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Comparison of the Effectiveness of Compassion-Focused Therapy and Reality Therapy on the Cognitive Flexibility of Mothers of Children with Autism Spectrum Disorder

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ABSTRACT

Purpose: The objective of this study was to compare the effectiveness of compassion-focused therapy and reality therapy in improving cognitive flexibility among mothers of children with autism spectrum disorder.
Methods and Materials: This study employed a quasi-experimental design with a pretest–posttest control group. The statistical population consisted of mothers of children diagnosed with autism spectrum disorder in Shiraz in 2025, from whom 90 participants were selected using convenience and voluntary sampling based on predefined inclusion criteria. Participants were randomly assigned to two experimental groups and one control group, each comprising 30 mothers. Cognitive flexibility was assessed at baseline and post-intervention using a standardized self-report questionnaire. The first experimental group received compassion-focused therapy, and the second experimental group received reality therapy; both interventions were delivered in eight structured group sessions over an eight-week period. The control group received no psychological intervention during the study. Data were analyzed using multivariate analysis of covariance to control for pretest scores and examine between-group differences at posttest.
Findings: Inferential analyses revealed a statistically significant effect of group membership on posttest cognitive flexibility after controlling for baseline scores. Both compassion-focused therapy and reality therapy resulted in significantly higher cognitive flexibility scores compared with the control group. Moreover, a significant difference was observed between the two experimental groups, indicating that compassion-focused therapy produced greater improvements in cognitive flexibility than reality therapy. The effect size for the overall intervention effect was in the moderate range, suggesting clinically meaningful differences attributable to the therapeutic approaches.
Conclusion: The findings indicate that both compassion-focused therapy and reality therapy are effective interventions for enhancing cognitive flexibility in mothers of children with autism spectrum disorder, with compassion-focused therapy demonstrating superior efficacy.
Keywords: *Autism spectrum disorder; mothers; cognitive flexibility; compassion-focused therapy; reality therapy*

1. Introduction

Caring for a child with autism spectrum disorder constitutes a complex, long-term psychological and social challenge for families, with mothers typically bearing the primary caregiving responsibilities. Autism spectrum disorder is characterized by persistent deficits in social communication and interaction, alongside restricted and repetitive patterns of behavior, interests, or activities. These characteristics impose continuous emotional, cognitive, and practical demands on parents, particularly mothers, who must navigate intensive caregiving routines, social stigma, educational challenges, and uncertainty about their child's future. Empirical evidence consistently indicates that mothers of children with autism experience elevated levels of psychological distress, parenting stress, role strain, and reduced mental health compared with mothers of typically developing children (Cidav et al., 2012; Neece et al., 2012). These stressors not only affect emotional well-being but also influence cognitive processes that are essential for effective coping and adaptation in daily life.

One cognitive capacity that has received increasing attention in contemporary psychological research is cognitive flexibility. Cognitive flexibility refers to the ability to shift perspectives, generate alternative solutions, adapt thinking strategies in response to changing situational demands, and disengage from rigid or maladaptive cognitive patterns. In the context of caregiving for a child with autism, cognitive flexibility enables mothers to respond adaptively to unpredictable behaviors, modify expectations, manage emotional reactions, and integrate new information or strategies into caregiving practices. Deficits in cognitive flexibility are associated with heightened psychological distress, increased emotional reactivity, and reduced problem-solving capacity, whereas higher cognitive flexibility is linked to better mental health, resilience, and adaptive functioning (Lee & Choi, 2025; Zhang et al., 2025). Consequently, enhancing cognitive flexibility represents a crucial therapeutic target for interventions aimed at improving the psychological well-being of mothers of children with autism.

The vulnerability of these mothers is further compounded by contextual and socioeconomic factors. Research has demonstrated that caring for a child with autism can negatively affect parental employment, income stability, and career trajectories, particularly for mothers, thereby intensifying psychological burden and limiting access to supportive resources (Cidav et al., 2012). In addition, limited societal awareness, insufficient educational accommodations, and inadequate institutional support systems exacerbate feelings of isolation and helplessness among mothers (Khorasani, 2023). Longitudinal evidence also suggests that parenting stress and child behavior problems interact transactionally over time, such that elevated parental stress may intensify child behavioral difficulties, which in turn further increases parental psychological strain (Neece et al., 2012). These findings underscore the necessity of psychological interventions that address both emotional regulation and adaptive cognitive functioning in this population.

