

An Investigation of the Effect of the Communication Skills of the Children with Intellectual Disability to the Anxiety Level of Their Mothers

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Abstract Communication in the family environment is highly important for every child although their cognitive, emotional, social and language development characteristics differ. The children are able to communicate with the adults who take the most of the caregivers in the mother's role in terms of development in the family environment in most cultures. This role is generally carried out by the mothers. It has been known that the communication skills of the children with intellectual disabilities differ from their peers and they have restrictions in receptive language and expressive language. The mothers feel stressed and because of the effects of the communication skills resulting from intellectual disability, they feel anxious in the education and rehabilitation process due to the disability of the children. This study, which aimed to examine the relationship between the effect of the intellectual disability of the children to their communication skills and the anxiety level of their mothers, was performed in the descriptive survey model. 259 mothers who had a child diagnosed with an intellectual disability between 4-18 years of age, participated in this research. The research data were collected using Communication Function Classification System (CFCS) which describes daily communication skills in 5 levels. The anxiety levels of the mothers have been evaluated by Questionnaire on Resources and Stress for Families with Chronically III or Handicapped Members (QRS). When the effect of the communication levels (CFCS), age and gender of the children on the anxiety level of the mothers was examined, it was determined that CFCS levels of the children and age alone have a statistically significant effect on the anxiety level of the mothers, but the gender does not result in a statistically significant effect. It has been stated that CFCS and gender together have a statistically significant effect on the anxiety levels of the mothers. In this study, which examines the communication skills of the children with intellectual disability together with the effect of the disability on the anxiety level of the mothers, the anxiety levels of the mothers differ in accordance with the age, gender and communication

function levels of the children. The findings of this study are thought to be able to contribute to programs and teaching regulations which decrease the anxiety of the mothers and to support the communication skills of the children.

Keywords Intellectual Disability, Communication Performance, Anxiety, Communication Function Classification System (CFCS)

1. Introduction

It has been known that the children with intellectual disability display a noticeable deficiency from their peers in terms of academic, social, language development and self-care skills. Because these children have extensive and important restrictions [1,2]. Besides the disability in intellectual functions, they show restrictions in two or more of the adaptive skills related to these functions such as communication, self-care, domestic life, social skills, benefiting from community services, academic skills [3]. Besides, these children can often communicate in a limited way because they have difficulty in understanding the language. Children with intellectual disability show delay in language development, articulation, and fluency problems in speech more often than their peers who show normal development. Due to the problems in language development, it takes a long time for them to understand the terms and show proper performance [4,5]. It has been suggested that special education interventions be applied which support all developmental fields of the children in the early period to reduce the effect of these delays. So, the early childhood period and inter-family interaction environment have great significance [6].

Having a child with a disability due to a congenital or subsequent disability exposes the parents to negative

feelings such as denial, shock, anger, rejection, burnout, stress. Providing the early intervention programs and social support which will help the family handle the negativity such as anxiety and stress is highly important [7,8]. Because the stress, and anxiety levels of the families increase, their expectations from the future decrease [9]. Mothers are the ones who exhibit such negative feelings in the family [10]. As is seen, the emotional responses of the mothers differ and their responsibilities increase because they have children with special needs. These responsibilities they take for their children affect their quality of life negatively. Examining the effect of the communication difficulties which occur as a result of the intellectual disability of the child to the anxiety level of the mother has great significance in this sense. When the effect of the communication skills on the level of making the independent life real and on the effective interaction with the social environment is thought, the findings of this study has been thought to be able to contribute to the regulations regarding the communication skills and language development of the children with intellectual disability and their families. Determining the anxiety and stress levels of the families has a noticeable importance about improving other environmental factors such as the education which is the base of these negative feelings, the behavioral and social support.

2. Materials and Methods

In this study, which was planned according to the descriptive survey method, it has been aimed to determine the relationship between the communication skills of the children with intellectual disability and the anxiety levels of the mothers. Descriptive survey models, which are among the survey models, associate the current situations with the past situations and conditions. As a result of the research, the answer to the questions based on the gained data has been sought out [11].

2.1. Participants

This study was conducted in two different city centers in Aegean Region, one of the seven geographical regions of Turkey and in 25 special education and rehabilitation center. As the study had a large target population, sampling method was applied. The study was conducted with mothers who live in the city center, have a child with intellectual disability and are volunteers to participate in the study [11]. Participants of this study were children with intellectual disability and their mothers. The inclusion criteria for the study were children diagnosed with intellectual disability, between 4-18 years of age. The exclusion criteria were not to have a definite diagnosis of intellectual disability and the children younger than 4 years of age. The data regarding the children was obtained from the files of the children, their CFCS levels were obtained by evaluations made by the researchers and the anxiety levels of the mothers were obtained with

face-to-face interviews.

