


# The Mediating Role of Parental Self-Efficacy in the Relationship Between Parental Psychological Flexibility and Behavioral Skills in Children with Autism Spectrum Disorders

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## ABSTRACT

**Objective:** Autism is described as a lifelong neurodevelopmental disorder that necessitates attention in early childhood. The present study aimed to investigate the mediating role of parental self-efficacy in the relationship between parental psychological flexibility and behavioral skills in these children.

**Methods and Materials:** This descriptive study followed a correlational design and included a population of mothers of children with autism spectrum disorder in Shiraz, Iran, using a convenience sampling method. The study included all children with autism spectrum disorder who had been receiving training at autism centers for at least one year. The questionnaires used in this research included the Social Skills Rating System by Gresham and Elliott (1990), the Parenting Sense of Competence Scale by Johnston and Mash (1989), and the Acceptance and Action Questionnaire.

**Findings:** The findings indicated that the research model had a good fit. There was a positive and significant relationship between acceptance and action with parental self-efficacy, as well as between social skills and behavioral skills. On the other hand, a significant negative relationship was observed between parental self-efficacy and problematic behaviors.

**Conclusion:** Parents can be more successful in caring for their children and help improve their children's communication, social, and behavioral performance by enhancing positive psychological factors within themselves.

**Keywords:** Parental self-efficacy, psychological flexibility, behavioral skills, children with autism

## 1. Introduction

Autism Spectrum Disorder (ASD) encompasses a range of complex developmental disorders characterized by delays or issues in cognitive, social,

emotional, linguistic, sensory, and motor abilities (Heydari, 2020). Impairment in social skills is the most well-known and fundamental feature of autism, and it can be said that it is the most persistent characteristic of this disorder from childhood to adulthood. Given the complexities of this

disorder, its occurrence not only affects the psychological and social processes of children but also causes psychological harm to the family and parents, especially mothers ((Esmaelpanah Amlashi et al., 2022; Schultz & Anderson, 2003). In this context, the burden of upbringing, education, and managing the condition requires psychological flexibility, which has gained significant importance in developmental psychopathology and mental health (Paulus et al., 2018). The higher the cognitive flexibility of parents of children with autism spectrum disorder concerning their child's problematic behaviors, the better their mental health. Additionally, psychological acceptance is a more effective coping strategy compared to problem-focused strategies (Bahmani et al., 2018; Cai et al., 2019).

Findings support another concept called the sense of self-efficacy. Parental self-efficacy refers to parents' cognition about their parenting abilities, which focuses on their beliefs about how well they can meet their child's needs. This construct is a key structural factor for understanding the experience that everyone can gain from being a parent (Khastari & Asgari, 2019; Mashhadizade et al., 2019). It seems that the feeling of parental self-efficacy differs by the gender of the parents. According to studies, mothers of children with autism spectrum disorder perceive their parenting competence as lower and experience more stress than fathers (Mashhadizade et al., 2019; Shamsi & Amirianzadeh, 2017). Parents with high self-efficacy have a direct impact on predicting parenting stress and act as a mediating factor in reducing the impact of children's behavioral problems on parental anxiety and stress. Parents with higher self-efficacy report less anxiety than parents with lower self-efficacy (Mashhadizade et al., 2019).

Results showed that the higher the psychological acceptance of parents of children with autism regarding their child's problematic behaviors, the better their mental health. Another study indicated that the ability to manage and regulate cognitive emotion is one of the skills that is impaired in parents of children with autism (Shamsi & Amirianzadeh, 2017). Given the increasing prevalence of children with autism and the high costs of treatment to improve the multiple problems of these children, the results of such studies, which provide a comprehensive view of various psychological factors to the team involved in the treatment and rehabilitation of these children, are very scarce. Therefore, the present study aimed to investigate the model of parental self-efficacy in the relationship between parental psychological flexibility and the communication-

social and behavioral skills of children with autism spectrum disorders.

