



## THE QUALITY OF LIFE AND STRESS LEVELS IN PARENTS OF CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER

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### Abstract:

**Background:** The purpose of the study is to investigate the relationship between the quality of life and stress levels of parents of children with ADHD. **Methods:** The study participants consisted of mothers (n=110) and fathers (n=90) of children with ADHD from the Northern Cyprus (n=200). The “Beach Centre Family Quality of Life Scale” and “Perceived Stress Scale” have been used in this study. In the data analysis, t-test, one-way ANOVA, and multiple regressions were all conducted. **Results:** It has been found out that mothers have higher emotional well-being scores than fathers. The results show that the family interaction, parenting, physical/material well-being, disability-related support and emotional well-being sub-dimensions are predicted with inadequate self-efficacy. It can be expressed that 25% of the variance related to inadequate self-efficacy is explained by family quality of life sub-dimensions. Another result of the study shows that the family interaction, physical/material well-being, parenting, disability-related support and emotional well-being sub-dimensions predicted stress perception together. It can be expressed that 52% of the variance related to stress perception is explained by the family quality of life sub-dimensions. **Conclusion:** The study concluded that the statistical difference between females and

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males is only in the scores of emotional well-being, which is a sub-dimension of quality of life.

**Keywords:** ADHD, parents, quality of life, stress

## 1. Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a type of disorder characterized by extreme activity, limited attention span and impulsivity which begins in pre-school childhood and can continue into adulthood. It is one of the most common psychiatric disorders in childhood, which can negatively affect the psychological and social development of children unless treated (Dogangun & Yavuz, 2011). The symptoms have to begin before 3 years of age for accurate diagnosis and should be observed in at least two different locations (such as school and home). Establishing relationships with children with ADHD can be difficult for both the child's family and friends. For this reason, they mostly receive negative feedback from the community and they develop into children with little self-confidence labelled as problematic by the society (Onerand Aysev, 2007).

Studies show that the concept of the family has different definitions. According to some opinions, the family is the structure consisting of several individuals with blood and marriage relation; however, other studies have adopted a narrower view, indicating that a family consists of a mother, father and child(ren) (Smith, Gartin, Murdic & Hilton, 2006; Nuri, Rustioglu, Piskin Abidoglu, 2018). Individuals in the family constitute a system related with sub-systems through emotional connections consisting of open relations with the entire family and the community and interpersonal relations defined with certain responsibilities. The importance of its role in the education of children is a widely accepted reality; parents are the first people who facilitate learning of the child in all development areas (Ersoy & Sahin, 1999; Nuri et al., 2018). The most important function of a family, which defines its place in society, is to add new and healthy individuals to the society in order to ensure its maintenance. However, when families of children with problems are evaluated from this perspective, they can be trivialised by the society; they can even perceive and feel themselves to be worthless (Ardic, 2013).

It is stated that children with ADHD are more negativistic and incompatible, more demanding from their mothers who feel less rewarded, more commanding, physically exhausted and more displeased (Edwards, Barkley, Laneri, Fletcher & Metevia, 2001). It is reported that mothers of children with ADHD suffer more from parenting stress and marriage dissatisfaction as well as psychiatric problems (particularly anxiety and depression) (Befera & Barkley, 1985, Breen & Barkley, 1988). It is also reported that single parents are subject to more stress than married parents (Quine & Pahl, 1985). It is stated that the nervousness and objection level of the mother has a negative impact on the ADHD and oppositional defiant disorder (ODD) of the

child as well as the conflicts between mother and child (Barkley, Anastopoulos, Guevremont & Fletcher, 1992).

ADHD is caused by mistaken parenting attitudes. However, mistaken attitudes also lead to the emergence of disorders other than ADHD, such as behavioural disorders, oppositional defiant disorder, learning difficulties, tic disorders, anxiety and depression and bipolar affective disorder. Nonetheless, it is not possible to avoid all mistakes in child-raising. However, there are fewer reasons for disruption in the relations between parents and children who display normal development and do not experience any problems in their development. While raising a child who does not listen, knows no boundaries, and is always in motion, parents have to focus more on avoiding mistakes. Inconsistent behaviours in the decisions that have to be taken about the child and resulting conflicts can cause problems in the marriages of the parents (Ozdogan, Ak and Soy Turk, 2005).