2.2. Study Procedure

In this section, the information regarding the process and assessment instrument which are used to evaluate the communication skills of the children with intellectual disability has been given.

2.3. Communication Function Classification System (CFCS)

Communication Function Classification System (CFCS) provides 5 levels from Level I to Level V to describe everyday communication performance [12]. While originally developed for use with individuals with cerebral palsy, the CFCS is now being used to describe communication performance of individuals with any disability. The CFCS provides a valid and reliable classification of communication performance and activity limitations that can be used for research and clinical purposes [12,13]. The first researcher who is both audiology and speech pathologist and physiotherapist classified the children in CFCS.

2.4. Questionnaire on Resources and Stress for Families with Chronically or Handicapped Members (QRS)

The anxiety levels of the mothers have been evaluated by Questionnaire on Resources and Stress for Families with Chronically III or Handicapped Members (QRS) which consists of three sub-scales, developed by Jean Holroyd (1988) and was adapted to Turkish by Akkök (1989) [14,15]. QRS consists of three dimensions and eleven sub-dimensions. Problems regarding the person with a disability or a permanent disease dimension consists of dependency and self-management, cognitive inefficiency, physical restrictions sub-dimensions; personal problems of the family members dimension consists of life-long care, lack of personal rewards, consistent disease concern, preferring to be cared in an institution, difficulties for the family sub-dimensions; inter-family problems dimension consists of restrictions on the family life, financial problems, inter-family inconsistency sub-dimensions. The answers are given as true or false at this scale. It was explained to the mothers that the questionnaire could be answered in 30 minutes after they had been supported with the necessary explanations and a silent environment was created for them to read and answer the questionnaire comfortably.

2.5. Statistical Analysis

Statistical analyses were conducted using SPSS 18.0. Frequency, percentage arithmetic mean was calculated. One Way Analysis of Variance (ANOVA) was used to compare age groups on the anxiety of mother and One Way Analysis (ANOVA) compared CFCS levels with the anxiety of

mother. Independent Sample t test was a comparison of male and female children with intellectual disability on an anxiety test scores of the mother. Multivariate of analysis of variance (MANOVA) was for effects of CFCS levels of children with intellectual disability and gender to the anxiety of mother [16]. A probability level of $p < .05$ was considered statistically significant.

2.6. Tables

This section has been included the demographic data regarding the participants with the finding of the analysis conducted according to the research questions.

2.6.1. Characteristics of the Children with Intellectual Disability and Their Parents (n:259)

The study included 151 (58.3%) male and 108 (41.7%) female, totally 259 children with intellectual disability with a mean age of 10.19 ± 4.04 years. When examining the demographic data regarding the families, it has been determined the mothers are at the ages of between 24-58 and the fathers are at the ages of 25-66, from the point of education levels, both the mothers (63.7%) and the fathers (45.9%) are primary school graduates. While almost all the mothers (93.4%) are housewives, the fathers (38.6%) are self-employed. Age, the gender of children with intellectual disability and, age, educational grade of parents were detailed presented Table 1.

Table 1. Characteristics of the children with intellectual disability and their parents (n:259)

Characteristics	M	SD	Minimum-Maximum			
Age of Children)	10.19	4.04	4-18			
Age	n	%				
Female	108	41.7				
Male	151	58.3				
	Mothers			Fathers		
	M	SD	Min.-Max	M	SD	Min.-Max
Age	38.28	6.74	24-58	42.61	7.63	25-66
Education Grade	n	%	n	%		
Elementary School	165	63.7	119	45.9		
Secondary School	41	15.8	46	17.8		
High School	40	15.4	66	25.5		
University	13	5.0	28	10.8		
Profession						
Civil Servant	9	3.5	30	11.6		
Employee	5	1.9	85	32.8		
Self-employed	3	1.2	100	38.6		
Farmer	-	-	32	12.4		
Retired	-	-	12	4.6		
Housewife	242	93.4	-	-		

2.6.2. CFCF Levels of Children with Mental Disability

Table 2 shows that CFCS levels included level I of 56 (21.6%), level II of 43 (16.6%), level III of 67(25.9%), level IV of 57(22%) and level V of 36 (13.9%) children with mental disability. In the study, it has been determined most of the children (25.9%) belong to the level III according to CFCS level.

