



# PSYCHIATRIC SYMPTOMS AS PREDICTORS OF LIFE SATISFACTION IN PARENTS WITH HANDICAPPED CHILDREN\*

(ENGELLİ ÇOCUĞA SAHİP EBEVEYNLERİN YAŞAM DOYUMLARININ  
YORDAYICISI OLARAK RUHSAL BELİRTİLER)

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## ABSTRACT

The purpose of this study was to analyse the occurrence of psychiatric symptoms in parents with handicapped children and to examine their satisfaction with life. Participants were 113 parents of handicapped children. Data for the study were obtained from the Brief Symptom Inventory, Satisfaction with Life Scale and Personal Information Questionnaire. Results indicated that psychiatric symptoms and satisfaction with life exhibited dramatic differences due to the specific handicaps of their children. Except for depression and hostility, all other psychological symptoms were found as predictors of satisfaction with life of the parents with handicapped children. The results found in this study indicate that, the level of negative self-concept and somatization increase as the parents' educational status decreases. As the life satisfaction of the parents gets higher, the negative self-concept and somatization levels decrease. Also, the psychological symptoms of the parents vary according to the type of disability of their children.

**Keywords:** Parents with handicapped children, satisfaction with life, psychiatric symptoms

## ÖZ

Araştırmanın amacı engelli çocuğa sahip ebeveynlerde görülen ruhsal belirtilerin bazı değişkenlere göre farklılaşmasını ve ebeveynlerin psikolojik belirtilerinin yaşam doyumunu açıklama düzeylerini incelemektir. Araştırma grubu 113 engelli çocuğa sahip ebeveynlerden oluşmuştur. Araştırma verileri Kısa Semptom Envanteri, Yaşam Doyumu ölçeği ve kişisel bilgi formu kullanılarak elde edilmiştir. Araştırma bulgularına göre ebeveynlerin ruhsal belirtileri ve yaşam doyum düzeyleri çocuklarının engel türüne göre önemli farklılıklar göstermektedir. Depresyon ve hostilite hariç diğer tüm psikolojik semptomların engelli çocuğu olan ebeveynlerin yaşam doyumlarını açıkladığı belirlenmiştir. Araştırma bulgularına göre eğitim seviyeleri düşük ebeveynlerin düşük benlik kavramı ve somatizasyon düzeylerine sahip oldukları bulunmuştur. Ebeveynlerin yaşam doyumlarının artması ile benlik kavramı ve somatizasyon düzeylerinin azalması arasında anlamlı bir ilişki bulunmaktadır. Ayrıca ebeveynlerin ruhsal belirtileri çocuklarının engel türüne göre de önemli düzeyde farklılıklar göstermektedir.

**Anahtar sözcükler:** Engelli çocuğa sahip ebeveynler, yaşam doyum, ruhsal belirtiler

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## **INTRODUCTION**

The birth of a child is a turning point in the life of a family, imposing new roles for the parents and demands to change daily routines. Existing research indicates that childcare can cause stress in families with normally developing children, but this stress generally decreases with the growth, development, and increasing talents of these children (Gladding, 2007). However with parents of handicapped children, there are many sources of stress and anxiety. These include the intensity of the care and educational needs of the child, demands on family financial resources, and uncertainty about long term well-being (Bailey & Smith, 2000; Sucuoğlu, Küçüker, & Kobal, 2001; Paster, Brandwein, & Walsh, 2009). The continuity of these problems can affect the other individuals in the family, their relationships, and intra-familial communication and roles (Beckman, 1991). Many parents experience anxiety, depression, and low self-esteem, and experience a decline in conjugal relationships and personal adaptation due the additional stresses caused by a handicapped child (Duygun & Sezgin, 2003; Hastings, 2003; Hassll, Rose, & Donnal, 2005; Sunay, 2000; Weiss, 2002; Yurdakul, Girli, Özekes, & Sarısoy, 2000).

The severity of the handicap and intensity of problem behaviours are important sources of stress (Dunn, Burbune, Bowers, & Tantleff-Dunn, 2001; Hassall, Rose, & McDonald 2005; Hastings, 2003; Lecavalier, Leone, & Wiltz, 2006; Weiss, 2002; Yurdakul et al. 2000). For example, the level of dependence of autistic children, and the possibility that parents might not be able to care for them long term is a particularly stressful (Hollroyd & McArthur, 1976; Moes, Koegel, Schreibman, & Loos, 1992; Nazlı, 2001). In particular, mothers with autistic children are more stressed, and have higher levels of somatic complaints, as well as anxiety and depression compared with the mothers of normally developed, intellectually disabled, and other groups of children (Fırat, Avcı, & Seydaoğlu, 2001; Moes et al. 1992; Weis, 2002).