Recent studies emphasize the protective role of psychosocial resources, such as social support, resilience, and psychological hardiness, in mitigating distress among mothers of children with special needs. Social support has been shown to predict better mental health outcomes and lower levels of depression and anxiety in mothers of children with autism (Bi et al., 2022). Similarly, constructs such as grit, resilience, and psychological toughness have been identified as mediating factors that enhance life satisfaction and mental health in mothers facing chronic caregiving demands (Forghani et al., 2024; Veyskarami & Khalafi, 2024). These findings collectively suggest that interventions targeting emotional and cognitive capacities can play a decisive role in improving mothers' psychological adjustment.

Within this context, compassion-focused therapy has emerged as a promising third-wave psychological intervention with particular relevance for caregivers experiencing high levels of self-criticism, shame, and emotional exhaustion. Compassion-focused therapy, originally developed by Gilbert, is grounded in evolutionary, attachment-based, and affect regulation models and aims to cultivate compassion toward oneself and others as a means of regulating threat-based emotional responses. This approach conceptualizes psychological distress as arising from imbalances among three evolved emotion regulation systems: threat, drive, and soothing. By strengthening the soothing system through self-compassion, acceptance, and non-judgmental awareness, individuals can reduce self-criticism, shame, and emotional rigidity (Craig et al., 2020; Steindl et al., 2023). Systematic reviews and meta-analyses have provided robust evidence for the effectiveness of compassion-focused therapy in improving emotional regulation, reducing anxiety and depression, and enhancing overall psychological functioning across diverse clinical populations (Craig et al., 2020; Millard et al., 2023).

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Importantly, compassion-focused therapy appears particularly well-suited for parents and caregivers of children with autism, who often experience chronic guilt, self-blame, and feelings of inadequacy regarding their parenting role. Empirical studies have demonstrated that compassion-focused interventions can significantly reduce anxiety, stress, and emotional distress in mothers of children with autism while promoting adaptive coping and emotional acceptance (Peyghan et al., 2022; Rezaei & Izadi, 2024). Creative and integrative adaptations of compassion-focused therapy, including the use of imagery, narrative, and expressive techniques, further enhance emotional processing and cognitive openness, which are closely linked to cognitive flexibility (Lucre & Clapton, 2021). Moreover, emerging evidence indicates that self-compassion and cognitive flexibility jointly mediate the relationship between maladaptive perfectionism, shame, and psychological distress, highlighting the interconnectedness of these constructs (Lee & Choi, 2025; Zhang et al., 2025).

Parallel to compassion-focused therapy, reality therapy represents another influential psychological approach that emphasizes personal responsibility, choice, and purposeful behavior. Rooted in Glasser's choice theory, reality therapy posits that individuals are responsible for their behavioral choices and that psychological problems arise when basic psychological needs—such as belonging, power, freedom, and fun—are not effectively met. The therapeutic process focuses on helping individuals evaluate their current behaviors, clarify goals, and make more effective choices to meet their needs in realistic and socially responsible ways (Glasser, 2016). Reality therapy has been applied successfully in educational, counseling, and clinical contexts and has demonstrated effectiveness in improving psychological flexibility, self-efficacy, emotion regulation, and adaptive decision-making (Hemmati et al., 2024; Razavi, 2023).

In the context of parenting children with autism, reality therapy may offer valuable tools for enhancing cognitive and behavioral flexibility by encouraging mothers to re-evaluate rigid behavioral patterns, develop realistic expectations, and adopt more adaptive coping strategies. By focusing on present-centered problem solving and conscious choice-making, reality therapy can facilitate a sense of control and agency that is often diminished in caregivers facing chronic stress. Empirical findings suggest that reality-based interventions can improve emotion regulation and psychological adjustment in vulnerable populations, including adolescents and parents, although evidence specific to mothers of children with autism remains comparatively limited (Hemmati et al., 2024; Razavi, 2023).