Table 2. CFCF levels of children with intellectual disability

CFCS Levels	n	%
Level I	56	21.6
Level II	43	16.6
Level III	67	25.9
Level IV	57	22.0
Level V	36	13.9

Level I, most able; Level V, least able; CFCS, Communication Function Classification System

2.6.3. Means and Standard Deviations for Comparing Three Group Children Age

The mothers' anxiety score averages and standard deviation values have been given according to the age ranges of the children whose mothers participated in the study. When examining the ages of children with intellectual disability in 3 groups and the anxiety scores of mothers in 3 levels, anxiety score average of the mothers whose children are under the age of 6 are $M=7.33$ (n:55), QRS 1 of the mothers whose children are at the ages between 7-11 are (n:103) $M=8.63$, and of the mothers whose children are above 12 are $M=8.97$. According to QRS 1 scores, it has drawn attention that while the mothers whose children are above 12 have the highest anxiety level, examining QRS 2 and QRS 3, anxiety scores, the mothers whose children are 7-11 have a higher level of anxiety than another (7-11 Age group QRS 2 $M=21.80$ and QRS 3 $M=10.75$).

Table 3. Means and standard deviations for comparing three group children age

Age	QRS 1		QRS 2		QRS 3		
	n	M	SD	M	SD	M	SD
< 6	55	7.33	2.34	21.47	3.18	10.56	2.06
7-11	103	8.63	2.27	21.80	2.78	10.75	2.35
>12	101	8.97	2.30	21.03	3.33	10.65	2.53

2.6.4. One Way Analysis of Variance Summery Tables Comparing Age Groups on QRS 1, QRS 2 and QRS 3 Scores

Table 4 shows that a statistically significant difference was found among the three group children age on QRS 1, $F(2, 256) = 9.446$. Table 4 shows that the mean QRS 1 is 7.33 for level I whose mothers had a low QRS 1 score, 8.97 for >12 whose mothers had high QRS 1 score. Post hoc Bonferroni Tests indicate that the below age 6 with the age of from 7 to 11 and above of age 12, the age of from 7 to 11 with below age 6, above of age 12 with below age 6, differed significantly in mothers' QRS 1 ($p < .05$).

Table 4. One Way Analysis of Variance summary tables comparing age groups on QRS 1, QRS 2, and QRS 3 scores

Source	df	SS	MS	F	p
QRS 1					
Between groups	2	99.70	49.85	9.446	.000
Within groups	256	3151.00	5.28		
Total	258	1450.70			
QRS 2					
Between groups	2	30.09	15.05	1.575	.209
Within groups	256	2445.34	9.55		
Total	258	2475.43			
QRS 3					
Between groups	2	1.26	.63	.114	.892
Within groups	256	1243.84	5.56		
Total	258	1425.10			

2.6.5. Comparison of Male and Female of Children with Mental Disability on an Anxiety Test Scores of Mother (n=151 Males and 108 Females)

Table 5 shows males were significantly different from females QRS 3 (p = .011). Examination of the two group means indicates that the average QRS 3 for female children (M=10.23) is significantly lower than the score (M =10.99) for males. The effect size is approximately .4, which is typical in this discipline. Males did not differ significantly from females on QRS 1(p = .893) and QRS 2 (p = .894).

Table 5. Comparison of male and female of children with mental disability on an anxiety test scores of mother (n=151 males and 108 females)

Variable	M	SD	t	df	p
QRS 1					
Males	8.50	2.39	-.135	257	.893
Females	8.46	2.35			
QRS 2					
Males	21.45	3.09	-.133	257	.894
Females	21.40	3.12			
QRS 3					
Males	10.99	2.20	-2.578	257	.011
Females	10.23	2.49			

2.6.6. Means and Standard Deviations Comparing Five CFCS Levels

Table 6 shows the distribution of the anxiety scores of the mothers in accordance with the CFCS levels of the children with intellectual disability. Accordingly, the numbers of the children: Level 1 (n:56), Level 2 (n:43), Level 3 (n:67), Level IV (n:57), Level V (n:36). When examining the distribution of the QRS scores of the mothers, the mothers on Level 1 have the highest anxiety scores on QRS 1 level, the ones on Level V have the lowest scores; on the contrary, the mothers on Level 1 have the lowest anxiety scores while the ones on the level V have the highest scores on QRS 1 and QRS 3 levels.

2.6.7. One Way Analysis of Variance Summary Tables Comparing CFCS Levels on QRS 1, QRS 2 and QRS 3 Scores

Table 7 shows the One-Way Analysis of Variance Summary results, which is conducted to determine if the difference between the anxiety scores of the mothers on 3 levels according to the children's CFCS levels is statistically significant or not. A statistically significant difference was found among the five levels CFCS on QRS 1, F (4, 254) = 6.979, p = .000, and QRS 2, F (4, 254) = .594, p = .667 and QRS 3, F (4, 254) = 2.924, p = .022. The mean QRS 1 is 9.55 for level I whose mothers had high QRS 1 score, 7.50 for level V whose mothers had low QRS 1 score. Post hoc Bonferroni Tests indicate that the level I and level III, level IV and level V, Level II and Level V, Level III and Level I, Level IV and Level I, Level V and Level I, Level II differed significantly in mothers' QRS 1(p< .05), For QRS 3 were significant mean differences on mean QRS 3 is for level V whose mothers had high QRS 3 score, 11.21. For level V whose mothers had high QRS 3 score. Post hoc Bonferroni Tests indicate that the level I and level IV, Level III and Level I, Level IV and Level I, Level V and Level I, differed significantly in mothers' QRS 3 (p< .05).