In Turkey, mothers have more influence on the raising of their children; thus, they are required to manage the problems of a child with ADHD more in comparison to the fathers. As fathers withdraw from home in order to avoid dealing with the problem, mothers become tired. Additionally, the community tests the abilities of the mothers due to their inability to control their children as a result of which, mothers are exposed to social pressure and this results in the impairment of health of mothers in psychological terms. It is reported that psychological disorders are more common among parents of children with behavioural disorders. Studies show that the depression frequency of mothers of children with behavioural disorders is 25 percent (Aydın & Ercan, 2005).

Studies indicate that the stress level of parents of children with ADHD is related to the acuteness of the behavioural disorders of children with ADHD. McLaughlin and Harrison (2006) concluded that the strength of destructive behaviours of children had a negative impact on the competence of parents and their effective parenting behaviours. In addition, in studies which compared the stress levels of families of children with normal development and children with ADHD, the stress levels of families of children with ADHD were found to be higher (Durukan, Erdem, Tufan, Congologlu, Yorbık & Turkbay, 2008; Johnston & Mash, 2001).

Mothers and fathers who have difficulty in controlling the behaviours of their children, despite having normal physical and mental development, are subjected to stress (Nuri et. al., 2018). Stress is defined as stimuli that disrupts the balance of the individuals; it also refers to the dangerous situations which endanger the well-being of the person and decrease his/her capacity. A general definition of stress would be the physical, emotional and emotive reactions that the human body exhibits in reaction to environmental tensions, pressures and compulsions which emerge as the pressing and endangering of physical and psychological boundaries of the organism (Kalkan & Koc, 2008).

A literature review shows that the level of behavioural disorders in children is an important factor in stressful situations. The stress levels of children with ADHD are

higher compared to the stress level of families of children that show normal development (McCleary, 2002). A study conducted by Xiang, Luk and Lai (2009) found that the quality of life of families of children with ADHD is lower compared to families with children with normal developing children. In addition, several studies which have examine the stress levels of families of children with ADHD have focused on mothers. It is observed that mothers of children with ADHD are affected more psychologically over the years compared to the mothers of children who display normal development.

While trying to meet the academic needs of children with inabilities in individual terms, specialists can overlook more holistic needs such as social relations, making choices and independence, and family structure, which are related to quality of life. However, identifying the quality of life of families in addition to the individuals with disabilities can act as a guide in the development of more holistic programmes in individual, school and social life (Sacks, 2006). Identification of the quality of life of children with developmental disabilities and their families will lead to the planning and execution of relevant services in a healthy manner; this is why studies on family quality of life are needed (Fischer, 1990).

Quality of life can be defined as the living conditions of people and their personal perceptions in regard to these conditions (Keith, Heal and Schalock, 1996). Several recent studies in the field of developmental disabilities have focused on the concept of the "Family Quality of Life". It is a term derived from quality of life in such areas as health, psychology and socio-politics (Bayat, 2005). Family quality of life can be defined as the ability of the family to provide conditions that can meet their needs, meet the necessities that family members desire and feel important, and the ability of family members to live under the same roof happily by enjoying life (Park Hoffman, Marquis, Turnbull, Poston, Mannan, Wang & Nelson, 2003; Turnbull, Turbiville & Turnbull, 2000).

According to Schalock and Verdugo-Alonso (2002), the measure of quality of life of individuals is, by nature, related to the family in which they are a member. Family has the same impact on all areas of the lives of individuals with special needs (Seltzer, Floyd & Hindes, 2004). The participation of parents is relevant in the application of special education services. In this process, organization is needed so as to determine the proper services by taking into consideration the needs of both the children and the parents. For this to be effective, it is essential to have data on the characteristics of the family (Cavkaytar, Batu, Kartal, Cetin & Gullupinar, 2004). The family is shaped by the cultural construct of the society. Culture, socio-economic features, demographic features, the characteristics of the area in which they live, type of family, and number of family members are among the features of the family. While raising their children, parents are affected by cultural values, beliefs, prejudices and attitudes. In addition to all these environmental factors, the type and degree of disability, socio-economic level of parents, their age and the social support they receive all influence the emotions and behaviours of parents (Aysan & Ozben, 2007).