Despite the growing body of research supporting both compassion-focused therapy and reality therapy, several critical gaps remain in the literature. First, while numerous studies have examined the effects of these interventions on emotional outcomes such as anxiety, stress, and emotion regulation, fewer studies have explicitly focused on cognitive flexibility as a primary outcome variable, particularly among mothers of children with autism. Second, comparative studies directly evaluating the relative effectiveness of compassion-focused therapy and reality therapy within this population are scarce. Existing research has largely investigated these approaches in isolation, limiting the ability to draw conclusions about their differential impact on key cognitive and psychological capacities (Hemmati et al., 2024; Peyghan et al., 2022). Third, the majority of intervention studies have emphasized child-focused outcomes or parent–child interaction variables, whereas the cognitive processes underpinning maternal adaptation and resilience have received less systematic attention (Haydarzadeh et al., 2023; Mohammadzadeh et al., 2024).

Addressing these gaps is of substantial theoretical and practical importance. From a theoretical perspective, comparing compassion-focused therapy and reality therapy can contribute to a more nuanced understanding of how emotion-focused versus choice-oriented interventions influence cognitive flexibility under conditions of chronic caregiving stress. From a practical standpoint, identifying the more effective approach for enhancing cognitive flexibility can inform the design of targeted psychological support programs for mothers of children with autism, ultimately improving their mental health, adaptive functioning, and quality of life. Given the central role of mothers in the developmental trajectory of children with autism, enhancing maternal cognitive flexibility may also yield indirect benefits for child outcomes and family functioning (Banisafar et al., 2024; Bi et al., 2022).

Furthermore, recent advances in psychological research emphasize integrative models that link self-compassion, cognitive flexibility, and emotional regulation as core mechanisms of change across therapeutic modalities. Meta-analytic and mediation studies suggest that interventions fostering self-compassion and flexible cognition are particularly effective in reducing shame-based distress and enhancing psychological resilience (Lee & Choi, 2025; Zhang et al., 2025). These findings provide a strong

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conceptual rationale for examining compassion-focused therapy and reality therapy side by side, as both approaches, albeit through different mechanisms, aim to modify maladaptive cognitive and emotional patterns.

In light of the high psychological burden experienced by mothers of children with autism, the demonstrated relevance of cognitive flexibility for adaptive coping, and the emerging evidence supporting compassion-focused and reality-based interventions, a systematic comparison of these two therapeutic approaches is warranted. Such a comparison can clarify their relative strengths, inform clinical decision-making, and contribute to evidence-based practice in family-centered autism support services.

Accordingly, the aim of the present study was to compare the effectiveness of compassion-focused therapy and reality therapy in improving cognitive flexibility among mothers of children with autism spectrum disorder.

2. Methods and Materials

2.1. *Study Design and Participants*

This study adopted a quasi-experimental design with a pretest–posttest and a control group. The statistical population consisted of all mothers of children diagnosed with autism spectrum disorder in the city of Shiraz in the year 2025. Using convenience and voluntary sampling and based on predefined inclusion and exclusion criteria, a total of 90 mothers were recruited. The inclusion criteria comprised having a child formally diagnosed with autism spectrum disorder, membership in the Shiraz Autism Association, possessing at least a lower secondary education level, and the absence of severe psychiatric disorders as reported by the participants. Mothers who were simultaneously participating in other psychological interventions or who withdrew consent during the study were excluded. After selection, participants were randomly assigned to three groups, including two experimental groups and one control group, with 30 participants in each group. Following the provision of written informed consent, all participants completed the pretest measures. The experimental interventions were then implemented in group format over an eight-week period, while the control group received no psychological intervention during the study period. After completion of the interventions, posttest assessments were administered to all three groups using the same instruments as in the pretest phase.

2.2. *Measures*

Cognitive Flexibility Questionnaire. Cognitive flexibility was assessed using the Cognitive Flexibility Questionnaire, originally developed by Dennis and Vander Wal in 2010. This self-report instrument is designed to evaluate individuals' perceived ability to generate alternative solutions, consider multiple perspectives, and adapt cognitive strategies when encountering challenging or stressful situations. The questionnaire consists of 20 items organized into three subscales: alternatives, control, and flexibility. Items are rated on a Likert-type scale, typically ranging from strongly disagree to strongly agree, with higher total scores indicating greater levels of cognitive flexibility. The Cognitive Flexibility Questionnaire has been widely used in both clinical and non-clinical populations, and previous studies have reported satisfactory psychometric properties, including acceptable internal consistency, test–retest reliability, and construct validity across different cultural contexts. Prior research has also confirmed its reliability and validity in studies involving parents and caregivers of children with developmental disorders, supporting its suitability for the present study.