Table 6. Means and standard deviations comparing five CFCS levels

CFCS Levels	n	QRS 1		QRS 2		QRS 3	
		M	SD	M	SD	M	SD
Level I	56	9.55	1.79	21.09	3.39	9.93	2.07
Level II	43	9.19	2.18	21.53	3.06	10.28	2.48
Level III	67	8.04	2.23	21.67	2.58	10.87	2.03
Level IV	57	8.05	2.31	21.12	3.37	11.08	2.18
Level V	36	7.50	2.95	21.86	3.17	11.21	2.81

Table 7. One Way Analysis of Variance Summary tables comparing CFCS levels on QRS 1, QRS 2 and QRS 3 scores

Source	df	SS	MS	F	p
QRS 1					
Between groups	4	143.64	35.91	6.979	.000
Within groups	254	1307.06	5.146		
Total	258	1450.70			
QRS 2					
Between groups	4	22.96	5.74	.594	.667
Within groups	254	2452.47	9.66		
Total	258	2475.43			
QRS 3					
Between groups	4	62.72	15.68	2.924	.022
Within groups	254	1362.38	5.36		
Total	258	1425.10			

2.6.8. Means and Standard Deviations for QRS 1, QRS 2, and QRS 3 Test as a Function of CFCS Levels and Gender?

Table 8 shows the distribution of the anxiety scores of the mothers in accordance with the CFCS levels and genders of the children with intellectual disability. The numbers of the children: Level 1 (Male-m: 23, female-f: 33), Level 2 (m:29, f:14), Level 3 (m:45, f:22), Level IV (m: 31, f: 26) and Level V (m: 23, f: 13). When examining the distribution of the

anxiety scores of the mothers according to the gender of the children, it has been seen that the mothers of the male children on Level I, II, III; IV on QRS 1 level have higher scores while the mothers of the female children have higher scores on Level V. It has been concluded that the mothers of the female children on Level I and II, and mothers of the male children on Level III, IV and V on QRS 2 have higher scores, the mothers of the male children have higher anxiety scores on QRS 3 level except for Level IV.

2.6.9. Effects of CFCS Levels of Children with Intellectual Disability and Gender on Anxiety of Mother

To assess whether boys and girls with CFCS levels have different QRS 1, QRS 2, QRS 3 test scores, and whether there was an interaction between gender and CFCS levels, a multivariate analysis of variance was conducted [the assumptions of independence of observations and homogeneity of variance/covariance were checked. Bivariate scatter plots were checked for multivariate normality]. The interaction was significant, Wilks'Λ=.894, F(12, 653)=2.34, p=.006, multivariate η² =.037. The main effect for gender was not significant, Wilks'Λ=.976, F(3, 247)=1.98, p=.117, multivariate η² =.024. The main effect for CFCS was significant, Wilks'Λ=.850, F(12, 653)=3.46, p = .000, multivariate η² =.053. This indicates that linear composite of QRS scores differs for interaction CFCS levels and gender. Table 9 indicate that effects of CFCS levels were significant QRS 1 and QRS 3, that effects of gender were significant QRS 3 and interaction CFCS and gender were significant QRS 2. Males and female scored and CFCS levels on outcomes (see Table .9)

Table 8. Means and standard deviations for QRS 1, QRS 2, and QRS 3 test as a function of CFCS levels and gender?

CFCS	n	QRS 1		QRS 1		QRS 1	
		M	SD	M	SD	M	SD
Level I							
Males	23	9.96	1.40	13.39	3.26	10.22	1.62
Females	33	9.27	1.99	22.27	2.99	9.73	2.25
Level II							
Males	29	9.24	2.40	21.52	3.28	10.55	2.35
Females	14	9.07	1.73	21.57	2.68	9.71	2.73
Level III							
Males	45	8.20	2.34	22.20	2.19	11.44	1.90
Females	22	7.73	1.98	20.59	3.00	9.68	1.78
Level IV							
Males	31	8.26	2.41	21.42	3.37	11.10	2.65
Females	26	7.81	2.21	20.77	3.39	11.35	3.03
Level V							
Males	23	7.04	2.34	22.00	3.13	11.26	2.24
Females	13	8.31	3.77	21.62	3.36	10.77	2.13

Table 9. Effects of CFCS levels of children with intellectual disability and gender on anxiety of mother

