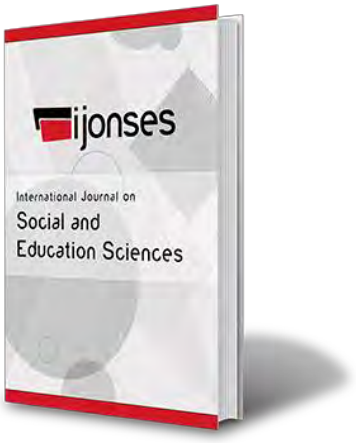

The Effect of the Family Education Program Developed for Families with Children with Autism Spectrum Disorder on Parents' Family Empowerment Perceptions and Participation

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The Effect of the Family Education Program Developed for Families with Children with Autism Spectrum Disorder on Parents' Family Empowerment Perceptions and Participation

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Abstract

It is known that formal and informal educational support resources for what parents can do about the development of their children and how they can cope with the difficulties encountered after diagnosing individuals with ASD are insufficient. Therefore, this research was conducted to evaluate the effect of the education program developed for parents with children with ASD on their participation in children's education and their empowerment. A mixed method was used as a research method. In the study, the researcher evaluated the scale application, in which 452 randomly selected people participated. According to the research findings, the opinions of the research participants on empowering the parents of children with ASD varied between low, medium, and high. In general, it was seen that the perceptions of parents on empowerment perceptions, individual competence, and self-determination were at a moderate level, their participation was at a low level, while their perceptions of autism-related centers' efficacy and trust were at a high level. In addition, the participants' perceptions of empowerment of parents with children with ASD show significant differences according to gender, age, and marital status variables. According to the last finding of the study, family education programs applied to participants with children with ASD significantly affect their perceptions of their empowerment.

Introduction

A predicted 6 to 15 percent increase in the diagnosis of Autism Spectrum Disorder (ASD) each year makes ASD the fastest-growing disability globally. This worrying statistic relates to the expected increase in the cost of ASD services from $175 billion to $262 billion per year, from $200 billion to $400 billion per year (Centers for Disease Control and Prevention [CDC], n.d). Although the prevalence of autism is around 1% worldwide, it is estimated to be higher in high-income countries (Lord et al., 2020). Autism is a disorder that affects more and more people. Ideally, it can create psychological pressure on the child's family and relatives (Cridland, Jones, Magee, & Caputi, 2014).

For this reason, the family is the first and most influential institution in the follow-up of children's problems. When parents are fully aware of their child's type of problem, conscious of the complexity and difficulties of

diagnosis and treatment, rehabilitation, and medical and educational measures, they step into the starting point of many sufferings. However, families are the only institutions that play an essential role in supporting individuals with autism and ASD throughout their lives (Tint & Weiss, 2016). Therefore, parents of people with ASD often report high-stress levels and mental health problems related to the difficulties of caring for people with complex needs and navigating multiple service areas throughout their lives. Parents often have primary responsibility for care, which includes managing and educating their children's problem behaviors. In other words, family involvement is essential in the care and education of children with ASD (Benson, Karlof, & Siperstein, 2008b). Since its first definition, there has been an increasing interest in OIZ in all countries (McCabe, 2013: 511). Children with ASD generally need ongoing care and support from their parents, siblings, or other caregivers throughout their lives in order to lead an everyday life (Banach et al., 2010: 71). Considering the widespread nature of this disorder, together with its effects on individual functioning at home and at school (Iovannone, Dunlap, Huber, & Kincaid, 2003: 152), parental involvement in education planning and service delivery is crucial (Schreibman, & Koegel, 2005).

Family involvement in children's education and parent-teacher relationships are essential to support student's academic performance and have unique implications for families of children with ASD. However, most parents cannot cope with their children's problems due to a lack of knowledge about ASD and need family education programs to participate in the education of their child with ASD (Chaidi & Drigas, 2020). Therefore, the strengthening and implementation of family education programs may affect the participation of parents in the education of their autistic children. The main goal that this process (empowerment) seeks to achieve is to create optimal changes in all aspects and dimensions of life, from the individual level to family and social groups and segments of society. One of the components of achieving sustainable development is the existence of programs, policies, and multidimensional interventions to empower families with children on the autism spectrum so that this empowerment enables the active participation of individuals to ensure their cultural, social, and mental health development. Another purpose of empowerment is to increase the quality of life of parents with children with ASD and to provide social justice. This goal is to learn new ways of thinking in different situations and implement behaviors that increase satisfaction in families, individual life, and social environment. Education is the first strategy to be considered in the design, development, and implementation of this process. Education can be considered the first stage of mental preparation and awareness of people to improve their current situation and reach the desired situation (Parsons, 1991).