Gender is a factor that can help define well-being. Although parents share some anxieties about parenthood, many studies indicate that the sources of stress are different for mothers and fathers and mothers have higher levels of anxiety. This may be because mothers are more engaged in the care and education of children while fathers take economic responsibility. Older mothers with younger children have higher levels of stress (Duarte, Bordin, Yazığı, & Mooney, 2005). Research performed in Turkey demonstrated similar results, indicating that psychological health problems such as anxiety and depression were more often observed with mothers than with fathers (Altuğ-Özsoy, Özkahraman, & Çallı 2006). Similar to studies performed outside of Turkey, mothers undertake care and education while fathers assume financial responsibilities (Yurdakul et al., 2000; Sunay, 2000).

The psychological health of families with handicapped children consists of structural and dynamical variables. Healthy families have a higher level of unity and adaptability, and these families can deal with change within and outside of the family and can cope with stressful incidents more successfully. Families with children who have developmental disorders or handicaps may have lower levels of perception about the unity and adaptation within the family (Sucuoğlu, Küçüker, & Kobal, 2001; Aslanoğlu, 2004). Devoting more time to the handicapped child, and being overprotective and allocating less time to the other members of the family, could ruin intra-familial relations, and sometimes could damage conjugal relationships (Yurdakul, Girli, Özekes, & Sarısoy, 2000).

The psychological health of families is the existence and qualification of social support systems available to the family. Available research indicates that social support available to parents from their families, neighbourhood, and friends, can decrease the stress and the negative results of that stress and can have a positive effect on the psychiatric conditions of the parents (Beşikçi, 2000; Kaner, 2003; Sencar, 2007, White & Hastings, 2004; Yurdakul & Girli, 1998). Other research indicates that there is a relation between perceived social support and level of depression, and that depression decreases with increasing support (Dempsey, Deen, Pennell, O'Reilly, & Neliands, 2009; Hadadian, 1994; Plant & Sanders, 2007; Yurdakul & Girli, 1998). Families are more vulnerable to stress when socially isolated, interactions with friends and relatives are limited, and support from the immediate family and other institutions is limited as well (Cohen & Pressman, 2004; Küçüker, 2001). Research also indicates that more than a half of parents with intellectually disabled children have anxiety about the future, and more than one third of them never have social support from their environment (Altuğ-Özsoy et al., 2006). It has also been shown that social support decreases emotional and physical stress (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Beresford, 1994; White & Hastings, 2004; Hadadian, 1994; Sencar, 2007; Özkan, 2002; Görgü, 2006).

Satisfaction with life is defined as a general sense of contentment (Diener & Diener, 1995; Veenhoven, 1996). Research indicates that stress is an effective limiting factor for satisfaction with life. Parents with intellectually disabled children are more pessimistic compared with parents of hearing impaired children and perceive their life as more stressful. However, satisfaction with life increases with social support. Research has also indicated that quality of life increases and solitude decreases with increasing social support (see for example, Kaner, 2003). Similarly, Aysan and Özben (2007) determined that depression levels of mothers with handicapped children were significantly higher than for mothers without handicapped children. In that study, depression levels for fathers of handicapped children were also found to be higher than for other parents, but the difference was not significant. Other

research has found (Strachan, 2005) that satisfaction with life of fathers with handicapped children is significantly lower than for fathers without handicapped children (Strachan, 2005). The purpose of the present study was to investigate the relation between the presence of their own psychiatric symptoms as reported by parents of handicapped children, and their satisfaction with life.

## **METHOD**

### **Participants**

All participants in this research signed a written description of the study. This description addressed participants that their participation was voluntary, that all responses were confidential and that they could withdraw from the study at any time. The participants were the parents of students attending special education and rehabilitation facilities in Izmir Turkey. The participants consisted of 113 parents (73.5% mothers,  $n= 83$ ; 26.50% fathers,  $n= 30$ ). The average age of the mothers was 39.50 ( $sd= 9.42$ ) and fathers 47.90 ( $sd= 10.68$ ) and for the total population 41.77 ( $sd= 10.40$ ). In terms of marital status, 11.50% ( $n= 13$ ) of the parents were divorced and 88.50% ( $n= 100$ ) were married at the time of this research. 35.40% ( $n= 40$ ) of the children were girls and 64.60% ( $n= 73$ ) were boys.