## 2. Methods and Materials

### 2.1. Study Design and Participants

The present study was descriptive with a correlational model, using path analysis to determine the relationship between variables. The statistical population included mothers of children with autism spectrum disorder (120 individuals) in Shiraz, Iran, during 2017-2018. The sampling method was convenience sampling, and 92 individuals were selected as the sample size based on the Krejcie and Morgan table.

The questionnaires used in this study were the Parental Self-Efficacy Questionnaire by Domka, the Acceptance and Action Questionnaire - Second Edition (AAQ-II), and the Gilliam Autism Rating Scale (GARS).

### 2.2. Measures

#### 2.2.1. Parental Self-Efficacy

The Parental Self-Efficacy Questionnaire was introduced by Domka to measure parental self-efficacy. This test assesses parents' efficiency and frustration when facing child-related situations, their ability to resolve parent-child conflicts, and their effort and resilience in parenting. Tyler (2006) reported a Cronbach's alpha reliability of 0.54 for this scale (Mashhadizade et al., 2019).

#### 2.2.2. Psychological Flexibility

The AAQ-II was developed by Bond et al. (2007) and is a 12-item version of the original AAQ-I created by Hayes (2000). This questionnaire measures constructs related to flexibility, acceptance, experiential avoidance, and psychological flexibility. In Imani's (2016) study, the correlation coefficients for psychological flexibility with general health, depression, anxiety, and stress were 0.36, 0.57, 0.55, and 0.51, respectively, which were significant at the 0.01 level, indicating relatively good validity (Mashhadizade et al., 2019).

#### 2.2.3. Autism Symptoms

The GARS is a checklist that aids in diagnosing individuals with autism. It was standardized by Gilliam in 1994 and is based on definitions from the American Autism Society (ASA, 1994) and the American Psychiatric

Association (APA) using DSM-IV criteria. The GARS is suitable for individuals aged 3 to 22 years and can be completed by parents and professionals at school or home. It includes four subscales, each containing 14 items. The first subscale, stereotyped behaviors, describes behaviors related to motor disturbances and odd behaviors. The second subscale, communication, includes items that describe verbal and non-verbal behaviors indicative of autism. The third subscale, social interactions, assesses behaviors that appropriately describe events for people. The reliability of the GARS in its Persian version was estimated to be 0.89 using Cronbach's alpha by Ahmadi et al. (2011) in Isfahan, Iran (Bahmani et al., 2018).

2.3. Data analysis

To analyze the obtained data, correlation matrix and structural equation modeling software LISREL were used. Data analysis was conducted using SPSS version 22 and LISREL.

3. Findings and Results

The mean and standard deviation of the studied variables are presented in Table 1.

**Table 1**

*Descriptive Statistics for the Examined Variables (N = 92)*

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Flexibility	40.72	5.42	0.677	0.79
Self-Efficacy	48.26	5.42	0.295	0.238
Communication Skills	56.28	8.2	0.671	0.320
Social Skills	48.54	7.67	0.493	0.471
Behavioral Skills	48.96	6.77	0.149	0.064

Pearson correlation coefficients between the variables of flexibility, self-efficacy, communication skills, social skills, and behavioral skills are shown in Table 2. The results indicate that the variable of flexibility has a significant

relationship with the variables of self-efficacy, communication skills, social skills, and behavioral skills. Additionally, self-efficacy also has a significant relationship with communication, behavioral, and social skills.

**Table 2**

*Correlation Matrix of the Examined Variables*

Variable	Flexibility	Self-Efficacy	Communication Skills	Social Skills	Behavioral Skills
Flexibility	1				
Self-Efficacy	0.504**	1			
Communication Skills	0.215**	0.531**	1		
Social Skills	0.219**	0.139*	0.292**	1	
Behavioral Skills	0.351**	0.407**	0.407**	0.205**	1

\*p<0.005; \*\*p<0.01

The results of structural equations to examine the mediating role of self-efficacy in the relationship between flexibility and communication skills in children with autism spectrum disorder showed that, considering the significant path coefficients from flexibility to self-efficacy and from self-efficacy to behavioral skills, and the non-significant path coefficient from flexibility to behavioral skills, self-

efficacy has a complete mediating role in the relationship between flexibility and communication skills. Furthermore, the results indicated that the direct and total effect of flexibility on self-efficacy is 0.707. The direct, indirect, and total effects of flexibility on communication skills are 0.263, 0.569, and 0.306, respectively. The direct and total effects of self-efficacy on communication skills are 0.805.

