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Original Article

The role of stressful coping styles in depression and anxiety levels on parents of children with autism spectrum disorder

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Abstract

Aim: The purpose of this research is the determination of depression and anxiety levels and their impact on the style of coping with stress of parents of children with Autism Spectrum Disorder (ASD).

Material and Methods: Research was conducted with parents of 73 children with ASD, who come to the rehabilitation center. Personal Information Form, Stress Coping Styles Scale, Beck Depression Inventory and State and Trait Anxiety Scale were used to the relational screening method.

Results: It was found that the mean state and trait anxiety scores of parents was high and parents chose one of the self-confidence confidence approach to cope with stress.The self-confident approach alone reduced the despair negatively by -49.9%, but the submissive approach did not affect variables.

Conclusion: It was found that the despair of the family members decreased when they preferred the self-confident coping approach.

Keywords: Autism spectrum disorder; coping styles; depression; anxiety; stress; comorbidity

INTRODUCTION

Autism spectrum disorder (ASD) is a developmental disorder with lack of social and communicative behavior and the presence of restricted and repetitive patterns of behaviors, interests, and activities (1). In terms of family members, ASD is an uncontrollable, unchangeable condition that may lead to deterioration of emotions, such as anxiety, depression and stress. Research shows that parents of children with ASD have higher levels of stress, and their quality of life is poor (2,3,4). Family members who care for a child with ASD may feel stressed, anxious and helpless, and they are at high risk for a condition of exhaustion, anger, rage, or guilt (5). Increasing evidence suggests that the parents of the child with ASD have higher rates of depression and anxiety (6,7). Family members can try many different methods to cope with the situation that causes stress (8,9). Methods used by families are mostly aimed at solving problems, doing things, trying to reduce or manage their emotions (10,11). It is important in which situation; coping styles are used and repeated for the formation of coping attitudes. Cognitive and behavioral strategies develop as the information about individuals coping with stress increases. In addition, coping mechanisms protect parents from depression and other psychiatric disorders (12,13). The sociodemographic characteristics of the family, age and gender of the child, and behaviors related to ASD affect the well-being and coping of parents of children with ASD (2). Determining the approaches of family members and examining the factors that affect their attitudes and behaviors are also important to become socialized for individuals with ASD and also important for their special education. As known, it is important to support families to be mentally healthy and It is possible to increase the quality of life of parents with effective mental health support systems (14). In their study, Da Paz et al. investigated the relationship between

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maternal adaptation and distress measures in mothers of children with autism (15). At the beginning of the study, high acceptance rates of the mother were associated with less psychological stress, especially less depression and perceived stress. Increased acceptance over time has also been associated with decreases in the symptom of depression during the same period. Coping with the negative situation of families of children diagnosed with ASD affects their levels of depression and anxiety and thus their physical and emotional well-being. In this study, based on the previous research, we planned to reveal the relationships between the coping styles and levels of depression and anxiety of family members. In the light of other studies, our hypothesis is that, coping with the negative situation of families with children diagnosed with ASD leads to higher levels of depression and anxiety. We considered that there was a significant relationship between the coping styles and depression levels, state and trait anxiety levels of the family members of children with ASD.

MATERIAL and METHODS

Participants

The sample for this pilot study consisted of 73 children previously diagnosed with ASD and their family members was drawn from a special education center located in Istanbul that provides services to children with ASD.

At the beginning of the study, 80 children who were in a special education program in a special education center were randomly selected. Three of these children were excluded from the study because of chronic medical illness (epilepsy) and 4 of them due to other psychiatric illness (ADHD). A history of chronic medical illness was obtained from the family.

A total of 73 participants were included.The children and their families who agreed to participate in the study. The parents were informed about the purpose of the study and informed consent was obtained from all parents before the examination. Children with chronic diseases (e.g., diabetes, cardiovascular, autoimmune, history of stroke, brain injury, cancer, endocrine disorders) were excluded.Parents meeting criteria for another psychiatric disorder including psychosis and bipolar disorder, alcohol or substance use disorder, current posttraumatic stress, bipolar, or eating disorders were also excluded. 73 children with ASD had not been diagnosed with ASD in different Child and Adolescent Psychiatry Clinics in Istanbul by other child and adolescent psychiatrist and they were in special education program.

Diagnosis verification of ASD was based on the interviews with parents and detailed developmental anamnesis according to DSM 5 criteria by a child and adolescent psychiatrist in our study. In the research, Personal Information Form, Stress Coping Styles Scale (SCSS), Beck Depression Inventory (BDI) and State and Trait Anxiety Scale (STAI) were used with a relational screening method. The scales were filled by the researchers as a result of clinical interview with the children and their family.

