Journal Website

Article history:
Received 14 July 2026
Revised 08 October 2026
Accepted 03 November 2026
Initial Publication 18 November 2026
Final Publication 01 December 2026

Psychological Research in Individuals with Exceptional Needs

Volume 4, Issue 4, pp 1-15

E-ISSN: 3060-6713

Comparison of Attitudes Toward Disability, Resilience, and Sleep Quality Among Mothers of Children with High-Functioning Autism and Mothers of Children with Mild Intellectual Developmental Disabilities

Minoo. Shiri Varnamkhasti[1*]

[1] Department of Exceptional Children, CT.C., Islamic Azad University, Tehran, Iran

*** Corresponding author email address**: Farhad.tyam71@gmail.com

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Shiri Varnamkhasti, M. (2026). Comparison of Attitudes Toward Disability, Resilience, and Sleep Quality Among Mothers of Children with High-Functioning Autism and Mothers of Children with Mild Intellectual Developmental Disabilities. *Psychological Research in Individuals with Exceptional Needs*, *4*(4), 1-15.
https://doi.org/10.61838/kman.prien.6674

© 2026 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

A B S T R A C T

This study aimed to compare attitudes toward disability, resilience, and sleep quality among mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities. This applied, quantitative, causal-comparative, and cross-sectional study was conducted among 60 mothers residing in District 13 of Tehran, Iran, including 30 mothers of children with high-functioning autism spectrum disorder and 30 mothers of children with mild intellectual developmental disabilities. Participants were selected through convenience and purposive sampling based on predefined inclusion and exclusion criteria and documented clinical diagnoses of their children. Data were collected using the Attitude Toward Disability Questionnaire, the Connor–Davidson Resilience Scale, and the Pittsburgh Sleep Quality Index. Statistical analyses were performed using SPSS version 27. Assumptions of parametric analysis were examined before inferential testing. Group differences were assessed using multivariate analysis of variance and follow-up univariate analyses of variance, with the significance level set at .05. The overall multivariate effect of group was statistically significant, Pillai's Trace = .322, $F(7, 52) = 3.53$, $p = .004$, partial $\eta^2 = .322$. Follow-up analyses showed a significant difference only in the affection and acceptance component of attitudes toward disability, $F(1, 58) = 15.22$, $p = .001$, partial $\eta^2 = .208$, with mothers of children with high-functioning autism obtaining higher scores. No significant group differences were found for embarrassment, frustration, disappointment, overprotection, total resilience, or sleep quality ($p > .05$). The multivariate comparison of resilience dimensions was also nonsignificant, Pillai's Trace = .107, $F(5, 54) = 1.30$, $p = .279$. Mothers of children with high-functioning autism and mothers of children with mild intellectual developmental disabilities showed broadly similar levels of resilience and sleep quality, while differing mainly in affection and acceptance toward disability.

Keywords: *Autism Spectrum Disorder; Intellectual Developmental Disability; Attitudes Toward Disability; Resilience; Sleep Quality; Mothers*

1. Introduction

Raising a child with a developmental disability is a complex and multidimensional experience that may substantially influence the psychological, interpersonal, behavioral, and health-related functioning of family members, particularly mothers who frequently assume the primary caregiving role. Developmental disabilities are associated not only with limitations in the child's cognitive, social, communicative, adaptive, or motor functioning but also with enduring demands on family resources, caregiving routines, educational decision-making, and parental adjustment. Contemporary approaches to disability increasingly emphasize that functioning is shaped by the interaction between individual characteristics and environmental, familial, educational, and social conditions rather than by impairment alone. Accordingly, psychological adaptation among parents may be influenced by their perceptions of the child's disability, the level of social participation and support available to the family, their coping resources, and their ability to maintain personal well-being despite ongoing caregiving demands. Studies concerning empowerment and community-based rehabilitation have emphasized the importance of strengthening the social and functional capacities of individuals with disabilities and their families, while research on social participation has similarly indicated that greater inclusion may contribute to improved psychosocial outcomes among people with disabilities (Amirizad & Jamaldini, 2024; Barani & Jamaldini, 2024). The importance of psychological and social resources is also evident in research showing that interventions targeting social skills, quality of life, self-regulation, and adaptive functioning can improve outcomes in populations affected by physical or developmental disabilities (Aghayar & Kordmirza Nikouzadeh, 2024; Farsi & Barghi Irani, 2024; Saleh & Ghamari Kivi, 2024). These findings support the broader view that adjustment to disability involves both the individual with the disability and the family system in which care and development occur.

Among developmental conditions, autism spectrum disorder and intellectual developmental disability represent two major groups that differ in their clinical manifestations while simultaneously creating substantial and often prolonged caregiving requirements. Autism spectrum disorder is characterized by persistent difficulties in social communication and social interaction together with restricted, repetitive patterns of behavior, interests, or activities, although the severity and functional consequences of these characteristics vary widely. Within the autism spectrum, children described as having relatively high functional abilities may possess adequate language or intellectual skills while continuing to experience significant challenges in social cognition, behavioral flexibility, communication, emotional understanding, and everyday adaptation. Research has demonstrated meaningful heterogeneity between children with high- and low-functioning autism in such domains as social abilities, aggression, and time perception, highlighting the importance of considering functional level rather than conceptualizing autism as a homogeneous condition (Mardi Sarand & Etesamipour, 2024). Studies of children with high-functioning autism have also focused on improving self-directed learning, academic achievement, social cognition, motor skills, and attention, indicating that these children may demonstrate substantial developmental potential while still requiring specialized and sustained support (Mazrouei & Rezaei Dehnavi, 2024; Nikjou et al., 2024; Rahmati et al., 2024). Moreover, family-related research has increasingly recognized that autism may be embedded within broader familial characteristics. Evidence concerning the broader autism phenotype suggests that some parents of autistic children may themselves display subclinical autistic traits, potentially affecting parent–child interaction, stress appraisal, and adaptation to caregiving demands (Narzisi et al., 2025). Research examining family-related correlates of autism has likewise demonstrated the importance of investigating contextual and familial variables rather than focusing exclusively on the diagnosed child (Dehghan Manshadi et al., 2025).

Mild intellectual developmental disability constitutes a different developmental profile, primarily involving limitations in intellectual functioning and adaptive behavior that emerge during the developmental period. Children with mild intellectual developmental disabilities may acquire considerable independence and educational competence when adequate support is provided, but they often require additional assistance with learning, social judgment, adaptive functioning, problem solving, and everyday decision-making. Educational and rehabilitative interventions can therefore play a substantial role in maximizing their developmental capacities. For example, group game-based educational interventions have been shown to target theory of mind and self-esteem in children with mild intellectual disability, while physical activity interventions have been examined as means of enhancing

E-ISSN: 3060-6713

motor performance and quality of life in adolescents with mild intellectual disability (Beyaz et al., 2024; Tayebli & Jalali, 2024). More broadly, studies involving individuals with disabilities have emphasized the significance of parenting, self-efficacy, and self-regulation in academic achievement and adaptive outcomes (Ghadertalab et al., 2024). Research addressing motor, perceptual, and cognitive functioning among children with disabilities also highlights the diversity of developmental needs across diagnostic groups and the necessity of interventions tailored to specific functional limitations (Jalili & Pourafrooz, 2025; Karimi Pashaki et al., 2024). Consequently, although both autism spectrum disorder and mild intellectual developmental disability may require intensive family involvement, the nature of the child's difficulties, developmental trajectory, social expectations, and perceived prognosis may differ considerably, potentially giving rise to distinct maternal psychological experiences.

