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## The Relationship Among Problem-Solving, Coping Styles and Stress Levels of Parents of Children with Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder and Typical Development\*

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**Abstract:** This research investigated the correlations among problem-solving, coping styles, and stress levels of parents of children with autism spectrum disorder, attention deficit hyperactivity disorder, and typical development. We used a correlational survey model design and collected the data with the Problem-Solving Inventory (PSI), the Ways of Coping Questionnaire (WCQ), and the Parent Stress Scale (PSS). The study group consisted of 350 parents. The research findings revealed that stress levels were negatively correlated with functional coping strategies and problem-solving. We found no significant difference between parents of children with Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD) and typical development in terms of problem-solving approaches. Considering the relationships between the parents in terms of WCQ scores, there was no statistically significant difference in the subscales of self-confidence approach, submissiveness, optimistic approach, and seeking social support. Only the subscale of helplessness differed statistically based on the disability. Regarding the correlations between the groups in terms of stress levels, we found that the typical developmental group had lower PSS scores than the Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder groups. We believe that preventive support programs for stress management can make significant contributions to efficient coping methods and problem-solving.

**Keywords:** Parents, problem-solving skills, special-needs, stress.

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### Introduction

Parenting a special-needs child is a difficult, time-consuming process that requires a good ability to manage difficult situations (Shah et al., 2020; Shyam et al., 2019). Parents of children who repeat certain behaviors and suffer deficiencies in their social skills can be negatively affected. As the individuals around these children misunderstand or cannot make sense of their problematic behaviors, the parents tend to move away from their social environment and often develop ineffective problem-solving and coping strategies (Drogomyretska et al., 2020; Gatzoyia et al., 2014).

Problem-solving is a process of cognitive and behavioral efforts to eliminate the tension between the source of stress and the desired goal. It is defined as being able to manage or adapt to the source of stress (Khodabakhsh et al., 2007). In addition to the problematic situations that all individuals face daily, parents may experience different problems both in the family and with their children. In the case of special-needs children, it becomes much more difficult for parents to cope with the problems or to find a solution.

Problem-solving skills are particularly important for the parents of special-needs children in many ways. These skills can contribute to their ability to show control and flexibility in the face of stress (Koca, 2013; Turan, 2015). The damage of such stress is closely associated with one's perspective on life, problem-solving skills, and coping with stress. These are also related to the child's education and the amount of love and support they receive from their family at home. Inability to cope with stress decreases these parents' abilities to control stressful situations. Research indicates that individuals who are under stress for long periods of time suffer from deterioration in life control (Afyonkale, 2004; Avşaroğlu & Üre, 2007; Çan Aslan, 2010) and parents of special-needs children face various difficulties in continuous

\* This study was adapted from the first author's master's thesis.

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processes, highlighting the importance of support planning (Kitaoka et al., 2020; Verma et al., 2017). Effective support planning requires the identification of needs. In this context, research on the stress levels, problem-solving skills, and coping styles of parents of special-needs children gain significance.

### Literature Review

Attention deficit hyperactivity disorder (ADHD) is characterized by certain behaviors that are inappropriate for the child's age, some developmental characteristics, attention problems, hyperactivity, and the inability to control and postpone their wishes (Bravo-Benítez et al., 2019; Gatzoyia et al., 2014). Autism spectrum disorder (ASD) is a neurodevelopmental disorder that negatively affects a child's learning skills, social skills, and behaviors (Çiftçi, 2020).

In the current study, we discuss the correlations between problem-solving skills, coping styles, and stress levels among the parents of children with ASD, ADHD, and typical development. The number of children diagnosed with ASD increases day by day, while ADHD has become a very common special education group. The first author works as a teacher in a special education center and provides individualized education to children with ASD and ADHD. Hence, these two disorders were chosen for the special-needs groups of this research, relying both on their prevalence and the first author's areas of expertise.

There are many studies both in the literature that separately address stress levels, coping styles, and problem-solving skills among parents of children with ASD, ADHD, and typical development. In their general terms, these studies indicate high levels of stress among families with special-needs children, including resorting to ineffective coping styles (Afyonkale, 2004; Albayrak, 2015; Alpan, 2013; Avşaroğlu & Üre, 2007; Çan Aslan, 2010; Deniz, 2006; Okutan, 2016; Parmaksız, 2011; Tekin, 2017).

