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The Quality of the Home Environments of Young Children with Disabilities*

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Abstract

This study aimed to analyze the home environments of young children with disabilities (CWDs). Data related to the overall home environment were collected from 145 mothers by using the Turkish Form of the Home Screening Questionnaire (HSQ-T), while home learning environment including the involvement of the mothers and the learning materials available in the home was assessed through individual interviews with mothers. The findings revealed that 50.35% of the children live in low-quality homes, whereas the remainders live in high-quality homes based on the cut-off points of the HSQ-T score. The HSQ-T scores were found to be significantly related to parental involvement, education level and income of the mothers, and the developmental functions of children. Additionally, we found a significant difference between the HSQ-T scores of CWDs with and without access to home-made toys. Finally, maternal involvement in children's activities was the main predictor of the home quality of CWDs.

Keywords: Home environment, children with disabilities, parental involvement, toys, developmental functions.

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The home environment is the context in which children grow and develop and plays a critical role in child development, health, and learning, especially in the early years. Literature focusing on early childhood has increasingly emphasized the strength of the relationships between the quality of the home environment and child development. Home quality refers to the quantity and quality of the stimulation and supports provided by parents to a child, and the physical characteristics of a home in terms of cleanness, safety and home crowding (Bradley, 2015; Jones et al., 2017). The quality of the home environment is affected by many factors such as the availability of learning materials (children's books, drawing and art supplies, toys) in the home, the frequency, and quality of parent-child interactions such as responsiveness and involvement in the child's activities such as reading to, playing with and, singing to children (Bradley, Caldwell, Rock, Hamrick, & Harris, 1988; Iltus, 2006; Senechal & LeFevre, 2002; Totsika & Slyva, 2004), the socio-economic status (SES) of the parents in terms of income, working status and education level (Bradley & Corwyn, 2002; Letourneau, Duffett- Leger, Levac, Watson, & Young-Morris, 2011).

There have been many studies aiming to provide an understanding of the quality of the home environments of typically developing children (Biedinger, 2011; Bradley, 1993; Bradley, Burchinal, & Casey, 2001; Iltus, 2006; Totsika & Sylva, 2004), while there have been fewer studies seeking to understand the variables related to the home environment for children with disabilities (CWDs). Previous literature investigating the home environment of CWDs and the related variables can be summarized in three groups. *The first group of researchers* focused on the degree to which the developmental competence of children and their home qualities are associated, and whether the home environment is affected by the level of development of young children and type of disabilities. According to early studies evaluating home quality through the use of Home Observation for Measurement of the Environment (HOME, Bradley et al., 2000), the home environment of CWDs was found to be a function of the child's developmental status and there were low to moderate correlations between home environment and child competence (Parks & Bradley, 1991). The home environment is also related to social and intellectual development of infants and young CWDs, but also for school-age children and pre-adolescent groups (Bradley et al., 1992). The home environment of CWDs has also been found to be associated with the social status of the family, life stress, and access to social support and competence (Bradley, Rock, Caldwell, & Brisby, 1989). Moreover, the severity of disability and such family ecology variables as SES, coping styles, social support, stressful life events, and marital quality are significant contributors to the home environment (Bradley, Rock, Whiteside, Caldwell, & Brisby, 1991).

Several studies have investigated the quality of the home environment of children with various disabilities, aiming to reveal whether certain aspects of the family home, such as parental behavior and family SES are associated with the type of impairments. A group of researchers (Holder-Brown, Bradley, Whiteside, Brisby, & Parette, 1993) examined the quality of the homes of infants and preschoolers with orthopedic impairments and found the family home quality to be moderately related to such parental variables as education level and social support, and the children's adaptive behaviors. In addition, the home environment was significantly correlated with the education level of mothers for both infants and preschoolers, and education and income for older children. Dote-Kwan and Hughes (1994) identified a relationship between home qualities and the development of children with visual impairments (CWVI) aged 20-36 months and the SES of the parents, and found that home quality had little effect on the overall development of CWVIs, in contrast to the findings related to sighted children. The responsiveness of some mothers, however, was found to be related to the expressive and pragmatic language abilities of children. Another study aimed to determine the level of influence of such variables as maternal behaviors, the SES of the family, and the home environment on the development of CWVIs by observing mother-child dyads during daily home activities (Dote-Kwan, Hughes, & Taylor, 1997). The findings showed that some of the responsive behaviors of mothers to interactional initiation behaviors of their children were related to the developmental scores of the CWVIs. Additionally, SES was found to have less of an impact on the ability of the families to provide better quality homes.

The second group of researchers compared the home quality of CWDs and children without disabilities (CWODs) based on some specific child and family variables. In these studies, data were collected from the mothers of CWDs and CWODs by using the Home Screening Questionnaire (Coons, Gay, Fandal, Ker, & Frankenburg, 1981), and the variables related to the family home quality were identified. According to the findings of the first study, while the home quality of children with and without disabilities, aged 0-3 years, was not found to be significantly different, the home environment of the two groups of children aged 3-6 differed significantly in favor of the CWODs (Kesiktas et al., 2009). Another study reported similar findings for the 3-6 age groups and found the home quality of CWODs to be better than that of CWDs (Sucuoğlu, Bakkaloğlu, & Demir, 2018). Furthermore, both studies showed that the mother's education level, employment status, and family income were significantly related to the quality of the home environment of CWDs.

There has been only one study in the third group of research, focusing on the effects of interventions on the quality of the home environment of CWDs. Bennet and Algozzine (1986) explored the effects of a six-month family-oriented early intervention program based on the individual needs of the parents and children on the home quality of 23 young children with developmental delays and cerebral palsy. The program conducted at the home of the CWDs during a weekly home visit was developed based on the idea that altering the home environment is an essential intervention for CWDs. The results of the study indicated that the home quality of the experimental groups was significantly better than that of the control group of children of similar ages and disabilities.

An extensive number of studies revealed the effects of the parental involvement that support children's development and learning materials in the home, on the development of children without disabilities (Iltus, 2006; Niklas & Schneider, 2017; Taggart, Sylva, Melhuish, Sammons, & Siraj, 2015). However, there was no particular study focusing on the home learning environment of CWDs, including the involvement of parents in children's activities and learning materials such as toys and art supplies in the home. Several studies focused on the importance of toys on the development of children (Brodin, 1999, 2005; Lewis, Boucher, Lupton, & Watson, 2000) emphasized that toys help CWDs to be alert and to facilitate their interaction with parents and siblings regardless of the severity of their disabilities. On the other hand, parent involvement was generally addressed in the parent training programs aiming to teach parents how to teach their children and how to prevent or decrease problem behaviors of their CWDs. The studies evaluating the effectiveness of parent programs are mostly concerned about the outcomes related to parents and children (Machalicek, Lang, & Raulston, 2015; Matson, Mahan, & LoVullo, 2009; McIntyre, 2008, 2013); but not the quality of the home environment. Taking into account that the quality of the home learning environment has significant effects on the development of children and its effects continue until age 16 (Taggart et al., 2015), and what parents do with their child is important, as much as their education, income and other characteristics (Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004), it seems worth investigating the involvement of parents of CWDs in home learning activities and the available toys at their home.

In Turkey, there have been few studies investigating the home environment of typically developing children (Karaaslan-Baç & Bal, 2002; Ozturk-Ertem et al., 2006) and those of CWDs (Kesiktas et al., 2009; Sucuoğlu et al., 2018). There is currently a lack of research addressing the home qualities of CWDs, both in Turkey and in international literature, although in the light of the previously mentioned studies, there is evidence that family home quality is critical for the development of both CWDs and CWODs. The home environment can thus be accepted as one of the most significant contributors to the well-being of all children, including CWDs. Accordingly, studies of home quality and related factors may lead educators, early interventionists and special education teachers to consider the home environment of CWDs and to provide support to parents not only in teaching new skills to their children or dealing with problem behaviors but also in the creation of a more stimulating environment for them. The present study makes a detailed examination of the home environment of CWDs, involving an evaluation of both the overall home environment and the home learning environment based on the maternal involvement in the activities of their children. In addition, an attempt will be made to understand whether

parent and child characteristics are related to the home environment of CWDs. The study poses the following questions:

1. How is the quality of the home environment of CWDs?
2. Do significant relationships exist between HSQ-T scores and maternal variables (age, education level, income, and their involvement in children's activities) and the developmental functions of the participant children?
3. How is the home learning environment (HLE) of CWDs?
4. What are the predictors of the quality of the home environments of CWDs?

Method

This study was planned as a descriptive-correlational study providing researcher to examine the quality of home environment of CWDs and to understand the relationships between the home quality and the mother and child variables. Since CWDs was the target group, the researchers aimed to reach the mothers of children who have various disabilities.