Although the concepts of quality of life and stress are commonly studied subjects in the literature, there are no studies which examine the relation between quality of life of families of children with ADHD and stress. One of the few studies which has examined the relation between quality of life and stress was conducted on patients with breast cancer and prostate cancer and determined that there is a negative relationship between quality of life and stress levels (Carlson, Speca, Patel & Goodey, 2003). Another study was conducted on teachers and concluded that quality of life decreased as the vocational stress level increased (Yang, Ge, Hu, Chi & Wang, 2009). Studies on individuals with special needs have focused on families of children with autism. One study on parents with children with autism showed that the only variable which predicted the stress of parents was hyperactivity and that there was a relationship between stress and quality of life (McStay, Dissanayake, Scheeren, Koot & Begeer, 2014). Similarly, in their study, Johnson, Frenn, Feetham & Simpson (2011) reported that there was a relationship between the stress levels of families of children with autism and their quality of life.

An examination of the literature reveals that only a limited number of studies has been conducted in this regard, which requires more detailed examination of the relation between quality of life and the stress levels of families of children with ADHD (Nuri, 2017). Individual and collective perceptions of family members in regard to their lives have had an important impact on the evaluation of family quality of life (Brown & Brown, 2004). For this reason, the purpose of this study is to examine the relationship between the quality of life perceptions of families of children with ADHD and their stress levels. In the study, the predictive impact of the sub-dimensions of the quality of life scale of the families of children with ADHD, namely family interaction, parenting, emotional well-being, physical/material well-being and disability-related support on the inadequate self-adequacy and stress perception sub-dimensions of stress have been examined. The differences in terms of the dependent variable scores of gender, marital status and age, which are determined as the sub-problems of the study, are also investigated.

## **2. Method**

### **2.1 Research Model**

In this research, the relational screening model was used in order to study the relationship between Family Quality of Life and the stress perception of families of children with ADHD (Buyukozturk, Kılıc, Akgun, Karadeniz & Demirel, 2009).

### **2.2 Research Group**

The study group of the research consisted of mothers (n=110) and fathers (n=90) of children with ADHD from the Turkish Republic of Northern Cyprus (n=200). The research group was selected based on the purposive sampling method.

### **2.3 Data Collection Tools**

The demographic data of the families of children with ADHD were collected through the "Socio-Demographic Family Information Form". The Beach Center Family Quality of Life Scale (BCFQLS) and "Perceived Stress Scale" were used in order to determine the perceptions of families of children with ADHD in regard to family quality of life and its sub-fields.

### **2.4 Socio-Demographic Form**

The socio-demographic family information form was prepared by researchers with the purpose of determining the demographic features of families of children with ADHD. The form consists of various questions on the age, gender and marital status of parents.

### **2.5 Beach Centre Family Quality of Life Scale (BCFQLS)**

BCFQLS was developed by the Kansas University Beach Centre on Disability (Beach Centre on Disability, 2006) (Hoffman, Marquis, Poston, Summers and Turnbull, 2006). The adaptation to Turkish, reliability and validity studies of the scale were conducted by Meral and Cavkaytar (2013). BCFQLS is a data collection tool consisting of 25 questions, 5 sub-fields and five-grading type answers with the purpose of determining the quality of life of families of children with developmental disabilities. BCFQLS provides information on the basis of "satisfaction" and "importance" perception in regard to the entire family quality of life (25 questions, Cronbach's alpha = .94) and "Family interaction (6 questions, Cronbach's alpha = .92)", "Parenting (6 questions, Cronbach's alpha = .88)", "emotional well-being (4 questions, Cronbach's alpha = .80)", "Physical/material well-being (5 questions, Cronbach's alpha = .88)" and "disability-related support (4 questions, Cronbach's alpha = .92)" (Akin, Abacı & Cetin, 2007).