Sources	Dependent variable	df	F	p
CFCS	QRS 1	4	6.59	.001
	QRS 2	4	.69	.598
	QRS 3	4	2.73	.030
Age	QRS 1	1	.12	.733
	QRS 2	1	.02	.885
	QRS 3	1	4.84	.029
CFCS x gender	QRS 1	4	1.11	.350
	QRS 2	4	4.28	.002
	QRS 3	4	1.46	.215
Error	QRS 1	249		
	QRS 2	249		
	QRS 3	249		

3. Conclusions

It is accepted day by day that the individuals have different needs. This situation affects the diagnosis and evaluation criteria, placement of the children into educational institutions, support services that will be submitted to the children and their families. It has been accepted in Turkey that the individuals who were diagnosed with one or more of *attention deficit and hyperactivity disorder, motor speech disorder, mental and behaviour disorder, visual disability, auditory disability, orthopedical disability, autism spectrum disorder, special learning disability, cerebral palsy, chronic diseases, mental deficiency and giftedness* need special education and supportive educational services [29-33].

The birth of an impaired child directly affects the communication process in the family and the general life of the individuals. This effect is more explicit in the mothers who take care of the children in multidirectional ways and intensely. The anxiety and stress levels of the mothers increase in accordance with the deficiency type and level of the children. It has been stated that the mothers who have a child with an intellectual disability take the children's care and education responsibility more often, so they face negative feelings in this period [15,22,25]. Having a child with an intellectual disability can cause changes both in the life perception of the mother and the interaction in the family and the differences in her level of reaching the health, care and education services regarding her child. In the process after the diagnosis, the interaction between the mother and the child can be affected negatively depending on the needs of the children and the child's not having a sufficient communication skill to express herself/himself and to meet her/his needs can cause stress and anxiety in the mother. It has been stated in the literature that the stress levels of the mothers of the children with intellectual disability are higher than the levels of the mothers with healthy children [15,22,25,28,30]. Regardless of the deficiency level, having a disabled child is a stress reason and a factor that prevent communication for the mother [30,34,35].

Having a child with a disability has an effect on the family members. It has been stated that this feeling of responsibility has an effect on the anxiety, stress and depression levels of the parents in the following process. Especially the mothers feel primarily responsible for the care, education and health process of the children [17-20]. In a study conducted with the participation of 149 mothers and 123 fathers [18], the behavioral problems of the children and the stress level of the parents were examined. The study included the children diagnosed with autism, Down syndrome and the children with normal development. This study, in which Parent Stress Inventory (PSI) and Back Depression Inventory (BDI) were used, it has been stated that the family stress level of the disabled children is higher. Koegel et al., (1992) conducted their study in which they examine the stress levels of the mothers of the children diagnosed with autism with 50 mothers and their children. The study revealed that the characteristics of the mothers and the children, the social support period of the mothers and the diagnosis age of the children affect the anxiety levels of the mothers. It has been stated that the most emphasized variable in the study is the function levels of the children and their ages. As the autism diagnosis age and the current age of the children increase, the anxiety levels of the mothers increase as well [21]. Similarly, Robbins, Dunlap and Plienis (1991) conducted a study with the participation of 12 children and their mothers. It has been stated in this study conducted with the children between the 29-52 months of age that the most effective variable that increases the anxiety levels of the mothers is the age of the children and how many times they participate in the early education programs. The most important variable regarding the mother is the frequency of participating in a social support program per week [19]. Another study was conducted by Wolf et al. (1989) and the age and gender of 124 mother and children were matched in this study which was conducted in survey model. Three assessment instruments were used to determine stress, depression and social support relationships of the mothers in the study in which 31 children with autism, 31 with Down syndrome and 62 with no disabilities participated. Stress and depression

levels of the mothers with a child diagnosed with autism are higher than the other two groups, while it has been stated that the social support period of the mothers is an important variable according to the diagnosis and age of the children. It has been stated that the stress and depression levels of the mothers of children diagnosed in early period as they receive social support programs in early periods, and the stress and depression levels of the two children with similar diagnosis differ [20].

In our study, the effect of the children's gender on the anxiety levels of the mothers has been examined and it has been stated that the scores of the mothers of the male children are higher regarding the inter-family problems dimension (QRS 3) and the difference between them is statistically significant. For the problems regarding the person with a disability or a permanent disease dimension (QRS 1) and the personal problems of the family members dimension (QRS 2), there have been no statistically significant differences. While Akkök (1989) states that the gender of the children with disability affects the anxiety and stress levels of the parents with a disabled child, Pistav-Akmese (2004) states that the gender of the children with disabilities does not constitute a statistically significant difference in the depression levels of the mothers and their perception of family requirements [22]. Coşkun and Akkaş (2009), Doğru and Arslan (2008) and Pistav-Akmese, Mutlu and Kerem Günel (2007) stated in their studies that the anxiety levels of the mothers with a disabled child are higher [23,24,25]. This situation is an expected result for the mothers with a disabled child. Because the mothers see the uncertainty of the child's future life, especially they are worried about how the child is going to continue his/her life after the mother get old or die and these uncertainties cause the mothers to have anxiety.

