional support can improve the overall quality of family life [25].

Additionally, results indicated that the relationship between social loneliness and family QoL was significant when mediated by parental self-efficacy. Regarding this finding, no similar research was available to the researcher to compare the consistency or inconsistency of the result with previous studies. The first finding showed that social loneliness had a significant relationship with family QoL. Moreover, the higher the level of social loneliness in mothers, the lower the family QoL. On the other hand, in the indirect path, the results showed that the presence of social loneliness in mothers led to a decrease in parental self-efficacy in mothers and, through this, also led to a decrease in family QoL and adaptation. Therefore, it can be concluded that parental self-efficacy has successfully played the role of a mediating variable in the relationship between social loneliness and family QoL. Overall, families of children with ASD experience more stress compared to families of children without neurodevelopmental disorders. For example, research shows that mothers of children with ASD experience higher levels of stress and depression [8, 18]. This stress can be due to the child's special care needs, future concerns, and financial and social challenges associated with autism.

Mothers of children with autism in the present study reported some levels of social loneliness. This finding aligns with previous research highlighting the unique challenges faced by caregivers of children with disabilities [33, 34]. Several factors may contribute to this increased loneliness. First, raising a child with autism

often involves significant physical, emotional, and financial burdens, which can lead to feelings of isolation and reduced social interactions. Second, limited social support, both from family and friends, can exacerbate feelings of loneliness, as mothers may struggle to find individuals who can truly understand their experiences. Finally, the stigma associated with autism can contribute to feelings of isolation and shame, as mothers may fear judgment or rejection from others.

The generalizability of the findings is constrained by the sample's exclusivity to mothers of children with ASD residing in Mashhad. Consequently, caution is warranted when extrapolating results to other mothers of children with ASD or those caring for children with different disorders in other geographic locations. Moreover, the reliance on self-reported data presents a methodological limitation, as social desirability bias may have influenced participants' responses, potentially compromising data accuracy.

Conclusion

The findings of this study underscore the complex interplay between social loneliness, parental self-efficacy, and family QoL among mothers of children with ASD. Results demonstrate significant positive associations between parental self-efficacy and family QoL, suggesting that mothers who possess a strong sense of competence in parenting are more likely to report higher levels of family well-being. Moreover, the study revealed a significant negative correlation between social loneliness and both parental self-efficacy and family QoL, indicating that increased social isolation is associated with lower levels of parental confidence and poorer family outcomes. Crucially, the mediating role of parental self-efficacy in the relationship between social loneliness and family QoL was confirmed, highlighting the importance of this construct in understanding and addressing the challenges faced by mothers of children with ASD. These findings contribute to the growing body of literature emphasizing the need for interventions that target both social support and parental empowerment to enhance the overall well-being of families affected by autism.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Review Board of [Ahvaz Branch, Islamic Azad University](#) (Code: IR.IAU.AHVZ.REC.1403.030).

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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