**Table 3**

*Mediating Role of Self-Efficacy in the Relationship Between Flexibility and Social Skills in Children with Autism Spectrum Disorder*

Path	Estimated Value	SE	CR	P
Flexibility ---> Self-Efficacy	0.760	0.330	2.30	0.021
Self-Efficacy ---> Social Skills	0.394	0.256	2.42	0.023
Flexibility ---> Social Skills	0.163	0.137	1.19	0.234

The results in Table 3 show that the estimated path coefficients are significant at the 0.05 level. Considering that the path coefficients from flexibility to self-efficacy and from self-efficacy to social skills are significant, and the path coefficient from flexibility to social skills is not significant, self-efficacy has a complete mediating role in the relationship between flexibility and social skills. The results also showed that the values of the CFI, NFI, and IFI indices

were 0.477, 0.399, and 0.493, respectively, which are within an acceptable range. Additionally, the RMSEA index was 0.113, and the CMIN/DF was 2.12, which are at an appropriate level. The results indicated that the direct and total effect of flexibility on self-efficacy is 0.728. The direct, indirect, and total effects of flexibility on social skills are 0.457, 0.291, and 0.165, respectively. The direct and total effects of self-efficacy on social skills are 0.400.

**Table 4**

*Mediating Role of Self-Efficacy in the Relationship Between Flexibility and Behavioral Skills in Children with Autism Spectrum Disorder*

Path	Estimated Value	SE	CR	P
Flexibility ---> Self-Efficacy	0.815	0.354	2.30	0.021
Self-Efficacy ---> Behavioral Skills	0.323	0.269	1.20	0.030
Flexibility ---> Behavioral Skills	0.182	0.273	0.668	0.504

The results in Table 4 show that the estimated path coefficients are significant at the 0.05 level. Considering that the path coefficients from flexibility to self-efficacy and from self-efficacy to behavioral skills are significant, and the path coefficient from flexibility to behavioral skills is not significant, self-efficacy has a complete mediating role in the relationship between flexibility and behavioral skills. The values of the CFI, NFI, and IFI indices were 0.473, 0.336, and 0.507, respectively, which are within an acceptable range. Additionally, the RMSEA index was 0.105, and the CMIN/DF was 1.96, which are at an appropriate level. The results also indicated that the direct and total effect of

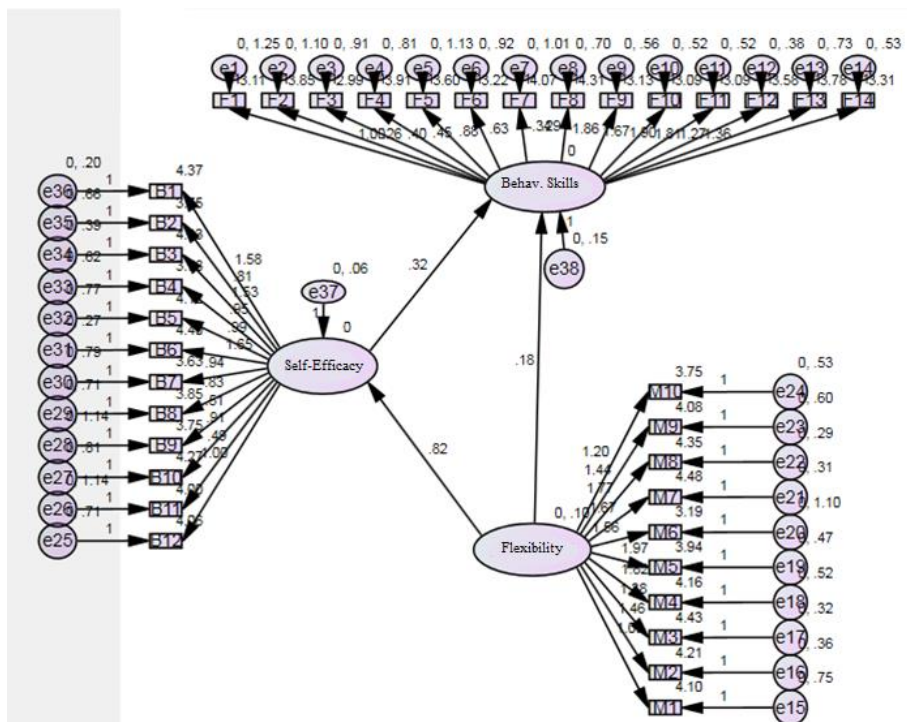
flexibility on self-efficacy is 0.720. The direct, indirect, and total effects of flexibility on behavioral skills are 0.146, 0.211, and 0.065, respectively. The direct and total effects of self-efficacy on behavioral skills are 0.293.