Over the years, parent involvement in interventions for their children with autism has increased significantly (Pascua & Dizon, 2022). Many parents now play some therapeutic role (Williams, and Wishart, 2003: 292). In this context, it is stated that the results of the research conducted by Luby, Lenze, and Tillman (2012) show that the use of interactive therapy between parents and children has significant effects on the parents of preschool children. It also helps reduce the severity of depression and parenting stress and increases the recognition of emotions. One of the most important ways to help all children with special needs grow and develop is to empower their families to provide a conducive environment (Lord and Cook, 2013: 218).

Studies in the field of caring for children with ASD indicate that more than 80% of their parents feel "stress

beyond their limits" (Bozoğlan & Kumar, 2021: 2), that it affects their children's unique needs, maintain their marital relationship and parenting skills (Halliwell et al., 2021; Myers, Mackintosh and Goin-Kochel, 2009: 671). In this context, it should be noted that a statistical study on people with autism shows that less than half of people with autism are kept in autism centers. The rest are cared for by their families (Nejad, 2019: 18). Due to the lack of resources, as well as the lack of specialists and therapists, one of the leading solutions to improve the condition of this disorder is to address the patient's problems at home, by the family. However, the critical point is that empowerment and empowerment is necessary for the family to participate effectively and efficiently in various forms of care (Graves and Shelton, 2007: 257).

In other words, given the complexity of the disease, it is vital to help parents understand these disorders and identify the needs and problems of children with autism. Properly educating children with disabilities (motor or mental) is sometimes a challenge that families cannot adequately handle. It is crucial to mobilize such families to increase, improve and normalize their performance (Dababnah and Parish, 2013: 1671). Given the widespread nature of this disorder and its effects on individual functioning at home and at school (Iovannone, Dunlap, Huber, & Kincaid, 2003: 152). Parents' involvement in educational planning and service delivery significantly impacts children's well-being (Schreibman & Koegel, 2005). Because many parents can play a therapeutic role to some extent (Williams and Wishart, 2003: 292). Family education aims to inform family members, especially mothers and fathers, and to teach specific skills. Because when the education process of the child is considered as a whole, family education is of great importance in terms of the continuity of education in this sense. In terms of the quality of the education to be provided, it is observed that the fact that the teachers are experienced and fully equipped in family education also positively affects the level of participation of the family in education (Sarı, Atbaşı, & Çitil, 2017).

Students with ASD need basic academic and daily life skills such as self-care, communication, and professional and social skills to maintain their daily lives and live independently in society. To teach these skills, teachers need to have the necessary knowledge and equipment and an attitude of constant communication and cooperation with the family (Sarı & İlik, 2014). Although the development and evaluation of early intervention approaches for ASD have increased rapidly, most research in this area has focused on children. It emphasizes these interventions' benefits to families and their parents (Wainer, Hepburn, & Griffith, 2016: 6).

Research shows that interventions that focus on educating families of children with autism have a positive impact on children in different ways and affect parents themselves. These intervention techniques include parents' knowledge of autism, parenting therapeutic skills (McConachie & Diggle, 2007), response and emotional regulation (Whittingham, Sofronoff, Sheffield & Sanders, 2009), stress levels, depression, and overall mental and physical health (McConachie & Diggle, 2007). Diggle, 2007; DClinPsy, 2010; Tonge, Brereton, Kiomall, 2006), self-efficacy (Whittingham, Sofronoff, Sheffield, & Sanders, 2009) and family functions are improved (McConkey & Samadi, 2013). For this reason, it can be said that it is essential to consider the inclusion of parents with autistic children in their treatment approaches in order to educate them in order to ensure that they have an effective process in improving their personal lives and the therapy process of their children.

One of the most important ways to help children with special educational needs is to empower their families to provide an environment conducive to their growth and development (Lord & Cook, 2013). Family empowerment is one of the essential concepts for healthcare providers. It can be defined as the process of empowering the family, acquiring skills, knowledge, and resources that allow families to improve their control and quality of life (Muljono, 2020; Rismayanti, Waloejo, & Iswati, 2020: 640), the primary purpose of which is to consider the psychological and educational development needs of families with children with disabilities (Singh, Curtis, and Ellis, 1995: 87). In fact, empowerment is defined as a process, situation, individual trait, collective trait, and a kind of attitude, perception, ability, knowledge, action, and phenomenon that can occur in a range of conditions and environments (Dardouri et al. 2021; Gentles-Gibbs & Zema, 2020). Various studies on strengthening the families of children with ASD show the positive effect of strengthening the family's condition, quality of life, self-care, and other aspects of the child with ASD (Dempsey & Keen, 2008). Empowering families can make them a center of care for autistic children, improving parent self-efficacy, parenting skills, child development knowledge, quality of family life, participation in social activities, and access to support systems. They can also meet their children's needs better than anyone else (Webster et al., 2017).