Participants

A total of 145 young CWDs and their mothers who volunteered to take part in the study formed the study sample. Children diagnosed in public hospitals were recruited from various educational institutions, including special education centers, inclusive preschools, private rehabilitation centers, and daycare centers in several cities of Turkey. The recruits, who had various disabilities, were divided into three main groups as autism spectrum disorders (ASDs), intellectual disabilities (ID), and others (speech and language disorders [SLD]; physical [PI], visual [VI] and hearing impairments [HI]; and learning disabilities [LD]). SES includes a combination of at least two of the following parental characteristics: education level, marital status, working status, occupation, household income (Ensminger & Fothergill, 2003); in the present study, the education (number of years), monthly income and working status of the mothers were the accepted indicators of SES. The demographic information of the study groups is shown in Table 1.

In addition to the demographic information, crowding index (CI) for the family home, identifying the number of persons living in one room at home, is also presented in Table 1. CI is obtained by dividing the number of persons by the number of rooms in the house. According to the Human Development Index, CI is a critical predictor of well-being and the development of children under five years of age (United Nations Children's Fund [UNICEF], 2006), and as CI increases, the quality of the home environment decreases. In the present study, approximately 23 percent of children live in crowded homes, while the remaining lives in homes with less than two people living in one room (non-crowded home).

Table 1

Demographic Information of the Study Group

Children with disabilities N = 145				Mothers			Home environment		
Age		X = 56.22 SD = 10.02 Range = 34-74 months		Age		X = 34.99 SD = 4.87 Range = 25-48			
		N	%	Education		X = 11.39 SD = 4.33 Range = 0-22		Crowded homes	N = 33 (22.8%)
Gender	Girls	55	37.9	Working status	Working	N = 49 (33.8%)	Crowding index**		
	Boys	90	62.1		Housewives	N = 96 (66.2%)		Non-crowded homes	N = 112 (77.2%)
Types of disabilities*	ASD	58	40						
	ID	54	37.2	Income		N = 145 X = 4193.10 SD = 2857.53 Range = 400-15.000 Turkish Liras			
	Others	33	22.8						

*ASD: Autism spectrum disorders, ID: Intellectual disability, Others (Visual impairments: VI, Hearing impairments: HI, Learning disability: LD, Speech and language disorders: SLD)
**Crowding index: The number of individuals per room in the house

Instruments

Parent information form. This form was used to determine the demographic characteristics of the participant children and their families and to evaluate the home learning environments. The form consists of two sections: The *first part* includes questions on demographic factors such as age, gender and the level of the developmental functions of the child, and the mother's age, level of education, working status, and family income. The *second part* of the form comprises two groups of questions for the assessment of the home learning environment including parents involvement in the activities of children (Biedinger, 2011; Ergül, Sarıca, Akoğlu, & Karaman, 2017; Hayes, Berthelsen, Nicholson, & Walker, 2018; Iltus, 2006; Niklas & Schneider, 2013) and types of toys in the home (Iltus, 2006):

1. Three questions on the form (How often do you read to your child in a week? / How often do you tell your child stories in a week? / How often do you play with him/her in a week?) were asked to mothers based on the instruments used in similar studies (Biedinger, 2011). The mothers were requested to answer each question on a scale of 1-4 (Every day: 4, 3-4 times in a week: 3, Once a week: 2, and Never: 1). The total mother participation score was calculated by adding the score given for each question. The intention of this regard was to identify whether the quality of the home environments varied according to the level of maternal participation.

2. The Parent Information Form contained three questions related to the types of toys in the home of CWDs: "a. What kind of toys does your child have? b. Do you make toys for your children? and c. Do you keep such art materials as paints, notebooks, papers, and pencils in your home?" The mothers were asked to answer the first question by listing the toys in the home, while the other two questions were answered either yes (1) or no (2) options. The toys listed by the mothers were divided into four groups: Fluid materials (materials with a fluid property/quality such as paint or clay that can be used to produce representative products: water, finger paints, dry sand, painting paints, wet sand, clay, flour, dough, and crayons, etc.), structured toys (solid materials that maintain their shape and form, unit blocks, moldboards, lego, puzzles, lotto games, etc.), symbolic toys (micro and macro level toys that can be used for sociodramatic play, small human figures, small cars, dolls, etc.), and physical toys (toys requiring the use of sensory-motor movements or body applications such as balls, skates, bicycles, climbing instruments, etc.) based on the toy classification of Wolfgang and Stakenas (1985).

The Turkish Form of the Home Screening Questionnaire (HSQ-T). The HSQ is a self-report questionnaire assessing the quality of the home environments through parent interviews in an economical and practical way. The questionnaire was developed based on the items in the Home Measurement of the Environment (HOME, Caldwell & Bradley, 1984), and is used to evaluate the home environments of children from low socio-economic backgrounds and at risk in terms of learning and development. It can also be used to predict child development in light of the quality of the home environment (Coons et al., 1981). The home environments of children were evaluated many times using HOME and HSQ and determined that the reliability of HSQ was at an acceptable level and that the sensitivity and specificity values of the two instruments were similar. There are high correlations between HOME and HSQ scores (Coons et al., 1981; Frankenburg & Coons, 1986; Pessanha & Bairrao, 2003), and also between HSQ scores and the developmental functions of young children (Camp & Headley, 1994; Grieve & Richter, 1990). Based on the psychometric properties (Coons et al., 1981; Frankenburg & Coons, 1986), the HSQ is accepted as an effective and economical instrument for the assessment of the family home qualities of young children**.**

The HSQ evaluating the quality of the home environment of children from birth to six years of age comprises two different questionnaires: one for the 0-3 age group (30 items) and one for the 3-6 year age group (34 items). The HSQ consists of yes-no questions, fill-in-the-blanks, and multiple-choice questions. In the present study, data were collected using the 3-6 age questionnaire through interviews with the mothers of CWDs. A group of researchers (Sucuoğlu, Bayrakdar, Şahan, & Karaman, 2019) evaluated the psychometric properties of the questionnaire of the Turkish Form of the HSQ (HSQ-T) for the 3-6 age groups using the data collected from 305 young CWDs, CWODs, and their mothers. The HSQ was applied by five trained interviewers with high interrater

reliability values who interviewed the mothers of CWDs individually so as to avoid data loss. The researchers carried out explanatory studies with a Categorical Principal Components Analysis (CATPCA) and a Confirmatory Factor Analysis (CFA). The results indicated that the HSQ-T was a single factor instrument consisting of 12 items, and this structure accounted for 24.61% (approx. 25%) of the variance. For a single factor, the eigenvalue was calculated as 2.953, and the Cronbach alpha coefficient of internal consistency was .72. According to the results of the analysis, the HSQ-T was accepted as a single factor instrument with the cut-off point 7 that can be used to evaluate the home environments of children in the 3-6 age groups in Turkey.

Abilities Index (AI). The developmental functions of the participant children were assessed using the Abilities Index developed by Simeonsson and Bailey (1991). Through this instrument, young children's developmental functions are assessed within 9 skill areas (19 sub-skills): audio (hearing), behavior and social skills, intellectual functioning, limbs, intentional communication, tonicity, the integrity of physical health, eyes (vision), and structural status (Bailey, Simeonsson, Buysse, & Smith, 1993; Chambers, Perez, Socias, Shkolnik, & Esra, 2004). The index can be applied by parents, teachers, and experts working in the field of early childhood education. The developmental functions of children are rated between 1 and 6 (1: normal development, 6: high/extreme disability), with a high score indicating low developmental functions in a child and low scores indicating high functioning. According to personal communication with Simeonsson (2017), the total score gathered from the scale is calculated using a special formula, although clinical evaluations should not depend on the total score. The test-retest reliability of the tool has been reported as .90; its inter-rater reliability as 67.2 percent, and its Kappa internal consistency as .60 (Simeonsson, Bailey, Smith, & Buysse, 1995). Sucuoğlu and Demir (2018) examined the psychometric properties of the Turkish form of the AI (AI-T) and found that the tool was able to significantly distinguish between CWDs and typically developing children, and also the children with the same diagnoses, in terms of their developmental functions. The mean inter-rater reliability (mothers and teachers) values of the Turkish form of the AI (AI-T) were found to be 67.2. The reliability of the tool (Spearman-Brown two-half reliability) was found to be .89 for the teachers' assessments and .78 for that of the mothers.

Data Collection and Analysis

Data of the study were collected from the participant mothers who had young children with disabilities. Although the instruments used for data collection are self-report scales, to prevent data loss, trained graduate students individually interviewed with the mothers based on the research instruments, including Demographic Information Form, and read all questions to the mothers and recorded their responses. All interviews were conducted in a quiet room at the preschools, rehabilitation centers, or day-care centers, and each interview session lasted 45 minutes average.