One important dimension of maternal adaptation is attitude toward disability. Parental attitudes encompass cognitive beliefs, emotional reactions, expectations, acceptance, perceived stigma, frustration, disappointment, protective tendencies, and behavioral responses toward the child and the child's disability. Such attitudes are particularly important because they may influence the quality of parent–child interaction, parental involvement in rehabilitation, expectations regarding independence, and the extent to which the child is encouraged to participate socially and educationally. Positive attitudes characterized by acceptance and affection may support adaptive parenting and greater engagement with intervention, whereas feelings of embarrassment, hopelessness, frustration, or excessive protection may limit opportunities for autonomy or increase emotional strain within the family. Research on parents of children with disabilities suggests that psychological interventions can meaningfully improve parental social adjustment and mental health, indicating that parental responses to disability are modifiable rather than fixed (Namdari Khalilabadi & Saeidmanesh, 2024). Similarly, interventions designed to improve marital satisfaction, happiness, and life expectancy among mothers of children with intellectual disabilities demonstrate that the emotional consequences of caregiving extend across multiple dimensions of family functioning (Jahan Pourshirvan & Naderi, 2024). These findings are relevant because attitudes toward disability are likely to be embedded within broader emotional, relational, and social processes rather than representing isolated beliefs about the child's diagnosis.

The nature of the child's disability may also shape maternal attitudes in different ways. Mothers of children with high-functioning autism may encounter a distinctive tension between the child's relatively preserved cognitive or verbal abilities and persistent difficulties in reciprocal social communication, behavioral regulation, sensory processing, and social adaptation. Because the disability may not always be immediately visible to others, mothers may face misunderstanding of the child's behavior, unrealistic expectations from the social environment, or pressure to explain difficulties that are not readily apparent. At the same time, relatively high functional ability may support greater parental expectations for academic progress and independence. In contrast, mothers of children with mild intellectual developmental disabilities may confront more explicit concerns regarding intellectual limitations, educational progression, social stigma, vocational prospects, and long-term independence. Such differences may affect levels of parental acceptance, disappointment, overprotection, and emotional response. Research on empowerment, social participation, and educational adaptation among persons with disabilities reinforces the importance of social context and perceived competence in shaping disability-related experiences (Amirizad & Jamaldini, 2024; Barani & Jamaldini, 2024; Ghadertalab et al., 2024). It is therefore plausible that maternal attitudes toward disability vary according to the child's developmental diagnosis even when both conditions involve long-term caregiving responsibilities.

A second central variable in parental adaptation is resilience. Resilience refers to the capacity to maintain or regain psychological functioning in the face of adversity, chronic stress, and challenging life circumstances. It encompasses personal competence, persistence, confidence in one's abilities and instincts, tolerance of negative emotions, perceived control, flexibility, meaning, and, in some conceptualizations, spirituality. For mothers raising children with developmental disabilities, resilience may function as a protective psychological resource that facilitates adaptation to diagnostic uncertainty, repeated treatment demands, educational challenges, financial strain, stigma, behavioral difficulties, and concerns about the child's future. Rather than indicating an absence of distress, resilience reflects the ability to continue functioning and adapt constructively despite ongoing stressors. Research has shown that resilience is closely connected with other self-regulatory and psychological capacities. For example, resilience has been examined as a mediating mechanism

E-ISSN: 3060-6713

linking ego strength, self-concept, and problem-solving styles with maladaptive behavioral outcomes in adolescents, illustrating its broader role in psychological adjustment (Beykverdi & Mirzaei, 2024). Resilience training has also been associated with improvements in quality of life and reductions in risky behaviors, suggesting that resilience can be strengthened through structured intervention rather than being viewed solely as a stable personal trait (Hojjatpanah, 2024).

The relevance of resilience is particularly pronounced in mothers who face persistent parenting stress. Research on mothers of children with learning-related difficulties has linked resilience with parenting stress, self-control, and ego strength, suggesting that resilient mothers may be better able to regulate their responses to chronic caregiving challenges (Rashidi & Shirafkan, 2025). This capacity may be especially important when the child's condition requires repeated management of educational, behavioral, or social problems. At the same time, resilience cannot be understood independently of the broader environment. Access to social support, opportunities for participation, psychological services, and family-oriented interventions may either strengthen or undermine mothers' capacity to cope effectively. The demonstrated effectiveness of psychosocial interventions among parents and individuals affected by disability further suggests that resilience may be influenced by environmental resources and learned coping mechanisms (Aghayar & Kordmirza Nikouzadeh, 2024; Namdari Khalilabadi & Saeidmanesh, 2024). Because autism and intellectual developmental disability present somewhat different patterns of caregiving demands, it remains important to determine whether mothers in these two groups differ in overall resilience or whether chronic adaptation to the child's needs produces comparable levels of resilience across diagnostic categories.

Sleep quality constitutes another essential but sometimes overlooked dimension of maternal health. Sleep is closely related to emotional regulation, cognitive functioning, stress tolerance, physical health, and overall quality of life. Poor sleep may manifest through delayed sleep onset, frequent awakenings, reduced sleep duration, low sleep efficiency, daytime fatigue, and subjective dissatisfaction with sleep. Research across different populations has demonstrated that sleep quality is associated with cognitive and emotional functioning. Sleep habits and sleep quality have been related to nervous-system cognitive functioning, while poorer sleep has been associated with behavioral inhibition, cognitive flexibility, self-concept, and academic performance (Arami & Sharifi, 2024; Hosseini Zavareh & Shafiei, 2024). Other research has indicated associations between sleep quality and psychological symptoms, including anxiety, rumination, obsessive-compulsive symptoms, and negative emotional processes (Shahbazi Gorjan et al., 2024; Yazdanipour et al., 2025). Sleep quality can therefore be conceptualized as both an outcome of psychological strain and a factor capable of influencing emotional and cognitive adaptation.

For mothers, sleep may be particularly sensitive to caregiving stress and family demands. Maternal sleep disturbances can emerge when caregiving involves nighttime monitoring, behavioral dysregulation, anxiety regarding the child's condition, or prolonged psychological preoccupation. Evidence from mothers experiencing other intensive caregiving circumstances has demonstrated meaningful relationships between sleep quality and depressive symptoms, underscoring the vulnerability of maternal sleep when caregiving demands are elevated (Babbar et al., 2024). Research has also identified relationships among sleep quality, social support, stress, emotion regulation, and psychological well-being, suggesting that sleep disturbances may be embedded within a broader psychosocial network rather than being exclusively physiological (Nediki et al., 2024; Rahimi & Roshandel, 2024). Moreover, sleep-related interventions such as continuous positive airway pressure have been associated with improvements not only in sleep quality but also in depressive symptoms and sleep-related behaviors, further illustrating the reciprocal relationship between sleep and mental health (Tavanaei Tamanaei et al., 2024). Studies of children and adolescents likewise demonstrate the relevance of sleep quality to behavioral and executive functioning, which may indirectly affect family stress when children themselves experience sleep-related or behavioral difficulties (Abdi Garavandi et al., 2024).

