

Comparison of Cognitive and Emotional Deficiencies Between Parents of Children with Special Needs and Parents of Typically Developing Children

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ABSTRACT

Purpose: Parenting a child with special needs poses unique challenges that can significantly impact the cognitive and emotional well-being of parents. This study aims to compare cognitive and emotional deficiencies between parents of children with special needs and parents of typically developing children to understand the extent of these challenges and inform targeted interventions.

Methodology: This descriptive, causal-comparative study included 120 parents, divided into two groups: 60 parents of children with special needs and 60 parents of typically developing children, all from Kashan, Iran. Participants completed the Cognitive Failures Questionnaire (CFQ) and the Toronto Alexithymia Scale (TAS). Data analysis involved descriptive statistics and inferential statistics using ANOVA to compare cognitive and emotional deficiencies between the groups.

Findings: The study found that parents of children with special needs had significantly higher levels of cognitive deficiencies, including distraction, memory-related problems, inadvertent errors, and failure to recall names, compared to parents of typically developing children. Additionally, these parents exhibited greater emotional deficiencies, such as difficulty identifying and describing feelings and externally oriented thinking.

Conclusion: Parents of children with special needs experience substantial cognitive and emotional challenges, likely due to the increased caregiving demands and chronic stress. These findings highlight the need for targeted interventions, such as emotional regulation training and enhanced social support, to improve the well-being of these parents and their ability to care for their children effectively.

Keywords: Cognitive deficiencies, Emotional deficiencies, Parents, Children with special needs, Parenting stress, Emotional regulation, Social support.

1. Introduction

The cognitive and emotional deficiencies observed in parents of children with special needs can be framed within the broader context of stress and coping theories. According to Lazarus and Folkman's transactional model of stress and coping, stress is the result of an imbalance between demands and resources. For parents of children with special needs, the demands are often heightened due to the additional care and support required by their children. This imbalance can lead to increased cognitive failures and emotional dysregulation (Geweniger, Barth, et al., 2022; Geweniger, Haddad, et al., 2022; Kuhlthau et al., 2014; Rennane, 2023; Sarhaddi & Dargahi, 2018).

Additionally, the family systems theory posits that the well-being of individual family members is interconnected. Stress experienced by parents can affect the entire family dynamic, potentially leading to further cognitive and emotional challenges. This theory underscores the importance of holistic approaches in addressing the needs of families with children with special needs (Neece et al., 2012).

Cognitive deficiencies in this context refer to difficulties in cognitive processes such as attention, memory, and problem-solving. Emotional deficiencies include difficulties in identifying, describing, and regulating emotions. These deficiencies can be exacerbated by the chronic stress associated with parenting a child with special needs. For instance, studies have shown that parents of children with autism and Down syndrome experience higher levels of parenting stress and employ less effective coping strategies compared to parents of typically developing children (Dąbrowska & Pisula, 2010).

Recent research has highlighted the significant mental health challenges faced by parents of children with special needs, especially during the COVID-19 pandemic. Chen et al. (2020) found that these parents experienced heightened anxiety and depression due to increased caregiving demands and reduced social support (Chen et al., 2020). Similarly, Chinchai et al. (2023) reported that the pandemic exacerbated stress levels among parents of children with special needs in Chiang Mai, Thailand, due to disruptions in routine and access to supportive services (Chinchai et al., 2023).

Interventions aimed at reducing parenting stress and improving emotional regulation have shown promise. For example, Jafarpour et al. (2022) demonstrated the efficacy of emotional regulation training in enhancing cognitive

flexibility and improving parent-child interactions among mothers of children with mild mental retardation. Such interventions can provide parents with tools to manage their stress and emotional responses more effectively, thereby reducing the cognitive and emotional deficiencies they experience (Jafarpour et al., 2022).

Religious coping has also been identified as a beneficial strategy for some parents. Herlina et al. (2023) found that religious coping mechanisms helped reduce stress among parents of children with special needs by providing a sense of comfort and community. This approach highlights the importance of culturally and contextually relevant interventions in supporting these families (Herlina et al., 2023).