### **Data Collection**

#### **The brief symptom inventory**

The Brief Symptom Inventory was developed by Derogatis (1992) to determine psychological symptoms of people with psychiatric problems as well as normal individuals. It consists of 53 self-report items on a five point (0-not at all, 4- extremely) Likert scale. The scale consists of nine subscales, and three global indices. Somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid thoughts and psychotism constitute the subscales of the scale while a global severity index, a paranoid thoughts index and a symptom severity index comprise the global indices of the scale. Derogatis (1992) reported that the internal consistency and reliability of all the subscales were higher than 0.71 and the test-retest reliabilities were higher than 0.68. The inventory was first adapted into Turkish by Şahin and Durak (1994). The Turkish translation yielded five factors: anxiety, depression, negative self-concept, somatization, and hostility. Internal consistency reliabilities of the scale was reported as 0.87 for anxiety, 0.88 for depression, 0.87 for negative self-concept, 0.75 for

somatization and 0.76 for hostility. The Turkish version along with its five factors was used for this study.

### **The satisfaction with life scale**

The Satisfaction with Life Scale was first developed by Diener, Emmons, Larsen and Griffin (1985) and was adapted to Turkish by Köker (1991) and Yetim (1991). The Satisfaction with Life Scale consists of a 5 item, 7 point Likert scale (1-strongly disagree to 7-strongly agree). High score (35) indicates high satisfaction with life. For the Turkish version, Yetim (1991) reported a KR-20 value of .78, a split half reliability of .75, and a test-retest reliability of .81. Köker (1991) reported a test-retest reliability of .85 and Çeçen, (2008) reported a Cronbach Alpha of .79.

### **Personal information questionnaire.**

A personal information questionnaire prepared by the researchers was used to determine the gender, age, educational level, monthly income, marital status, and number of children of the parental participants. It was also used to determine the age of the handicapped child, as well as the child's gender, education, and diagnosis of intellectual disability. The questions about gender, educational level, and income were closed ended and was in multiple-choice format; while questions regarding the ages and the type of handicap of the children were open-ended.

### **Data collection and analysis**

All ethical procedure governing research with human participants at the institute have been followed. The data was collected from volunteering parents in five different family organizations in May, 2009. Data collection for each participant took approximately 15 minutes. Missing values fell below 5% and were not assigned as data (Tabachnick & Fidell, 2007). Data analysis consisted of parametric (*t*-test analysis), nonparametric (Kruskall Wallis), and multiple regression analyses. Multiple regression analysis was used in order to investigate psychological symptoms as predictors of the satisfaction with life of parents. In order to consider the findings obtained from multiple regression analysis as valid, the regression model should satisfy a series of hypothetical criteria. These are number of participants, linearity, normality, homoscedasticity, multicollinearity, reliability of measurement, and independency from outliers (Osborne, & Waters, 2002; Tabachnick & Fidell, 2007). Schwab (2007ab) emphasized that the number of participants should be 5 times (1 in 5 ratio) of the independent parameter for regression analysis. Since the participants of this research are 114 and independent parameter is 5 ( $114:5= 22.8$ ) it was determined that the required minimum number of participants was obtained (1 in 22.8 ratio). By examining linearity using box-plot diagram, linearity was observed between psychological symptoms and

satisfaction with life. A normal distribution was observed in all predicted and predictive variances (Kolmogorov Smirnov  $p > .050$ ). In the outliers' analysis, data were examined using Mahalanobis distance ( $D^2$ ) and standardized z-points. Because there was not a significant value under the level of  $p = .001$  in Mahalanobis  $D^2$  values, and z-points were between the range of  $\pm 3$ , it was concluded that there were no outliers in the data. The multicollinearity hypotheses were investigated using VIF indices and tolerance values. Tolerance values of all predictive parameters of the model were higher than 0.56 ( $1-R^2$ ). It was concluded that there was no multicollinearity problem for the regression model (Leech, Barrett & Morgan, 2005). SPSS was used for the statistical analyses, whereas  $\eta^2$  values were manually calculated (Green & Salkind, 2008).