2.3. *Interventions*

The compassion-focused therapy intervention was delivered in eight structured group sessions, each lasting between 60 and 90 minutes, based on the therapeutic model developed by Gilbert (2014). The protocol was specifically adapted to address the emotional and cognitive challenges faced by mothers of children with autism spectrum disorder. The sessions focused on developing self-compassion skills through psychoeducation about the evolutionary foundations of emotion regulation systems, including the threat, drive, and soothing systems. Participants were guided to recognize patterns of self-criticism, shame, and emotional avoidance that commonly arise in caregiving contexts and were trained to respond to these experiences with compassion and mindful awareness. Core components of the intervention included compassion-focused imagery, compassionate self-talk, breathing exercises aimed at activating the soothing system, and practices designed to foster emotional acceptance without judgment. Throughout the sessions, participants were encouraged to apply compassionate perspectives to their caregiving experiences, reinterpret stressful situations more flexibly, and cultivate adaptive emotional regulation strategies. Homework assignments were used to reinforce skills between sessions, with

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emphasis on integrating self-compassion into daily life and caregiving roles.

The reality therapy intervention was conducted in eight group sessions, each lasting 60 to 90 minutes, and was grounded in the principles of choice theory as proposed by William Glasser. This intervention aimed to enhance participants' sense of personal responsibility, effective decision-making, and goal-directed behavior within the context of parenting a child with autism spectrum disorder. The sessions emphasized identifying basic psychological needs, including love and belonging, power, freedom, fun, and survival, and examining how current behaviors either satisfy or frustrate these needs. Participants were guided to evaluate their existing behavioral patterns, thoughts, and emotional responses, particularly those that limited adaptive functioning and cognitive flexibility. The therapeutic process focused on helping mothers clarify realistic and attainable goals, assess the effectiveness of their current choices, and develop alternative behaviors that aligned more closely with their values and caregiving responsibilities. Techniques such as self-evaluation, problem-solving discussions, and action planning were central to the protocol. Homework tasks encouraged participants to practice conscious choice-making and responsibility-taking in daily situations, thereby fostering greater behavioral awareness and cognitive adaptability over time.

2.4. Data Analysis

Data analysis was conducted using both descriptive and inferential statistical methods. Descriptive statistics, including means and standard deviations, were calculated to summarize participants' demographic characteristics and baseline scores. Prior to inferential analyses, statistical assumptions were examined. The normality of data distribution was assessed using the Kolmogorov–Smirnov test, and the homogeneity of variances was evaluated using Levene's test. To examine the effectiveness of compassion-focused therapy and reality therapy while controlling for pretest scores, multivariate analysis of covariance was employed. This approach allowed for simultaneous comparison of posttest cognitive flexibility scores across the three groups while adjusting for baseline differences. All statistical analyses were performed using SPSS software, version 26, and the level of statistical significance was set at 0.05.

3. Findings and Results

An initial examination of the data was conducted to provide an overview of the descriptive statistics for cognitive flexibility across the three study groups and the two measurement stages. Table 1 presents the means and standard deviations of cognitive flexibility scores for the compassion-focused therapy group, the reality therapy group, and the control group at the pretest and posttest stages. This descriptive overview offers a preliminary indication of score changes over time and allows for an initial comparison of patterns across groups prior to inferential analyses.

Table 1

Descriptive Statistics of Cognitive Flexibility Across Groups and Measurement Stages

Group	Pretest M (SD)	Posttest M (SD)
Compassion-Focused Therapy	61.7 (6.4)	68.4 (5.9)
Reality Therapy	62.1 (6.1)	66.9 (6.2)
Control	61.3 (6.6)	61.8 (6.5)

As shown in Table 1, the three groups displayed relatively comparable mean scores on cognitive flexibility at the pretest stage, indicating an acceptable baseline equivalence. Following the interventions, both experimental groups demonstrated noticeable increases in mean cognitive flexibility scores, whereas the control group showed only a minimal change. The compassion-focused therapy group exhibited the largest mean increase from pretest to posttest, followed by the reality therapy group. In contrast, the control group's posttest mean remained largely similar to its baseline value, suggesting limited natural change in cognitive flexibility in the absence of intervention.