In terms of providing physical services and therapy, a qualitative study of parents of children with intellectual disabilities showed that it is necessary to empower parents to adapt to their children's changing needs (Kruijsen-Terpstra et al., 2016) because empowerment focuses on the strengths and abilities of the family, not its shortcomings (Pierce, Skorup, & Paremski Prosser, 2021). It is noteworthy that families with children with ASD are under stress, has poor mental health, have a low quality of life, and have poor coping skills (Samadi et al., 2013). The gap in the empowerment of families with autistic individuals points to the need for empowerment in them. Several studies (Chaidi and Drigas, 2020) have examined the impact of family education programs on increasing parent involvement in the education of autistic children. On the other hand, studies on parent involvement in autism centers have shown that parent involvement leads to developing and generalizing skills. There are also studies to increase family performance and health (Benson et al., 2008). The active participation of parents in the diagnosis and treatment processes of their children with developmental disorders is considered by experts an essential factor in the long-term struggle for the education of individuals with autism (Schultz, Schmidt, & Stichter, 2011).

As stated earlier, ASD is a disorder that requires intensive and continuous educational rehabilitation interventions tailored to the child's level, and the time allocated for intervention in autism centers and rehabilitation clinics is limited. On the other hand, a person with autism usually spends most of their daily time with their family. The role of parents in communicating and facilitating the rehabilitation process of a child with autism is significant and necessary. Because the psychological environment of the family, its relationship with the affected person, acceptance and awareness of the disorder can significantly impact the rehabilitation and relaxation process of a child with autism. Therefore, the purpose of this study is: 1. To evaluate the effectiveness of the participation and empowerment of families with children with autism in child education. 2. To evaluate the effectiveness of the training program for families with children with ASD.

The aim of this study is to examine the effect of the family education program developed for families with children

with ASD on family participation in the education of children. In light of this primary purpose, answers to the research questions listed below were sought.

1) What is the perception of the participants with children with ASD regarding family empowerment?

2) Do the perceptions of the participants with children with ASD regarding family empowerment differ according to their gender (parents)?

3) Do the perceptions of the participants with children with ASD regarding family empowerment differ according to their age?

4) Do the perceptions of the participants with children with ASD regarding family empowerment differ according to their marital status?

5) Does the family education program applied to the participants with children with ASD affect their perceptions of family empowerment?

Method

This research is based on causal comparison and trial models within the scope of the mixed model. In causal comparison, the studied event, phenomenon, and variables are examined by comparing them with categories or groups (McNabb, 2008). In this research, with the help of causal comparison design, the perceptions of the participants with children with ASD regarding family empowerment were compared according to gender, age, and marital status variables.

In the second stage of the quantitative dimension of the study, the effect of the family education program developed for families with children with ASD on family empowerment and participation in children's education was examined. For this purpose, following the quantitative research paradigm, a control group pre-test post-test experimental design was used. This study is a purpose-oriented quasi-experimental research that includes an experimental and a control group. The study's independent variable is the family education program, and the dependent variable is the family's participation in the children's education. Except for the sample in which the quantitative applications of the research were made, experimental procedures were carried out on two groups of families with a child with ASD with similar characteristics, with a control group pre-test and post-test trial model. The symbolic view of the experimental pattern is given in Table 1:

Table 1. Experimental Design

Groups	T1	Experimental Process	T2
(R) E	$T1_{,1}$	X (6 weeks)	$T2_{,1}$
(R) C	$T1_{,1}$	- (6 weeks)	$T2_{,1}$

E-Experimental group

C- Control Group

T1: Pre-test

X: Experimental Process

-Process in the Control Group

T2: Post-test

Before the research, the scale of perceptions of family empowerment was applied to the experimental and control groups as a pre-test. The same measurement tool was applied to both groups as a post-test. After the pre-test, the family education program (independent variable), which includes the why, how, and content of family participation in the education of children with autism was taught to the experimental group in 8 sessions. Each session lasted 60 minutes. Finally, the questionnaires used as a pre-test to evaluate the family education program's effect on parents' participation in the education of their children with ASD were re-administered to both groups as a post-test. In addition, at the end of the study, a family education program was presented to the control group to observe ethical principles. The following activities were carried out in the experimental and control groups in the study:

Curriculum, daily plans, and worksheets were prepared to be used in the research from literature and sourcebooks for the implementation of the family education program for the participants with children with ASD. Before starting the research, 2 class hours of warm-up activities were carried out to accustom the experimental group subjects to the activities prepared on the basis of the family education program. In the experimental process of the study, teaching was not carried out based on the autistic children's family empowerment training program in the experimental group, and no application was made in the control group. In the experimental group, I performed: Introductory activities, reflective diary, participation in discussions, and Teamwork activities as teaching practice based on the family education program. These activities are presented in Table 2.