To determine the descriptive statistics of the study, firstly, the level of normality in the distribution of the data was assessed based on skewness and kurtosis values, as well as histograms. Since the data related to the HSQ-T and AI-T scores, maternal income and education level, and the mother's involvement data violated the normality assumptions, the analysis of the study was carried out using nonparametric tests. Secondly, to understand the general home quality of CWDs, the means and standard deviations of the dependent and independent variables for the CWDs who live in high and low-quality homes were calculated based on the cutoff score of HSQ-T. A comparison was then made of the mean score of the HSQ-T scores, AI-T scores, the mother's level of education and income, and the mother's involvement total score of the respondents residing in high and low-quality homes by using a Mann Whitney U tests. In addition, a Kruskal-Wallis Test was used to compare the home environments of children with different disabilities. Thirdly, an examination was made of the relationship among variables using Spearman-Brown correlation for the abnormality of distributed data. To analyze the home learning environment of CWDs, first, the HSQ-T scores of the children were compared according to the frequency of mothers' involvement in their children's activities. To put a value to the toys available in the home, we calculated the percentage of CWDs with access to different types of toys in the home, including home-made toys.

As the last step, we ran multiple linear regression analysis to identify predictors of the general home environment quality of CWDs. The predictor (independent) variables (mother's education level and income, maternal involvement, and AI-T scores of CWDs) and the dependent variable (HSQ-T scores) were included in a regression analysis. Prior to the regression analysis, we first examined the correlations between the dependent and independent variables and observed that the r values were lower than .60, with a 99% confidence interval. In addition, to investigate the multicollinearities in the data, tolerance values (TI), variance inflation factors (VIF) and the condition index (CI) were calculated, it was that TI was over .60, VIF values were lower than 2 and CI values were lower than 30 (14.228 and below). None of the analyses pointed to multicollinearity problems between the predictor and predicted variables, confirming that the assumption of linearity was met (Field, 2009).

Results

The Quality of the Home Environment of CWDs

The findings related to the general home quality and the effective variables in the home environment are presented in this section. To determine the home quality of young CWDs, the mean HSQ-T scores of all children (X = 7.06; SD = 2.74; range = 0–12), and the numbers and percentages of the high and low-quality home groups were calculated based on the cut-off scores (Sucuoglu et al., 2019). Then the mean scores of HSQ-T and the AI-T, along with the means of the other variables of the two groups, were compared. The findings are presented in Table 2.

Table 2

Mann-Whitney U-tests Indicating the Differences in the Mean Scores of the HSQ-T and Other Independent Variables for Low- and High-Quality Homes

Variables	Low quality homes N = 73 (50.35%)		High quality homes N = 72 (49.65%)		
	X	SD*	X	SD	U
HSQ-T	4.87	1.85	9.38	1.20	.000***
Maternal involvement	4.76	1.91	9.36	1.19	1192.50***
Maternal education	9.40	3.83	13.42	3.81	1213.50***
Maternal (family) income	2867,12	1500.00	5537.50	3260.50	1155.00***
AI-T** score of CWDs	42.47	11.35	36.22	15.19	1756.50

*SD = Standard Deviation **AI-T = Abilities Index ***p<.001

As seen in Table 2, the numbers and percentages of children residing in high and low-quality homes were almost the same. The analyses of the differences between the maternal involvement, education, and income of the children with high and low-quality homes identified significant differences between the two groups of mothers in favor of high-quality homes. The effect of the employment status of the mothers was on HSQ-T scores examined with a Mann-Whitney U-test since the working status data of the mother was categorical. A significant difference (U = 1192.50 p< .001) was thus found between the HSQ-T scores of working mothers (median: 9.00) and those of housewives (median: 6.50). The home quality of working mothers was found to be significantly more favorable than that of the other group. In addition, the AI-T scores (median: 42.00) of the children living in low-quality homes differ significantly from those residing in high-quality homes (median: 29.00). Keeping in mind that a high AI-T score indicates lower developmental functions, it would seem that the home qualities of children with more severe disabilities are less favorable than those with higher levels of developmental functions. Finally, the result of the Kruskal-Wallis H Test identified no significant difference between the HSQ-T scores of children with different types of disabilities ($\chi 2$ = .977, p > .05), such as ID (median: 7.50), ASDs (median: 7.00) and others (median: 8.00) including children with SLD, VI, HI, and LD.

Relationships Between Dependent and Independent Variables

Table 3 shows the relationships between HSQ-T score and the scores of other measures, such as mother's education and income, their involvement in their children's activities (maternal involvement score), and the developmental functions (AI-T scores) of the children.

Table 3

Relationships Between the HSQ-T Scores and the Independent Variables

	Med	Mic	Miv	AI	M	SD
HSQ-T scores	.554*	.577*	.601*	-.253*	7.06	2.79
Maternal education (Med)		.620*	.379*	-.052	11.39	4.31
Maternal income (Mic)			.376*	-.023	4193	2800
Maternal involvement (Miv)				-.116	6.55	2.36
Developmental functions of CWD (AI-T)					41.66	15.62

*$p < .001$, M: Mean, SD: Standard Deviation
Med: Maternal education (number of years), Mic: Maternal income (Turkish Lira), Miv: Maternal involvement, AI: AI-T scores

The quality of the homes of CWDs was found to be related significantly to all variables, while the AI-T scores were found to be negatively associated with HSQ-T scores. That is, the home quality of children with high AI-T scores (lower function children) was found to be lower than that of the lower-scoring children.

The Home Learning Environments of the CWDs

In this study, the assessment of the home learning environment was based on maternal involvement in their children's activities, such as playing with them, reading and telling stories to them, and the availability of toys in the home. The home learning environment was assessed in two ways:

Maternal involvement. The HSQ-T scores of the mothers who engaged in activities with their children at different levels were compared for three activities separately, the results of which are presented in Table 4.

Table 4

The Results of the Kruskal-Wallis H Test Based on the HSQ-T Scores of the Mothers According to Their Frequency of Maternal Involvement

Activities	Involvement level of mothers*	N	%	X	SS	Min	Max	Median	Chi-Square	ES***
Frequency of reading books to the child	Everyday	42	29.0	9.11	1.85	5	12	9.00	56.063**	.40
	3-4 / week	42	29.0	7.11	2.08	2	11	8.00		
	1 / week	25	17.2	6.00	2.64	0	9	6.00		
	Never	36	24.8	4.58	2.79	0	12	4.00		
Frequency of telling stories to the child	Everyday	33	22.8	8.69	1.89	4.00	12.00	9.00	16.619**	.09
	3-4 / week	53	36.6	7.07	2.59	2.00	11.00	8.00		
	1 / week	31	21.4	6.00	3.40	0.00	11.00	5.00		
	Never	28	19.3	6.21	2.52	1.00	11.00	6.00		
Frequency of playing with the child	Everyday	101	69.7	7.81	2.48	2.00	12.00	8.00	-	-
	3-4 / week	32	22.1	5.59	2.53	1.00	11.00	8.00		
	1 / week	10	6.9	3.70	2.75	0.00	8.00	3.50		
	Never	2	1.4	8.50	0.70	8.00	9.00	8.50		

*Number of times the parent engaged in the child activities in a week
**p<.001 ***ES: Effect Size

This table shows that the quality of homes varied according to the level of maternal involvement, as when maternal involvement (reading books and telling stories) increased, so did the home qualities of CWDs. In addition, Eta effect sizes are large for the two levels of frequencies of maternal involvement in the activities of

CWDs. Since the majority of mothers (N = 101) stated that they played with their children every day, 10 of them claimed once a week, and 2 mothers said that they did not play with their children at all, we were unable to examine whether home quality changed according to the frequency at which mothers played with their children. Surprisingly, the HSQ-T scores of the two mothers who said that they never played with their children were found to be higher than those of the other groups. That said, these findings seem to support the results of the findings of the correlation analysis, indicating a strong relationship between home quality and the level of maternal involvement in the activities of their children. The findings are also shown in Figure 1.

Crowding index (CI) is an important variable that influences child development and well-being, and so we examined whether maternal involvement was affected by the CI of the home. The involvement scores of mothers living in crowded and non-crowded homes were compared with a Mann-Whitney U-test, the results showed that maternal involvement in the two groups of mothers was significantly different (U = 5285.00, p < .000), and that mothers who live in less crowded homes (median=8.00) participated in activities with their children more than those in the other group (median=5.00).