Peer and Hillman (2014) indicated that parents of children with disabilities experience more stress in comparison to parents of typically developing children. Shepherd et al. (2018) emphasized the influence of coping style on the relationship between child's ASD symptoms and parenting stress. Dardas and Ahmad (2015) found that accepting responsibility was an important strategy in the relationship between stress and quality of life. Cuzzocrea et al. (2016) revealed the advisability of fostering functional coping strategies and social support received in families of children with disabilities, and especially in those with children with low functioning autism. Bonis (2016) focused on children with ASD distinct from other diagnoses, as well as parental experiences of caring for a child with ASD. The study discusses the factors that impact parental stress and decision-making to use autism services. Hastings et al. (2005) investigated stress levels and coping styles among parents of children with ASD and found that increased stress levels resulted in a decreased functionality in problem-solving and increased use of avoidance. Besides, the authors highlighted a significant correlation between low stress levels and functional coping strategies. Alpan (2013) conducted a research to compare the depression and stress coping skills of mothers of children with ADHD and mothers of typically developed children. Significant findings were obtained in favor of mothers with ADHD in the negative impact of depression and stress coping skills. Marchetti et al. (2020) found that, in parents of children with ADHD, stress levels were associated with the hyperactivity of the children. Kavoor and Mitra (2021) conducted a meta-analysis and reported that parents of children with ADHD experienced more parenting-related stress during the pandemic than parents of children without ADHD.

In general, it can be seen that studies address either stress levels and/ or coping styles or problem-solving skills for only one or two groups, or focuses on only one special education group. They do not compare all three groups (parents of children with ASD, ADHD, and typical development) in terms of these three factors (stress levels, coping styles, and problem-solving) (Bonis, 2016; Dardas & Ahmad, 2015; Shepherd et al., 2018). We found no research that compares stress levels, problem-solving skills, and coping styles among these three groups (parents of children with ASD, ADHD, and typical development) or that gives suggestions in this regard. It should not be ignored that different groups may present with different situations, expectations, and needs.

Thus, we believe that this research can provide comparative information on the issues of problem-solving, coping styles, and stress levels among parents of children with ASD, ADHD, and typical development, giving beneficial insight to educators, psychologists, and administrators in special education and rehabilitation centers in their studies with parents and contributing to the literature. The objective of this study is to investigate the relationship among problem-solving skills, coping styles, and stress levels among the parents of children with ASD, ADHD, and typical development.

In line with this objective, we seek answers to the following research questions:

RQ1: Is there a significant difference between the parents of children with ASD, ADHD, and typical development in terms of problem-solving skills?

RQ2: Is there a significant difference between the parents of children with ASD, ADHD, and typical development in terms of coping styles?

RQ3: Is there a significant difference between the parents of children with ASD, ADHD, and typical development in terms of stress levels?

## Methodology

### Research Design

This study investigated the problem-solving skills, coping styles, and stress levels of parents of children with ASD, ADHD, and typical development. A correlational survey design was used. This design is defined as a “research model that aims to detect the existence and/or degree of co-variation between multiple variables” (Karasar, 2009, p269).

### Study Group

Data were obtained from 350 parents of children with ASD, ADHD, and typical development. We reached out to large-scale private education centers and schools in Istanbul, Izmir, and Bursa and requested contact with the parents for participation. The scales were sent online to parents responding positively and the forms that were filled were included in the research.

The demographic characteristics of the sample are given in two tables as the parents' socio-demographic information and the children's socio-demographic information. Accordingly, the socio-demographic characteristics of the parents of children with ASD, ADHD, and typical development were as follows:

Table 1. Parents' Socio-Demographic Characteristics (N=350)

	Number (n)	Percentage (%)
<b>Sex</b>		
Female	297	84,86
Male	53	15,14
<b>Age</b>		
30 years or below	40	11,43
31-40 years	199	56,86
41 years or above	111	31,71
<b>Education Level</b>		
Primary school	29	8,29
Middle school	41	11,71
High school	89	25,43
University	160	45,71
Master's degree	31	8,86
<b>Marital Status</b>		
Married	318	90,86
Single	25	7,14
Widowed	7	2,00
<b>Employment</b>		
Employed	143	40,86
Unemployed	207	59,14
<b>Income Status</b>		
Low	71	20,29
Moderate	252	72,00
High	27	7,71
<b>Number of Children</b>		
1	117	33,43
2	179	51,14
3 or more	54	15,43