The role of social support cannot be overstated. Park and Lee (2022) emphasized the moderating effect of social support on parental stress and depression in mothers of children with disabilities. Their study found that higher levels of social support were associated with lower levels of stress and depression, suggesting that interventions aimed at enhancing social networks could be particularly beneficial (Park & Lee, 2022).

This study builds on existing research by comparing cognitive and emotional deficiencies between parents of children with special needs and parents of typically developing children. By identifying specific areas of cognitive and emotional challenge, we aim to provide insights that can inform targeted interventions to support these parents. In conclusion, the cognitive and emotional challenges faced by parents of children with special needs are multifaceted and complex. The stress and demands associated with caregiving can lead to significant cognitive failures and emotional dysregulation. However, with appropriate support and interventions, these parents can develop better coping strategies and improve their overall well-being. As we move forward, it is crucial to continue exploring and implementing evidence-based interventions that address the unique needs of these families. This study aims to contribute to this effort by providing a comprehensive analysis of the cognitive and emotional deficiencies experienced by parents of children with special needs.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive, causal-comparative research design with an applied objective. It aimed to

compare cognitive and emotional deficiencies between parents of children with special needs and parents of typically developing children. The research population included all parents of children with special needs (approximately 75 children) and parents of typically developing children under 12 years old in Kashan, Iran, in 2023. Based on Morgan's table, 60 parents of children with special needs, whose children were referred to the Negar Asr Rehabilitation Center in Kashan and diagnosed by specialists, and 60 parents of typically developing children were selected through convenience sampling. Participants completed the questionnaires in person.

2.2. Measures

2.2.1. Cognitive Failures Questionnaire (CFQ)

The CFQ was developed by Broadbent, Cooper, FitzGerald, and Parkes in 1982. It consists of 25 items, each rated on a 5-point Likert scale from "always" to "never." The questionnaire assesses four components: distraction (items 1, 3, 10, 8, 21, 12, 11, 17, 18), memory-related problems (items 25, 24, 23, 22, 19, 15, 13), inadvertent errors (items 16, 6, 14, 9, 5, 4, 2), and failure to recall names (items 7, 20). Wallace (2004) reported a Cronbach's alpha of 0.96 and a test-retest reliability coefficient of 0.51 for the CFQ. In a preliminary validation study by Abolghasemi (2007), internal consistency and test-retest reliability after one month were 0.77 and 0.89, respectively (Aghajani & Samadifard, 2019; Lopez et al., 2021; Pourmohseni & Farshi 2019).

2.2.2. Toronto Alexithymia Scale (TAS):

The TAS, developed by Bagby et al. (2005), comprises 20 items rated on a 5-point Likert scale from "strongly

agree" to "strongly disagree." It evaluates three factors: difficulty identifying feelings (items 1, 3, 6, 7, 9, 13, 14), difficulty describing feelings (items 2, 4, 11, 12, 17), and externally oriented thinking (items 5, 8, 10, 15, 16, 18, 19, 20). The subscale scores range from 7-21 for identifying feelings, 5-15 for describing feelings, and 8-24 for externally oriented thinking. Items 4, 10, 18, and 19 are reverse scored. In a study by Abolghasemi, Harfti, and Rezaei (2011), the TAS showed significant correlations with psychological abuse (0.34) and psychological neglect (0.20), both at $p < 0.01$. The overall reliability of the TAS in the present study, measured by Cronbach's alpha, was 0.72 (Fournier et al., 2018; Miri & Zahiri, 2024; Roshandel et al., 2022).

2.3. Data Analysis

Data analysis was performed using both descriptive and inferential statistics. Descriptive statistics, including mean, standard deviation, and frequency, were used to summarize the data. Inferential statistics involved using SPSS software and employing analysis of variance (ANOVA) to examine differences between the groups.

3. Findings and Results

The study included 120 children and their parents. The children's ages ranged from 3 to 12 years, with a mean age of 6.70 years. The parents' ages ranged from 23 to 53 years, with a mean age of 35.52 years. Among the children with special needs, there were 15 children with Down syndrome (25%), 13 children with autism (21.7%), 12 children with cerebral palsy (20%), 10 children with learning disorders (16.7%), and 10 children with speech and language disorders (16.7%).