### **2.6 Perceived stress scale (PSS)**

The perceived stress scale (PSS) was developed by Cohen, Kamarck and Mermelstein (1983). Consisting of 14 items, PSS was designed to measure how stressful certain situations are perceived by individuals. Participants evaluate each item on a 5-point Likert-type scale from "never" (0) to "very often" (4). Higher scores indicate higher levels of stress.

For example, in the Turkish adaptation of the scale, the internal consistency coefficient was found as .84 and the test-retest reliability coefficient was reported as .87 (Eskin, Harlak, Demirkıran & Dereboy, 2013).

## **3. Findings**

In this section of the paper, the predictive impact of the sub-dimensions of the quality of life scale of the families of children with ADHD, namely family interaction, parenting, emotional well-being, physical/material well-being and disability-related support on the inadequate self-efficacy and stress perception sub-dimensions of stress have been

examined. The differences in terms of the dependent variable scores of gender, marital status and age, which are determined as the sub-problems of the study, are also investigated.

**Table 1:** Examination of the sub-dimensions of Stress Perception and Family Quality of Life according to gender variable

Dependent variable	Gender	N	$\bar{x}$	SH	t
Family interaction	Female	110	19.7818	6.96305	0.578
	Male	90	19.2333	6.31398	
Parenting	Female	110	20.3364	6.69421	0.470
	Male	90	19.9000	6.32820	
Emotional well-being	Female	110	15.0364	4.49041	2.495*
	Male	90	13.5222	3.98093	
Physical-material well-being	Female	110	17.8545	6.38064	0.565
	Male	90	17.4000	4.62480	
Disability-related support	Female	110	14.4455	3.90621	0.109
	Male	90	14.3889	3.27296	
Inadequate self-efficacy	Female	110	24.0000	4.17067	0.845
	Male	90	23.5111	3.94981	
Stress perception	Female	110	22.5727	4.66385	0.662
	Male	90	22,1444	4,41285	

It has been determined that the emotional well-being scores, which is a sub-dimension of the family quality of life scale, showed significant difference according to the gender variable ( $t=2.495$ ,  $p<.001$ ). It has been observed that females who participated in the study had higher emotional well-being scores ( $15.04\pm 4.49$ ) compared to males ( $13.52\pm 3.98$ ). It has also been found that there is no significant difference between the scores obtained by female and male participants from the sub-dimensions of the family quality of life scale, namely family interaction, parenting, physical/material well-being and disability-related support and the sub-dimensions of stress, namely inadequate self-efficacy and stress perception (respectively  $t=0.578$ ;  $t=0.470$ ;  $t=0.565$ ;  $t=0.190$ ;  $t=0.845$ ;  $t=0.662$   $p>.05$ ).

**Table 2:** Examination of the sub-dimensions of stress perception and quality of life according to marital status

Dependent variable		Sum of squares	Sd	Mean square	F	p
Disability-related support	Inter-groups	125.754	2	62.877	4.973	.008
	Intra-group	2478.085	196	12.643		
	Total	2603.839				
Stress perception	Inter-groups	13.989	2	6.994	0.336	.715
	Intra-group	4079.850	196	20.816		
	Total	4093.839				
Inadequate self-efficacy	Inter-groups	20.445	2	10.223	0.613	.543
	Intra-group	3268.107	196	16.674		
	Total	3288.553				
Physical/material well-being	Inter-groups	404.141	2	202.071	6.661	.002
	Intra-group	5945.527	196	30.334		

	Total	6349.668				
Emotional well-being	Inter-groups	112.647	2	56.324	3.065	.049
	Intra-group	3602.117	196	18.378		
	Total	3714.764				
Parenting	Inter-groups	102.787	2	51.394	1.212	.300
	Intra-group	8307.997	196	42.388		
	Total	8410.784				
Family interaction	Inter-groups	44.380	2	22.190	.499	.608
	Intra-group	8713.338	196	44.456		
	Total	8757.719				