Table 2 presents the socio-demographic characteristics of the children. The socio-demographic characteristics of the children with ASD, ADHD, and typical development were as follows:

Table 2. Children's Socio-Demographic Characteristics (N=350)

	Number (n)	Percentage (%)
<b>Disability Status</b>		
ASD	145	41,43
ADHD	110	31,43
Typical Development	95	27,14
<b>Level of Disability (n=255)</b>		
Mild	96	37,65
Moderate	110	43,14
Severe	49	19,22
<b>Age</b>		
0-2 years	31	8,86
3-5 years	66	18,86
6-10 years	144	41,14
11-14 years	70	20,00
15-18 years	39	11,14
<b>Sex</b>		
Female	75	21,43
Male	275	78,57

The analysis of the demographic data showed that 84.86% of the parents were female and 15.4% were male. In this regard, we can say that most mothers filled the scales online. Gür et al. (2012) report that mothers are more likely to show participation in research related to the education of children. 11.43% of the parents were aged under 30 years or younger, 56.86% were aged 31-40 years, and 31.71% were aged 41 years or over. This appears normal considering the distribution of parents who have children undergoing the education. We found that 8.86% of the children were 0-2 years old, 18.86% were 3-5 years old, 41.14% were 6-10 years old, 20.0% were 11-14 years old, and 11.14% were 15-18 years old. This distribution is also expected considering that special-needs children are often diagnosed after infancy and parents experience more difficulties as the children begin their education. Regarding sex, the children consisted of 21.43% females and 78.57% males. The scales were filled online by voluntary parents, involving no criteria about the sex of the child. Çetin and Işık (2018) have stated the boy-girl ratio of ADHD in Turkey as 3.23:1, while Çiftçi (2020) has reported the boy-girl ratio of ASD as 4:1. Here, the boy-girl ratio for both disorders together were 3.66:1.

#### Data Collection Tools

Data were collected with a Demographic Information Form, the Problem-Solving Inventory, the Ways of Coping Questionnaire (WCQ), and the Parent Stress Scale (PSS). Information about the data collection tools is given below:

*Demographic Information Form:* Demographic Information Form is prepared by the researchers. This form consists of items regarding the child's disability, age, and sex and the parent's age, sex, and income level.

*Problem Solving Inventory (PSI):* Developed by Heppner and Petersen in 1982, this scale evaluates one's perception and approach to problem-solving. It is a 6-point Likert-type scale with 35 items. A higher score indicates a higher perception of inadequacy in problem-solving. The scale consists of 3 subscales: problem-solving confidence, approach-avoidance style, and personal control. The Turkish version was adapted by Şahin et al. (1993) and is widely used today. The Cronbach's alpha internal consistency coefficients for the subscales range between .72-.85. The reliability coefficient for the whole scale was reported as .90 (Heppner, 1988; Kardaş et al., 2014).

*Ways of Coping Questionnaire (WCQ):* This scale was developed by Folkman and Lazarus (1980). It was later adapted to Turkish by Şahin et al. (1993) and some items were removed, consisting of 30 items in the final version. The scale has a 5-factor structure: self-confidence approach, helplessness, submissiveness, optimistic approach, and seeking social support. The reliability coefficients of the subscales were found as .62-.80 for self-confidence approach, .64-.73 for helplessness, .49-.68 for the optimistic approach, .47-.72 for submissiveness, and .45-.47 for seeking social support. Compared to the original WCQ, the Turkish version presents a reduction in the number of items and a valid-reliable measurement of coping styles associated with depression-anxiety and other stress symptoms. Higher scores from the subscales of self-confidence approach, optimistic approach, and seeking social support indicate the use of functional coping strategies. On the other hand, higher scores from the subscales of helplessness and submissiveness show the use of dysfunctional coping strategies (Durak & Şahin, 1995).

*Parent Stress Scale (PSS):* This scale was designed by Özmen and Özmen in 2012 to measure the stress that parents experience daily in their relationships with their children. It is a 4-point Likert-type scale consisting of 16 items and a single factor structure. The items have factor loading values ranging between .41-.66. The Cronbach's alpha coefficient for the scale was reported as .85. Total scores range from 16 to 64, with a higher score indicating a higher stress level

(Özmen & Özmen, 2012). Within the scope of this research, we used the Cronbach's alpha test, an internal consistency test, to examine the answers to the PSI, the WCQ, and the PSS for reliability.