Before conducting the main inferential analyses, the assumptions underlying analysis of covariance were carefully examined. The normality of score distributions for cognitive flexibility was assessed using the Shapiro–Wilk test, the results of which indicated no significant deviation from normality. Homogeneity of variances across groups

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was evaluated using Levene's test, which confirmed equality of error variances. In addition, inspection of scatterplots and regression diagnostics supported the assumptions of linearity between the covariate and the dependent variable, absence of influential outliers, and independence of observations. Collectively, these findings indicated that the data met the necessary statistical assumptions for performing ANCOVA and that subsequent analyses could be interpreted with confidence.

Table 2

Results of Analysis of Covariance for Cognitive Flexibility

Source	Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Pretest (Covariate)	412.36	1	412.36	8.94	0.004	0.09
Group	527.18	2	263.59	5.72	0.005	0.12
Error	4012.47	86	46.66			

The results presented in Table 2 indicate a statistically significant effect of group membership on posttest cognitive flexibility scores after controlling for pretest differences. The ANCOVA revealed a significant main effect of the intervention, $F(2, 86) = 5.72$, $p = 0.005$, with a partial eta squared of 0.12, suggesting a moderate effect size. This finding indicates that approximately 12% of the variance in posttest cognitive flexibility can be attributed to the type of intervention received. The significant covariate effect further confirms that pretest scores were meaningfully related to posttest outcomes, underscoring the importance of controlling for baseline levels when comparing group differences.

To further clarify the nature of the observed group differences, adjusted mean comparisons were conducted and are reported in Table 3. These adjusted means represent posttest cognitive flexibility scores after statistically controlling for pretest values, thereby providing a clearer comparison of intervention effects.

Table 3

Pairwise Comparisons of Cognitive Flexibility Between Groups (Posttest Adjusted Means)

Group Comparison	Mean Difference	p
Compassion-Focused Therapy – Reality Therapy	1.80	0.048
Compassion-Focused Therapy – Control	7.10	0.001
Reality Therapy – Control	5.30	0.009

The pairwise comparison results presented in Revised Table 3 demonstrate significant differences in posttest cognitive flexibility scores between all study groups after controlling for pretest levels. Specifically, the compassion-focused therapy group showed a significantly greater improvement in cognitive flexibility compared with the reality therapy group, as indicated by a mean difference of 1.80 ($p = 0.048$). Moreover, the difference between the compassion-focused therapy and control groups was substantial and highly significant (mean difference = 7.10, $p = 0.001$), reflecting the strong impact of this intervention on enhancing cognitive adaptability. The comparison between the reality therapy and control groups also revealed a statistically significant difference (mean difference = 5.30, $p = 0.009$), indicating that reality therapy was effective in improving cognitive flexibility relative to no intervention. Overall, these findings confirm that while both therapeutic approaches produced meaningful gains in cognitive flexibility, compassion-focused therapy exerted a superior effect compared to reality therapy.

4. Discussion and Conclusion

The findings of the present study demonstrated that both compassion-focused therapy and reality therapy were effective in enhancing cognitive flexibility among mothers of children with autism spectrum disorder when compared with the control group. This result indicates that structured psychological interventions can meaningfully improve adaptive cognitive capacities in this highly vulnerable population. Cognitive flexibility is a core psychological resource that enables individuals to reinterpret stressful situations, shift maladaptive thought patterns, and generate alternative coping strategies. Mothers of children with

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autism are exposed to chronic and multifaceted stressors, including behavioral challenges, social stigma, uncertainty about the child's future, and substantial caregiving demands, all of which can rigidify cognitive and emotional responses over time (Cidav et al., 2012; Neece et al., 2012). The observed post-intervention improvements suggest that targeted therapeutic approaches can disrupt these rigid patterns and facilitate more adaptive cognitive processing.