The interaction among attitudes toward disability, resilience, and sleep quality may be particularly important in understanding the experiences of mothers of children with developmental conditions. A mother who interprets the child's disability primarily through feelings of rejection, shame, frustration, or hopelessness may experience greater emotional burden and more persistent cognitive arousal, potentially reducing her capacity for resilient coping and contributing to poorer sleep. Conversely, greater acceptance of the child and stronger resilience may facilitate emotional regulation, adaptive problem solving, and better management of caregiving demands. Although the present variables are conceptually distinguishable, each reflects a

E-ISSN: 3060-6713

different dimension of adaptation: attitudes toward disability represent the mother's cognitive and emotional orientation toward the child's condition, resilience reflects her capacity to withstand and adapt to chronic stress, and sleep quality reflects an important behavioral and physiological aspect of health. Research on self-regulation, mental toughness, quality of life, social efficacy, and psychological adjustment in disability-related populations consistently supports the importance of examining adaptation as a multidimensional process (Aghayar & Kordmirza Nikouzadeh, 2024; Farsi & Barghi Irani, 2024; Saleh & Ghamari Kivi, 2024). Such a multidimensional perspective is particularly relevant when comparing mothers facing distinct developmental diagnoses.

Despite the growing body of research on autism, intellectual disability, family adaptation, and psychological health, several gaps remain. A substantial portion of previous work has examined children themselves, focusing on motor skills, social cognition, academic achievement, theory of mind, perception, or behavioral functioning (Jalili & Pourafrooz, 2025; Mazrouei & Rezaei Dehnavi, 2024; Nikjou et al., 2024; Rahmati et al., 2024; Tayebli & Jalali, 2024). Other studies have investigated psychological functioning among individuals with physical disabilities or addressed intervention effectiveness in broadly defined disability populations (Aghayar & Kordmirza Nikouzadeh, 2024; Farsi & Barghi Irani, 2024; Karimi Pashaki et al., 2024). Although this literature is important, comparatively fewer studies have simultaneously examined maternal attitudes toward disability, resilience, and sleep quality while directly comparing mothers of children with high-functioning autism with mothers of children with mild intellectual developmental disabilities. The distinction is theoretically meaningful because these two groups may face comparable levels of chronic caregiving demand but differ in the visibility, social interpretation, educational implications, behavioral profile, and developmental prognosis associated with the child's condition. Determining whether maternal adaptation differs across these groups can therefore clarify whether support programs should primarily be diagnosis-specific or whether common psychological resources may be addressed across developmental disability populations.

The need for such comparison is also reinforced by the increasing emphasis on family-centered and individualized interventions. Improvements in children's functioning may be facilitated when caregivers possess sufficient psychological resources, accurate and adaptive attitudes toward disability, and adequate health and sleep. Similarly, family interventions may be more effective when they are tailored to the specific emotional and practical experiences associated with the child's diagnosis rather than assuming that all parents of children with disabilities experience comparable challenges. Evidence that social, educational, cognitive, behavioral, and family-oriented interventions can produce meaningful improvements across disability populations demonstrates the value of identifying modifiable family-level factors (Beyaz et al., 2024; Hojjatpanah, 2024; Jahan Pourshirvan & Naderi, 2024). In addition, emerging research on familial characteristics associated with autism highlights the importance of examining parents as psychologically relevant participants in the developmental context rather than as passive providers of care (Narzisi et al., 2025). A comparative assessment of maternal attitudes, resilience, and sleep may therefore provide clinically and educationally useful information for psychologists, rehabilitation professionals, counselors, special education practitioners, and family-support services working with these populations.

Accordingly, the aim of the present study was to compare attitudes toward disability, resilience, and sleep quality between mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities.

2. Methods and Materials

2.1. Study Design and Participants

The present study was conducted using a quantitative, applied, causal-comparative, and cross-sectional research design. The study was considered applied in terms of its purpose because it sought to provide a more precise understanding of differences in attitudes toward disability, resilience, and sleep quality between mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities, with the expectation that the findings could contribute to the development of psychological, educational, and family-support interventions for families of children with special needs. Methodologically, the study followed a causal-comparative design because naturally occurring groups were compared without manipulation of the independent variable or implementation of an experimental intervention. The two groups consisted of mothers of children formally diagnosed with high-functioning autism spectrum disorder and mothers of children formally diagnosed with mild intellectual developmental disabilities. The dependent variables were

E-ISSN: 3060-6713

mothers' attitudes toward disability, resilience, and sleep quality. Data were collected quantitatively through standardized self-report instruments and were analyzed using appropriate descriptive and inferential statistical procedures. The study was also cross-sectional because all data were obtained from the participants during a defined period without longitudinal follow-up or experimental manipulation.

The statistical population consisted of all mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities residing in District 13 of Tehran, Iran, during the second three-month period of the Iranian year 1404, corresponding approximately to June–September 2025. Mothers assigned to the high-functioning autism group were required to have a child with a formal diagnosis of autism spectrum disorder with relatively high functional abilities established by a child psychiatrist or qualified clinical specialist. The diagnosis had to be documented in a valid medical record or confirmed through an official referral from rehabilitation centers, comprehensive welfare-service centers, autism centers, or licensed psychological and psychiatric treatment facilities operating under the supervision of the State Welfare Organization or the Ministry of Health and Medical Education. The second group consisted of mothers whose children had received a formal diagnosis of mild intellectual developmental disability, documented through a valid medical or psychological assessment record or an official referral from educational, psychological, or rehabilitation centers serving children with special educational needs. District 13 of Tehran was selected because of the accessibility of specialized autism and rehabilitation centers, special education facilities, demographic and socioeconomic diversity, and the feasibility of field-based sampling.

The final sample consisted of 60 mothers, including 30 mothers of children with high-functioning autism spectrum disorder and 30 mothers of children with mild intellectual developmental disabilities. The target sample size was determined according to the comparative nature of the study, the anticipated statistical power of at least 80%, an alpha level of .05, and the principles of statistical power analysis proposed by Cohen. A combination of convenience and purposive sampling was employed to obtain accessible participants while also improving comparability between the two groups with respect to potentially confounding demographic characteristics. Mothers of children with high-functioning autism were recruited primarily through convenience sampling from licensed autism centers, occupational therapy centers, rehabilitation facilities, and psychological treatment centers specializing in developmental disorders. After the necessary institutional and ethical permissions had been obtained, potentially eligible mothers were identified with the cooperation of the relevant centers and were invited to participate voluntarily. Mothers who met the eligibility requirements and provided written informed consent were enrolled in the study. Mothers of children with mild intellectual developmental disabilities were recruited purposively through special education schools and rehabilitation or educational centers serving children with intellectual and developmental disabilities. During recruitment of the second group, particular attention was given to achieving approximate demographic comparability with the autism group in terms of maternal age, child age, maternal educational attainment, socioeconomic status, and the child's sex.