The results were evaluated by psychiatrist, child psychiatrist and psychologist. The study protocol was reviewed and approved by the non interventional research ethics committee of Üsküdar University.

Instruments of data collection

Personal Information Questionnaire: The Personal Information Questionnaire Form prepared by the researchers is an interview form which includes the gender, age, level of education, economic status of participants and gender and age of children with ASD.

Stress Coping Styles Scale (SCSS) was developed by Folkman and Lazarus to measure the stress levels of individuals in the face of events and to investigate the ways of coping with stress (16). SCSS is 4-point Likert-type scale of the stress situation of individuals. In this study, a 30-item short form of SCSS, which the reliability and validity study of the Turkish version was done by Şahin and Durak, was used (17).

Beck Depression Inventory (BDI): Beck Depression Inventory (BDI) is one of the most used scales in the world to measure the depression level of individuals. The scale was developed by Beck and consists of 21 items aimed at measuring the emotional, somatic, cognitive and motivational causes of depression (18). Each item determining a behavioral feature regarding depression under the scale is assigned a score between 0 (never) to 3 (frequently) and as a result the person receives a score of 0-63 and high scores demonstrate increase in depression symptoms. The validity and reliability study of the scale was conducted by Hisli and Tegin (19,20). In the validity and reliability analysis of the scale adaptations validity were found to be 0.650 to 0.680 coefficient of 0.740. Each item determining a behavioral feature regarding depression under the scale is assigned a score between 0 (never) to 3 (frequently) and as a result the person receives a score of 0-63 and high scores demonstrate an increase in depression symptoms. The validity and reliability study of the scale was conducted by Hisli and Tegin (19,20). In the validity and reliability analysis of the scale adaptations validity was found to be 0.650 to 0.680 coefficients of 0.740]

A high total score indicates a high level of depression or severity.

State and Trait Anxiety Scale (STAI): State and Trait Anxiety Scale (STAI) was developed by Spielberg et al. to measure continuous and state anxiety levels of normal and abnormal individuals and was adapted into Turkish by Öner and Le Compte (21,22). The STAI has 40 items, 20 items allocated to each of the state anxiety and the trait anxiety subscales. The total score obtained from both scales ranges from 20 to 80. A high score indicates

a high level of anxiety and a small score indicates a low level of anxiety. The average score level determined in the applications ranged from 36 to 41. In reliability and validity analyzes, the reliability coefficient was found to be between 0.830 and 0.870 for the Trait Anxiety Scale and between 0.940 and 0.960 for the State Anxiety Scale. Their reliability ranged from 0.710 to 0.860 for the Trait Anxiety Scale and 0.260 to 0.680 for the State Anxiety Scale.

Analysis of the data: The collected data were entered into a worksheet and analyzed by SPSS-19 statistical software (IBM Corporation, USA).Categorical variables were analyzed using chi square tests and data were expressed as frequency of observed and expected. All numerical variables were initially tested for normal distribution using Kolmogrov–Smirnov test. Variables with normal distribution were then compared with paired t-tests and those without a normal distribution were analyzed with an equivalent non-parametric Wilcoxon Sum Ranks.In the interpretation of the results, p <0.05 significance level was taken into consideration.

RESULTS

The frequency and percentage distributions of the sociodemographic information of 73 participants that are the sample of the study are presented in Table 1.

Table 1. Demographic Characteristics of Participants

		Frequency	Percentage (%)
Age of parents	25-35 Years	31	42.5
	36-45 Years	29	39.7
	46 Years and over	13	17.8
	Total	73	100
Gender of parents	Female	57	78.1
	Male	16	21.9
	Total	73	100
Gender of children	Female	19	26
	Male	54	74
	Total	73	100
Age of children	Under 3 Years	26	35.6
	3-4 Years	16	21.9
	4-5 Years	6	8.2
	5-6 Years	10	13.7
	6 Years and over	15	20.5
	Total	73	100
Level of Education (Parents)	Secondary School	10	13.7
	High School	19	26
	Undergraduate	19	26
	Graduate	8	11
	Total	73	100
Socioeconomic Level of Parents	Low	15	20.5
	Middle	32	43.8
	High	26	35.6
	Total	**73**	**100**

The mean and standard deviation of SCSS, BDI and STAI subdimensions and subcales applied to the participants are shown in Table 2.