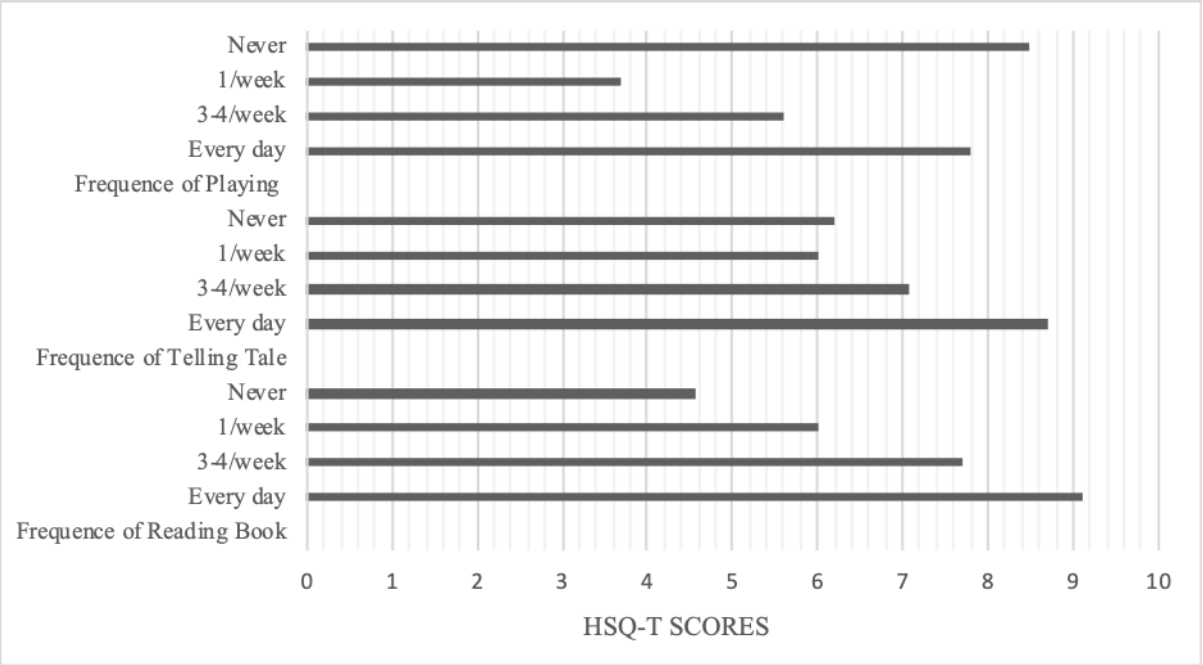

Figure 1. HSQ-T scores of mothers who took part in their children's activities at different levels.

Toys available in the home for the children. To assess the responses to the question related to the availability of toys in the home, the toys listed by mothers were divided into four groups based on the classification of Wolfgang and Stakenas (1985). Figure 2 indicates the percentage of CWDs with access to different types of toys in their home environment and shows most of the children have symbolic and structured toys, while only 6.2 percent of the children have access to fluid construction toys.

The figure also shows that almost half of the CWDs (41.6%) have home-made toys such as puppets, houses, cars, planes, or ships that have been made their parents (See Figure 2), while 58.4 percent of CWDs have no home-made toys. In addition, a comparison of the home quality of CWDs with and without access to home-made toys revealed a significant difference in the HSQ-T scores of the two groups of children (U = 2062.50 p < .001). Accordingly, the quality of the home of CWDs whose parents made toys for them would appear to be higher

(median: 8.00) than that of the other group of children (median: 7.00). Finally, according to the mothers, most of the CWDs (98.2%) have access to such art materials as pencils, crayons, paper, and notebooks in the home.

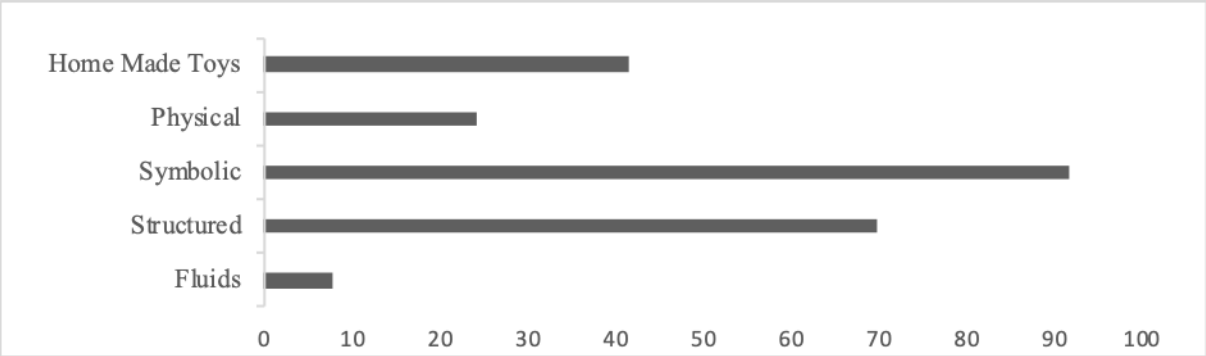

Figure 2. Percentage of CWDs who have access to toys in the home.

Predictors of home environment quality of CWDs. The result of the multiple regression analysis indicates that the model is statistically significant ($F = 46.801$, $p < .01$) and the findings of the analysis were found to be consistent with the Pearson correlation results, showing that all of the variables related to the mothers and the AI-T scores of children contributed to the home environment quality of CWDs (Table 5).

Table 5

Results of the Multiple Regression Analysis Using Maternal Variables, AI-T Scores and HSQ-T Scores of CWDs

	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	*t*	Sig.
Predictors*	9.157	.886		10.338	.000
AI-T score	-.042	.010	-.234	-4.227	.000
Miv	.514	.079	.401	6.523	.000
Med	.158	.046	.244	3.462	.001
Mic	.000	.000	.244	3.599	.000

R: .756 R^2: .572 F4: 46.801 $p = .000$

*AI-T score: Total Abilities Index score, Miv: Mother involvement score, Med: Maternal education level (number of years), Mic: Maternal income (Turkish Lira)

The results of the analysis are summarized in Table 5, presenting that the predictor variables, when combined, accounted for 57% of the variance in the HSQ-T scores of the CWDs. According to the model, mother involvement accounting for approximately 40% of the variance was the main predictor of the family home quality. The AI-T scores of children, education level, and income of the mothers were also identified as predictors of the HSQ-T scores.

Discussion and Conclusion

This study made a detailed investigation of the quality of the home environments of CWDs, addressing the gaps in previous literature focusing on the home quality of this group of children. The analysis was based on data collected from the participant mothers, resulting in the garnering of a wealth of valuable information on the home qualities of young children diagnosed with different conditions, such as ASDs, ID, and others. In addressing our research question related to the quality of the home environment of CWDs, it was found that approximately half of the CWDs live in low-quality homes, based on the cut-off scores provided by the HSQ-T, whereas the quality of the homes of higher functioning children was more favorable. Previous studies have identified significant links between the adaptive functions of children and their home environment, and have concluded that

parental behaviors and the home environment may be affected not only by the developmental function of the child but also by changes in the parents' reactions to the demands of their children (Bradley, 1993; Dote-Kwan & Hughes, 1994; Holder-Brown et al., 1993; Nihira, Mink, & Meyers, 1984). In addition, there have been several studies indicating that the home quality of CWDs are less favorable than those of typically developing children (Kesiktas et al., 2009; Sucuoğlu et al., 2018). The present study seems to support the findings of earlier studies indicating a link between the quality of the home environment and the developmental level of the child, and that the home quality of lower functioning children is less favorable than that of children with higher developmental functions.

The findings of the present study reveal that the home quality of CWDs is unaffected by the types of disabilities of children and the HSQ-T scores of children with ID, ASD, and other disabilities (SLD, VI, HI, and LD) are not significantly different. Accordingly, considering that the type and severity of the disability may have a relationship with the home environment, as concluded in earlier studies (Dote-Kwan & Hughes, 1994; Holder-Brown et al., 1993), it would appear that gaining a better understanding of the link between the type and severity of the disability and aspects of the home environment will require the collection and analysis of more data from children with various types and severities of disability, and to figure out whether there are some unexplained factors contributing to the home quality of CWDs.

In the present study, it was identified that high correlations existed between HSQ-T scores and the independent variables, while significant but low negative correlations were noted between home quality and the AI-T scores of the children. The effects of the characteristics of the parents and children on family home quality have been studied for many years, and there is evidence that the mother's education level, income, and working status are strong predictors of SES (Ensminger & Fothergill, 2003) and important variables associated with not only the overall home environment (Biedinger, 2011; Goemans, Van Geel, Vedder, & Bradley, 2016; Pessanha & Bairrao, 2003; Richter, & Grieve, 1991) but also the home learning environment of typically developing children (Ergül et al., 2017; Niklas, Chorssen, & Tayler, 2016). It has been emphasized that families with low income and education levels are less likely to provide a stimulating environment and learning experiences for their children due to financial restrictions (Cooper, Crosnoe, Suizzo, & Pituch, 2010; Yeung, Linver, & Brooks-Gunn, 2002). Studies carried out in Turkey, similarly have shown that SES has an impact on the home environment of young CWDs and those without disabilities, while the children of mothers with higher education levels and incomes have a better home environment (Kesiktas et al., 2009; Sucuoglu et al., 2018). Similar findings have been reported in studies focusing on the home environment of CWDs (Dote-Kwan & Hughes, 1994; Dote-Kwan et al., 1997; Holder-Brown et al., 1993). Accordingly, our findings indicating positive and strong relationships between the home environments of CWDs and SES of the family are accepted as agreeing with those reported in related studies.