Table 2. Family Empowerment Training Program for Parents of Children with Autism

Session	Subject	Contents
1	The importance of parent involvement	Introducing OSB. Communicating with parents. To make necessary explanations about the concept of parent involvement. To raise awareness of families about the importance of parent involvement in the education of children with ASD.
2	Parenting (control dimension)	To briefly review the topics of the previous session. Now examine the current level of parental involvement. To introduce parenting models for families with children with ASD. Explaining the advantages and disadvantages of each parenting model and the effects of each on the child with ASD. The relationship between improving the education of children with autism and parenting practices.
3	Educating parents about how to participate (control dimension)	To briefly review the topics of the previous session. Training on involving parents at home and school and introducing their sizes and models. Helping the child with ASD to be independent while doing their homework by providing strategies.
4	Educating parents about how to participate (control dimension)	To briefly review the topics of the previous session. To provide information on how to, directly and indirectly, assist the child with ASD in the creation of the education program. Informing parents about how to help a child with ASD with homework.
	Educating parents	To briefly review the topics of the previous session. To explain the response

Session	Subject	Contents
5	about how to participate (response dimension)	dimension and its relationship to improving a child's education with ASD. To help strengthen the competence of the child with ASD and to consider their needs in learning academic subjects.
6	Collaboration with school (response dimension)	To give a summary of the topics of previous sessions. To present important tips and different models to communicate with parents and children with ASD. Dialogue and communication status between parents and children. The status of getting information from the school about the student's educational status. Attendance at the Parents and Teachers meeting.
7	Educating parents about how to participate (Structure dimension)	Summarizing previous topics. A brief description of the build size. Making a child with ASD responsible by organizing. Recognizing time priorities and managing time in fulfilling homework.
8	Educating parents about how to participate (Structure dimension)	To provide a summary of the topics of previous sessions. Tips for providing a quiet and comfortable environment for the child with ASD. To introduce the Epstein model and other efficient models in this field. Parents' recognition of the educational assignments of a child with ASD. Summarizing the topics presented during the sessions.

Research Group

The research sample was determined by multi-stage cluster sampling. In this method, four regions were randomly selected among the regions of the Konya province. Autism centers of each region were randomly evaluated according to the statistical yearbook reports, and these people's parents were sampled. According to the results of the Cochran formula used at this stage, data should be collected from a sample of approximately 387 people. In this respect, a sample of 445 people was determined in the study. According to the Table below, which defines the demographic characteristics of the gender and age of the participants, 111 of the total sample size consists of men, and 334 of them are women. The majority of the participants are female and young age range. Of the total sample, 241 are in the 17-30 age range, 138 are middle-aged (31-45 years old), and 66 are adults (46-70 years old). Criteria for inclusion and exclusion from the study sample are as follows: 1. Having a child with autism 2. Willingness to participate in the research 3. They were not divorced or living separately four and had at least a secondary school education 5. At least one month has passed since their child went to the autism center. 6. Samples should be between 20-60 years old. The exclusion criteria are 1. They had a severe medical and psychological illness that required medication. 2. Mental and physical disabilities 3. Substance addiction. In the experimental model of the research, 60 parents, 30 of which were experimental and 30 of which were control, were included. Participants were assigned to the experimental and control groups by random assignment method. Equivalence was ensured in terms of gender, age, and educational status in the formation of the experimental and control groups. In this context, there were 15 mothers and 15 fathers in the experimental group and 15 mothers and 15 fathers in the control group. The pre-test results of the family empowerment perception scale applied to both groups before the research are presented in Table 2.

Table 2. Comparison of Pre-test Family Empowerment Perception Scores of Participants in Experimental and Control Groups

	Groups	N	$\bar{X}$	Sd	t	p
Intercommunity	Experiment	30	1.82	0.31	-1.550	0.127
	Control	30	2.00	0.59		
Individual competence	Experiment	30	3.01	0.31	-0.513	0.610
	Control	30	3.08	0.74		
Self- determination	Experiment	30	2.64	0.42	-1.131	0.263
	Control	30	2.81	0.66		
Competence of center	Experiment	30	3.87	0.49	-0.131	0.897
	Control	30	3.89	0.93		
Trust	Experiment	30	3.77	0.37	-1.122	0.267
	Control	30	3.90	0.53		
Overall Average	Experiment	30	3.02	0.08	-1.590	0.117
	Control	30	3.14	0.39		

Table 2 shows the results of the t-test performed on the pre-test family empowerment perception scores of the families in the experimental group and the control group in which the family education program was applied. According to the analyzes, the pre-test 'participation' mean score of the two groups was 1.55; the 'individual competence' mean scores were 0.513; 1,131, the mean score of 'self-determination'; 'Adequacy of the centers' mean score was 0.131; t values were calculated as 1.122 in the mean scores of the 'trust' subscale, and finally 1.59 in the total pre-test mean scores of the family empowerment scale. According to this finding, there is no significant difference between the experimental and control groups' pre-test family empowerment perception scores. Before the experimental procedures of the study, the participants in the experimental and control groups had an equivalent level of perception in the family empowerment perception scale.