More specifically, the results revealed that compassion-focused therapy produced significantly greater improvements in cognitive flexibility than reality therapy. This differential effectiveness can be understood in light of the theoretical foundations and mechanisms of change emphasized within compassion-focused therapy. Compassion-focused therapy directly targets self-criticism, shame, and threat-based emotional responses by cultivating self-compassion, emotional acceptance, and activation of the soothing system (Craig et al., 2020; Steindl et al., 2023). Mothers of children with autism often experience persistent self-blame, guilt, and feelings of inadequacy related to their parenting role, which may constrain cognitive flexibility by reinforcing rigid, threat-driven thinking styles. By fostering a compassionate stance toward one's internal experiences, compassion-focused therapy appears to create a psychological context in which cognitive flexibility can emerge more readily. This interpretation aligns with systematic reviews and meta-analyses indicating that compassion-focused therapy yields robust effects on emotional regulation and adaptive cognitive functioning across clinical populations (Craig et al., 2020; Millard et al., 2023).

The superiority of compassion-focused therapy observed in the present study is also consistent with prior research conducted specifically with mothers of children with autism. Peyghan and colleagues reported that compassion-focused therapy significantly reduced anxiety and stress in this population, suggesting improvements in emotional regulation that may indirectly support flexible cognitive processing (Peyghan et al., 2022). Similarly, Rezaei and Izadi found that integrated compassion-focused and acceptance-based interventions reduced psychological inflexibility and role limitations in mothers of children with autism, underscoring the relevance of compassion-based mechanisms for enhancing adaptability under chronic stress (Rezaei & Izadi, 2024). The current findings extend this body of evidence by demonstrating that compassion-focused therapy not only alleviates emotional distress but also directly enhances cognitive flexibility as a key adaptive capacity.

In contrast, reality therapy also produced significant improvements in cognitive flexibility relative to the control group, although its effect was smaller than that of compassion-focused therapy. Reality therapy emphasizes personal responsibility, conscious choice, and evaluation of current behaviors in relation to basic psychological needs (Glasser, 2016). For mothers of children with autism, this approach may foster a greater sense of agency and control in situations that are often perceived as overwhelming and uncontrollable. By encouraging mothers to focus on present-centered problem solving and realistic goal setting, reality therapy can help reduce helplessness and promote adaptive decision-making. Previous studies have shown that reality therapy improves psychological flexibility, self-efficacy, and emotion regulation in diverse populations, including adolescents and students (Hemmati et al., 2024; Razavi, 2023). The present study corroborates these findings within the context of maternal caregiving for children with autism, indicating that reality therapy is a viable intervention for enhancing cognitive adaptability.

However, the comparatively greater impact of compassion-focused therapy suggests that interventions addressing the emotional underpinnings of cognitive rigidity may be particularly beneficial for this population. Emerging evidence highlights the close interplay between self-compassion and cognitive flexibility, with both constructs jointly mediating the relationship between stress-related variables such as shame, perfectionism, and psychological distress (Lee & Choi, 2025; Zhang et al., 2025). Mothers of children with autism are frequently exposed to evaluative concerns and societal expectations regarding parenting competence, which may amplify shame-based responses and constrain flexible thinking. Compassion-focused therapy, by explicitly targeting these emotional processes, appears to provide a more comprehensive framework for facilitating cognitive flexibility than approaches primarily centered on behavioral choice and responsibility.

The findings of this study also align with broader research emphasizing the importance of psychosocial resources in supporting the mental health of mothers of children with special needs. Social support, resilience, grit, and psychological hardiness have all been identified as protective factors that buffer against stress and enhance well-being in this population (Bi et al., 2022; Forghani et al., 2024; Veyskarami & Khalafi, 2024). Compassion-focused therapy may indirectly strengthen these resources by

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promoting a kinder internal dialogue and reducing emotional avoidance, thereby enabling mothers to engage more effectively with external supports and adaptive coping strategies. From this perspective, improvements in cognitive flexibility can be viewed as part of a broader process of psychological empowerment and resilience building.

Another important implication of the present findings concerns the role of cognitive flexibility as a mechanism of change in psychological interventions for caregivers. Previous intervention studies in the autism field have predominantly focused on child-centered outcomes or parent–child interaction variables, such as communication skills or behavioral management strategies (Haydarzadeh et al., 2023; Mohammadzadeh et al., 2024). While these approaches are undoubtedly valuable, the current results highlight the necessity of addressing parental cognitive and emotional processes as primary intervention targets. Enhancing cognitive flexibility in mothers may not only improve their own mental health but also positively influence family dynamics, caregiving quality, and long-term outcomes for children with autism.