Table 2. Mean and standard deviation of the sub-dimensions of the scales

Sub Dimensions and Scales	Mean	STD
Self-confident Approach	2.92	0.671
Submissive Approach	2.30	0.682
Hopelessness	2.25	0.728
Physiological problems	2.21	0.725
State Anxiety	48.45	10.488
Trait Anxiety	52.57	10.005

When the findings of the relationship between stress and anxiety levels and coping styles of parents, the correlation test results to determine the relationships between dependent and independent variables in accordance with the research problem are shown in Table 3. According to the findings, the participants' self-confidence and submissive approach subscale of SCSS scores were found to be negatively correlated with a low level (r= -0.340, p=0.003), self-confident approach scores and hopelessness dimension of BDI scores were found to be negatively correlated with moderate level (r=0.541 p= 0.003). There was also a negative correlation with a low level between self-confident approach and physiological problem dimension (r=-0.277 p=0.018), between self-confident approach and state anxiety scores (r=-0,321 p =0.006) and between trait anxiety scores (r=-0.410, p = 0.000) (Table 3).

It can be said that the self-confident approach subscale scores affect the BDI hopelessness dimension by 28.3% and the remaining part is determined by other factors, besides the hopelessness of family members with children diagnosed with ASD will decrease by 54.1% when the self-confident approach scores increases one unit (Table 4).

As can be seen in Table 5, the self-confident approach subscale scores decrease the BDI hopelessness dimension by -49.9% negative.

Table 6 shows the relationship between the submissive approach subscale, hopelessness and physiological problem`s dimensions and state and trait anxiety according to the findings. There is no statistically significant relationship between submissive approach subscale and hopelessness (t=1.568 p=0.122), physiological problems dimensions (t=0.638 p=0.526), and state and trait anxiety (t=-0.507 p=0.614; t=1.88 p=0.064 respectively).

Table 3. Correlation findings for the relationship between dependent and independent variables

	Self-confident Approach	Submissive Approach	Hopelessness	Physiological problems	State Anxiety	Trait Anxiety
Self-confident Approach	1					
	73					
Submissive Approach	-0.340**	1				
	0.003	73				
Hopelessness	-0.541**	0.443**	1			
	0.001	0.001	73			
Physiological problems	-0.277*-	0.312**	0.404**	1		
	0.018	0.007	0.001	73		
State Anxiety	-0.321**	0.363**	0.654**	0.339**	1	
	0.006	0.002	0.001	0.003	73	
Trait Anxiety	-0.410**	0.477**	0.674**	0.488**	0.776**	1
	0.001	0.001	0.001	0.001	0.001	73

Table 4. Findings related to the relationship between self-confident approach and dependent variables

Model	R	R^2	Corrected R	Prediction Std Error
1	0.541	0.293	0.283	0.56831

Table 5. The Results of the Regression Model of Means of Hopelessness and Self-Confident Approach

Model 1	Unstandardized		Standardized		
	B	Std. error	Beta	t	Sig. (p)
(Constant)	4.048	0.218	-0.541	-18.604	0.001
	-0.499	0.092			0.001

Table 6. The results of the regression model of dependent variables mean by submissive approach

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. error	Beta	t	Sig. (p)
Constant	0.748	0.369		2.025	0.047
Hopelesness	0.218	0.139	0.233	1.568	0.122
Physiological problems	0.074	0.115	0.077	0.638	0.526
State Anxiety	-0.104	0.205	-0.088	-0.507	0.614
Trait Anxiety	0.447	0.237	0.350	1.885	0.614

DISCUSSION

In this study, we determined that the parent's of children with ASD chose one of the self-confidence approachs and the submissive approach to cope with stress, and the average state and trait anxiety was high. In our study, the anxiety levels of the families are high, as seen in previous studies showing that parents of children with ASD have higher levels of stress relative to parents of children with other types of developmental disabilities (2, 23).