Table 3. Reliability Results of Answers to the PSI, the WCQ, and the PSS.

	Cronbach's Alpha
Hasty	0,795
Thinking	0,831
Avoidant	0,825
Evaluative	0,76
Self-confidence	0,794
Planned	0,787
<i>PSI</i>	0,913
Self-confidence approach	0,875
Helplessness	0,747
Submissiveness	0,770
Optimistic approach	0,778
Seeking social support	0,783
<i>WCQ</i>	0,717
<i>PSS</i>	0,899

According to the Cronbach's alpha test results for the reliability of the parents' answers to the PSI, the WCQ, and the PSS, the alpha coefficients were above 0.70 for all three scales, so the answers were considered reliable.

#### Data Collection

Ethical approval was obtained from the ethical committee of the university with decisions numbered 100-1006 and dated 20.01.2021. Informed consent forms were sent to the parents and participation was done on a voluntary basis.

#### Data Analysis

The socio-demographic characteristics of the parents and their children were described by frequency analysis. The answers to the PSI, the WCQ, and the PSS were tested for conformity to a normal distribution using the Kolmogorov-Smirnov test and the Shapiro-Wilk test.

Table 4. Normality Results of Scores From the PSI, the WCQ, and the PSS.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	SD	p	Statistics	SD	p
Hasty	0,073	350	0,000*	0,974	350	0,000*
Thinking	0,117	350	0,000*	0,945	350	0,000*
Avoidant	0,145	350	0,000*	0,925	350	0,000*
Evaluative	0,127	350	0,000*	0,916	350	0,000*
Self-confidence	0,119	350	0,000*	0,953	350	0,000*
Planned	0,136	350	0,000*	0,939	350	0,000*
Self-confidence approach	0,100	350	0,000*	0,954	350	0,000*
Helplessness	0,081	350	0,000*	0,984	350	0,001*
Submissiveness	0,108	350	0,000*	0,976	350	0,000*
Optimistic approach	0,097	350	0,000*	0,983	350	0,000*
Seeking social support	0,123	350	0,000*	0,972	350	0,000*
<i>PSS</i>	0,078	350	0,000*	0,973	350	0,000*

\*p<0.05

The results of the normality test for the parents' scores from the PSI, the WCQ, and the PSS showed that the data set did not fit the normal distribution ( $p < 0.05$ ). Accordingly, we opted for non-parametric tests to test our research hypotheses.

We used the Spearman test to investigate the correlations between the parents' scores from the PSI, the WCQ, and the PSS. Upon detecting a statistically significant difference between the categories of an independent variable with the Kruskal-Wallis H test, Bonferroni corrections and the Mann-Whitney U test were used as the post-hoc test to determine the relevant categories.

## Results

In this section, we share the findings obtained from the research. The aim was to investigate the correlations between problem-solving skills, coping styles, and stress levels among the parents of children with ASD, ADHD, and typical development, and the tables are discussed within the framework of the secondary research objectives.

### *The Relationship Between Parents' Problem-Solving Inventory, Stress Coping Styles Scale and Parent Stress Scale*

In the table below, the relationship between parents' Problem-Solving Inventory, Stress Coping Styles Scale and Parent Stress Scale scores are examined. Table 5 demonstrates the correlations between the parents' scores from the PSI, the WCQ, and the PSS

Table 5. Correlations Among the Parents' Scores From the PSI, the WCQ, and the PSS (N=350)

	PSI						WCQ				PSS	
	Hasty	Thinking	Avoidant	Evaluative	Self-confidence	Planned	Self-confidence approach	Helplessness	Submissiveness	Optimistic approach	Seeking social support	PSS
PSI	Hasty	1	.385*	.445*	.473*	.277*	.312*	-.378*	.428*	-.201*	.181*	.301*
	Thinking		1	.715*	.372*	.673*	.770*	-.485*	.234*	-.400*	.003	.235*
	Avoidant			1	.411*	.652*	.764*	-.560*	.367*	-.411*	.110*	.366*
	Evaluative				1	.335*	.389*	-.290*	.228*	-.173*	.072	.216*
	Self-confidence					1	.691*	-.331*	.099	-.258*	.009	.131*
	Planned						1	-.551*	.240*	.169*	-.445*	.031
WCQ	Self-confidence approach						1	-.341*	-.286*	.589*	-.022	-.348*
	Helplessness							1	.499*	-.130*	.495*	.569*
	Submissiveness								1	.012	.334*	.301*
	Optimistic approach									1	.158*	-.274*
PSS											1	.192*