Table 1

Descriptive Statistics of Cognitive and Emotional Deficiencies

| Variable | Group | Min | Max | Mean | SD |
|---------------------------------|--|-----|-----|-------|-------|
| Difficulty Identifying Feelings | Children with Special Needs | 7 | 34 | 19.92 | 5.92 |
| | Parents of Typically Developing Children | 7 | 28 | 13.26 | 4.49 |
| Difficulty Describing Feelings | Children with Special Needs | 6 | 25 | 13.21 | 3.55 |
| | Parents of Typically Developing Children | 5 | 24 | 10.03 | 3.96 |
| Externally Oriented Thinking | Children with Special Needs | 16 | 30 | 22.21 | 2.95 |
| | Parents of Typically Developing Children | 16 | 27 | 20.43 | 2.74 |
| Total Emotional Deficiency | Children with Special Needs | 33 | 77 | 54.43 | 9.73 |
| | Parents of Typically Developing Children | 28 | 72 | 43.73 | 8.62 |
| Distraction | Parents of Children with Special Needs | 9 | 45 | 17.95 | 8.005 |
| | Parents of Typically Developing Children | 9 | 30 | 13.48 | 4.37 |
| Memory-related Problems | Parents of Children with Special Needs | 5 | 35 | 14.21 | 6.47 |

| | | | | | |
|----------------------------|--|----|-----|-------|-------|
| Inadvertent Errors | Parents of Typically Developing Children | 7 | 25 | 10.06 | 3.46 |
| | Parents of Children with Special Needs | 6 | 30 | 12.91 | 5.62 |
| Failure to Recall Names | Parents of Typically Developing Children | 7 | 18 | 9.51 | 2.65 |
| | Parents of Children with Special Needs | 2 | 10 | 4.46 | 2.36 |
| Total Cognitive Deficiency | Parents of Typically Developing Children | 2 | 10 | 3.15 | 1.62 |
| | Parents of Children with Special Needs | 25 | 120 | 49.55 | 21.07 |
| | Parents of Typically Developing Children | 25 | 72 | 36.21 | 10.48 |

The data in Table 1 shows that parents of children with special needs scored higher on measures of both cognitive and emotional deficiencies compared to parents of typically developing children. The mean total emotional deficiency score for parents of children with special needs was 54.43 (SD = 9.73), compared to 43.73 (SD = 8.62) for parents of typically developing children. Similarly, the mean total

cognitive deficiency score for parents of children with special needs was 49.55 (SD = 21.07), compared to 36.21 (SD = 10.48) for parents of typically developing children.

Assumptions for normality, homogeneity of variance, and independence were checked and met before conducting the inferential statistical analyses.

Table 2

ANOVA for Cognitive Deficiencies Between Groups

| Variable | Source | Sum of Squares | df | Mean Square | F | p-value |
|-------------------------|--------|----------------|-----|-------------|-------|---------|
| Cognitive Deficiency | Group | 5333.33 | 1 | 5333.33 | 19.25 | 0.001 |
| | Error | 32691.03 | 118 | 277.04 | | |
| | Total | 258702.00 | 120 | | | |
| Distraction | Group | 598.53 | 1 | 598.53 | 14.39 | 0.001 |
| | Error | 4907.83 | 118 | 41.59 | | |
| | Total | 35148.00 | 120 | | | |
| Memory-related Problems | Group | 516.67 | 1 | 516.67 | 19.17 | 0.001 |
| | Error | 3179.91 | 118 | 26.94 | | |
| | Total | 21387.00 | 120 | | | |
| Inadvertent Errors | Group | 346.80 | 1 | 346.80 | 17.95 | 0.001 |
| | Error | 2279.56 | 118 | 19.31 | | |
| | Total | 17724.00 | 120 | | | |
| Failure to Recall Names | Group | 52.008 | 1 | 52.008 | 12.66 | 0.001 |
| | Error | 484.58 | 118 | 4.01 | | |
| | Total | 2277.00 | 120 | | | |