Similar findings in the studies in the literature can be found in this study which aims to examine the effect of the age, gender, communication skills and gender and CFCS together on the anxiety levels of the mothers. It has been confirmed in this study planned in accordance with the descriptive survey method that the communication functions of the children with intellectual disability have an effect on the anxiety levels of the mothers. In our study, the anxiety scores of the mothers of the children younger than 6 years were compared to the scores of the mothers of the children at the age of 12 and older; and it has been stated that the anxiety levels of the mothers with a child at the age of 12 or older are higher on the problems regarding the person with a disability or a permanent disease dimension (QRS 1) and the difference is statistically significant.

The communication skills of the children were evaluated in accordance with 5 level Communication Function Classification System in this study and it has been seen that the communication levels of the children in 5 different levels state statistically significant differences on the problems regarding the person with a disability or a permanent disease dimension (QRS 1) and inter-family problems dimension (QRS 3) of the mothers. QRS 1 problems regarding the

person with a disability or a permanent disease dimension consists of *dependency and self-management, cognitive inefficiency, physical restrictions sub-dimensions*; QRS 2 personal problems of the family members dimension consists of *life-long care, lack of personal rewards, consistent disease concern, preferring to be cared in an institution, difficulties for the family sub-dimensions*; QRS 3 inter-family problems dimension consists of *restrictions on the family life, financial problems, inter-family inconsistency sub-dimensions*. Besides, it has been concluded that the total effect of CFCS and gender on the personal problems of the family members dimension (QRS 2) states a statistically significant difference. One of the researches in the literature was conducted by Hidecker et al. (2012) with 222 children with cerebral palsy [26]. The study stated that there is a relationship between the motor skills and communication functions of the children have been stated that there is a statistically significant relationship between the functional motor development levels of the children with cerebral palsy and the mothers' personal problems of the family members dimension (lifelong care, lack of personal rewards, consistent disease concern, preferring to be cared in an institution, difficulties for the family sub-dimensions-QRS 2) [25]. Similarly, our study states that the total effect of CFCS and gender together has a statistically significant difference on the personal problems of the family members dimension (QRS 2).

The deficiency in the communication functions of the children has been seen to affect the anxiety levels of the mothers. The negative feelings of the mothers and their nervousness differ according to the deficiency type of their children and the level of it. As the effect of these negative situations is perceived more intensely, the anxiety level of the individual may increase [27]. It has been stated that the families with a disabled child face anxiety and stress due to the psychological effects resulted from this situation, so they need to receive social support from their environments [28, 29]. It is necessary to provide social support for the families to overcome the negative feelings occurred due to the delay in the communication skills of the children with intellectual disability, to evaluate both the anxiety level of the family and the communication function level of the child together. Especially the social support the mothers who are primarily responsible for the care and rehabilitation of the child and sharing the care burden cause the differences in their anxiety levels. For example, a study conducted by Pistav-Akmese, Kayhan and Kirazlı (2015) has stated that the frequency of face to face interaction of the mothers with their close relatives and environment by being visited at their home weekly and sharing the care burden of their children with autism spectrum disorder (ASD) with their partners affect the social support perception levels of them. While the social support perception of the mothers who interact with the close relatives, neighbors and/or other people at least 5 times a week or more is higher, it has been seen that the social support scores of the mothers who think that their partners never share the care burden with them are lower [29].

It has been stated that the social and psychological support that will be provided to the families of the disabled children, especially to their mothers is as significant as the health and education services [15, 22, 25, 34, 35]. It has been thought that it is important to examine the anxiety and stress levels of the mothers and determine if they differ according to the communication skills of the children in terms of increasing the quality of these services. This study, which examines the effect of the communication skills of the children diagnosed with an intellectual disability to the stress and anxiety levels of their mothers, is restricted to the communication skills classification of the children between 4-18 years of age and the opinions of the mothers.

To conclude, the social support is highly significant in overcoming the psychological problems such as stress, anxiety resulted from the special needs of the child. These factors that make the life of the mothers difficult also affect the family environment directly. Thus, supporting the communication skills of the children with intellectual disability has been thought to be able to contribute to improving the social support perceptions of the mothers and decreasing their anxiety levels.