Data Collection Tool

At this quantitative research stage, a Likert-type scale was developed to measure the parental empowerment perceptions of participants with children with an autism spectrum disorder. This measurement tool is called the 'Perception of Family Empowerment' scale. During the development of this scale: 2. Writing the items of the empowerment questionnaire for families with autistic children and evaluating the validity of the empowerment questionnaire for families with autistic children. 3. Evaluation of the reliability of the empowerment questionnaire for families with children with autism. 4. Standardization of the empowerment questionnaire of families with children with autism was carried out. In the first stage of the measurement tool development process, semi-structured interviews were conducted to write scale items in order to determine the nature of the parent's perception of autism, and the grounded theory method was used for coding and data analysis. Data collection for scale items continued until theoretical saturation was reached. The questionnaire preparation follows the following steps: 1. Reviewing the theoretical foundations of autism mental disorder. 2. Interviewing the target group and coding the categories. 3. Compilation of survey items based on theoretical foundations and interviews. 4. Check

the content validity rate and index to remove inappropriate items. 5. Execution of subtraction questions about the statistical population 6. Validation of data collected from classical theory. At this stage, open, axial, and selective or selective stages of the interview text were carried out by the MAXQDA18 software to compile a scale, determine the basis of parents' perception of empowerment, and analyze qualitative data. In this way, 41 items were determined for the trial measurement tool, as seen in the Table. In the writing and selection of these items, the opinions of 3 doctoral academics from the fields of special education, measurement and evaluation, and OIZ were consulted.

The validity of the trial questionnaire, which was created in the second stage of the scale development process, was tested with content validity, face validity, and construct validity. Descriptive statistics, Pearson correlation, and Factor Analysis were used at this stage. Factor analysis was carried out in two ways confirmatory and exploratory (see Figure 1). Varimax rotation principal component model was used for factor analysis. Five factors emerged from factor analysis in this study, explaining 50.64% of the variance. Each factor explains a significant total variance, indicating a valid questionnaire (first factor 14.76%, second factor 11.57%, third factor 9.78%, fourth factor 8.55%, and fifth factor 5.96%). In addition, the Cronbach Alpha coefficient for the whole scale was calculated as .874. The concordance values of the scale as a result of confirmatory factor analysis are given in Table 3.

Table 3. Compliance Indicators of the Scale

Model Fit	df	Absolute indicators		Comparative indicators		Affordable indicators	
Statistical title	df	X2	P-Value	CFI	TLI	RMSEA	PRATIO
Amounts	362	1203.52	0/001	.961	.924	.04	0/937