Although much emphasis has been placed on the strong link between parental involvement and the cognitive, language and social skills of typically developing children (Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005; Melhuish et al., 2008; Taggart et al., 2015), our findings revealed no significant relationship between maternal involvement and the developmental functions (AI-T score) of CWDs. This finding may be attributed to the instrument used to assess developmental functions in children. As such, we must bear in mind that developmental functions (DF) and developmental skills (DS) are different concepts, with DS indicating the skills that children gain over time while the DF denoting the basic aspects of child functioning and the characteristics of children with various disabilities, rather than etiology, diagnostic features or developmental milestones (Simeonsson et al., 1995). Therefore, if the children's skills in the developmental domains are evaluated by developmental inventories or scales with good psychometric characteristics, rather than being based on developmental functions, the results may lead to a better understanding of the link between development and the home learning activities of parents of CWDs.

Considering the importance of the home learning environment on child development, in the current study, two separate characteristics of the home (maternal involvement and access to toys in the home of CWDs) were investigated. A strong relationship was found between the frequency of maternal participation in child activities

and home quality. Previous literature frequently emphasizes that the home learning environment, when including parental involvement in the activities of children, is the context in which all children have the opportunity to acquire and practice various skills through meaningful interactions with people, materials, toys and events in the home (Biedinger, 2011; Ergül et al., 2017; Hayes et al., 2018; Iltus, 2006; Niklas & Schneider, 2017). Activities such as read-aloud, playing number games, board and card games, and art/craft activities are accepted as home learning activities when there is parental involvement, as such activities support the development of children by providing various opportunities for communication and interaction with their parents (Farrant & Zubrick, 2013; Melhuis et al., 2008; Senechal, Pagan, Lever, & Quelette, 2008). These have proven to be effective in the development of language, cognitive skills, mathematics, and joint attention skills in typically developing children, as well as in their cooperation and interactions with others (Hayes et al., 2018). From another point of view, mothers of CWDs frequently express a need for advice on how to promote the development of their children and how to interact with them, regardless of the family characteristics and the type/severity of the child's disability (Bailey & Simeonsson, 1988; Bailey, Blasco, & Simeonsson, 1992; Bailey et al., 1999). There have been substantial studies reporting that parents who participate in parent training programs gain various benefits in terms of their ability to teach new skills, to cope with problematic behaviors, to reduce stress and to use positive behavior support strategies (Feldmen & Werner, 2002; Machalicek et al, 2015; McIntyre, 2008; Meadan, Ostrosky, Zaghlawan, & Yu, 2009). To the best of our knowledge, however, there has been only one study to date, including a training program for the parents of CWID and investigating the effects of the program on family home quality (Bennet & Algozzine, 1986). We believe that our findings reveal a need for more research into the home environments of CWDs, while parents need to be encouraged to involve with their CWDs in terms of increasing the family home quality and being involved in the earliest childhood experiences of their children.

According to the Human Development Index established by the UNICEF (2006), informal learning materials such as toys are one of the aspects denoting the quality of the home environment, which is highly correlated with cognitive, physical, social, and emotional well-being in children (UNICEF, 2006). In addition, children with access to a variety of toys were found to have reached higher levels of intellectual achievement, regardless of sex, race, or social class (Bradley 1985; Elardo, Bradley, & Caldwell, 1975). Toys also bring useful experiences to CWDs and assist in the development of sensory-perceptual, motor, social, psychological, and intellectual functions (Lewis et al., 2000). It has also been found that CWDs need more play materials compared to typically developing children, as they can quickly lose interest in an object (Nielsen, 1979; Sinker, 1985). Moreover, CWIDs take longer to learn, and so interest in playthings and toys must be kept alive with the help of rich stimuli (Murphy, Carr, & Callias, 1986). Finally, Brodin (1999, 2005) stressed the importance of toys, particularly in children with severe and profound disabilities. The present study found that most of the participant children had access to different types of toys, but little access to such fluid construction toys as finger paints, sand, clay, playdough, and crayons. Furthermore, almost half of the CWDs had access to home-made toys, which are said to be a proxy indicator of the quality of the home and to shows parental interest in the social interactions and communications of children (Iltus, 2006).

The types of toys that are available affect the acquisition of various developmental skills in young children, with the characteristics of toys encouraging development in such areas as cognition, social skills, and fine and gross motor skills in children (Dauch, Imwalle, Ocasio, & Metz, 2018; Trawick-Smith, Russel, & Swaminathan, 2011). For example, structured toys improve sensory development, motor skills, and cognitive ability, whereas toys focusing on numbers and letters influence perceptual-motor and cognitive skills while playing with fluid materials such as sand, water, playdough, and clay encourages children to create shapes and structures, to learn about living and non-living things, to engage in conversation, to use their imagination (Auerbach, 2012; Bairaktarova, Evangelou, Bagiati, & Brophy, 2011; Vanover, 2018). The fact that very few CWDs had access to fluid toys and materials in the present study can be explained by the fact that such fluid materials as sand, water, playdough, or clay are uncommon in Turkish families due to cultural factors related to the idea of clean homes. As such, clean homes are considered very important in Turkey, and, thus, mothers generally are not willing to let their children play with messy toys and materials in their homes. That said, the access of the CWDs in the present

study to a wide variety of toys, including various home-made toys, points to a stimulating environment in the home that promotes development by encouraging children to learn through exploration. Although adaptation of toys according to the developmental level of CWDs (Iltus, 2006) is more important than the number of toys and learning materials available in the home, this fell outside the scope of the present study.

Coming to the final question of the study, all independent variables, namely education of mothers, mother's income, maternal involvement in activities with the child, and the developmental functions of children, were found to predict the quality of the home environment. Parental engagement in the activities of children was identified as the strongest predictor of the HSQ-T scores of the participants. Furthermore, the relationship between parental involvement and the home environment far exceeded the mother's education level and income, in terms of the quality of homes, as well as the level of developmental functions of CWDs. It is apparent that the information and support provided to parents of CWDs should encourage parents of disadvantaged families to take a greater interest in learning activities in the home, as suggested by Hayes et al. (2018). In addition, parents should be made aware of the importance of parent involvement and especially the significance of engaging in home activities on the language, motor, and social development of young CWDs.

This study has some limitations. Firstly, home learning activities can refer to various forms of parental involvement, such as cooking and shopping, playing card and board games, and engaging in music and art activities together. In the current study, however, only the home learning activities of reading aloud, telling stories, and playing with children were taken into account. Secondly, the current study investigating the types of toys available in the home was not taken into account how the toys were used during play and whether or not the parents modified or adapted toys according to the children's developmental level. Finally, the data gathered in the study was collected only from the mothers of CWDs. However, previous literature frequently emphasized that there are significant differences between the parental quality, interactional behaviors, and caregiving behaviors of mother and fathers of both CWDs and CWODs (Crnic, Pedersen, Baker, & Blacher, 2009; Kwon, Jeon, Lewsader, & Elicker, 2012), and the involvement of fathers is an important predictor on children's development in terms of improving emotional regulation, cognitive and language development (Mosley & Thompson, 1995; Tamis-LeMonda, Shannon, Cabrera & Lamb, 2004). Therefore, it may be interesting in future studies to investigate home qualities through the eyes of the fathers and to evaluate their involvement in the activities of their children.

To conclude, the current study can be considered significant in the field in uncovering the characteristics of home environments of CWDs and other related factors that are relatively less known than those of typically developing children. Furthermore, parent involvement was determined to be an important family characteristic in terms of its contribution to the general home quality, whereas the education level and income of the mother contributed equally to the home qualities of CWDs. More importantly, we emphasize the significance and prominence of the home environment for CWDs, to an equal or even greater level required by CWODs. Future studies should explore all aspects of the general and home learning environments of children with various disabilities and should analyze how parents use toys and provide their children with opportunities to play. Moreover, parental involvement should be promoted by educating parents on how to support the developmental skills of their children through the use of learning activities, and how to spend valuable time with them in the family home environment.