The early education support that is provided to the children with an intellectual disability generally decreases the anxiety levels of the mothers. Thus, it is highly significant to support the communication skills of the children with intellectual disability starting from the early periods. The number of the speech and language therapist, audiologist and speech pathologist and special education teacher, who educate the children with intellectual disability in terms of communication, language and speech skills, is not sufficient yet. The major problem is that the speech and language therapist and special education teacher undergraduate program is available in very few higher education institutions due to lack of the academic staff and insufficient personnel numbers [36]. Yet, both the governmental agencies and rehabilitation centers need speech and language therapist, audiologist and speech pathologist and special education teacher to support the language and communication skills of the children with special educational needs. Besides, in a study conducted by Pistav-Akmese and Kayhan (2016) in Turkey, the special education teacher training departments in Turkey and European Union member states were investigated in terms of the number of language and communication courses, course credit and content; and it has been stated that the number of the courses and their credits are limited and they are not divided according to the special education disability type [37]. In conclusion, it can be suggested that the number of the related undergraduate programs in higher education institutions should be increased and the courses related to supporting language and speech development regarding the disability type and level should be given to the special education preservice teachers who are going to teach the children with special educational needs.

REFERENCES

- [1] Heward, W. *Exceptional children: An introduction to special education*. (7th ed.). Upper Saddle River, NJ: Merrill/Prentice Hall, 2003.
- [2] Turnbull, A.P., Turnbull, H.R., & Wehmeyer, M.L. *Exceptional lives: Special education in today's schools* (5th ed.). Upper Saddle River, NJ: Merrill/Prentice Hall, 2007.
- [3] Özen, A. Family Education.(Ed. İ. Diken). *Special Education* (pp.110-134). Ankara: Pegem Publishing, 2013.
- [4] Çifçi-Tekinarslan, I. (2013). The students with intellectual disabilities (Ed. İ. Diken). *Special Education* (pp.135-166). Ankara: Pegem Publishing, 2013.
- [5] Firend, M. *Special education. Contemporary perspectives for school professionals*. Boston. Pearson Education. 2006.
- [6] American Speech-Language-Hearing Association, Roles and responsibilities of speech-language pathologists in early intervention. <http://www.asha.org/policy/PS2008-00291>.
- [7] Hackman, C. & Jones, K. Inclusive practice for children special education needs. In T Waller (ed). *An Introduction to Early Childhood. A Multi-disciplinary Approach* London: Paul Chapman Publishing, 2005.
- [8] Marilyn, S. L. Early beginnings of families with deaf and hard of hearing children, www.gallaudet.edu. Laurent Clerc National Deaf Education Center Gallaudet University, Florida, Washington, 2002.
- [9] Cin, A., & Kılıç, M. A group Guidance Practice to Decrease anxiety levels of the parents with a disabled child. In. S. Erkan, & A. Kaya. (Eds). Ankara: Pegem Publishing, 2005.
- [10] Barnett, S.W., & Boyce, G.C. Effects of children with Down syndrome on parent's activities. *American Journal of Mental Retardation*, 100, 115-127, 1994.
- [11] Karasar, N. *Scientific research method*. (14.Ed.) Ankara: Nobel Publishing and Distribution, 2005.
- [12] Hidecker, M.J., Paneth, N., Rosenbaum, P.L., Kent, R.D., Lillie, J., Eulenberg, J.B., Chester, K., Jr, Johnson, B., Michalsen, L., Evatt, M., & Taylor, K. Developing and validating the Communication Function Classification System for individuals with cerebral palsy. *Dev Med Child Neurol*. 53, 704-10, 2011.
- [13] Communication Function Classification System [homepage on the internet]. Available from: <http://cfcs.us/>
- [14] Holroyd, J.A. Review of Criterion Validation Research on the Questionnaire on Resources and Stress for Families with Chronically III or Handicapped Members. *Journal of Clinical Psychology*, 44, 335-354, 1988.
- [15] Akkök F. A reliability and validity study of the assessment instrument for the anxiety and stress levels of the parents with a disabled child. *Psychology Journal*, 7 (23), 26-38, 1989.
- [16] Morgan, G.A., Leech, N.L., Gloeckner, G.W. & Barrett, K.C. *SPSS for introductory statistics*. Third Edition. Lawrence Erlbaum Associates, Publishers, Mahwah, New Jersey, London, 2007.
- [17] Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571, 1988.