When the literature is systematically examined, it is seen that the studies about the parents of children with ASD are focused on parenting stress and quality of life (24). Bozkurt et al.studied the burden and stress coping styles of parents of 131 children with ASD by using the "Caregiver Strain Index" and "Ways of Coping Questionnaire." In their study, parents with children with ASD had a high caregiver burden. In their study, parents of 3-year-olds scores of the 'self-confident approach' and the 'optimistic approach

were found to be lower than those of other ages and mothers' scores of 'submissive approach' and the 'seeking social support' were significantly higher as compared with the fathers, In our study, the self-confident approach and the submissive approach scores of the families of children with ASD were above the average (25). The average of the self-confident approach was higher than the submissive approach. Family members are looking for scientific solutions with the emotional acceptance of child with ASD after showing rejecting attitudes and behaviors. Considering that the children of the families participating in our study are receiving special education. The fact that children with ASD are brought into special education and that the average of the self-confident approach scores of the family members are higher than the submissive approaches seem to be compatible with each other. Furthermore, it can be said that the number of female participants is high in our study because of the fathers are working and therefore the mothers are mostly interested in the care of the child. These results are in line with the results of studies showing that mothers have more difficulties and burn out because they take care of their children on their own, and seek more social support (26,27).

In a meta-analysis, Yirmiya and Shaked found that parents of children with ASD had higher psychiatric symptoms of depression and anxiety (28). Previous studies have shown that parents of children with autism have more mental health problems than parents of children with other diseases (29,30). When the studies are examined, it is expected that the parents of children with ASD have more stress, depression and anxiety (25, 31). In our study, we found that the state and trait anxiety mean scores of the family members were above the average. These results are consistent with previous findings that depression and anxiety are the strongest determinants of mothers with low social support (32, 33). It can be said that the mother's and father's concerns about what kind of future is expected for their children are long-term and continue with the development of the child. Benson reported a significant reduction in maternal stress proliferation and psychological distress regarding change in maternal adjustment over the 7-year period examined. In that study the effect of cognitive reframing on distress (defined as anxiety and depressive mood) was examined. Nevertheless, detailed studies are needed to understand psychopathology of parents of children with ASD parents and how their relationship with coping strategies (34).

CONCLUSION

It was found that the despair of the family members decreased when they preferred the self-confident coping approach. The findings may help inform the design of effective interventions aimed at reducing burden among the parents of children with ASD.For this reason, it will be beneficial to provide trainings that can support the individual development of family members with children diagnosed with ASD, such as coping with stress, awareness, decision making techniques.

LIMITATION

This study is limited to a sample of 73 parents of ASD. It is thought that more meaningful results can be obtained for the depression and anxiety levels experienced by family members by increasing the number of participants' first and geographical differentiation. All applied scales are self-report scales. ASD cases were taken from a special education center avoiding generalization of the results. The sample size is relatively low. Future studies may be helpful by including the control group in the studies and including a larger sample set or study group.

Competing interests: The authors declare that they have no conflict of interest.

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Ethical approval: The study protocol was reviewed and approved by the non interventional research ethics committee of Üsküdar University.

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REFERENCES

1. American Psychiatric Association.Diagnostic and statistical manual of mental disorders (5th Ed.). Washington, DC: American Psychiatric Publishing 2013.
2. Hayes SA, Watson SL. The impact of parenting stress: A meta-analysis of studies comparing the experience of parenting stress in parents of children with and without autism spectrum disorder. Journal of Autism and Developmental Disorders 2013;43:629-42.
3. Dillenburger K, Keenan M, Doherty A, et al. Living with children diagnosed with autistic spectrum disorder: Parental and professional views. British J Special Education 2010;37:14-23.
4. Vasilopoulou E, & Nisbet J. The quality of life of parents of children with autism spectrum disorder: A systematic review. Research in Autism Spectrum Disorders 2016;23:36-49.
5. Ruiz-Robledillo N, Moya-Albiol L. Self-reported health and cortisol awakening response in parents of people with asperger syndrome: the role of trait anger and anxiety, coping and burden. Psychol Health 2013; 28:1246-64.
6. Baker JK, Seltzer MM, Greenberg JS. Longitudinal effects of adaptability on behavior problems and maternal depression I families of adolescents with autism. J. Fam Psychol 2011;25:601-9.
7. Barroso NE, Mendez L, Graziano PA, et al. Parenting stress through the lens of different clinical groups: A systematic review and meta-analysis. Journal of Abnormal Child Psychology 2017;45:1-13.
8. Altiere MJ & Kluge S. Family functioning and coping behaviors in parents of children with autism. Journal of Child and Family Studies 2009;18:83-92.