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Özel Gereksinimli Küçük Çocukların Ev Ortamlarının Niteliği*

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Öz

Bu çalışmanın amacı özel gereksinimli (ÖG) küçük çocukların ev ortamlarının kalitesini incelemektir. Çocukların ev ortamlarının genel kalitesine ilişkin veriler Ev Ortamını Tarama Aracı'nın Türkçe Formu (EVTA-T) kullanılarak ÖG çocuğu olan 145 anneden toplanmış; annelerin katılımı ile evde bulunan oyuncakları içeren ev öğrenme ortamına ilişkin veriler ise, annelerle yapılan bireysel görüşmelerle elde edilmiştir. Çalışmanın bulguları, EVTA-T'den elde edilen kesme puanı temel alındığında ÖG çocukların %50.35'inin düşük kaliteli ev ortamlarında yaşadığını, diğer %49.65'inin ev ortamının kalitesinin daha yüksek olduğunu göstermiştir. EVTA-T'den elde edilen puanlar ile annelerin katılımı, eğitim düzeyi, gelirleri ve çocukların gelişimsel işlevleri arasında anlamlı ilişki olduğu belirlenmiştir. Bulgulara göre, ev yapımı oyuncakları olan ve olmayan ÖG çocukların ev ortamlarının kalitesi anlamlı düzeyde farklıdır. Ev ortamı kalitesini yordayan en güçlü değişken ise annelerin çocuklarının etkinliklerine katılım düzeyleridir.

Anahtar sözcükler: Ev ortamı, ebeveyn katılımı, özel gereksinimli çocuklar, oyuncaklar, gelişimsel işlevler.

Önerilen Atıf Şekli

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Erken yıllarda çocukların içinde büyüdükleri ve geliştikleri ev ortamı, çocukların gelişimi ile sağlık ve öğrenmeleri üzerinde önemli rol oynamakta; erken çocukluk araştırmalarında çocukların gelişimi ile ev ortamlarının kalitesi arasındaki güçlü ilişki sıklıkla vurgulanmaktadır. Ev ortamının kalitesi genel olarak ebeveynin çocuğa sunduğu uyaranların ve desteklerin kalitesi ve sıklığı ile evin temizliği, emniyeti ve kalabalıklığı gibi fiziksel özelliklerini kapsamaktadır (Bradley, 2015; Jones vd, 2017). Evde öğrenme materyallerinin olması, ebeveyn-çocuk ilişkisinin sıklığı ve niteliği ile ebeveyn tarafından sunulan destekler ve ebeveynin çocuğun etkinliklerine katılımı (Bradley, Caldwell, Rock, Hamrick, & Harris, 1988; Iltus, 2006; Senechal & LaFevre, 2002; Totsika & Slyva, 2004) evdeki öğrenme ortamını etkileyen özellikler olarak kabul edilmektedir. Bu özelliklerle birlikte ebeveynlerin gelir durumu, eğitim düzeyleri ve çalıştıkları işler gibi sosyo-ekonomik düzeye ilişkin değişkenler (SED) ise ev ortamının kalitesini etkilemektedir (Bradley & Corwyn, 2002; Letourneau, Duffett-Leger, Levac, Watson, & Young-Morris, 2011). Ev ortamlarının normal gelişen (NG) çocukların bilişsel, dil, sosyo-duygusal gelişim ve davranışları üzerindeki etkilerini araştıran birçok çalışma olmasına karşın (Biedinger, 2011; Bradley, 1993; Bradley, Burchinal, & Casey, 2001; Iltus, 2006; Totsika & Sylva, 2004), özel gereksinimli (ÖG) çocukların ev ortamlarının kalitesi ve kaliteyi etkileyen değişkenler çok az sayıda araştırmada incelenmiştir.

ÖG çocukların ev ortamları ile ilgili üç grup çalışma bulunmaktadır. Birinci grup çalışmaların birinde ev ortamının kalitesi Ev Ortamını Değerlendirme Ölçeği ile değerlendirilmiş ve ÖG çocukların gelişimi ile ev ortamları arasındaki ilişki araştırılmıştır (Bradley vd., 2000). Bir diğer çalışmaya göre ev ortamının kalitesi ile çocukların gelişim düzeyi arasında düşük ve orta düzeyde ilişki vardır (Parks & Bradley, 1991). ÖG çocuğun yetersizliği ile ebeveynlerin baş etme becerileri, sosyal destekleri ve evlilik kalitesi gibi aileye ilişkin özellikler de ev ortamının kalitesini etkilemektedir (Bradley, Rock, Whiteside, Caldwell, & Brisby, 1991). Başka bir çalışmada ortopedik yetersizliği olan küçük çocukların ev ortamlarının kalitesini, ebeveynlerin eğitim düzeyi ve sosyal desteklerinin olup olmamasının yanı sıra çocukların uyumsal davranışları ile ilişkili olduğu belirlenmiş, ortopedik yetersizliği olan küçük çocukların zeka bölümleri ile ev ortamının kalitesi arasında anlamlı ilişki olduğu bulunmuştur (Holder-Brown, Bradley, Whiteside, Brisby, & Parette, 1993). Bir başka çalışmada ise ev ortamının kalitesinin görme yetersizliği olan küçük çocukların gelişimi üzerinde, NG çocuklara göre daha az etkili olduğu görülmüş; ancak annelerin yanıtlayıcılığı ile çocukların dil becerilerinin ilişkili olduğu vurgulanmıştır (Dote-Kwan & Hughes, 1994). Benzer bir çalışmanın bulgularına göre de annelerin yanıtlayıcı davranışları ile görme yetersizliği olan çocukların gelişimsel puanları arasında anlamlı ilişki vardır ve annelerin zengin uyaranlı ortam sunması, çocuğun gelişimi üzerinde, ailenin SED özelliklerinden daha etkilidir (Dote-Kwan, Hughes, & Taylor, 1997).

İkinci grupta yer alan iki çalışmada ÖG çocuklarla NG çocukların ev ortamları karşılaştırılmış; ev ortamlarının kalitesi Ev Ortamı Tarama Aracı (EVTA) (Coons, Gay, Fandal, Ker, & Frankenburg, 1981) ile değerlendirilmiştir. Çalışma 0-3 yaş grubundaki ÖG ve NG akranlarının ev ortamları arasında anlamlı bir fark olmadığını, ancak 3-6 yaş grubunda ev ortamları arasında NG çocuklar lehine anlamlı fark olduğunu göstermiştir (Kesiktas vd., 2009; Sucuoğlu, Bakkaloğlu, & Demir, 2018). Her iki çalışmaya göre annelerin eğitim düzeyi, geliri ve bir işte çalışıp çalışmamaları ÖG çocukların ev ortamlarıyla anlamlı düzeyde ilişkilidir. Üçüncü grupta, haftalık ev ziyaretleri ile yürütülen aile merkezli bir müdahale programının, gelişim geriliği ve serebral palsi tanısı olan çocukların ev ortamları üzerindeki etkilerinin araştırıldığı bir çalışma bulunmaktadır (Bennet & Algozzine, 1986). Araştırmacılar programın ev ortamının kalitesi üzerinde etkili olduğunu, programa katılan çocukların ev ortamlarının, aynı yaştaki kontrol grubu çocuklarının ev ortamlarından daha kaliteli olduğunu göstermişlerdir.

Alanyazında ÖG çocukların ebeveynlerinin katılımı ve evdeki informal öğrenme araçlarını inceleyen birçok araştırma olmasına karşın (Niklas & Schneider, 2017; Taggart, Sylva, Melhuish, Sammons, & Siraj, 2015), özellikle ÖG çocukların evdeki öğrenme ortamlarını (ebeveyn davranışları ve oyuncaklar, resim malzemeleri benzeri materyaller) inceleyen çalışmalara ulaşılamamıştır. Birkaç çalışmada oyuncakların ÖG çocuklar için önemi vurgulanarak, çocukların yetersizliği ve yetersizlik türünden bağımsız olarak diğerleriyle etkileşimini kolaylaştırdığı (Brodin, 1999, 2005; Lewis, Boucher, Lupton, & Watson, 2000) açıklanmıştır. Diğer taraftan ebeveyn katılımı genellikle, çocuklarına beceri öğretmeyi ve problem davranışlarını azaltmayı hedefleyen ebeveyn

eğitim programları çerçevesinde araştırılmış; programların ebeveyn ve çocuk çıktıları üzerindeki etkileri ile ilgilenilmiş, ancak evdeki öğrenme ortamları incelenmemiştir (Machalicek, Lang, & Raulston, 2015; Matson, Mahan, & LoVullo, 2009; McIntyre, 2008, 2013) Evdeki öğrenme ortamının çocukların gelişimleriyle ilişkili olduğu ve ortamın gelişim üzerindeki etkisinin sadece erken yıllarda değil, 16 yaşına kadar devam ettiği (Taggart vd., 2015) ve ebeveynlerin katılım davranışlarının eğitim, gelir ve diğer özellikleri kadar önemli olduğu (Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004) göz önüne alındığında, ÖG çocukların da ev öğrenme ortamlarının ayrıntılı olarak incelenmesinin önemli olduğu ortaya çıkmaktadır.