Eligibility criteria were applied consistently to both groups in order to improve sample homogeneity and reduce the influence of major confounding factors. Participants were required to be the mothers and primary caregivers of children with a formally documented diagnosis of either high-functioning autism spectrum disorder or mild intellectual developmental disability, to reside in District 13 of Tehran during the study period, to have at least basic reading and writing ability sufficient for comprehension and completion of the questionnaires, and to provide informed consent for participation. Mothers reporting severe psychiatric disorders, including psychotic disorders or severe mood disorders, were not eligible. Participants were excluded when an acute physical or psychological condition interfered with their ability to complete the questionnaires accurately, when they had experienced a major stressful life event such as bereavement or a severe family crisis during the preceding three months that could substantially influence the study variables, or when a new psychotherapeutic or pharmacological intervention targeting psychological problems had been initiated during the previous two months. Participants were also excluded if questionnaires were substantially incomplete or contained apparently invalid, random, or repetitive response patterns, or if the participant elected to discontinue participation at any stage.

Data collection was conducted systematically following institutional authorization and the necessary ethical approvals. Following coordination with the administrators of autism, rehabilitation, psychological, educational, and special education centers, eligible mothers were approached

E-ISSN: 3060-6713

and provided with information regarding the purpose and procedures of the study. Participation was entirely voluntary, and written informed consent was obtained before questionnaire administration. The instruments were completed individually in a face-to-face setting using a self-report format. The researcher remained available during questionnaire completion to clarify procedural ambiguities when necessary; however, explanations were provided in a neutral and nondirective manner to minimize response bias. The same general administration procedure was followed for both groups. After collection, all questionnaires were reviewed for completeness, consistency, and potentially invalid response patterns before data entry. Participants' identities were protected throughout the research process, questionnaire data were treated confidentially, and mothers were informed of their right to withdraw from the study at any time without adverse consequences.

2.2. Measures

Attitudes toward disability were assessed using the Attitude Toward Disability Questionnaire developed by Gunder in 2002. The items of this instrument were derived through the expansion and adaptation of items from the Schaefer and Bell Parental Attitude Research Instrument and were designed to assess parents' behaviors, perceptions, interpersonal interactions, feelings, and attitudes in relation to their child with special needs. The instrument therefore provides an assessment of the cognitive, affective, and behavioral orientations of parents toward their child's disability and associated care demands. Gunder initially developed and adapted the scale for use in the relevant population, and its psychometric properties were subsequently investigated in Iran by Asghari Nekah and Balghan Abadi in 2013. The Iranian evaluation supported the face and content validity of the instrument based on expert judgment. Internal consistency was also reported to be satisfactory, with a Cronbach's alpha coefficient of .80 for the total score. Significant and relatively strong relationships were additionally observed between the overall attitude score and the five subscales of the questionnaire, providing further evidence for the internal coherence of the instrument. In the present study, the questionnaire was administered to both groups under identical conditions, with higher or lower scores interpreted in accordance with the scoring direction specified for the instrument.

Resilience was measured using the Connor–Davidson Resilience Scale developed by Connor and Davidson in 2003. The scale was designed to assess an individual's ability to adapt successfully to adversity and stressful experiences through characteristics such as personal competence and tenacity, trust in one's instincts, tolerance of negative affect, positive acceptance of change, perceived control, and spiritual influences. The instrument contains 25 items rated on a five-point Likert-type response format, with higher total scores representing greater resilience. In the scoring system used for this study, responses ranged from strong disagreement to strong agreement, and higher cumulative scores indicated a greater capacity for psychological adaptation and recovery from stressful circumstances. The original developers evaluated the psychometric properties of the scale in both general and at-risk populations and reported satisfactory factorial validity, convergent validity, discriminant validity, test–retest reliability, and internal consistency. Connor and Davidson reported a Cronbach's alpha coefficient of .87. Evidence from Iranian studies has likewise supported the psychometric adequacy of the scale. Previous Iranian investigations have reported Cronbach's alpha coefficients ranging approximately from .78 to .84, and studies examining convergent and discriminant validity, test–retest reliability, internal consistency, and factor structure have generally supported the suitability of the instrument for use in Persian-speaking populations.

Sleep quality was assessed using the Pittsburgh Sleep Quality Index developed by Buysse and colleagues in 1989. The instrument evaluates sleep-related experiences during the preceding month and is intended to provide an overall assessment of perceived sleep quality and disturbances. It examines relevant aspects of sleep functioning, including subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and difficulties in daytime functioning. Responses to the component items are transformed according to the instrument's scoring protocol to produce component scores and an overall index of sleep quality, with higher scores representing poorer sleep quality and greater sleep disturbance. The original developers demonstrated satisfactory psychometric properties in both clinical and nonclinical samples, including adequate internal consistency, concurrent validity, discriminant validity, and test–retest reliability. Cronbach's alpha coefficients of approximately .83 and test–retest coefficients of approximately .79 have been reported in the original psychometric studies. The psychometric properties of the Persian version have also been examined in Iran, with evidence supporting its face validity and reliability. Iranian

E-ISSN: 3060-6713

investigations have reported internal consistency coefficients of approximately .79, supporting the suitability of the scale for assessing sleep quality in Iranian populations. In the present study, participants were instructed to answer the items with reference to their sleep experiences during the preceding month.

2.3. Data Analysis

The collected data were analyzed at both descriptive and inferential levels using IBM SPSS Statistics version 27. Before inferential analyses were performed, questionnaires were screened for completeness, invalid response patterns, and data-entry errors. Descriptive statistics were calculated to summarize participants' demographic characteristics and the principal study variables. Frequencies and percentages were used for categorical demographic variables, whereas means and standard deviations were calculated for quantitative variables, including attitudes toward disability, resilience, and sleep quality. Preliminary statistical screening was subsequently conducted to examine the assumptions required for parametric multivariate analysis. The distribution of the principal variables was assessed for normality using the Kolmogorov–Smirnov test together with examination of relevant descriptive indicators. In addition, the assumptions underlying multivariate analysis, including homogeneity of variances and homogeneity of variance–covariance matrices, were considered before the primary inferential analysis.

Because the study involved the simultaneous comparison of two independent groups across three conceptually related dependent variables, multivariate analysis of variance was used as the principal inferential procedure. Group membership, consisting of mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities, was entered as the independent variable, while attitudes toward disability, resilience, and sleep quality were entered simultaneously as dependent variables. The multivariate approach was selected because it permits assessment of the overall group effect across several correlated outcome variables while limiting inflation of the Type I error rate that could result from conducting multiple independent tests. When the multivariate group effect was statistically significant, follow-up univariate analyses of variance were conducted separately for attitudes toward disability, resilience, and sleep quality to determine which specific dependent variables accounted for the overall difference between the two groups. Statistical significance was evaluated at an alpha level of .05, and all statistical analyses were performed using SPSS version 27.