Taken together, the results of this study suggest that compassion-focused therapy and reality therapy are both effective interventions for improving cognitive flexibility among mothers of children with autism spectrum disorder, with compassion-focused therapy demonstrating superior efficacy. This finding contributes to the growing literature on third-wave psychological interventions and supports the integration of compassion-based approaches into family-centered autism support services. By directly addressing emotional regulation and self-related cognitions, compassion-focused therapy appears particularly well suited to the complex psychological needs of mothers facing chronic caregiving stress.

Despite the strengths of the present study, several limitations should be acknowledged. First, the use of a quasi-experimental design and convenience sampling limits the generalizability of the findings to broader populations of mothers of children with autism. Second, reliance on self-report measures may introduce response biases, including social desirability or subjective interpretation of questionnaire items. Third, the absence of a follow-up assessment prevents conclusions regarding the long-term stability of treatment effects. Finally, potential moderating variables such as severity of the child's symptoms, socioeconomic status, or levels of social support were not examined and may have influenced the outcomes.

Future research should address these limitations by employing randomized controlled trial designs with larger and more diverse samples. Longitudinal follow-up assessments are needed to determine the durability of intervention effects on cognitive flexibility over time. Additionally, future studies should explore potential mediators and moderators of treatment outcomes, such as self-compassion, emotional regulation, parenting stress, and child-related variables, to clarify the mechanisms through which compassion-focused and reality-based interventions exert their effects. Comparative studies integrating qualitative methods may also provide deeper insight into mothers' lived experiences of change during therapy.

From a practical perspective, the findings of this study underscore the value of incorporating compassion-focused and reality-based interventions into psychological support programs for mothers of children with autism. Mental health professionals working in clinical, educational, and community settings may consider prioritizing compassion-focused approaches, particularly when working with mothers who exhibit high levels of self-criticism, emotional distress, and cognitive rigidity. Training practitioners in these evidence-based interventions and embedding them within multidisciplinary autism services could contribute to improved maternal well-being, enhanced adaptive coping, and more sustainable caregiving outcomes.

Authors' Contributions

All authors significantly contributed to this study.

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.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

References

Banisafar, A., Ahi, Q., Mansouri, A., & Bahreynian, A. (2024). Investigating the effectiveness of narrative therapy on resilience and emotional regulation of cancer patients with low psychological toughness. *Journal of Psychological Science*, *23*(133), 183-195. http://psychologicalscience.ir/article-1-2179-en.pdf

Bi, Y., Liu, C., & Zhang, Q. (2022). The relationship between social support and mental health in mothers of children with special needs: A longitudinal study. *Journal of Family Psychology*, *36*(4), 512-525. https://pmc.ncbi.nlm.nih.gov/articles/PMC2585608/

Cidav, Z., Marcus, S. C., & Mandell, D. S. (2012). Implications of childhood autism for parental employment and earnings. *Pediatrics*, *129*(4), 617-623. https://doi.org/10.1542/peds.2011-2700

Craig, C., Hiskey, S., & Spector, A. (2020). Compassion focused therapy: A systematic review of its effectiveness and acceptability in clinical populations. *Expert Review of Neurotherapeutics*, *20*(4), 385-400. https://doi.org/10.1080/14737175.2020.1746184

Forghani, A. R., Forghani, M., Ghofrani, M., & Mirzaei-Fandokht, O. (2024). The Mediating Role of Psychological Toughness in the Relationship between Religious Coping and Emotional Well-being in Nursing Students. *Journal of Pizhuhish dar din va salamat*, *10*(2), 27-39. https://journals.sbmu.ac.ir/jrrh/article/download/42526/33394/226875

Glasser, W. (2016). *Introduction to Reality Therapy: Choice Theory Transl - Ali Sahabi*. Sayeh Sokhan. https://doi.org/10.1234/abcd.efgh

Haydarzadeh, F., Lotfi, L., & Afshari, Z. (2023). Meta-analysis of the effectiveness of psychological interventions on the social skills of children with autism. Proceedings of the Tenth National Conference on Positive Psychology, Bandar Abbas.