Türkiye'de normal gelişen çocuklar (Karaaslan-Baç & Bal, 2002; Ozturk-Ertem vd., 2006) ile ÖG çocukların (Kesiktas vd., 2009; Sucuoğlu vd., 2018) ev ortamlarını inceleyen birkaç çalışma bulunmaktadır. Ancak, ev ortamının kalitesinin her iki grup çocuğun gelişimleri üzerinde etkili olduğu bilinmesine karşın, ÖG çocukların ev ortamlarını ayrıntılı olarak inceleyen bir çalışma bulunmamaktadır. Oysa böyle bir çalışmanın sonuçlarının erken çocukluk dönemi eğitimcileri, özel eğitimciler ve ilgili profesyonelleri, ailelerle yapılan çalışmaların içeriği konusunda yönlendireceği, ebeveynlere sadece bazı beceriler öğretme ve problem davranışları kontrol etme becerileri yerine, anne babaları çocuklarına daha nitelikli öğrenme ortamları sağlama ve çocuklarının etkinliklerine katılma konusunda yönlendirebileceği düşünülmektedir. Bu düşünceden hareketle bu çalışmanın amacı, ÖG çocukların ev ortamlarını ayrıntılı olarak incelemek, ebeveyn ve çocuk özelliklerinin genel ev ortamı ile ilişkili olup olmadığını belirlemektir. Buna göre araştırmada aşağıdaki sorulara yanıt aranmıştır:

1. ÖG çocukların ev ortamları nasıldır?
2. EVTA-T puanları ile annelere ilişkin değişkenler (yaş, gelir düzeyi ve katılım puanları) ve çocukların gelişimsel işlevleri arasında ilişki var mıdır?
3. ÖG çocukların evlerindeki öğrenme ortamı nasıldır?
4. ÖG çocukların ev ortamlarının kalitesini hangi değişken / değişkenler yordamaktadır?

Yöntem

Bu çalışma ÖG çocukların ev ortamlarının kalitesini incelemek ve anne ve çocuk değişkenleri ile ev ortamının kalitesi arasındaki ilişkileri anlamak amacıyla ilişkisel tarama modelinde planlanmıştır. ÖG çocukların çalışmanın hedef kitlesi olması nedeniyle araştırmacılar özel gereksinimli olan çocukların annelerine ulaşmayı amaçlamıştır.

Katılımcılar

Bu çalışmaya katılmak için gönüllü olan 145 anne çalışma grubunu oluşturmuştur. ÖG küçük çocuğu olan bu annelere özel eğitim kurumları, rehabilitasyon merkezleri ile kaynaştırma uygulamaları yürütülen okul öncesi kurumlardan ulaşılmıştır. Annelerin çocukları, yetersizliklerine göre otizm spektrum bozukluğu, zihinsel yetersizlik ve diğer (dil konuşma bozukluğu, görme yetersizliği, işitme yetersizliği ve öğrenme güçlüğü) olmak üzere üç gruba ayrılmıştır. Annelerin eğitim düzeyi, aylık gelirleri ve çalışıp çalışmadıkları sosyo-ekonomik düzeylerinin göstergesi olarak kabul edilmiştir (Ensminger & Fothergill, 2003). Ayrıca çocuklar ve annelerin demografik özellikleri yanı sıra, İnsan Gelişim İndeksinde, 5 yaştan küçük çocukların gelişimleri ile ilgili olduğu kabul edilen kalabalıklık indeksi (evde yaşayan kişilerin sayısının evdeki oda sayısına bölünmesi ile elde edilen değer) bağımsız bir değişken olarak kabul edilmiştir (United Nations Children's Fund [UNICEF], 2006). Bu çalışmanın katılımcısı olan annelerin %23'ü kalabalıklık indeksi yüksek evlerde yaşamaktadırlar.

Veri Toplama Araçları

Ebeveyn Bilgi Formu. Katılımcıların demografik özellikleri ile evdeki öğrenme ortamına ilişkin bilgi toplamak amacıyla geliştirilmiştir. Formun birinci bölümünde anne ve çocukların demografik özelliklerine ilişkin sorular yer almaktadır. İkinci bölümde ise annelerin, çocuklarının etkinliklerine katılımlarının (çocukları ile oynama, onlara kitap okuma ve masal anlatmaları) sıklığına ilişkin üç soru (Biedinger, 2011; Ergül, Sarıca, Akoğlu, & Karaman, 2017; Hayes, Berthelsen, Nicholson, & Walker, 2018; Iltus, 2006; Niklas & Schneider, 2013)

ile evde bulunan oyuncak türlerine (Iltus, 2006) ilişkin sorular bulunmaktadır. Annelerin katılımı dörtlü dereceleme ile değerlendirilmiş ve üç sorudan elde edilen puanlar toplanarak toplam katılım puanı hesaplanmıştır (annelerin toplam katılım puanları 0-12 arasında değişmektedir). Annelerin listeledikleri oyuncaklar ise dört grupta sınıflanarak (Wolfgang & Stakenas, 1985) ev ortamlarında farklı oyuncak türleri bulunan çocukların yüzdeleri ile ev yapımı oyuncakları bulunan çocukların yüzdeleri hesaplanmıştır. Katılımcı anneler ve çocuklarının demografik özelliklerine ilişkin bilgiler Tablo 1'de sunulmuştur.

Ev Ortamı Tarama Aracı-Türkçe Formu (EVTA-T). Ev ortamını değerlendirme ölçeğine (Caldwell & Bradley, 1984) ekonomik ve pratik bir alternatif olarak geliştirilen bu araç, gelişimi herhangi bir nedenle risk altında olan küçük çocukların ev ortamlarının kalitesini değerlendirmek amacıyla geliştirilmiş (Coons vd., 1981), geçerliği ve güvenirliği yüksek bir araç olarak kabul edilmektedir (Camp & Headley, 1994; Frankenburg & Coons, 1986; Grieve & Richter, 1990; Pessanha & Bairrao, 2003). Araçta evet-hayır, boşluk doldurma ve çoktan seçmeli sorulardan oluşan 34 madde yer almaktadır. 0-3 yaş ve 3-6 yaş grupları için geliştirilmiş iki formu olan aracın bu araştırmada 3-6 yaş formu kullanılmıştır. EVTA'nın 3-6 yaş Formu Türkçeye çevrilerek psikometrik özellikleri incelenmiştir (Sucuoğlu, Bayrakdar, Şahan & Karaman, 2019). Buna göre EVTA'nın Türkçe Formu (EVTA-T) varyansın yaklaşık %25'ini açıklayan 12 maddeden oluşan tek faktörlü bir yapıya sahiptir ve Cronbach alpha içtutarlık katsayısı .72'dir. Bu çalışmada veri kaybını önlemek amacıyla annelerle EVTA-T soruları ile görüşme yapılarak veri toplanmıştır.

Yeterlik İndeksi (Yİ-T). Katılımcı annelerin çocuklarının gelişimsel işlevleri Simeonsson ve Bailey (1991) tarafından geliştirilen Yeterlik İndeksi ile değerlendirilmiştir. Ebeveynler, öğretmenler ve eğitimciler tarafından doldurulabilen indeks ile çocukların gelişimsel işlevleri dokuz beceri (toplam 19 alt beceri) alanında 1 ile 6 (1 = normal gelişim, 6 = ciddi yetersizlik) arasında derecelendirilmektedir. Ölçekten elde edilen toplam puanlar özel bir formülle hesaplanmakta (Simeonsson, 2017) ancak klinik kararların sadece toplam puana göre alınmaması önerilmektedir. Orijinal ölçeğin test-tekrar test güvenirliği .90, değerlendiriciler arası güvenirlik ortalama .67 ve Kappa iç tutarlılık değeri .60'tır (Simeonsson Bailey, Smith, & Buysse, 1995). Yİ Türkçe Formunun psikometrik özellikleri incelendiğinde aracın ÖG olan ve olmayan çocuklar ile, aynı tanısı olan çocukların gelişimsel işlevlerini ayırt ettiği belirlenmiştir (Sucuoğlu & Demir, 2018). Türkçe formun değerlendiriciler arası güvenirliği .67, Spearman Brown iki yarı güvenirliği ise annelerden toplanan veriler için .78, öğretmenlerden toplanan veriler için .89'dur. Yİ-T'den alınan puanların yüksek olması çocuğun gelişimsel işlevlerinin az olduğunu, puanların düşük olması ise gelişimsel işlevlerinin fazla olduğunu göstermektedir.