- [18] Dumas, J. E., Wolf, L. C., Fisman, S. N., & Culligan, A. Parenting stress, child behavior problems, and dysphoria in parents of children with autism, Down syndrome, behavior disorders, and normal development. *Exceptionality*, 2, 97–110, 1991.
- [19] Robbins, F. R., Dunlap, G., & Plienis, A. J. Family characteristics, family training, and the progress of young children with autism. *Journal of Early Intervention*, 15, 173–184, 1991.
- [20] Wolf, L. C., Noh, S., Fisman, S. N., & Speechley, M. Brief report: Psychological effects of parenting stress on parents of autistic children. *Journal of Autism and Developmental Disorders*, 19, 157–166, 1989.
- [21] Koegel, R. L., Schreibman, L., Loos, L. M., Dunlap, G., Robbins, F. R., & Plienis, A. J. Consistent stress profiles in mothers of children with autism. *Journal of Autism and Developmental Disorders*, 22, 205–216, 1992.
- [22] Pistav-Akmese P. An Examination of the family requirement perceptions of the mothers with a child with cerebral palsy and their depression level. Unpublished Doctoral Thesis, Ankara University. Ankara. 2004.
- [23] Coşkun, Y., Akkaş G. The relationship between the permanent anxiety levels of the mothers with a disabled child and their social support perceptions. *Ahi Evran University Kırsehir Faculty of Education Journal*, 10 (1), 213-227, 2009.
- [24] Doğru, P. ve Arslan, A. A comparison of the permanent anxiety levels of the mothers with a disabled child and state anxiety levels. *Selçuk University Institute of Social Science Journal*, 19, 543-553, 2008.
- [25] Pistav-Akmese P, Mutlu A., Kerem-Günel M. Research of the anxiety levels of the mothers who have children with cerebral palsy. *Child Health and Diseases Journal*, 50, 236-240, 2007.
- [26] Hidecker, M.J., Ho, N.T., Dodge, N., Hurvitz, E.A., Slaughter, J., Workinger, M.S., Kent, R.D., Rosenbaum, P., Lenski, M., Messaros, B.M., Vanderbeek, S.B., Deroos, S., & Paneth, N. Inter-relationships of functional status in cerebral palsy: analyzing gross motor function, manual ability, and communication function classification systems in children. *Dev Med Child Neurol*, 54, 737-42, 2012.
- [27] Mobarak, R., Khan, N.Z., Munir, S., & Mc Conoachie, H. Predict QRS of stress in mothers of children with cerebral palsy in Bangladesh. *Journal of Pediatric Psychology*, 25, 427-433, 2000.
- [28] Akkök, F. *What the parents of the children with different characteristics live. Living with the Difference. Family and Its Association with the Individuals with Different Social Needs*. Turkish Psychological Association Publications. 1997.
- [29] Pistav-Akmese, P., Kayhan, N. & Kirazlı, G. An investigation of the social support levels perceived by the mothers of the children diagnosed with autism spectrum disorder, Verbal Notice Submitted in the Special Education Congress, Uskudar University, Istanbul, December 2-4, 2015.
- [30] Kazak, A.E. ve Marvin, R.E. Differences, difficulties and adaptation stress and social networks in families with handicapped child. *Family Relation*, 33, 67-77, 1984.
- [31] Milli Eğitim Bakanlığı-MEB. Özel Eğitim Hizmetleri yönetmeliği [Ministry of National Education, Regulation on Special Education Services], 2012. Obtained from https://orgm.meb.gov.tr/meb_iys_dosyalar/2012_10/10111226_ozel_egitim_hizmetleri_yonetmeli_gon_01.06.2015
- [32] Milli Eğitim Bakanlığı-MEB. Öğretmenliğe başvuru ve atama kılavuzu-Ağustos-2012 [Teacher application and Assignment Guide-August 2012] http://ikgm.meb.gov.tr/meb_iys_dosyalar/2012_09/01122258_20122retmenlebaburuvetamakilavuzu_31.08.2012.pdf. (03/09/2012)
- [33] Milli Eğitim Bakanlığı-MEB. Regulation on the Special Education Services, Online available at http://orgm.meb.gov.tr/meb_iys_dosyalar/2012_10/10111226_ozel_egitim_hizmetleri_yonetmeli_gon.pdf
- [34] Trachtenberg, S.W. & Rouse, C.F. The family. In: J.P. Dormans ve L. Pellegrino (Eds). *Caring for children with cerebral palsy: a team approach*. (pp.429- 46). Baltimore: P.H. Brookes Pub., 1998
- [35] Turnbull, A.P. & Ruef, M. Family perspectives on inclusive lifestyle for people with problem behavior. *Exceptional Children*, 63(2), 211-217, 1997.
- [36] Yükseköğretim Kurulu- YÖK. Yükseköğretim Kurulu, Üniversiteler [Higher Education Institution–HEI. Higher Education Institution, Universities]. <http://www.yok.gov.tr/content/view/531> last accessed: August 2016
- [37] Pistav-Akmese ve Kayhan. *Examining the Language Development and the Education of Communication in Special Education Teacher Training Programs in Turkey and European Union Member States*. Paper presented at the meeting of the 8th World Conference on Educational Sciences (WCES), Madrid, Spain. February, 2016.