3. Findings and Results

The study included 60 mothers, comprising 30 mothers of children with high-functioning autism spectrum disorder and 30 mothers of children with mild intellectual developmental disabilities. In the high-functioning autism group, 10 children (33.33%) were girls and 18 (60.00%) were boys, while gender data were missing for 2 children (6.67%). In the mild intellectual developmental disability group, 11 children (36.67%) were girls and 18 (60.00%) were boys, with one missing response (3.33%). Regarding child age, among mothers who provided age information in the high-functioning autism group, 9 children (30.00%) were aged 5–7 years, 9 (30.00%) were aged 8–10 years, and 2 (6.67%) were aged 11–12 years, whereas 10 participants (33.33%) did not report child age. In the mild intellectual developmental disability group, 19 children (63.33%) were aged 5–7 years, 5 (16.67%) were aged 8–10 years, and 3 (10.00%) were aged 11–12 years, with age data missing for 3 children (10.00%). With regard to maternal education, in the high-functioning autism group, 7 mothers (23.33%) had a high-school diploma, 3 (10.00%) had an associate degree, 7 (23.33%) had a bachelor's degree, and 3 (10.00%) had a master's degree or higher, while educational information was missing for 10 participants (33.33%). In the mild intellectual developmental disability group, 4 mothers (13.33%) had a high-school diploma, 8 (26.67%) had an associate degree, 7 (23.33%) had a bachelor's degree, and 8 (26.67%) had a master's degree or higher, with 3 missing responses (10.00%).

E-ISSN: 3060-6713

Table 1

Descriptive Statistics for Attitudes Toward Disability, Resilience, and Sleep Quality by Group

Variable	High-Functioning Autism M	High-Functioning Autism SD	Mild Intellectual Developmental Disability M	Mild Intellectual Developmental Disability SD
Affection and Acceptance	28.01	4.29	24.00	3.64
Embarrassment	9.00	2.70	9.67	2.44
Frustration	11.37	2.36	11.89	2.28
Disappointment	11.70	2.28	12.40	1.61
Overprotection	26.97	4.35	25.90	4.75
Total Resilience	90.18	18.51	89.90	10.49
Personal Competence	29.23	6.35	29.37	4.00
Trust in Personal Instincts	24.22	5.70	23.80	2.99
Tolerance of Negative Affect	18.30	4.49	19.20	2.50
Control	11.53	2.71	10.83	2.39
Spirituality	6.90	2.37	6.70	2.34
Sleep Quality	27.39	7.82	29.89	9.38

As shown in Table 1, the largest descriptive difference between the two groups was observed for affection and acceptance, with mothers of children with high-functioning autism reporting a higher mean score (M = 28.01, SD = 4.29) than mothers of children with mild intellectual developmental disabilities (M = 24.00, SD = 3.64). The two groups had highly similar total resilience scores, with means of 90.18 (SD = 18.51) and 89.90 (SD = 10.49), respectively. Across the resilience dimensions, personal competence had the highest mean in both groups, whereas spirituality had the lowest mean. Mothers of children with mild intellectual developmental disabilities reported a somewhat higher mean sleep-quality score (M = 29.89, SD = 9.38) than mothers of children with high-functioning autism (M = 27.39, SD = 7.82). Descriptively, differences in embarrassment, frustration, disappointment, overprotection, total resilience, and the resilience subdimensions were relatively small compared with the difference observed for affection and acceptance.

Before conducting the inferential analyses, the assumptions underlying multivariate and univariate analysis of variance were examined. Shapiro–Wilk tests indicated statistically significant departures from normality for several variables and subscales; therefore, skewness and kurtosis indices were also inspected. Most skewness and kurtosis values fell within the acceptable range of ±2.00, with the exception of kurtosis for tolerance of negative affect in the mild intellectual developmental disability group. Examination of boxplots identified extreme observations for this variable, and after correction of the extreme scores, skewness and kurtosis were within the acceptable range, supporting approximate normality. The Kaiser–Meyer–Olkin index was 0.692, and Bartlett's test of sphericity was statistically significant, $\chi^2(21) = 135.18$, $p = .001$, indicating sufficient intercorrelations among the dependent variables. Box's M test for the overall multivariate model was significant at the conventional .05 level, Box's M = 54.17, F(28, 11722.11) = 1.68, p = .013; therefore, Pillai's Trace, which is relatively robust to inequality of covariance matrices, was used for interpretation of the multivariate effect. The overall multivariate effect of group was statistically significant, Pillai's Trace = .322, F(7, 52) = 3.53, p = .004, partial $\eta^2 = .322$, indicating that the two groups differed significantly on the combined set of dependent variables. Levene's tests indicated homogeneity of variance for affection and acceptance, embarrassment, frustration, disappointment, overprotection, and sleep quality, whereas the assumption was violated for total resilience, F(1, 58) = 9.53, p = .003. Given the equal group sizes, the analysis was retained, although the resilience result was interpreted cautiously.

E-ISSN: 3060-6713

Table 2

Univariate ANOVA Results for Group Differences in Attitudes Toward Disability, Resilience, and Sleep Quality

Variable	SS	df	MS	F	p	Partial η^2
Affection and Acceptance	240.88	1	240.88	15.22	.001	.208
Embarrassment	6.67	1	6.67	1.01	.320	.017
Frustration	4.18	1	4.18	0.78	.382	.013
Disappointment	7.35	1	7.35	1.89	.174	.032
Overprotection	17.07	1	17.07	0.82	.368	.014
Total Resilience	1.14	1	1.14	0.01	.944	.001
Sleep Quality	93.79	1	93.79	1.26	.267	.021

The follow-up univariate analyses presented in Table 2 showed that the only statistically significant group difference was observed for affection and acceptance, $F(1, 58) = 15.22$, $p = .001$, partial $\eta^2 = .208$. Mothers of children with high-functioning autism had a higher mean score for affection and acceptance ($M = 28.01$, $SD = 4.29$) than mothers of children with mild intellectual developmental disabilities ($M = 24.00$, $SD = 3.64$), indicating a relatively large group effect. No statistically significant differences were found for embarrassment, $F(1, 58) = 1.01$, $p = .320$, partial $\eta^2 = .017$; frustration, $F(1, 58) = 0.78$, $p = .382$, partial $\eta^2 = .013$; disappointment, $F(1, 58) = 1.89$, $p = .174$, partial $\eta^2 = .032$; or overprotection, $F(1, 58) = 0.82$, $p = .368$, partial $\eta^2 = .014$. Similarly, the groups did not differ significantly in total resilience, $F(1, 58) = 0.01$, $p = .944$, partial $\eta^2 = .001$, or sleep quality, $F(1, 58) = 1.26$, $p = .267$, partial $\eta^2 = .021$. A separate multivariate examination of the five resilience components also showed no significant overall group difference, Pillai's Trace = .107, $F(5, 54) = 1.30$, $p = .279$, partial $\eta^2 = .107$. In contrast, the multivariate analysis of the five attitude-toward-disability components was statistically significant, Wilks' Lambda = .720, $F(5, 54) = 4.19$, $p = .003$, partial $\eta^2 = .280$, with the significant multivariate effect attributable primarily to the higher affection and acceptance scores observed among mothers of children with high-functioning autism.