An examination of Table 2 shows that there is a significant difference between the perception of disability-related support ( $F(2,196)= 4.973, p<.01$ ) and physical/material well-being ( $F(2,196)= 6.661, p<.01$ ) in terms of the marital status of the parents variable. The Tukey test, which is a post-hoc test, was applied in order to identify the difference between the groups. In this direction, it has been found that there is significant difference in favor of married parents ( $\bar{x}=14.92$ ) and between parents who lost their spouses ( $\bar{x}=12.27$ ) in the disability-related support perception. The difference in the field of physical/material well-being was observed between married parents and divorced ( $p<.01$ ) and widowed parents ( $p<.05$ ). In the physical/material well-being sub-dimension, it was found that the highest score was obtained by married individuals ( $\bar{x}=18.67$ ), whereas the lowest score was received by widowed individuals ( $\bar{x}=14.73$ ).

**Table 3:** Results of multiple regression analysis on the inadequate self-efficacy sub-dimension, which is a sub-dimension of the perceived stress scale

Variable	B	Standard error	$\beta$	t	p	Partial r
(Constant)	27.987	1.287		21.746	.000	
Family interaction	-.113	.068	-.185	-1.662	.098	-.119
Parenting	-.166	.069	-.266	-2.421	.016	-.171
Emotional well-being	-.192	.070	-.204	-2.738	.007	-.193
Physical/material well-being	.048	.059	.067	.809	.419	.058
Disability-related support	.226	.093	.201	2.433	.016	.172

R= 0.497 R<sup>2</sup>= 0.247 Adapted R<sup>2</sup>=0.227

F(5,194)= 12.715 p= .000

An examination of the analysis results shows that (Table 2) the family interaction, parenting, emotional well-being, physical/material well-being and disability-related support sub-dimensions are predicted with inadequate self-efficacy.  $R=.497, R^2=.0247, F(5,194)= 12.715, p<.001$ . It can be expressed that 25% of the variance related to inadequate self-efficacy is explained by the family quality of life sub-dimensions. Independent examination of the sub-dimensions of family quality of life show that family interaction and physical/material well-being are not significant predictors of inadequate self-efficacy, whereas the emotional well-being ( $\beta=-.204, t= -2.738, p<.01$ ), parenting ( $\beta=-.266, t=-2.421, p>.05$ ) and disability-related support ( $\beta=.201, t=2.433, p>.05$ ) sub-dimensions are predictors of inadequate self-efficacy.



**Table 4:** Multiple regression results of stress perception

Variable	B	Standard error	$\beta$	t	p	Partial r
(Constant)	29.832	1.150		25.942	.000	
Family interaction	-.402	.061	-.590	-6.632	.000	-.430
Parenting	-.046	.061	-.066	-.750	.454	-.054
Emotional well-being	-.252	.063	-.240	-4.027	.000	-.278
Physical/material well-being	.080	.053	.099	1.503	.134	.107
Disability-related support	.246	.083	.196	2.968	.003	.208

R= 0.720 R<sup>2</sup>= 0.518 Adapted R<sup>2</sup>=0.506  
 F(5,194)= 41.717 p= .000

An examination of the multiple regression results concerning stress perception (Table 4), shows that the family interaction, parenting, emotional well-being, physical/material well-being and disability-related support sub-dimensions predicted stress perception together.  $R=.720$ ,  $R^2=.518$ ,  $F(5.194)= 41.717$ ,  $p<.001$ . It can be expressed that 52% of the variance related to stress perception is explained by family quality of life sub-dimensions. Independent examination of the sub-dimensions of family quality of life shows that family interaction ( $\beta=-.590$ ,  $t=-6.632$ ,  $p<.001$ ), emotional well-being ( $\beta= -.240$ ,  $t= -4.027$ ,  $p<.001$ ) and disability-related support ( $\beta=.198$ ,  $t=2.968$ ,  $p<.01$ ) are significant predictors of stress perception, whereas the parenting ( $\beta=-.066$ ,  $t= -0.750$ ,  $p>.05$ ) and physical/material well-being ( $\beta=.099$ ,  $t=1.503$ ,  $p>.05$ ) sub-dimensions are not predictors of stress perception.