\* $p < 0.05$ - Correlation is significant at the 0.05 level (rho: Spearman test)

Table 5 shows the Spearman test results for the correlations between the parents' scores from the PSI, the WCQ, and the PSS. Accordingly, we noted a negative and significant correlation between the hasty and avoidant subscales of the PSI and the self-confidence approach and optimistic approach subscales of the WCQ. Also, there were positive and significant correlations between the subscales of helplessness, submissiveness, and seeking social support ( $p < 0.05$ ). As the scores for the hasty and avoidant subscales increased, the scores for self-confidence approach and optimistic approach decreased, while the scores for helplessness, submissiveness, and seeking social support increased. We also found a positive correlation between the hasty and avoidant subscales of the PSI and the PSS scores ( $p < 0.05$ ). As the scores for the hasty and avoidant subscales increased, the PSS scores also increased.

We detected a negative and significant correlation between the thinking, evaluative, and planned subscales of the PSI and the self-confidence approach and optimistic approach subscales of the WCQ. Besides, there was a positive and significant correlation between helplessness and submissiveness ( $p < 0.05$ ). As the scores for the thinking, evaluative, and planned subscales increased, the scores for self-confidence approach and optimistic approach decreased, while the scores for helplessness and submissiveness increased. There was no statistically significant correlation between the thinking, evaluative, and planned subscales of the PSI and the seeking social support subscale of the WCQ ( $p > 0.05$ ). However, there was a positive and significant correlation between the thinking, evaluative, and planned subscales of the PSI and the PSS scores. As the scores for the thinking subscale increased, the PSS scores also increased ( $p < 0.05$ ).

We found that the self-confidence subscale of the PSI was negatively correlated with the self-confidence approach and optimistic approach subscales of the WCQ and positively correlated with the helplessness subscale ( $p < 0.05$ ). Accordingly, as the scores for self-confidence increased, the scores for the self-confidence approach and optimistic approach subscales decreased, while the scores for submissiveness increased. We determined no statistically significant correlation between the self-confidence subscale of the PSI and the helplessness and seeking social support subscales of the WCQ. Although, there was a positive correlation between the self-confidence subscale of the PSI and the PSS scores. Accordingly, as the scores for self-confidence increased, the PSS scores also increased.

We observed negative and significant correlations between the self-confidence approach and optimistic approach subscales of the WCQ and the PSS scores ( $p < 0.05$ ). Thereby, as the scores for the self-confidence approach and optimistic approach increased, the PSS scores decreased. We also found positive and significant correlations between the helplessness, submissiveness, and seeking social support subscales of the WCQ and the PSS scores ( $p < 0.05$ ). As the scores for helplessness, submissiveness, and seeking social support increased, the PSS scores also increased.

Investigating problem-solving skills, coping styles, and stress levels among parents of children with ASD, ADHD, and typical development can further explain these findings. The relevant tables are given below.

#### *The Relationship Between Problem-Solving Skills Among Parents of Children With ASD, ADHD, and Typical Development*

The table below gives the Kruskal-Wallis H test results for the PSI scores of the parents according to the child's disability. According to the table, there was no statistically significant difference between the parents of children with ASD, ADHD, or typical development in terms of the hasty, thinking, avoidant, evaluative, self-confidence, and planned subscales of the PSI ( $p > 0.05$ ).