4. Discussion

The present study compared attitudes toward disability, resilience, and sleep quality among mothers of children with high-functioning autism spectrum disorder and mothers of children with mild intellectual developmental disabilities. The findings showed that the two groups differed significantly at the multivariate level when the combined set of study variables was considered, indicating that the overall psychological profile of the mothers was not identical across the two diagnostic groups. More specifically, the significant difference was primarily attributable to the affection and acceptance component of attitudes toward disability. Mothers of children with high-functioning autism obtained significantly higher scores on affection and acceptance than mothers of children with mild intellectual developmental disabilities. In contrast, no statistically significant group differences were observed for embarrassment, frustration, disappointment, or overprotection. Likewise, no significant difference was found between the two groups in total resilience, and the multivariate analysis of the resilience dimensions also indicated no significant overall difference. Finally, although mothers of children with mild intellectual developmental disabilities had a somewhat higher mean sleep-quality score than mothers of children with high-functioning autism, the difference was not statistically significant. These results suggest that the most distinctive difference between the two groups concerned the acceptance-related dimension of maternal attitudes rather than global resilience or sleep quality.

The significantly higher affection and acceptance scores among mothers of children with high-functioning autism may reflect differences in how the two developmental conditions are perceived, interpreted, and integrated into parental expectations. Children with high-functioning autism often possess relatively preserved intellectual abilities and may demonstrate competencies in language, academic learning, or specific areas of interest despite persistent difficulties in social communication, behavioral flexibility, and interpersonal adaptation. Such a profile may allow mothers to perceive a greater range of developmental possibilities and future independence, potentially facilitating emotional acceptance of the child's condition. Research on children with high-functioning autism has shown that these children may respond positively to educational, cognitive, social, and motor interventions, which may strengthen

E-ISSN: 3060-6713

parental expectations regarding improvement and developmental progress (Mazrouei & Rezaei Dehnavi, 2024; Nikjou et al., 2024; Rahmati et al., 2024). Similarly, findings concerning differences between high- and low-functioning autistic children indicate substantial variation in social abilities and behavioral characteristics, emphasizing that higher functional capacities can be associated with a comparatively more favorable adaptive profile (Mardi Sarand & Etesamipour, 2024). From this perspective, mothers who observe meaningful competencies in their children may find it easier to integrate the diagnosis into a more hopeful and accepting representation of the child.

In contrast, mild intellectual developmental disability is characterized by limitations in intellectual and adaptive functioning that may be perceived by parents as more directly relevant to long-term educational attainment, independent living, occupational functioning, and social participation. Although children with mild intellectual disability are capable of substantial development and adaptation, parents may remain concerned about their future autonomy and vulnerability. Such concerns may influence the emotional meaning attributed to the disability and may partly explain the lower affection and acceptance scores observed in this group. Nevertheless, research indicates that individuals with mild intellectual disability can benefit substantially from targeted educational and physical interventions. For example, structured group-based educational programs have been shown to improve theory of mind and self-esteem, while exercise-based interventions may enhance motor performance and quality of life (Beyaz et al., 2024; Tayebli & Jalali, 2024). Therefore, the lower acceptance-related scores observed among mothers in the present study should not be interpreted as reflecting reduced affection toward the child in a general sense, but rather as potentially reflecting greater difficulty in emotionally adjusting to the perceived permanence and functional implications of intellectual limitations.

The present finding may also be understood from a broader family systems and disability-adjustment perspective. Parental attitudes toward disability do not develop solely from the clinical diagnosis itself; rather, they are shaped by social expectations, perceived stigma, the visibility of disability, available support, family resources, and the parent's understanding of the child's developmental potential. Research on empowerment and community-based rehabilitation has emphasized that increased participation, access to supportive services, and greater social inclusion may positively influence the adjustment of individuals with disabilities and their families (Amirizad & Jamaldini, 2024; Barani & Jamaldini, 2024). Similarly, psychological interventions targeting parents of children with disabilities have demonstrated improvements in social adjustment and mental health, suggesting that parental attitudes are responsive to changes in coping resources and support systems (Namdari Khalilabadi & Saeidmanesh, 2024). The present results are therefore consistent with the view that acceptance of disability is a dynamic psychological process that may differ according to both the characteristics of the child's condition and the family's perceived opportunities for adaptation.

An important aspect of the findings is that the groups did not significantly differ in embarrassment, frustration, disappointment, or overprotection. This suggests that, despite differences in affection and acceptance, mothers in the two groups may share many common emotional and behavioral experiences associated with raising a child with developmental needs. Both autism spectrum disorder and mild intellectual developmental disability require sustained caregiving, repeated interaction with educational and health services, advocacy for the child's needs, and adjustment of family routines. Consequently, mothers in both groups may encounter comparable levels of social concern, uncertainty, frustration, and protective behavior. Previous research on parents and individuals affected by disability supports the importance of shared psychosocial challenges across diagnostic categories. Interventions designed to strengthen social skills, psychological well-being, self-efficacy, and family adjustment have demonstrated benefits across different disability groups, suggesting that many psychosocial demands are not unique to a single diagnosis (Aghayar & Kordmirza Nikouzadeh, 2024; Farsi & Barghi Irani, 2024; Saleh & Ghamari Kivi, 2024). The absence of differences in most attitude dimensions may therefore reflect common caregiving experiences that transcend the specific developmental diagnosis.

The finding that the two groups did not significantly differ in total resilience is also noteworthy. Resilience represents the capacity to adapt to adversity, maintain functioning under stress, and recover from difficult experiences. Mothers in both groups are exposed to persistent caregiving demands, uncertainty about developmental outcomes, educational concerns, social stigma, and long-term responsibility. Repeated exposure to these challenges may foster adaptive coping processes over time, resulting in comparable levels of resilience regardless of the child's specific diagnosis. This interpretation is

E-ISSN: 3060-6713

consistent with research suggesting that resilience is shaped by a combination of personal resources, coping abilities, social support, and self-regulatory capacities rather than by a single external stressor. Studies have demonstrated associations between resilience, ego strength, self-control, problem solving, and psychological adaptation (Beykverdi & Mirzaei, 2024; Rashidi & Shirafkan, 2025). Therefore, mothers of children with autism and mothers of children with mild intellectual developmental disabilities may develop similar levels of resilience through prolonged adaptation to the demands of caregiving.

The absence of significant differences in the specific resilience dimensions further supports this interpretation. Personal competence, trust in personal instincts, tolerance of negative affect, control, and spirituality were broadly comparable between the two groups. This pattern suggests that the psychological resources used to manage chronic caregiving stress may be similar across different developmental conditions. Mothers may gradually acquire greater confidence in decision-making, learn to tolerate difficult emotional experiences, and develop a stronger sense of control through repeated interactions with treatment providers, schools, family members, and support systems. Resilience training has been shown to improve quality of life and reduce maladaptive behavior in other populations, reinforcing the idea that resilience is not merely an inherent trait but can be strengthened through experience and intervention (Hojjatpanah, 2024). Moreover, broader evidence indicates that self-regulation, social support, and adaptive coping can influence functioning among individuals facing chronic psychological or health-related challenges (Ghadertalab et al., 2024; Nediki et al., 2024). Accordingly, comparable resilience scores in the two groups may reflect similar adaptation trajectories rather than an absence of psychological burden.

Another possible explanation for the absence of group differences in resilience concerns the selective nature of the sample. All participants were mothers actively engaged with educational, rehabilitation, or psychological service systems and were sufficiently functional to participate in the research. Such mothers may already possess relatively high levels of persistence, organization, and caregiving competence. This could reduce between-group variability and make diagnostic differences less influential than individual coping resources. Research involving parents of children with disabilities has demonstrated that psychological adjustment can be improved through structured therapeutic and supportive interventions (Jahan Pourshirvan & Naderi, 2024; Namdari Khalilabadi & Saeidmanesh, 2024). It is therefore plausible that access to professional services, accumulated caregiving experience, and social resources contributed to similar resilience levels across the two groups.