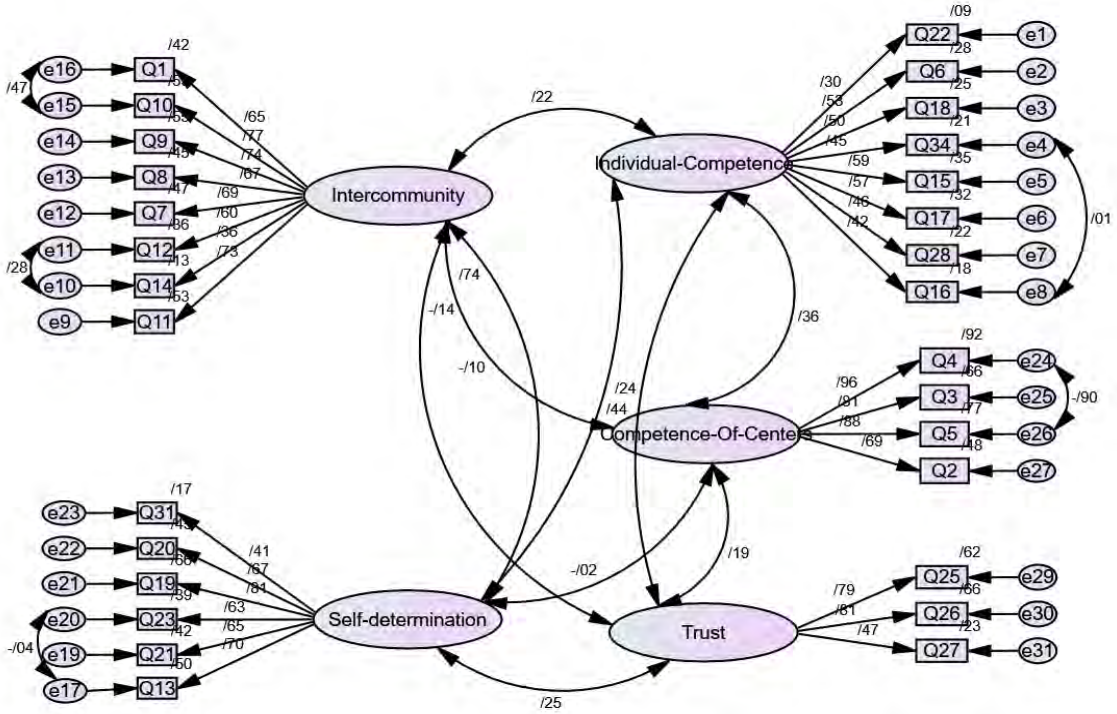

Figure 1. Results of Factor Analysis

Data Analysis Techniques

The significance level of the skewness and kurtosis statistics of all the variables in the study is between +1 and -1, indicating that the scores of the research variables have a normal distribution (Yurt & Sünbül, 2012). Therefore, it was decided to use parametric tests to test the research sub-objectives. Arithmetic means, standard deviation, and Independent Sample t-Test technique from parametric statistics were used to analyze the data obtained using the research scale.

Results

In this section, the quantitative findings of the research sub-objectives are given by considering some inferential statistical tests.

Sub-Aim 1: In the first sub-aim of the study, an answer was sought to the question of the perception of family empowerment of the participants with children with ASD.

Table 4 shows the descriptive analysis of the scores of the research participants on the scale of empowering the parents of children with ASD. When the Table is examined, it is understood that the scores related to participation, individual competence, self-determination, the efficacy of centers, trust sub-dimensions, and the general average of the scale vary between 1.00-5.00. Participation, individual competence, self-determination, the efficacy of centers, trust sub-dimensions, and overall score averages of the scale were 2.18, respectively; 3.11; 3.20; 3.91; It was calculated as 3.97 and 3.27. According to the average values obtained, it is understood that the participation of the parents is low, the perceptions of individual competence, self-determination, and the empowerment of the whole scale are at a moderate level, whereas the perceptions of the centers' adequacy and trust are at a high level.

Table 4. Descriptive Analysis of the Parent's Empowerment Scale Scores of Children with ASD

	N	Minimum	Maximum	$\bar{X}$	Sd
Intercommunity	445	1.00	4.88	2.18	0.74
Individual competence	445	1.13	5.00	3.11	0.65
Self- determination	445	1.00	5.00	3.20	0.82
Competence of center	445	1.25	5.00	3.91	0.75
Trust	445	1.00	5.00	3.97	0.68
Overall Average	445	1.78	4.75	3.27	0.46

Sub-Aim 2: In the second sub-aim of the study, do the perceptions of the participants with children with ASD regarding family empowerment differ according to their gender (parents)? The answer to the question has been sought.

In Table 5, the results of the comparison of the scores obtained from the empowerment scale of parents with children with ASD by gender can be seen. According to independent t-test analyzes, participants' perceptions of individual competence, self-determination, and efficacy of centers did not differ according to gender ($p>0.05$).

However, a significant difference was found in participation, confidence, and the general scale average according to the gender factor. According to the mean values, male parents' perceptions of participation, trust, and total parental empowerment were significantly higher.

Table 5. Comparison of the Scores obtained from the Parent Empowerment Scale of children with Autism Spectrum Disorder by Gender

	Gender	N	$\bar{X}$	Sd	t	p
Intercommunity	Female	111	2.30	0.70	1.97	0.050
	Male	334	2.14	0.75		
Individual competence	Female	111	3.19	0.70	1.42	0.158
	Male	334	3.09	0.63	1.35	
Self- determination	Female	111	3.24	0.74	0.59	0.557
	Male	334	3.19	0.84	0.63	
Competence of center	Female	111	3.91	0.75	-0.01	0.990
	Male	334	3.91	0.75	-0.01	
Trust	Female	111	4.19	0.62	3.93	0.000
	Male	334	3.90	0.69	4.14	
Overall Average	Female	111	3.36	0.44	2.38	0.018
	Male	334	3.25	0.46	2.45	

Sub-Aim 3: In the third sub-goal of the study, do the perceptions of the participants with children with ASD regarding family empowerment differ according to their age? The answer to the question has been sought.