## RESULT

In examining psychological symptom characteristics and satisfaction with life scores of parents with handicapped children by gender, there were no significant differences in level of anxiety (mother's mean = 25.42, father's mean = 24.83,  $t_{112} = .281$ ,  $p = .779$ ), negative self-concept (mother's mean = 27.41, father's mean = 26.40,  $t_{112} = .481$ ,  $p = .631$ ), somatization (mother's mean = 23.78, father's mean = 25.30,  $t_{112} = .825$ ,  $p = .441$ ), hostility (mother's mean = 15.15, father's mean = 14.93,  $t_{112} = .221$ ,  $p = .825$ ) and satisfaction with life (mother's mean = 18.41, father's mean = 17.50,  $t_{112} = .482$ ,  $p = .637$ ). Similarly, according to Mann Whitney  $U$  tests results there were no significant low or high income level differences for parents for anxiety ( $U = 1015.00$ ,  $p = .210$ ), depression ( $U = 975.50$ ,  $p = .130$ ), negative self-concept ( $U = 1021.50$ ,  $p = .226$ ), somatization ( $U = 915.00$ ,  $p = .055$ ), hostility ( $U = 988.00$ ,  $p = .151$ ) and satisfaction with life ( $U = 1121.00$ ,  $p = .582$ ). The participants expressed no significant differences among the four age intervals (20-30 ages,  $n = 16$ ; 31-40 ages  $n = 40$ ; 41-50 ages,  $n = 27$ ; 51 and over ages,  $n = 27$ ) by Kruskal Wallis H tests on anxiety ( $\chi^2 = 1.623$ ,  $p = .654$ ), depression ( $\chi^2 = 1.138$ ,  $p = .654$ ), negative self-concept ( $\chi^2 = 2.363$ ,  $p = .501$ ), somatization ( $\chi^2 = 3.484$ ,  $p = .323$ ), hostility ( $\chi^2 = 1.151$ ,  $p = .765$ ) and satisfaction with life ( $\chi^2 = 4.579$ ,  $p = .205$ ).

In examining the relationship between psychological symptoms and the satisfaction with life of parents by education, because the sample of middle school graduates was very small ( $n = 8$ ), primary school and middle school graduates were gathered into one variable. Similarly, because the number of parents with a postgraduate education was very small ( $n = 4$ ), they were analysed in the same category with university graduates. Differences in psychological symptoms and satisfaction with life by education level of parents with handicapped children were examined with the Kruskal Wallis test.

**Table 1. Parents with Handicapped Children's Psychological Symptoms, Satisfaction with Life by Level of Education**

Dimensions	Education levels	n	Means rank	$\chi^2$	df	p	$\eta^2$
Anxiety	Elementaryschool	58	58.80	.366	2	.833	-
	High school	34	55.35				
	University	21	54.69				
Depression	Elementaryschool	58	61.06	2.047	2	.359	-
	High school	34	54.32				
	University	21	50.12				
Negative self-concept	Elementaryschool	58	65.19	7.968	2	.019*	.08
	High school	34	50.84				
	University	21	44.36				
Somatization	Elementaryschool	58	63.12	6.519	2	.038*	.06
	High school	34	55.85				
	University	21	41.95				
Hostility	Elementaryschool	58	62.96	5.276	2	.071	-
	High school	34	54.68				
	University	21	44.31				
Satisfaction with life	Elementaryschool	58	54.05	2.537	2	.281	-
	High school	34	55.78				
	University	21	67.12				

\* $p \leq .05$ 

With the Kruskal Wallis analysis, results exhibited no significant differences for education on the level of anxiety ( $\chi^2 = .366$ ,  $p = .833$ ), depression ( $\chi^2 = 2.047$ ,  $p = .359$ ), hostility ( $\chi^2 = 5.276$ ,  $p = .071$ ) and satisfaction with life ( $\chi^2 = 2.537$ ,  $p = .281$ ). However, significant differences were seen for negative self-concept ( $\chi^2 = 7.968$ ,  $p = .019$ ) and somatization ( $\chi^2 = 6.519$ ,  $p = .038$ ). Mann Whitney  $U$  test indicated that negative self-concept levels of the parents with primary school education (Mean rank = 50.92) were found dramatically higher than the parents with high school education (Mean rank = 38.96;  $U = 729.50$ ,  $p = .038$ ) or with parents with a university education (Mean rank = 29.60;  $U = 390.50$ ,  $p = .015$ ). Somatization levels of parents with a primary school education (Mean rank = 43.83) were significantly higher than for parents with a university education (Mean rank = 29.43;  $U = 387.00$ ,  $p = .014$ ). These results demonstrated that parents of handicapped children with limited education, experience negative self-concept and somatization problems to a higher degree than do parents with more extensive education. Following further analyses, it was found that psychological symptoms and satisfaction with life levels of parents were significantly different according to the type of handicap of their children. These results are shown below.