The findings also demonstrated no statistically significant difference in sleep quality. Although mothers of children with mild intellectual developmental disabilities had a numerically higher mean sleep-quality score, indicating somewhat poorer sleep according to the scoring direction used in this study, the difference was insufficient to reach statistical significance. This finding suggests that sleep-related difficulties may be a common feature of maternal caregiving in both developmental groups rather than being strongly diagnosis-specific. Sleep quality is influenced by multiple psychological, behavioral, and environmental factors, including stress, emotional arousal, caregiving schedules, health conditions, social support, and family routines. Previous research has demonstrated close associations between sleep quality and cognitive, emotional, and behavioral functioning (Arami & Sharifi, 2024; Hosseini Zavareh & Shafiei, 2024). Similarly, poorer sleep has been linked with anxiety-related processes, rumination, emotional dysregulation, and obsessive-compulsive symptoms (Shahbazi Gorjan et al., 2024; Yazdanipour et al., 2025). Because mothers in both groups are exposed to continuing caregiving responsibilities, comparable levels of sleep disturbance are understandable.

The lack of significant differences in maternal sleep quality may also be related to shared nighttime and cognitive burdens. Even when children with high-functioning autism and children with mild intellectual developmental disabilities differ in their clinical profiles, mothers in both groups may experience anticipatory concern about their child's future, repeated planning for educational and treatment needs, and ongoing psychological vigilance. Such cognitive and emotional activation can interfere with restorative sleep even in the absence of direct nighttime caregiving. Research among mothers in high-demand caregiving situations has demonstrated associations between sleep problems and depressive symptoms, supporting the idea that maternal sleep is particularly sensitive to emotional strain (Babbar et al., 2024). Furthermore, studies examining the relationship between social support, perceived stress, and sleep quality indicate that psychological and interpersonal resources may be more important determinants of sleep than the specific diagnostic category of a family member (Nediki et al., 2024; Rahimi & Roshandel, 2024). This may explain

E-ISSN: 3060-6713

why sleep quality did not significantly differ between the two groups in the present study.

The results concerning sleep quality are also consistent with the broader understanding that sleep is a multidimensional outcome influenced by both physiological and psychological mechanisms. Research has shown that interventions directly targeting sleep problems can improve not only sleep itself but also depressive symptoms and related behaviors (Tavanaei Tamanaei et al., 2024). In addition, studies involving children and adolescents indicate that sleep quality is related to executive functioning, behavioral inhibition, self-concept, and cognitive flexibility (Abdi Garavandi et al., 2024; Arami & Sharifi, 2024). Within families of children with developmental disabilities, these processes may operate reciprocally. Child behavioral or sleep-related difficulties may increase maternal sleep disruption, while maternal fatigue may in turn reduce emotional regulation and coping capacity. Thus, the absence of a between-group difference does not imply that sleep quality is unimportant; rather, it suggests that poor sleep may represent a shared clinical concern across mothers of children with different developmental disabilities.

5. Conclusion

Taken together, the present findings reveal a mixed pattern of similarity and difference. The significant multivariate effect indicates that the two maternal groups cannot be considered psychologically identical, yet the specific follow-up findings show that this distinction was concentrated primarily in the domain of affection and acceptance. Resilience and sleep quality were remarkably similar between the groups, while most other dimensions of attitudes toward disability also showed no significant difference. This pattern supports a nuanced interpretation in which diagnosis-specific characteristics may shape certain aspects of maternal appraisal and acceptance, whereas broader caregiving demands generate shared patterns of adaptation. The literature on autism emphasizes variability in functional abilities and the importance of family and broader phenotype characteristics (Dehghan Manshadi et al., 2025; Narzisi et al., 2025), while research on mild intellectual disability highlights the potential for developmental improvement through educational and rehabilitative support (Beyaz et al., 2024; Tayebli & Jalali, 2024). The present results extend these perspectives by suggesting that maternal psychological functioning reflects both diagnosis-specific perceptions and common caregiving experiences.

The present study had several limitations that should be considered when interpreting the findings. First, the relatively small sample size of 60 participants may have limited statistical power, particularly for detecting small differences in resilience and sleep quality. Second, participants were recruited from a specific geographical area of Tehran and from mothers who had access to educational, rehabilitation, or psychological services, which may restrict the generalizability of the findings to mothers living in other regions or those with limited access to professional support. Third, the cross-sectional and causal-comparative design does not permit causal conclusions regarding the relationship between the child's diagnosis and maternal psychological outcomes. Fourth, all principal variables were assessed through self-report questionnaires, which may be influenced by social desirability, response tendencies, current mood, and subjective interpretation. Some demographic information was also missing for a proportion of participants, particularly in the high-functioning autism group, which limited the precision of demographic comparisons. Finally, potentially influential factors such as severity of child behavioral problems, duration since diagnosis, maternal physical health, family income, perceived social support, marital functioning, and the child's own sleep difficulties were not directly controlled.

Future studies should recruit larger and more diverse samples from different geographical, socioeconomic, and cultural settings in order to improve statistical power and external validity. Longitudinal designs would be particularly valuable for examining how maternal attitudes, resilience, and sleep quality change over time following diagnosis and across different stages of the child's development. Future research should also include additional comparison groups, such as mothers of typically developing children, mothers of children with other neurodevelopmental conditions, and fathers, in order to clarify which psychological patterns are diagnosis-specific and which reflect the broader experience of parenting a child with special needs. Researchers are also encouraged to incorporate objective indicators of sleep, structured clinical assessments, and reports from multiple informants alongside self-report questionnaires. Examining mediating and moderating variables such as perceived social support, parenting stress, stigma, coping style, child behavior severity, socioeconomic status, and access to services may further clarify the mechanisms underlying maternal adaptation.

E-ISSN: 3060-6713

The findings suggest that psychological and rehabilitation services for families of children with developmental disabilities should address both diagnosis-specific and shared parental needs. Particular attention may be given to strengthening acceptance of the child's condition, especially among mothers of children with mild intellectual developmental disabilities, through psychoeducation, supportive counseling, and family-centered interventions that emphasize realistic developmental potential and adaptive expectations. Because resilience levels were similar across groups, resilience-building programs can be offered broadly to mothers of children with developmental disabilities rather than being limited to one diagnostic category. Such programs may focus on coping skills, emotional regulation, problem solving, social support, and self-care. Sleep assessment should also be incorporated into routine psychological and family services, even when mothers do not spontaneously report sleep problems, because sleep difficulties may coexist with chronic caregiving stress across diagnostic groups. Multidisciplinary collaboration among psychologists, special educators, rehabilitation professionals, physicians, and family counselors may therefore provide a more comprehensive framework for supporting maternal well-being and promoting healthier family functioning.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

Abdi Garavandi, P., Soleimani, M., & Ghoreishi Rad, F. (2024). *Attachment styles, parenting styles and sleep quality in predicting attention-deficit/hyperactivity symptoms through executive functions in girls aged 6 to 12 with ADHD* Azarbaijan Shahid Madani University, Faculty of Education and Psychology].