Cronbach's alpha coefficients for the variables were as follows: flexibility (0.819), self-efficacy (0.717), communication skills (0.877), social skills (0.794), and behavioral skills (0.743), indicating an acceptable level of reliability.

The mediating role of self-efficacy in the relationship between flexibility and behavioral skills in the studied children is shown in Figure 1.

Figure 1

Model with Beta Values



#### 4. Discussion and Conclusion

The findings of this study indicated a significant negative relationship between parental self-efficacy and the relationship between parental psychological flexibility and communication, social skills, and behavioral performance in children with autism spectrum disorders. These results are consistent with previous research (Esmaelpanah Amlashi et al., 2022; Lee & Chiang, 2018). This study demonstrated a significant mediating role of self-efficacy in the relationship between psychological flexibility and communication skills in children with autism spectrum disorder. Based on the family interaction theory and factors influencing the manifestation of autism spectrum disorder, some theorists do not consider parental personality traits as a cause of "autism" but believe that the way parents interact with their children leads to such a disorder (Esmaelpanah Amlashi et al., 2022). From this perspective, the interaction between parents of children with autism and their children is negative, hostile, rejecting, or non-reinforcing. Parents of children with autism reject their children and fail to meet their emotional needs. Children perceive their parents' negative feelings but are unable to elicit positive responses and, due to this feeling of helplessness, become isolated, passive, and seek an unchanging world. When mothers possess mental

health factors, they can provide a rich and healthy environment for their children with autism spectrum disorders, aiding in their progress. Additionally, most mothers experience denial, confusion, anger, and depression upon diagnosis of autism (Lee & Chiang, 2018).

Given that maternal mental health and anxiety have a direct impact on parental self-efficacy and psychological flexibility, and factors such as maternal education level, behavioral problems, cognitive level, and severity of autism symptoms negatively correlate with maternal stress, addressing factors that enhance mental health for these mothers can significantly reduce destructive behaviors and communication problems in these children. Improving maternal mental health as the core of the family may enhance other family relationships, creating a foundation for increased acceptance, problem-solving, and positive relationships within the family (Behnaz 2016). All these aspects ultimately contribute to creating a better environment for the growth and improved functioning of these children. Given that mothers of these children experience more anxiety and psychological problems compared to other groups of exceptional children, teaching mindfulness processes, acceptance, and committed action, and finding a sense of value in the lives of parents can facilitate the experience of living with a child with autism in

a communicative aspect. In this regard, self-efficacy, based on the sense of control in difficult parenting conditions for children with autism spectrum disorder, will help parents master communication and desired behavior, and solve challenging problems of their child.

This study confirmed the hypothesis that self-efficacy has a significant mediating role in the relationship between cognitive flexibility and social skills in children with autism spectrum disorder. According to the systemizing-empathizing theory, which explains the communication and social interaction problems of individuals with autism spectrum disorder with a deficit in empathy, the first element of empathy is mind-reading, which is a cognitive element of empathy. The second element of empathy is the reaction, i.e., having an appropriate response to others' feelings and thoughts, known as the emotional element of empathy. These results align with the prior findings (Hadian et al., 2023; Mirdrikond, 2019; Sedighi Arfaee et al., 2021). In another explanation, some theories that examine emotional regulation and stress-relieving behaviors of parents of children with autism suggest that parents of these children play a significant role in advancing emotional regulation through relaxation, organization, and re-focusing. Parental support for their children's development occurs through motivational or emotional scaffolding and using strategies to help their children modulate emotions. Recently, emotional regulation has been proposed as one of the features of autism spectrum disorder, putting individuals with autism at a higher risk for comorbid disorders (Mirdrikond, 2019).