**Table 2. Parents with Handicapped Children’s Psychological Symptoms,  
Satisfaction with Life by Child's Handicap**

Dimensions	Handicapped typies	n	Means rank	$\chi^2$	df	p	$\eta^2$
Anxiety	Intellectual disability	35	55.33	22.444	4	.000*	.21
	Autism	26	75.27				
	Hearing impaired	18	53.00				
	S.P.	12	50.92				
	Chronic disease	18	29.81				
Depression	Intellectual disability	35	52.30	12.979	4	.011*	.12
	Autism	26	71.44				
	Hearing impaired	18	55.61				
	S.P.	12	52.79				
	Chronic disease	18	37.36				
Negative self-concept	Intellectual disability	35	57.26	8.221	4	.084	-
	Autism	26	63.65				
	Hearing impaired	18	41.92				
	S.P.	12	64.63				
	Chronic disease	18	44.78				
Somatization	Intellectual disability	35	49.71	6.567	4	.161	-
	Autism	26	67.35				
	Hearing impaired	18	53.33				
	S.P.	12	59.13				
	Chronic disease	18	46.36				
Hostility	Intellectual disability	35	50.50	9.643	4	.047*	.09
	Autism	26	64.79				
	Hearing impaired	18	53.75				
	S.P.	12	70.04				
	Chronic disease	18	40.83				
Satisfaction with life	Intellectual disability	35	51.76	10.907	4	.028*	.10
	Autism	26	48.33				
	Hearing impaired	18	72.78				
	S.P.	12	40.54				
	Chronic disease	18	62.81				

\* $p \leq .05$

Kruskall Wallis analysis indicated that while the negative self-concept ( $\chi^2 = 8.221, p = .084$ ) and somatization ( $\chi^2 = 6.567, p = .161$ ) levels of parents showed no significant differences in terms of the type of handicap of their children, dramatic differences were found for depression, anxiety, hostility, and satisfaction with life. Mann Whitney *U* test indicated that anxiety levels of the parents with autistic children (Mean rank= 37.98) were significantly higher than for parents of intellectually disabled children (Mean rank= 25.45;  $U = 273.50, p = .008$ ). Parents with autistic children (Mean rank= 29.75) also have higher anxiety levels than parents with children having chronic disease (Mean rank= 12.03;  $U = 45.50, p = .000$ ). In addition, the anxiety levels of the parents with autistic children (Mean rank= 26.13) were significantly higher



than the parents with hearing impaired children (Mean rank= 17.25;  $U=139.50$ ,  $p=.024$ ). In terms of comparative results, the anxiety levels of the parents with autistic children were higher than the parents with children having any other type of handicap. It was also found that anxiety levels of parents with intellectually disabled children (Mean rank= 31.40) were higher than for parents with children having chronic disease (Mean rank= 18.44;  $U=161.00$ ,  $p=.004$ ); parents with hearing impaired children (Mean rank= 22.47) had higher anxiety levels than the parents with children having chronic disease (Mean rank= 14.53;  $U=90.50$ ,  $p=.022$ ); parents with children having cerebral palsy (SP) (Mean rank= 19.41) had higher anxiety than parents with children having chronic disease (Mean rank= 12.31;  $U=50.50$ ,  $p=.028$ ). It was determined that the source of the significant difference observed in depression ( $\chi^2=12.979$ ,  $p=.011$ ) was based on dramatically higher depression levels of parents with autistic children (Mean rank= 37.10) compared with the parents with intellectually disabled children (Mean rank= 26.47;  $U=296.50$ ,  $p=.021$ ). Parents with autistic children (Mean rank= 28.08) had higher levels of depression compared with parents with children having chronic disease (Mean rank= 14.44;  $U=89.00$ ,  $p=.001$ ). The dramatic difference in hostility ( $\chi^2=9.643$ ,  $p=.047$ ) was because of significantly higher levels of hostility of parents with autistic children (Mean rank= 26.48) compared with parents with hearing impaired children (Mean rank= 16.75;  $U=130.50$ ,  $p=.013$ ), parents with children having cerebral palsy (SP) (Mean rank= 20.00), and with parents with a child having chronic disease (Mean rank= 11.94;  $U=44.00$ ,  $p=.012$ ). Finally, it was found that the dramatic difference observed in satisfaction with life ( $\chi^2=10.907$ ,  $p=.028$ ) was because parents with hearing impaired children (Mean rank= 33.17) had higher satisfaction of life than parents with intellectually disabled children (Mean rank= 23.83;  $U=204.00$ ,  $p=.036$ ); parents with hearing impaired children (Mean rank= 28.86) had higher satisfaction with life compared with parents with autistic children (Mean rank= 18.10;  $U=119.50$ ,  $p=.006$ ); parents with hearing impaired children (Mean rank= 18.39) were higher satisfaction of life compared with parents with children having cerebral palsy (SP) (Mean rank= 9.45;  $U=38.00$ ,  $p=.005$ ), and parents with a child having chronic disease (Mean rank= 17.50) were higher satisfaction with life than parents with children having cerebral palsy (SP) (Mean rank= 10.91;  $U=54.00$ ,  $p=.044$ ).