Aghayar, F., & Kordmirza Nikouzadeh, A. A. (2024). *Effectiveness of social skills training on mental health and social self-efficacy in girls with physical and motor disabilities* Payame Noor University, South Tehran Center].

Amirizad, A., & Jamaldini, M. (2024). *The relationship between community-based rehabilitation training and empowerment of people with disabilities in Jask County* Islamic Azad University, Bandar Jask Branch, Department of Educational Management].

Arami, M., & Sharifi, A. A. (2024). *The effect of sleep quality on behavioral inhibition, cognitive flexibility, self-concept and academic performance among lower secondary students* Payame Noor University, Isfahan Center].

Babbar, N., Gupta, A., Bhalla, K., & Kharkongor, N. P. (2024). Is there any correlation of sleep quality with postpartum depression in mothers of neonatal intensive care unit admitted babies? *Journal of Datta Meghe Institute of Medical Sciences University*, *19*(2), 300-303. https://doi.org/10.4103/jdmimsu.jdmimsu_199_22

Barani, A., & Jamaldini, M. (2024). *The effect of social participation on self-confidence in people with physical and motor disabilities in Sirik County* Islamic Azad University, Bandar Jask Branch, Department of Educational Management].

Beyaz, Ö., Akpınar, S., & Demirhan, G. (2024). Effect of 12-week traditional archery on motor performances and quality of life of adolescents with mild intellectual disability. *International Journal of Developmental Disabilities*, 1-16. https://doi.org/10.1080/20473869.2024.2436476

Beykverdi, R., & Mirzaei, P. (2024). *Predicting internet addiction from ego strength, self-concept and problem-solving styles: The mediating role of resilience in adolescents* Payame Noor University, Islamshahr Center].

Dehghan Manshadi, M., Arasteh Kani, A., & Akouchakian, M. (2025). The association between infertility and autism spectrum disorders in families. *Journal Of Shahid Sadoughi University Of Medical Sciences*, *33*(1), 8567-8579.

Farsi, K., & Barghi Irani, Z. (2024). *Effectiveness of quality of life improvement training on mental toughness and distress tolerance in secondary school students with physical disabilities* Payame Noor University, South Tehran Center].

Ghadertalab, R., Talebian Sharif, J., & Karami, A. (2024). *A model of academic achievement in people with disabilities based on parenting styles and self-efficacy with self-regulation as*

E-ISSN: 3060-6713

mediator Hekmat Razavi Higher Education Institute, Department of Psychology and Social Work].

Hojjatpanah, G. (2024). *Effectiveness of resilience training on quality of life and reducing risky behaviors among elementary students in Tabadkan, Mashhad* Hekmat Razavi Higher Education Institute, Department of Educational Management].

Hosseini Zavareh, S., & Shafiei, M. (2024). *Cognitive functions of the nervous system according to sleep habits and quality in Tehran Islamic Azad University of Medical Sciences students during 1402–1403* Tehran Islamic Azad University of Medical Sciences, Faculty of Medicine].

Jahan Pourshirvan, H., & Naderi, M. (2024). *Effectiveness of fluid awareness group therapy on marital satisfaction, happiness and life expectancy in mothers of children with intellectual disabilities* Hakim Nezami Higher Education Institute, Faculty of Humanities].

Jalili, F. S., & Pourafrooz, A. (2025). *Visual perception and spatial awareness in relation to brain lateral dominance in children with physical and motor disabilities* Shandiz Higher Education Institute, Department of Psychology].

Karimi Pashaki, Z., Basharpour, S., & Narimani, M. (2024). *Effectiveness of transcranial direct current stimulation on motor function and visual-motor perception in children with motor disabilities* University of Mohaghegh Ardabili, Faculty of Education and Psychology].

Mardi Sarand, K., & Etesamipour, R. (2024). *Comparison of social abilities, time perception and aggression in children with high- and low-functioning autism* Payame Noor University, Ardabil Center].

Mazrouei, M., & Rezaei Dehnavi, S. (2024). *The effect of an educational mathematics computer game on self-directed learning and academic achievement in students with high-functioning autism* Payame Noor University, Mobarakeh Center].

Namdari Khalilabadi, S., & Saeidmanesh, M. (2024). *Effectiveness of cognitive behavioral therapy on social adjustment and mental health in parents of children with physical disabilities* University of Science and Art, Yazd, Faculty of Humanities].

Narzisi, A., Busuoli, E. M., Fabbri-Destro, M., Pinzino, M., Calderoni, S., Tancredi, R., Lombardo, M. V., & Masi, G. (2025). Exploring autistic traits in parents of autistic children: A pilot study on the broader autism phenotype. *Frontiers in Psychiatry*, *16*. https://doi.org/10.3389/fpsyt.2025.1537487

Nediki, M., Karami, A., & Talebian Sharif, J. (2024). *A model of optimal sleep quality in patients with hypothyroidism based on cognitive emotion regulation and perceived social support with perceived stress as mediator* Hekmat Razavi Higher Education Institute, Department of Psychology and Social Work].

Nikjou, F., Vakili, S., & Mollanourozi, K. (2024). The effect of selected rowing exercises on motor skills and attention in children with high-functioning autism spectrum disorder. *Family and Health*, *14*(4), 132-150.

Rahimi, S., & Roshandel, Z. (2024). *Social support and childhood adversity in relation to suicidal ideation and self-perception: The mediating role of sleep quality* Islamic Azad University, Ardabil Branch, Faculty of Humanities].

Rahmati, S., Pouretemad, H., & Sadeghi, S. (2024). *The effect of figurative language training on social cognition in children with high-functioning autism* Shahid Beheshti University, Faculty of Education and Psychology].

Rashidi, N., & Shirafkan, A. (2025). *The mediating role of ego strength in the relationship of resilience with parenting stress and self-control in mothers of slow learners* Payame Noor University, Semnan Center].

Saleh, G. A., & Ghamari Kivi, H. (2024). *Problem-solving and communication skills training and emotional self-regulation in Iraqi students with disabilities* University of Mohaghegh Ardabili, Faculty of Education and Psychology].

Shahbazi Gorjan, S., Basharpour, S., & Atadokht, A. (2024). *Causal modeling of obsessive-compulsive symptoms based on emotional temperament and sleep quality: The mediating role of negative meta-emotion* University of Mohaghegh Ardabili, Faculty of Education and Psychology].

Tavanaei Tamanaei, S., Khodabakhsh, M. R., & Ilbeigi, R. (2024). *Effectiveness of continuous positive airway pressure therapy on depression, sleep-related behaviors and sleep quality in people with obstructive sleep apnea* Hakim Tous Higher Education Institute, Department of Psychology].

Tayebli, M., & Jalali, Y. (2024). Designing a group game-based educational program and evaluating its effectiveness in improving theory of mind and self-esteem in children with mild intellectual disability. *Psychology of Exceptional Individuals*, *14*(55), 247-276.

Yazdanipour, M., Fallah, A., & Farahmand Amin, S. (2025). *Rumination as a mediator between sleep quality and anxiety symptoms in students of Islamic Azad University, Ardabil Branch* Islamic Azad University, Ardabil Branch, Faculty of Medicine].

E-ISSN: 3060-6713