*Table 6. Comparison of PSI Scores According to Disability (N=350)*

	<b>Disability</b>	<b>N</b>	<b><math>\bar{x}</math></b>	<b>SD</b>	<b>M</b>	<b>MR</b>	<b><math>\chi^2</math></b>	<b>p</b>
Hasty	ASD	145	27,92	8,58	27,00	172,21	0,391	0,823
	ADHD	110	28,28	8,01	28,00	180,18		
	Typical development	95	28,20	8,40	27,00	175,09		
Thinking	ASD	145	11,97	5,45	10,00	166,19	3,640	0,162
	ADHD	110	12,93	4,93	12,00	190,20		
	Typical development	95	12,20	5,32	11,00	172,68		
Avoidant	ASD	145	15,90	6,73	14,00	175,62	1,555	0,460
	ADHD	110	16,37	6,08	15,00	191,40		
	Typical development	95	15,21	5,82	15,00	156,91		
Evaluative	ASD	145	10,46	5,05	9,00	172,89	5,958	0,051
	ADHD	110	11,06	4,92	10,00	182,50		
	Typical development	95	9,60	4,59	8,00	171,37		
Self-confidence	ASD	145	7,14	3,51	6,00	173,58	0,792	0,673
	ADHD	110	7,41	3,47	7,00	184,80		
	Typical development	95	7,08	3,52	6,00	167,67		
Planned	ASD	145	10,15	4,49	9,00	170,31	2,488	0,288
	ADHD	110	10,57	4,08	10,00	188,03		
	Typical development	95	9,96	4,10	9,00	168,92		

(M: Median, MR: Mean rank,  $\chi^2$ : Kruskal-Wallis H test)

#### *The Relationship Between Coping Styles Among Parents of Children With ASD, ADHD, and Typical Development*

Table 7 compares WCQ scores according to disability. It gives the Kruskal-Wallis H test results for the WCQ scores of the parents according to the child's disability.

*Table 7. Comparison of WCQ Scores According to Disability (N=350)*

	<b>Disability</b>	<b>n</b>	<b><math>\bar{x}</math></b>	<b>SD</b>	<b>M</b>	<b>MR</b>	<b><math>\chi^2</math></b>	<b>p</b>	<b>Difference</b>
Self-confidence approach	ASD	145	2,21	0,61	2,29	189,43	4,765	0,092	
	ADHD	110	2,10	0,59	2,14	166,98			
	Typical development	95	2,10	0,53	2,14	164,11			
Helplessness	ASD <sup>1</sup>	145	1,35	0,57	1,25	159,30	7,568	0,023*	1-2
	ADHD <sup>2</sup>	110	1,51	0,55	1,50	194,10			
	Typical development <sup>3</sup>	95	1,43	0,55	1,38	178,68			
Submissiveness	ASD	145	0,98	0,56	0,83	174,42	1,412	0,494	
	ADHD	110	0,94	0,52	1,00	168,58			
	Typical development	95	1,05	0,56	1,00	185,17			
Optimistic approach	ASD	145	1,76	0,54	1,80	175,68	1,508	0,470	
	ADHD	110	1,72	0,51	1,80	167,37			
	Typical development	95	1,82	0,49	1,80	184,64			
Seeking social support	ASD	145	1,65	0,50	1,50	164,31	3,154	0,207	
	ADHD	110	1,73	0,47	1,75	184,82			
	Typical development	95	1,73	0,46	1,75	181,78			

\* $p < 0.05$  (M: Median, MR: Mean rank,  $\chi^2$ : Kruskal-Wallis H test)

We determined no statistically significant difference between the self-confidence approach, submissiveness, optimistic approach, and seeking social support subscales of the WCQ according to the disability ( $p>0.05$ ). However, there was a significant difference between the helplessness subscale of the WCQ according to disability ( $p<0.05$ ). The findings for the comparison of stress levels are given below.

#### *The Relationship Between Stress Levels Among Parents of Children With ASD, ADHD, and Typical Development*

Table 8 presents the relationship between stress levels among parents of children with ASD, ADHD, and typical development. The table gives the Kruskal-Wallis H test results for the PSS scores of the parents according to the child's disability.

*Table 8. Comparison of PSS Scores According to Disability (N=350)*

	<b>Disability</b>	<b>N</b>	<b><math>\bar{x}</math></b>	<b>SD</b>	<b>M</b>	<b>MR</b>	<b><math>\chi^2</math></b>	<b>p</b>	<b>Difference</b>
PSS	ASD <sup>1</sup>	145	33,51	8,32	32,00	182,08	21,432	0,000*	1-3
	ADHD <sup>2</sup>	110	34,98	8,45	35,00	200,47			
	Typical development <sup>3</sup>	95	30,03	8,50	28,00	136,54			

\* $p<0.05$  (M: Median, MR: Mean rank,  $\chi^2$ : Kruskal-Wallis H test)

According to the table, the differences between the parents' PSS scores showed statistical significance according to the disability ( $p<0.05$ ). The parents of children with typical developmental had lower PSS scores than those of children with ADHD and ASD. However, there was no difference between the scores of the parents of children with ADHD and ASD.