Table 6 shows the comparison results of the scores obtained from the empowerment scale of parents with children with ASD by age groups. According to the analysis performed with the F test, the participants' perceptions of the centers' efficacy and the trust subscale did not differ according to age groups ($p>0.05$). However, a significant difference was found in participation, individual competence, self-determination, and the general average of the scale according to age groups. According to the Scheffe test analysis, young parents' perceptions of participation, individual competence, self-determination, and an overall average of the scale were significantly higher than those of middle-aged and adult parents.

Table 6. Comparison of the Scores Obtained from the Parent Empowerment Scale of Children with ASD by Age Groups

	Age Group	N	$\bar{X}$	Sd	F	p
Intercommunity	Youth	241	2.27	0.76	4.52	0.011
	Middle aged	138	2.04	0.65		
	Adult	66	2.15	0.80		
	Total	445	2.18	0.74		
Individual competence	Youth	241	3.30	0.64	10.18	0.000

	Age Group	N	$\bar{X}$	Sd	F	p
	Middle aged	138	2.91	0.61		
	Adult	66	3.11	0.70		
	Total	445	3.11	0.65		
Self- determination	Youth	241	3.33	0.81	7.68	0.001
	Middle aged	138	3.00	0.80		
	Adult	66	3.13	0.81		
	Total	445	3.20	0.82		
Conpetence of center	Youth	241	3.96	0.72	1.33	0.264
	Middle aged	138	3.83	0.77		
	Adult	66	3.91	0.80		
	Total	445	3.91	0.75		
Trust	Youth	241	3.94	0.72	1.46	0.233
	Middle aged	138	3.95	0.60		
	Adult	66	4.10	0.70		
	Total	445	3.97	0.68		
Overall Average	Youth	241	3.39	0.45	8.26	0.000
	Middle aged	138	3.15	0.43		
	Adult	66	3.25	0.51		
	Total	445	3.27	0.46		

Sub-Aim 4: In the fourth sub-goal of the study, an answer was sought to whether the perceptions of family empowerment of the participants with children with ASD differ according to their marital status.

Table 7 shows the results of the comparison of the scores obtained from the empowerment scale of parents with children with ASD according to marital status. According to independent t-test analysis, participants' perceptions of participation and trust did not differ according to gender ($p>0.05$). However, a significant difference was found in the sub-dimensions of individual competence, self-determination, the competence of the centers, and the general average of the scale according to the marital status variable. According to the mean values, the sub-dimensions of individual competence, self-determination, the competence of centers, and total parental empowerment perceptions of single parents were significantly higher.

Table 7. Comparison of the Scores Obtained from the Parent Empowerment Scale of Children with Autism Spectrum Disorder by Marital Status

	Marital Status	N	$\bar{X}$	Sd	t	p
Intercommunity	Single	239	2.24	0.76	1.91	0.057
	Married	206	2.11	0.70		
Individual competence	Single	239	3.21	0.67	3.40	0.001
	Married	206	3.00	0.61		
Self- determination	Single	239	3.30	0.84	2.86	0.004

	Married	206	3.08	0.77		
Competence of center	Single	239	4.00	0.69	2.66	0.008
	Married	206	3.81	0.80		
Trust	Single	239	3.99	0.71	0.84	0.403
	Married	206	3.94	0.65		
Overall Average	Single	239	3.35	0.45	3.74	0.000
	Married	206	3.19	0.45		

Sub-Aim 5: In the eighth sub-goal of the study, an answer was sought as to whether the family education program applied to the participants with ASD affects their perceptions of family empowerment.

In order to test the current research sub-objective, the post-test family empowerment perception scores of the participants after the experimental procedures were compared based on the principles of the experimental model. The analyzes performed with the independent sample t-test are shown in Table 8. The results of the t-test performed on the post-test family empowerment perception scores of the experimental and control group participants in which the family education program was applied. The post-test 'participation' mean score of the two groups was 2.41; the 'individual efficacy' mean scores were 4.88; the 'self-determination' mean score of 4,854; 'Adequacy of the centers' mean score was 4,064; 3,498 t values were calculated in the mean scores of the 'trust' subscale, and 5,869 t values were calculated in the total post-test mean scores of the family empowerment scale. According to this finding, a significant difference was found between the experimental and control groups' post-test family empowerment perception scores ($p<0.05$). After the experimental procedures of the study, it was observed that the participants who applied family education program reached significantly higher levels of family empowerment perception compared to the participants in the control groups.