Psychological symptoms and satisfaction with life by age of the parents were examined using the Kruskal Wallis test. Results indicated that there are no significant differences for somatization ( $\chi^2=3.484$ ,  $p=.323$ ), negative self-concept ( $\chi^2=2.363$ ,  $p=.501$ ), depression ( $\chi^2=1.138$ ,  $p=.768$ ), anxiety ( $\chi^2=1.623$ ,  $p=.654$ ), hostility ( $\chi^2=1.151$ ,  $p=.765$ ) and satisfaction with life. In the next step of the study, the effect of psychological symptoms of the parents

with handicapped children on their satisfaction with life levels was investigated.

**Table 3. Parents with Handicapped Children’s Psychological Symptoms as Predictors of Satisfaction with Life**

Dimensions	Satisfaction with life					
	B	sh	$\beta$	t	p	%95 CI
Constant	35.638	2.296		15.521	.000**	[31.09 10.19]
Anxiety	.323	.148	.357	2.183	.031*	[.03 .62]
Depression	-.165	.144	-.184	1.148	.254	[-.45 .12]
Negative self-concept	-.603	.150	-.596	4.024	.000**	[-.90 -31]
Somatization	-.409	.181	-.273	.258	.026*	[-.77, -.05]
Hostility	.031	.272	.016	.113	.910	[-.51, .57]
$R^2$	.44					
F	16.96**					

Note: N= 114, CI= Confidence intervals  
\* $p \leq .05$ , \*\* $p \leq .01$

There are two types of multiple regression analysis; one is for prediction, which purposes to compose the regression equivalence of some part of a case in a partial sampling and the other is explanation, which purposes to make clear a case using the data collected from a certain sampling in order to explain the correlations between many parameters (Osborne, 2000). For this purpose, the relationship between psychological symptoms of parents with handicapped children and their satisfaction with life level was examined using explanatory multiple regression analysis. The  $R^2$  value obtained at the end of the analysis indicated that 44% of the variance was explained by independent parameters. ANOVA showed that the explanatory effect of the dependent parameter was significant for the composition of the independent parameters ( $F_{4, 114} = 16.96, p = .000$ ). Concerning the standardized regression coefficients, the respective order of importance of the predictive parameters were negative self-concept (-.60), anxiety (.36), somatization (-.27), depression (-.18) and hostility (.02). According to  $t$ -test results obtained from significance of the regression coefficients, it was concluded that anxiety ( $t_{114} = 2.183, p = .031$ ), negative self-concept ( $t_{114} = 4.024, p = .000$ ) and somatization ( $t_{114} = 2.258, p = .026$ ) were the important explanatory factors for satisfaction with life. In terms of these results, it was found that all psychological symptoms except depression and hostility were explanatory for the satisfaction with life level of parents with handicapped children. It also appears that an increase in the anxiety levels of parents with handicapped children causes their satisfaction with life level to increase while an increment in negative self-concept and somatization levels causes their satisfaction with life level to decrease.