The results of the ANOVA in Table 2 indicated significant differences between parents of children with special needs and parents of typically developing children in terms of cognitive deficiencies. Specifically, significant differences were found in overall cognitive deficiency (F = 19.25, p < 0.001), distraction (F = 14.39, p < 0.001),

memory-related problems (F = 19.17, p < 0.001), inadvertent errors (F = 17.95, p < 0.001), and failure to recall names (F = 12.66, p < 0.001). Parents of children with special needs exhibited higher levels of cognitive deficiencies across all measured variables.

Table 3

ANOVA for Emotional Deficiencies Between Groups

| Variable | Source | Sum of Squares | df | Mean Square | F | p-value |
|----------------------|--------|----------------|-----|-------------|-------|---------|
| Emotional Deficiency | Group | 3434.70 | 1 | 3434.70 | 40.59 | 0.001 |
| | Error | 9984.46 | 118 | 84.61 | | |
| | Total | 302520.00 | 120 | | | |
| Identifying Feelings | Group | 986.13 | 1 | 986.13 | 35.63 | 0.001 |
| | Error | 3265.73 | 118 | 27.67 | | |
| | Total | 35486.00 | 120 | | | |
| Describing Feelings | Group | 304.008 | 1 | 304.008 | 21.47 | 0.001 |
| | Error | 1670.11 | 118 | 14.15 | | |

| | | | | | | |
|------------------------------|-------|----------|-----|-------|-------|-------|
| Externally Oriented Thinking | Total | 18191.00 | 120 | | | |
| | Group | 95.40 | 1 | 95.40 | 11.71 | 0.001 |
| | Error | 960.91 | 118 | 8.14 | | |
| | Total | 55627.00 | 120 | | | |

The ANOVA results for emotional deficiencies in [Table 3](#) also indicated significant differences between the two groups. Specifically, significant differences were observed in overall emotional deficiency ($F = 40.59$, $p < 0.001$), difficulty identifying feelings ($F = 35.63$, $p < 0.001$), difficulty describing feelings ($F = 21.47$, $p < 0.001$), and externally oriented thinking ($F = 11.71$, $p < 0.001$). Parents of children with special needs had significantly higher levels of emotional deficiencies compared to parents of typically developing children.

4. Discussion and Conclusion

The current study aimed to compare cognitive and emotional deficiencies between parents of children with special needs and parents of typically developing children. The results demonstrated that parents of children with special needs exhibited significantly higher levels of cognitive deficiencies, including distraction, memory-related problems, inadvertent errors, and failure to recall names, compared to parents of typically developing children. Additionally, these parents also showed greater emotional deficiencies, encompassing difficulty identifying and describing feelings and externally oriented thinking.

The findings revealed that cognitive deficiencies were more pronounced in parents of children with special needs. Specifically, these parents reported higher levels of distraction, memory-related problems, inadvertent errors, and failure to recall names. This aligns with previous research, such as the study by Jafarpour et al. (2022), which highlighted the increased cognitive demands and stressors experienced by these parents. The heightened cognitive load is likely due to the continuous and intensive caregiving responsibilities that require sustained attention and problem-solving abilities.

This increased cognitive burden can be attributed to the chronic stress associated with managing the unique needs of their children. Chronic stress has been shown to impair cognitive functioning by affecting the prefrontal cortex, the brain region responsible for executive functions such as attention, working memory, and decision-making ([Morris et al., 2007](#)). As parents navigate the daily challenges of caring for a child with special needs, their cognitive resources may become depleted, leading to frequent cognitive failures.

Similarly, emotional deficiencies were significantly higher among parents of children with special needs. These parents experienced greater difficulty in identifying and describing their feelings and demonstrated a more externally oriented thinking style. This finding is consistent with the results of [Polizzi et al. \(2021\)](#), who found that parental distress and emotional dysregulation were prevalent among parents during the COVID-19 lockdown, exacerbating existing emotional challenges ([Polizzi et al., 2021](#)).