Table 8. Comparison of Posttest-test Family Empowerment Perception Scores of Participants in the Experimental and Control Groups

	Groups	N	$\bar{X}$	Sd	t	p
Intercommunity	Experiment	30	2.63	0.70	2.412	0.019
	Control	30	2.18	0.77		
Individual competence	Experiment	30	3.76	0.70	4.888	0.000
	Control	30	2.99	0.51		
Self- determination	Experiment	30	3.99	0.74	4.854	0.000
	Control	30	3.06	0.75		
Competence of center	Experiment	30	4.41	0.60	4.064	0.000
	Control	30	3.58	0.94		
Trust	Experiment	30	4.39	0.50	3.498	0.001
	Control	30	3.88	0.63		
Overall Average	Experiment	30	3.84	0.50	5.869	0.000
	Control	30	3.14	0.43		

Discussion and Conclusion

The first finding reached in the study is about the level of participants in empowering the parents of children with ASD. In general, parents' views on empowerment are moderate. On the other hand, parents' perceptions of empowerment regarding participation are at a low level, while their perceptions of the adequacy and trust dimension of the centers are at a high level. In this respect, parents of children with ASD show a high level of trust toward particular education institutions and centers, although they are inadequate in participating in educational practices. These findings are the result of studies by Cone, Delawyer, and Wolfe (1985), Köksal-Eğmez (2008), Moxley, Raider, and Cohen (1989), Schmitt et al. (2019), Sönmez (2012), Spann, Kohler, and Soenksen (2003). similar to their findings. Spann, Kohler, and Soenksen (2003) have fundamental problems and inadequacies in terms of participation in families of individuals with special needs, information exchange between parents and institutions, participation in activities within the institution in the education of the child, and the development of appropriate communication between the child and the parents. Especially families with low education levels expect all responsibility for their children with special needs from education and rehabilitation centers and have high confidence in this regard. According to Moxley, Raider, and Cohen (1989), families participate in the education of their children with autism at a low level due to reasons such as lack of education, inadequate communication with the center and educational institutions, and lack of expert-family interaction, and the home dimension of this education is insufficient.

Another finding of this study is that the participant's perceptions of empowerment of parents with children with ASD show significant differences according to gender, age, and marital status variables. Male, single or divorced, and young participants scored significantly higher on the empowerment scale. These findings are similar to those of the studies conducted by Fantuzzo, Mcwayne, Perry and Childs (2004) and Turbville and Marquis (2001). Fantuzzo, Mcwayne, Perry, and Childs (2004) found significant relationships between the participation and empowerment levels of families of children with special needs and their education levels, occupations, and ages. According to the researchers, young and educated parents are more involved in their children's education and feel competent in terms of empowerment. The differences in the perception of empowerment in this thesis, especially regarding gender, partially contradict the literature. It is suggested in the literature that women exhibit higher participation and competence. For example, Cone, Delawyer, and Wolfe (1985) found that fathers were less involved in 9 dimensions of participation than mothers in their current study examining 12 main dimensions of participation.

On the other hand, in the studies of Turbville and Marquis (2001), no significant difference was found between mothers and fathers regarding participation and empowerment. An important dimension that causes a significant difference in the perceptions of empowerment in terms of parents' demographic characteristics is the level of confidence in the efficacy of the centers. Families also need professional support in interacting and providing support to their autistic children, so they have high trust in the relevant centers (Rush & Shelden, 2011). Similarly, Kochel, Myers, and Mackintosh (2007) examined the support use and information resources of families with children with autism in terms of some variables.

In the experimental model of the study, the effect of the family education program for the parents of children with autism on the empowerment perception and participation of the families was examined. According to the study's findings, family education programs based on experimental procedures increased the empowerment perceptions and participation of parents with children with autism spectrum disorder significantly compared to the control group. In this regard, parents in the experimental group achieved higher levels of family empowerment and involvement than the control group parents. These findings are from Smith et al. (2010). Tomaszewski et al. (2020) were similar to the results of studies by Waltereit et al. (2021). The family, parent's education, and developmental history play an essential role in the diagnosis, treatment, and education process of ASD: Inclusion of the details of the child's or young person's home life, education, and family social care experiences in every autism diagnosis evaluation, education and treatment provide essential contributions in the process. Family education programs regarding all these processes affect the development of children with ASD at a high level and positively (National Institute for Health and Care Excellence, 2011). Studies on family education factors in individuals with ASD have reported the importance of family context. Mothers of children and adolescents with ASD report three times more stressful events than mothers of children and adolescents without disabilities (Smith et al., 2010). Mother's praise and positivity appear to be associated with adults having more positive trajectories from adolescence to adulthood. Family education programs carried out in the process strengthen the family cognitively and effectively and increase their children's participation in the learning-teaching processes (Woodman, Smith, Greenberg, & Mailick, 2015; 2016).

Based on the results of this research, academic and educational support can be provided to private education institutions to empower parents of children with ASD. For example, Training can be provided to increase their self-confidence. In future studies, it is recommended that this study be carried out in a larger sample and in different regions to generalize to different populations. Longitudinal studies can be conducted to test the long-term effects of education programs applied to empower parents of children with ASD.

Note

This paper is produced from the first author’s PhD dissertation.

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