### **Discussion**

In this section, we discuss the findings obtained from the research. The findings are discussed under four main headings. Those headings are; the relationship between problem-solving, coping styles, and stress, the relationship between coping styles among parents, the relationship between coping styles among parents and the relationship between stress levels among parents.

#### *The Relationship Between Problem-Solving, Coping Styles, and Stress*

Considering these findings, it can be said that helplessness, submissiveness, and seeking social support are preferred by parents with high-stress scores; as the scores for self-confidence approach and optimistic approach increased, the stress scores decreased. Again, the use of optimistic and self-confident coping strategies was negatively correlated with the use of hasty and avoidant approaches, which are dysfunctional problem-solving strategies; positive coping styles were found to be associated with functional problem-solving strategies.

Hastings et al. (2005), highlighted a significant correlation between low-stress levels and functional coping strategies, they also emphasized that increased stress levels resulted in a decreased functionality in problem solving skills. Çan Aslan (2010) found that mothers of special-needs children with higher stress scores have avoidant coping strategies.

Keskin et al. (2010) found that high stress levels correlated negatively with problem solving. These findings are in line with our results. Reduced stress levels may have positive effects on the orientation towards effective coping styles and the use of functional problem-solving approaches; similarly, parents can reduce their stress levels by preferring effective coping styles and more efficient problem-solving strategies. Investigating problem-solving skills, coping styles, and stress levels among parents of children with ASD, ADHD, and typical development can further explain these findings.

#### *The Relationship Between Problem-Solving Among Parents*

There was no statistically significant difference between the groups. In literature, it is emphasized that parents of children with disabilities experience more stress and this leads inefficient problem solving skills (Alpan, 2013; Keskin et al., 2010; Parmaksız, 2011). Research findings do not support these previous findings. Yustina et al. (2020) emphasize that the COVID-19 pandemic can have positive effects on individuals' creative thinking and problem-solving skills. Garbe et al. (2020) report that the additional responsibilities brought forth by the COVID-19 pandemic and the new learning styles, particularly for the parents of children with disabilities, have necessitated different efforts, with various influences on parents' problem-solving approaches. From this perspective, the effects of the current pandemic may explain the contradictions with other findings in the literature, though further research on the subject is still needed for better clarity. Nevertheless, the findings obtained here suggest that stress-related issues have bigger effects on parents' problem-solving styles compared the whether the child has special needs, or whether they are diagnosed with ADHD or ASD. Below, we discuss the relationship between parents' coping styles and children's disabilities.



*The Relationship Between Coping Styles Among Parents*

The scores for helplessness did not differ between the parents of children with typical development and children with ADHD and ASD. In this regard, we determined no significant difference between the parents' ways of coping with stress and whether the children have special needs. Still, only the parents of children with ADHD had higher scores for the helplessness subscale compared to the parents of children with ASD. Again, the scores for this subscale did not differ significantly between the parents of children with ASD and children with typical development. The literature on the parents of children with disabilities and children with typical development mostly focuses on helplessness in parents of children with ASD (Bravo-Benítez et al., 2019; Cengiz et al., 2016; Esdaile & Greenwood, 2003; Gatzoyia et al., 2014; Örs, 2009; Özmen, 2008; Özsoy et al., 2006; Ulukaya, 2009). However, we found significantly higher helplessness scores in the parents of children with ADHD, not ASD. The research was also conducted during the COVID-19 pandemic when children were at home for long periods of time and did not receive enough support. Çalışkan (2020) emphasizes that the pandemic brings along a sedentary lifestyle for both parents and children, raising the question of how compatible this sedentary lifestyle can be with ADHD. Shah et al. (2020) found that with the pandemic, ADHD symptoms in children worsened, activity levels increased by 50.1%, disturbing behaviors increased by 47.7%, and anger-oriented behaviors increased by 45.8%, negatively affecting the parents. Althiabi (2021) points out the difficulties and negative psychological situations faced by the parents of children with hyperactivity, highlighting the state of helplessness and their need for support. In this context, the hyperactivity and impulsivity of children with ADHD may have caused parents to develop a more helpless perspective during the pandemic. Thus, we believe that comparing the stress levels of these parents can provide key ideas for evaluation and making suggestions.