#### 4. Discussion

The role of the family in the special education process is well-documented in the literature. The psychological well-being of parents of children with ADHD will increase the gains of the child from special education. In this direction, determination of the relationship between the quality of life of parents and their stress perception levels gains importance. Cultural differences can be observed in stress levels. The responsibility of child-raising mostly falls upon the mothers in Turkey. It is mothers who are predominantly faced with the difficulties of dealing with the behaviours of a child with ADHD (Nuri, 2017). As a result of this cultural characteristic, mothers suffer from more stress, more pressure concerning their adequacy and more frequent psychological problems. The study conducted by Aydın and Ercan (2005) reported that 25% of mothers of children with behavioural problems are suffering from depression. An examination of the family quality of life and stress levels according to the gender variable shows that the scores of emotional well-being, which is a sub-dimension of the family quality of life scale, showed a significant difference based on the gender variable. It has been found that the emotional well-being scores of females who participated in the study were higher compared to the male participants. In addition, it has been found that there is no significant difference between scores obtained by male and female participants from the sub-dimensions of the family quality of life scale, namely family interaction, parenting, emotional well-being, physical/material well-being and

disability-related support, and the sub-dimensions of the stress scale, namely inadequate self-efficacy and stress perception. The study did not indicate any findings showing that females suffered from higher levels of stress compared to males. It is believed that this difference from the literature is due to cultural values. The study concluded that the statistical difference between females and males is only in the scores of emotional well-being, which is a sub-dimension of quality of life. The fact that childcare is mostly a responsibility of the mother may be related to the higher emotional well-being scores of mothers.

Breen and Barkley (1988) reported that mothers and fathers of children with ADHD suffered from higher level of stress, lower marriage satisfaction, and psychiatric problems such as anxiety and depression. It is also stated that conflicts in the marriages of parents of children with ADHD are more frequent (Ozdogan, Ak & Soyuturk, 2005, Nuri, 2017). In their study, Quine and Pahl (1985) found that divorced parents were subject to higher stress compared to married parents (Quine & Pahl, 1985). It has been reported that 65% of the participants of the study were married, 27.5% were divorced and 7.5% were widowed. In the light of this information, it can be stated that having a child who requires special education, suffers from behavioral problems and causes difficulties for the family affects intra-family relations. An examination of the stress and quality of life sub-dimension scores of parents according to the marital status variable showed that the scores obtained by married parents from the disability-related support sub-dimension were significantly higher compared to widowed parents. In addition, it was found out that the scores of physical/material well-being, which is a sub-dimension of family quality of life, are significantly different between married individuals and divorced and widowed individuals. Similar to the literature, it can be claimed that marriages of individuals with children with ADHD are negatively affected.

It is reported that families of children with ADHD suffer from higher levels of stress compared to families of children with normal development (Durukan, Erdem, Tufan, Congologlu, Yorbik & Turkbay; 2008; Johnston & Mash, 2001). In addition, it is also stated that their quality of life is lower compared to normally developing families (Xiang, Luk & Lai, 2009). As a result of the multiple regression analysis which was conducted in accordance with the fundamental objective of the study, it was found that parenting, emotional well-being and inadequate support perception predicted inadequate self-efficacy. Another important finding was that the predictors of stress perception are the family interaction, emotional well-being and disability-related support sub-dimensions.

Any reduction in the stress levels and an increase in the quality of life of families of children with ADHD will increase the quality of the education of the child. Family involvement is defined as one of the most important elements of special education. A healthy family facilitates the adaptation of the child. It is observed that parents who receive inadequate disability-related support also perceive inadequate self-efficacy, and as emotional well-being and parenting scores decreased, inadequate self-efficacy perception increased. In addition, it is reported that as family interaction

increased, stress perception decreased. In the light of these findings, psychological assistance in family interaction, parenting competencies, emotional well-being and disability-related support of parents of children with ADHD will prevent them from experiencing stress. It is recommended that in addition to parental education programmes, psychological support groups should be formed for parents of children with ADHD and added to the application field. This study was conducted only on parents. Further studies that include confounder variables such as the ADHD level of the child and comorbidity criteria, which can also change quality of life, will add richness to the field.

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