In this study, it was found that there is a significant relationship between parental self-efficacy in relation to cognitive flexibility and behavioral skills of children with autism spectrum disorder. This finding can be explained by the fact that stress is an unavoidable aspect of parenting and a negative psychological reaction experienced when parents perceive that the demands of caring for their child exceed their capacity, leading to a sense of inadequacy in parenting abilities, negative evaluation of their interactions with their child, and an excessive interpretation of the child's demands. Even if parenting stress is common in most families, having a child with autism spectrum disorder poses a higher risk of stress for both parents, especially mothers who are often the primary caregivers. These findings align with the studies by Shamsi et al. (2017) on the mediating role of self-efficacy in the relationship between personality traits and social skills (Shamsi & Amiranzadeh, 2017); Khastari et al. (2019) on the relationship between emotional regulation, functional flexibility, and self-efficacy with emotional creativity in

painters in Ahvaz (Khastari & Asgari, 2019); Mashhadizadeh et al. (2019) on the role of family cohesion and flexibility in predicting parental self-efficacy among secondary school teachers in Yasuj (Mashhadizade et al., 2019); and Bahmani et al. (2018) on the effectiveness of a cognitive-behavioral intervention program on social and emotional skills in children with high-functioning autism (Bahmani et al., 2018).

## 5. Limitations & Suggestions

One of the primary limitations of this study is the use of a convenience sampling method, which may not provide a fully representative sample of the broader population of parents of children with autism spectrum disorder (ASD). Additionally, the cross-sectional design of the study limits the ability to draw causal inferences about the relationships between parental self-efficacy, psychological flexibility, and the behavioral skills of children with ASD. The reliance on self-reported measures may also introduce bias, as parents might overestimate or underestimate their own self-efficacy or their child's skills. Furthermore, the study focused exclusively on mothers, potentially overlooking the influence of fathers or other caregivers, which could provide a more comprehensive understanding of family dynamics in ASD.

Future research should aim to include a more diverse and representative sample, incorporating participants from various demographic backgrounds and different regions to enhance the generalizability of the findings. Longitudinal studies would be beneficial to examine the causal relationships and changes over time in parental self-efficacy, psychological flexibility, and child behavior skills. Including both mothers and fathers, as well as other caregivers, in future studies would provide a more holistic view of the family's influence on children with ASD. Additionally, employing a mixed-methods approach could enrich the quantitative data with qualitative insights, offering a deeper understanding of the lived experiences of families dealing with ASD.

The findings of this study underscore the importance of enhancing parental self-efficacy and psychological flexibility to improve the behavioral outcomes of children with ASD. Practitioners and policymakers should consider developing and implementing interventions and support programs that focus on strengthening these aspects among parents. Parenting programs that include components of cognitive-behavioral therapy and mindfulness-based stress

reduction could be particularly effective. Schools and community centers should also offer workshops and resources to help parents develop skills in managing stress and improving their interactions with their children. By fostering a supportive environment for parents, the overall well-being of families dealing with ASD can be significantly enhanced, leading to better developmental outcomes for children.