9. Benson PR. Coping, distress, and well-being in mothers of children with autism. Research in Autism Spectrum Disorders 2010;4:217-28.
10. Hastings RP, Kovshoff H, Brown T, et al. Coping strategies in mothers and fathers of preschool and school-age children with autism. Autism 2005;9: 377-91.
11. Patterson, J. Integrating family resilience and family stress theory. Journal of Marriage and Family 2002; 64:349-60.
12. Lai WW, Goh TJ, Oei TP, et al. Coping and well-being in parents of children with autism spectrum disorders (ASD). Journal of Autism and Developmental Disorders 2015;45:2582-93.
13. Obeid R, Daou N. The effects of coping style, social support, and behavioral problems on the well-being of mothers of children with autism spectrum disorders in Lebanon. Research in Autism Spectrum Disorders 2015;10:59-70.
14. Catalano D, Holloway L, Mpofu E. Mental Health Interventions for Parent Carers of Children with Autistic Spectrum Disorder: Practice Guidelines from a Critical Interpretive Synthesis (CIS) Systematic Review. Int J Environ Res Public Health 2018;14:15.
15. Da Paz NS, Siegel B, Coccia MA, et al. Acceptance or Despair? Maternal Adjustment to Having a Child Diagnosed with Autism. J Autism Dev Disord. 2018; 48:1971-81.
16. Folkman S. and Lazarus RS. An analysis of coping in a middle-aged community sample. Journal of Health and Social Behavior 1980;21:219-39.
17. Şahin N, Durak A. Stresle Başa Çıkma Tarzları Ölçeği: Üniversite Öğrencileri İçin Uyarlanması, Türk Psikoloji Dergisi1995;10:56-75.
18. Beck AT. An inventory for measuring depression. Arch Gen Psychiatry1961;4:561-71.
19. Hisli N. Beck Depresyon Envanteri'nin geçerliliği üzerine bir çalışma. Psikoloji Dergisi 1988;6:118-22.
20. Tegin B. Depresyonda bilişsel bozukluklar: Beck modeline gore bir inceleme. Yayınlanmamış doktora tezi. Hacettepe Universitesi Sosyal Bilimler Enstitusu, Ankara 1980.
21. Spielberger CD. Manual for the State-Trait Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press 1983.
22. Öner N, Le Compte A. Süreksiz Durumluk/Sürekli Kaygı Envanteri El Kitabı, 1 Baskı, İstanbul, Boğaziçi Üniversitesi Yayınları1983;1-26.
23. Abbeduto L, Seltzer MM, Shattuck P, et al. Psychological well-being and coping in mothers of youths with autism, Down syndrome, or fragile X syndrome. Am J Ment Retard 2004;109:237-54.
24. Schnabel A , Youssef GJ , Hallford DJ , et al. Psychopathology in parents of children with autism spectrum disorder: A systematic review and meta-analysis of prevalence.Autism 2019;9:1-15.
25. Bozkurt G, Uysal G, Düzkaya DS. Examination of Care Burden and Stress Coping Styles of Parents of Children with Autism Spectrum Disorder. J Pediatr Nurs 2019;47:142-7.
26. Bilgin H, & Küçük L. Raising an Autistic Child: Perspectives From Turkish Mothers. Journal of Child and Adolescent Psychiatric Nursing 2010;23:92-9.
27. Koydemir S, Tosun Ü. Impact of autistic children on the lives of mothers. Procedia- Social and Behavioral Sciences2009;1:2534-40.
28. Yirmiya N, Shaked M. Psychiatric disorders in parents of children with autism: A meta-analysis. The Journal of Child Psychology and Psychiatry and Allied Disciplines 2005;46:69-83.
29. Falk NH, Norris K, Quinn MG. The Factors Predicting Stress, Anxiety and Depression in the Parents of Children with Autism. Journal of Autism and Developmental Disorders 2014;44:3185-203.
30. Giovagnoli G, Postorino V, Fatta LM, et al. Behavioral and emotional profile and parental stress in preschool children with autism spectrum disorder. Res Dev Disabil. 2015;45-46:411-2.
31. Zablotsky B, Bradshaw CP, & Stuart EA. The Association Between Mental Health, Stress, and Coping Supports in Mothers of Children with Autism Spectrum Disorders Journal of Autism and Developmental Disorders 2013;43:1380-93.
32. Osborn AJ, Mathias JL, Fairweather-Schmidt, AK. Prevalence of anxiety following adult traumatic brain injury: A meta-analysis comparing measures, samples and postinjury intervals. Neuropsychology 2016;30: 247-61.
33. Spaans M, Molendijk ML, de Beurs E, et al. Self-reported personality traits in forensic populations: A meta-analysis. Psychology Crime & Law 2017;23: 56-78.
34. Benson PR. Coping and psychological adjustment among mothers of children with ASD: An accelerated longitudinal study. Journal of Autism and Developmental Disorders 2014;44:1793-807.