## **DISCUSSION and CONCLUSION**

In this study there were no differences for psychological symptoms and the satisfaction with life of parents with handicapped children in terms of gender, income level, and age. In the published literature, there are findings supporting these results as well as the opposite. There are also published studies that show no differences between mothers and fathers with respect to psychological symptoms such as stress and depression (Haddaian, 1994; Hastings, 2003). Other research has shown that stress, anxiety, and depression levels of mothers are higher than for fathers (Altuğ-Özsoy et al., 2006; Aysan & Özben, 2007; Moes et al. 1992; Weis, 2002). Glidden and Jobe (2006) reported as a result of a longitudinal analysis that mothers express higher symptoms of depression especially in the first five years of after the diagnosis.

The psychological symptoms of negative self-concept, somatization, and satisfaction with life varied according to the level of education of the parents. In the present study, it was found that parents with lower levels of education (primary school graduates), experienced more problems of negative self-concept and somatization compared with parents with higher education levels (high school and university graduates). Previous research has shown that mothers with primary school education have higher levels of stress compared with mothers with a university education (Esenler, 2001; Sencar, 2007). This could be due to the possibility that better educated mothers have better access to current information on health care matters.

In the analysis on the relation between psychological symptoms and the satisfaction with life of parents by type of handicap of their children, no differences were observed in the sub dimensions of negative self-concept and somatization, while differences were seen in the sub dimensions of anxiety, depression, hostility and satisfaction with life. It was found that parents with autistic children had higher levels of anxiety compared with parents of children having any other kind of handicap. It was also observed that depression levels of parents with autistic children were significantly higher than parents with intellectually disabled children and children with chronic disease. Previous research has shown that parents with autistic children have higher levels of stress compared with parents of intellectually disabled children and showed signs of depression and other psychological symptoms (Beckman, 1991; Bagenholm & Gilberg, 1991; Beşikçi, 2000; Weiss, 2002; Yurdakul, Girli, Özkes, & Sarısoy, 2000).

With respect to level of anxiety, parents of intellectually disabled, hearing impaired children, and children with SP were lower than the parents with autistic children. The group with the lowest level of anxiety was parents of children having chronic disease. Parents with autistic children expressed significantly higher levels of hostility compared with parents of children who

had hearing impairment, had SP, or chronic disease. These results are parallel to results of studies performed in Turkey and other countries. They are similar to findings of studies demonstrating that parents had anxiety, depression, and low self-esteem due to the additional stresses within the family caused by the presence of a handicapped child (Duygun & Sezgin, 2003; Hastings, 2003; Hassall, Rose, & Donnal, 2005; Sunay, 2000; Weiss, 2002; Yurdakul, Girli, Özekes, & Sarısoy, 2000; Girli, 2002). The sources of anxiety were from the lifetime demand of caring for the child (Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001; Yurdakul et al., 2000), the level of dependence of the autistic child to the mother (Görgü, 2006; Moes et al., 1992; Weis, 2002), the type and level of handicap of the child, as well as the concern about the consequences when the parents became unable to care for the child (Hollroyd & McArthur, 1976; Nazlı, 2001).

Satisfaction with life of parents of hearing impaired children was significantly higher than for parents with intellectually disabled children, autistic children, and children having SP; while parents with children having chronic disease were higher than parents with children having SP. Previous research has shown that fathers with handicapped children had lower levels of satisfaction with life compared with fathers without handicapped children (Aysan & Özben, 2007; Strachan, 2005). Previous research has also shown that stress is an important factor for satisfaction with life. It was expected in the present research that the satisfaction with life of the families with handicapped children would be negatively affected by many frustrations and stresses in their daily lives. To examine this, the relationships of psychological symptoms with the satisfaction with life of parents with handicapped children were examined using regression analysis. It was found that anxiety, negative self-concept, and somatization were important predictors of satisfaction with life. In other words, an increment in anxiety, negative self-concept and somatization cause lower level of satisfaction with life. In the present study, the satisfaction with life of parents with autistic and intellectually disabled children who had high levels of anxiety and depression had lower satisfaction, life scores than parents with hearing impaired children or children having SP. Previous research examining stress, social support, and satisfaction with life of parents with handicapped children has also shown that parents with orthopedically handicapped or hearing impaired children experienced lower levels of stress compared with the other handicapped groups and had higher levels of satisfaction with life (Arslan et al., 2002; Kaner, 2003; Dempsey, Deen, Pennell, O'Reilly, & Neliands, 2009; Strachan, 2005). The number of families contacted in this study was not sufficient enough to make comparisons with parents of children of different ages. Findings regarding the research about the relation between satisfaction with life and familial

structure and social support systems of parents of handicapped children can enhance counselling techniques in helping these parents.

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