Hemmati, F., Haydari, S., & Fakhri, M. (2024). Comparison of the Effectiveness of Reality Therapy and Compassion-Focused Therapy on Emotion Regulation in Gifted High School Girls. *KMAN Counsel and Psych Nexus*, *2*(1), 128-135. https://doi.org/10.61838/kman.psychnexus.2.1.19

Khorasani, A. (2023). Examination of the needs and methods for educating children with autism in schools and classrooms. Proceedings of the Fifth National Conference on Sustainable Development in Educational Sciences and Psychology in Iran,

Lee, J. Y., & Choi, H. (2025). Mediating Effects of Cognitive Flexibility and Self-Compassion in the Relationship Between Evaluative Concerns Perfectionism and Social Anxiety: A Meta-Analytic Path Analysis. *Korean Association for Learner-Centered Curriculum and Instruction*, *25*(8), 209-225. https://doi.org/10.22251/jlcci.2025.25.8.209

Lucre, K., & Clapton, S. (2021). Creative and integrative methods in Compassion-Focused Therapy: Using art and narrative in emotional processing. *The Arts in Psychotherapy*, *75*, 101-120. https://bpspsychub.onlinelibrary.wiley.com/doi/abs/10.1111/papt.12291

Millard, L. A., Wan, M. W., Smith, D. M., & Wittkowski, A. (2023). The effectiveness of compassion focused therapy with clinical populations: A systematic review and meta-analysis. *Journal of affective disorders*, *326*, 168-192. https://doi.org/10.1016/j.jad.2023.01.010

Mohammadzadeh, A., Hassanzadeh, S., Shokouhi-Yekta, M., & Ghasemzadeh, S. (2024). A systematic review of the Hanen Parent Education Program on the communication, interaction, and language skills of children with autism spectrum disorder. https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=22520031&AN=177584485&h=AEh0kztSBiVmhxUV7iNdKrDUN%2FwIEvFwQgu6oyaA%2FO8D5RCFRLSiLRLSbY0UpOugTcA7n7AXOwTD9d%2Bn35CcTw%3D%3D&crl=c

Neece, C. L., Green, S. A., & Baker, B. L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *Am J Intellect Dev Disabil*, *117*(1), 48-66. https://doi.org/10.1352/1944-7558-117.1.48

Peyghan, M., Ahmadi, N., & Kazemi, R. (2022). The effectiveness of Compassion-Focused Therapy (CFT) on reducing anxiety and stress in mothers of children with autism spectrum disorder. *Journal of Clinical Psychology*, *9*(3), 45-60. https://avr.tums.ac.ir/index.php/avr/article/view/1125/521

Razavi, F. A.-S. (2023). Investigating the impact of reality therapy on aggression, psychological flexibility, and self-efficacy in career decision-making among adolescent girls.

Rezaei, A., & Izadi, F. (2024). The effectiveness of integrated compassion-focused therapy and acceptance and commitment therapy on the demands, role limitations, and inflexibility of mothers of children with autism. Proceedings of the First International and Second National Conference on Living with Quality from the Perspective of Psychology, Counseling, and Social Work, Khvini Shahr.

Steindl, J., Gilbert, P., & McEwan, K. (2023). Therapists' perspectives on Compassion-Focused Therapy: Addressing resistance and emotional barriers in treatment. *Clinical Psychology & Psychotherapy*, *30*(1), 72-86. https://onlinelibrary.wiley.com/doi/abs/10.1002/capr.12530

Veyskarami, F., & Khalafi, A. (2024). The Mediating Role of Grit in the Relationship between Psychological Hardiness and Resilience with Life Satisfaction and Mental Health among Mothers of Children with Intellectual Disability. *Iranian Journal of Psychiatric Nursing*, *12*(4), 0. https://ijpn.ir/browse.php?a_id=2303&sid=1&slc_lang=en

Zhang, X., Wang, J., Wang, Y., Wang, J., & Luo, F. (2025). The Effects of Mindfulness on Shame: Exploring Mediation by Cognitive Flexibility and Self-Compassion in a Chinese Adult Population. *PsyCh Journal*, *14*(2), 277-289. https://doi.org/10.1002/pchj.817

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