*The Relationship Between Stress Levels Among Parents*

The parents of children with typical developmental had lower PSS scores than those of children with ADHD and ASD. However, there was no difference between the scores of the parents of children with ADHD and ASD. This suggests that having a child with a disability has an increasing effect on the parent's stress level. Many studies in the literature report that parents of children with disabilities have higher stress scores or are more stressed compared to parents of children with typical development (Baker et al., 2003; Coetzee et al., 2018; Drogomyretska et al., 2020; Laurvick et al., 2006; Uğuz et al., 2004; Verma et al., 2017). Research shows that parents of children with ASD and ADHD exhibit high-stress levels (Kitaoka et al., 2020; Waligora et al., 2019). The findings obtained here demonstrate that parents of children with ADHD have higher stress levels than parents of children with ASD, although not statistically significant. As stated before, the COVID-19 pandemic is believed to affect these parents more negatively when the child is hyperactive. Kavoor and Mitra (2021) associated this with the difficulties of keeping children with ADHD busy at home or focusing their attention on certain activities.

**Conclusion**

In the light of our research findings, we determined that stress levels are negatively correlated with functional coping strategies and problem-solving approaches. While literature emphasizes the opposite, we found no significant difference between parents of children with ASD, ADHD, or typical development in terms of their problem-solving approaches. However, it should be taken into account that this study was conducted during the COVID-19 pandemic conditions.

Considering the correlations between the parents' scores from the WCQ according to ASD, ADHD, or typical development, we could reach no statistically significant difference in the self-confidence approach, submissiveness, optimistic approach, and seeking social support subscales. However, the scores for the helplessness subscale showed significant change according to the disability of the child. Regarding the correlations between the parents' scores from the PSS according to ASD, ADHD, or typical development, we observed lower scores in the parents of children with typical developmental compared to those with ADHD and ASD. Still, considering the findings of previous research, we believe this was an important result, showing that problem-solving strategies are fundamentally associated with stress levels. In this regard, parents with lower stress levels can choose more effective coping styles and problem-solving strategies, whether they have a special-needs child or not. Although, if these parents feel lonely or helpless, their coping strategies and preferred solutions may still change.

**Recommendations**

In the light of the findings of our research, we believe that giving parents training on coping styles may have positive contributions to reducing their stress levels. Also, creating the perspective that they are not alone and are valued by their environment can have significant positive effects.

Apart from this, schools can plan social events or interactive online meetings, bringing together parents who experience similar problems. If these meetings are to be held within an educational institution for special-needs students, teachers and administrators can guide these meetings. If such activities are to be carried out in the context of inclusive education, where special-needs students and students with typical development attend the same classes,

these meetings can be planned and directed by school counselors, classroom teachers, or special education teachers at the school.

Parents of special-needs children have very complex roles in the care, development, and education of their children. Such parents have more difficult tasks to deal with compared to parents of children with typical development. This is where educators can empower parents to be successful in their roles. They can help these parents think they are sufficient, help them feel belonging to a community, and assist them in developing appropriate expectations for their children's future. Also, family support programs can be carried out to reduce the stress levels of these parents. Another suggestion is to make an early diagnosis, healthcare services, family information activities, and financial planning services more widespread, with support from social support institutions; the specific educational content that these parents need can be determined to provide training in this regard.

The burdens and responsibilities of parents of special-needs children influence their daily lives in various ways. Teachers and experts should plan activities that will allow these parents to produce new solutions to their daily problems and help them improve their problem-solving skills. Besides, providing real and detailed information to these parents about the symptoms of these disabilities and the necessary treatment and education processes can contribute to the development of better-coping styles. Monitoring the mental and psychological status of these parents by rehabilitation could also be supportive, along with support from nurses, social workers, and psychologists when needed.

We suggest organizing seminars, conferences, and awareness activities to raise awareness for ASD and ADHD throughout the country, to eliminate the labels put by society on both the children with ASD and ADHD and their parents.

### Limitations

With all our recommendations, we note that this was a quantitative survey study limited to 350 parents. Conducting face-to-face research with small numbers of parents or studies with larger samples may yield more detailed information on the subject. Also, future meta-analyses can evaluate the data obtained from studies on this subject. Thus, further research with different designs can shed light on different aspects and contribute to improved practices.

### Authorship Contribution Statement

Gül: Conceptualization, design, analysis, writing. Gür: Editing/reviewing, drafting manuscript, final approval.

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