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### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

### References

- Bahmani, M., Naeimi, E., & Rezaie, S. (2018). The interventional program effectiveness of cognitive-behavioral plays on social and emotional skills in autism disorder children with high performance. *Clinical Psychology Studies*, 8(31), 157-176. [https://jcps.atu.ac.ir/article\\_8798\\_en.html](https://jcps.atu.ac.ir/article_8798_en.html)
- Behnaz, H. (2016). Effectiveness of emotional self-efficacy training on social adjustment and social anxiety in adolescents. *Journal of Applied Psychology Research*, 7(2), 69-80. <https://www.magiran.com/paper/2078288>
- Cai, R., Richdale, A., Dissanayake, C., Trollor, J., & Uljarević, M. (2019). Emotion regulation in autism. *International Journal of Choice Theory and Reality Therapy*, 38(1), 58-62. <https://pubmed.ncbi.nlm.nih.gov/29792076/>
- Esmaelpanah Amlashi, Z., Hosseinkhanzadeh, A. A., Akbari, B., & Moghtader, L. (2022). Comparison of the Effectiveness of Cognitive Behavioral Training with Acceptance and Commitment Therapy on the Self-esteem of Mothers of Children with Autism Spectrum Disorder. *childmh*, 9(2), 50-64. <https://doi.org/10.52547/jcmh.9.2.5>
- Hadian, S., Havasi soomar, N., Hosseinzadeh Taghvaei, M., Ebrahimi, M. I., & Ranjbaripour, T. (2023). Comparing the effectiveness of acceptance and commitment therapy and reality therapy on the responsibility and self-efficacy of divorced women [Research]. *Advances in Cognitive Sciences*, 25(3), 47-63. <https://doi.org/10.30514/icss.25.3.47>
- Khastari, S., & Asgari, P. (2019). Relationship between emotional regulation, resiliency and self-efficacy with emotional creativity of painting artists in ahwaz. *Salamat Ijtimai*, 156-149. <https://journals.sbmu.ac.ir/ch/index.php/ch/article/download/21967/16463/95576>
- Lee, J. K., & Chiang, H.-M. (2018). Parenting stress in South Korean mothers of adolescent children with autism spectrum disorder. *International Journal of Developmental Disabilities*, 64(2), 120-127. <https://doi.org/10.1080/20473869.2017.1279843>
- Mashhadizade, M., Kazemi, S., Khayer, M., & Samani, S. (2019). The Role of Family Cohesion and Flexibility in Predicting Parental Self-efficacy in Secondary Education Teachers in Yasuj. *Journal of Excellence in counseling and psychotherapy*, 8(31), 69-78. [https://www.researchgate.net/publication/358734707\\_The\\_role\\_of\\_family\\_cohesion\\_and\\_self-worth\\_in\\_predicting\\_tendency\\_towards\\_risky\\_behavior\\_in\\_adolescents](https://www.researchgate.net/publication/358734707_The_role_of_family_cohesion_and_self-worth_in_predicting_tendency_towards_risky_behavior_in_adolescents)
- Mirdrikond, F., Goudarzi, Mitra, Ghasemi, Neda, Gholamrezaie, Simin. (2019). The Effectiveness of Positive Psychotherapy on Psychosocial inflexibility and Self-Efficacy of Pain in Women with Chronic Pain. *Anesthesiology and Pain*, 9(4), 1-14. <http://jap.iuims.ac.ir/article-1-5405-en.html>
- Paulus, M., Licata, M., Gniewosz, B., & Sodian, B. (2018). The impact of mother-child interaction quality and cognitive abilities on children's self-concept and self-esteem. *Cognitive Development*, 48, 42-51. <https://doi.org/10.1016/j.cogdev.2018.07.001>
- Schultz, R., & Anderson, G. M. (2003). The neurobiology of autism and the pervasive developmental disorders. *Child study Center, Yale University School of Medicine*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6673916/>
- Sedighi Arfaee, F., Rashidi, A., & Tabesh, R. (2021). The Distress Tolerance in the Elderly: The Role of Experiential Avoidance, Rumination and Mindfulness. *Aging Psychology*, 7(1), 12-11. <https://doi.org/10.22126/jap.2021.6108.1498>
- Shamsi, F., & Amirianzadeh, M. (2017). The mediating role of self-Efficacy for personality traits and social skills. *Psychological Models and Methods*, 8(27), 1-14. [https://jpm.m.marvdasht.iau.ir/article\\_2411.html?lang=en](https://jpm.m.marvdasht.iau.ir/article_2411.html?lang=en)

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

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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### Authors' Contributions

All authors equally contributed in this article.