The emotional strain can be partly explained by the constant emotional demands of caregiving. Parents of children with special needs often face social isolation, stigma, and a lack of understanding from their communities, which can exacerbate feelings of frustration and helplessness ([Chen et al., 2020](#)). These emotional challenges can impair parents' ability to process and express their emotions effectively, leading to alexithymia—a condition characterized by difficulty in identifying and describing emotions.

The study by [Dąbrowska and Pisula \(2010\)](#) supports this, indicating that parents of children with autism and Down syndrome exhibited higher levels of emotional distress and utilized less adaptive coping strategies compared to parents of typically developing children. This suggests that the specific needs and behaviors of children with special needs can significantly influence parental emotional well-being ([Dąbrowska & Pisula, 2010](#)).

Several studies have documented the mental health challenges faced by parents of children with special needs. For instance, [Chen et al. \(2020\)](#) and [Ren et al. \(2020\)](#) both found that these parents experienced elevated levels of anxiety and depression, particularly during the COVID-19 pandemic ([Chen et al., 2020](#); [Ren et al., 2020](#)). These findings are consistent with the current study's results, which highlighted the significant cognitive and emotional deficiencies in this population.

[Chinchai et al. \(2023\)](#) further supported these findings by demonstrating the increased stress levels among parents of children with special needs during the pandemic. The disruptions in routine, limited access to support services, and increased caregiving demands likely contributed to the heightened stress and associated cognitive and emotional deficiencies observed in the present study ([Chinchai et al., 2023](#)).

Moreover, the role of social support in mitigating stress and improving emotional well-being has been emphasized in previous research. Park and Lee (2022) found that higher levels of social support were associated with lower levels of stress and depression among mothers of children with disabilities (Park & Lee, 2022). This highlights the importance of social networks in buffering the negative effects of stress and suggests that enhancing social support could be a key intervention strategy.

The current study's findings are also in line with the research by Wen et al. (2022), which identified a strong relationship between parenting stress and the emotional and behavioral problems of children with special needs (Wen et al., 2022). The emotional difficulties reported by parents in the present study may be a direct response to the heightened parenting stress and the unique challenges posed by their children's behaviors.

The significant cognitive and emotional deficiencies identified in this study underscore the need for targeted interventions to support parents of children with special needs. Interventions such as emotional regulation training and mindfulness-based approaches have shown promise in improving cognitive flexibility and emotional well-being (Jafarpour et al., 2022). These interventions can equip parents with the skills to manage their stress more effectively and reduce cognitive and emotional deficiencies.

Additionally, religious coping has been identified as a beneficial strategy for some parents. Herlina et al. (2023) found that religious coping mechanisms helped reduce stress by providing a sense of comfort and community (Herlina et al., 2023). This suggests that incorporating culturally relevant coping strategies into intervention programs could enhance their effectiveness.

Positive self-talk interventions, as studied by Rohmah et al. (2022), also hold potential in reducing stress among parents of children with special needs. By fostering a more positive and self-compassionate internal dialogue, these interventions can help parents reframe their challenges and improve their emotional resilience (Rohmah et al., 2022).

While the current study provides valuable insights, it is important to acknowledge its limitations. The use of self-report questionnaires may introduce response biases, and the cross-sectional design limits the ability to infer causality. Future research should consider longitudinal designs to examine the long-term effects of cognitive and emotional deficiencies on parental well-being.

Additionally, further studies should explore the specific mechanisms through which parenting stress affects

cognitive and emotional functioning. Understanding these mechanisms can inform the development of more precise and effective interventions.

In conclusion, the results underscore the substantial cognitive and emotional challenges faced by parents of children with special needs. These deficiencies likely stem from the increased caregiving demands, chronic stress, and emotional strain associated with managing their children's unique needs. Addressing these challenges is crucial for improving the overall well-being of these parents and enhancing their capacity to care for their children effectively.

Authors' Contributions

In this article, the corresponding author was responsible for the intervention implementation, data analysis, and manuscript writing, while the other authors supervised the data analysis and manuscript writing.

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 interview and participated in the research with informed consent.



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