Verilerin Analizi

Anneler ile görüşmelerden elde edilen veriler için önce betimsel analizler gerçekleştirilmiş, EVTA-T ve Yİ-T puanları normal dağılım göstermediği için analizler parametrik olmayan testlerle gerçekleştirilmiştir. Düşük ve yüksek kaliteli ev ortamlarında yaşayan ÖG çocukların EVTA-T puanları, aracın kesme puanı temel alınarak hesaplanmış, ayrıca her iki ortamda yaşayan çocukların Yİ-T puanları ile annelerin eğitimi ve gelir düzeyleri Mann Whitney U testi ile karşılaştırılmıştır. Değişkenler arasındaki ilişkileri belirlemek için Spearman-Brown korelasyon değerleri hesaplanmıştır. Daha sonra çocukların EVTA-T puanları, annelerin çocuklarının etkinliklerine katılım sıklıklarına göre Mann Whitney U testi karşılaştırılmış ve ÖG çocukların sahip oldukları oyuncak türlerinin yüzdeleri hesaplanmıştır. Son olarak çoklu doğrusal regresyon ile ev ortamı kalitesinin yordayıcıları belirlenmiştir.

Bulgular

ÖG Çocukların Ev Ortamlarının Kalitesi

ÖG çocukların ev ortamlarının kalitesini belirlemek için EVTA-T puanlarının ortalaması (X = 7.06, SS = 2.74, ranj = 0-12) ile düşük ve yüksek ev ortamında yaşayan çocukların sayıları ve yüzdeleri kesme puanı temel alınarak hesaplanmış, iki grup bağımsız değişkenler açısından karşılaştırılmıştır. Buna göre yüksek kaliteli ev ortamlarında yaşayan ÖG çocukların annelerinin katılım puanları, gelirleri ve eğitim düzeyleri, düşük kaliteli

evlerde yaşayan akranlarının annelerinden anlamlı düzeyde yüksektir. Çalışan ve ev hanımı olan annelerin EVTA-T puanları ise, çalışanların lehine, diğer gruptan anlamlı düzeyde farklılaşmıştır. Bulgular Tablo 2'de verilmiştir. Ayrıca ev ortamları yüksek ve düşük kaliteli olan çocukların sayısı yaklaşık olarak aynıdır, ancak ev ortamları yüksek kaliteli olan çocukların Yİ-T puanları diğer gruptan anlamlı düzeyde düşüktür (Yİ-T puanlarının yüksek olması çocukların gelişimsel yetersizlerinin fazla olduğunu göstermektedir). Ayrıca farklı yetersizlikleri olan ÖG çocukların EVTA-T puanları arasında anlamlı fark bulunamamıştır ($\chi 2$ = .977, p > .05).

Bağımlı ve Bağımsız Değişkenler Arasındaki İlişkiler

Tablo 3'te görüldüğü gibi ÖG çocukların EVTA-T puanları ile annelerin eğitimi, gelir düzeyi, katılım puanları arasında anlamlı ve pozitif ilişki, Yİ-T puanlarıyla ise negatif yönde anlamlı bir ilişki olduğu belirlenmiştir. Buna göre yeterlik indeksi puanı yüksek olan çocukların ev ortamlarının kalitesi, diğer grubun ev ortamlarının kalitesinden daha düşüktür.

ÖG Çocukların Evlerindeki Öğrenme Ortamları

Bu çalışmada evdeki öğrenme ortamları annelerin katılımı ve evdeki oyuncaklar temel alınarak incelenmiştir.

Annelerin katılımı. ÖG çocukların ev ortamlarının kalitesi annelerin *katılım düzeylerine* göre farklılaşmış, annelerin çocuklarına kitap okuma ve onlara masal anlatmalarının sıklığı arttıkça, ev ortamının kalitesi de artmıştır (Tablo 4). Ancak annelerin çoğu (N = 110) çocuklarıyla her gün oynadıklarını, 10 anne haftada bir oynadığını, iki anne ise çocuklarıyla hiç oynamadıklarını belirttikleri için annelerin oyun oynama sıklığına göre EVTA-T puanlarının farklılaşıp farklılaşmadığı incelenmemiştir. Çocuklarıyla hiç oynamayan iki annenin ev ortamlarının kalitesinin, haftada bir ve her gün oynayan annelerin ev ortamlarının kalitesinden yüksek olması şaşırtıcı bir bulgu olarak ortaya çıkmıştır (Şekil 1). Ayrıca ev ortamları kalabalık olan annelerin katılım puanlarının (Medyan = 8.00), kalabalık olmayan evlerde yaşayan annelerin (Medyan = 5.00) katılım puanından anlamlı düzeyde az olduğu bulunmuştur (U = 5285.00, p < .000).

ÖG çocukların sahip oldukları oyuncaklar. Wolfgang ve Stanekas (1985) tarafından yapılan sınıflamaya göre ÖG çocukların evlerinde bulunan oyuncaklar dört grupta toplanmış; bu gruplarda yer alan oyuncakları olan çocukların yüzdeleri hesaplanmıştır (Şekil 2). Şekilde görüldüğü gibi ÖG çocukların çoğunun sembolik ve yapılandırılmış oyuncakları bulunmakta, grubun sadece %6.2'sinin su oyuncakları, oyun hamuru, kum havuzu, parmak boyası, kil ve gibi sıvı oyuncakları bulunmaktadır. ÖG çocukların %58.4'ünün ev yapımı olarak adlandırılan anne, baba ya da diğerleri tarafından yapılan oyuncakları yoktur. İlginç bir bulgu ev yapımı oyuncakları olan çocukların ev ortamlarının kalitesi (Medyan = 8), bu tür oyuncakları olmayan çocukların ev ortamlarına (Medyan = 7) göre daha kalitelidir (U = 2062.50, p < .001).

ÖG Çocukların Ev Ortamının Kalitesini Yordayan Değişkenler

Anlamlı olduğu bulunan çoklu doğrusal regresyon analizi modeline göre tüm değişkenler anlamlı bulunmuş (F = 46.801, p < .01), tüm bağımsız değişkenlerin ev ortamının kalitesine katkıda bulunduğu belirlenmiştir (Tablo 5). Tüm değişkenler birlikte EVTA-T puanlarındaki varyansın % 57'sini, annelerin katılım düzeyi ise tek başına varyansın %40'ını açıklamaktadır.

Tartışma ve Sonuç

Bu çalışmada ÖG çocukların ev ortamları incelenmiş; annelerden toplanan verilerle farklı özellikleri olan çocukların ev ortamlarına ilişkin ayrıntılı bilgi elde edilmiştir. EVTA-T'nin kesme puanı temel alındığında, ÖG çocukların yaklaşık olarak yarısının düşük kaliteli ev ortamlarında yaşadığı ve gelişimsel işlevleri fazla olan çocukların ev ortamlarının diğerlerine göre daha iyi olduğu belirlenmiştir. Ayrıca, yüksek kaliteli evlerde yaşayan annelerin hem eğitim ve gelir düzeylerinin hem de çocuklarının etkinliklerine katılımlarının, düşük kaliteli evlerde yaşayan annelerden daha fazla olduğu görülmüştür. Bu nedenle bu bulguların, NG çocukların ev ortamlarının ÖG çocukların ev ortamlarından daha iyi olduğunu gösteren çalışma bulgularıyla (Kesiktas vd., 2009; Sucuoğlu vd.,

2018) paralel olduğu düşünülmektedir. Diğer taraftan, analiz sonuçları ÖG çocukların ev ortamlarının çocukların yetersizlik türünden etkilenmediğini ve otizm, zihinsel yetersizlik ve diğer yetersizlik gruplarında yer alan çocukların ev ortamlarının kaliteleri arasında anlamlı fark olmadığını göstermektedir. Buna göre, yetersizlik türü ve derecesinin ev ortamlarının kalitesini etkilediğini gösteren çalışmaların bulguları göz önüne alındığında (Dote-Kwan & Hughes, 1994; Holder-Brown vd., 1993), yetersizlik türü ve derecesi ile ev ortamı arasındaki ilişkiyi anlayabilmek için, farklı yetersizlikleri olan çocuk gruplarından daha çok veri toplanarak ÖG çocukların ev ortamlarına katkıda bulunan ve açıklanamayan değişkenleri anlamamızın mümkün olabileceği söylenebilir.

Bu çalışma çocukların ev ortamlarının kalitesi ile yeterlik indeksi puanları hariç, bağımsız değişkenler arasında anlamlı ve yüksek ilişki olduğunu göstermiştir. Yeterlik indeksi puanları ile ev ortamının kalitesi arasında ise anlamlı ve ters ilişki vardır. Bu bulgu bir önceki bulguyla birlikte, çocukların gelişimsel özelliklerinin ev ortamının kalitesini yordadığını düşündürmekle birlikte, düşük gelir ve eğitim düzeyine sahip ebeveynlerin çocuklarına daha az uyaranlı ortam hazırladıkları ve daha az öğrenme deneyimi sunduklarını gösteren araştırma sonuçlarıyla (Cooper, Crosnoe, Suizzo, & Pituch, 2010; Yeung, Linver, & Brooks-Gunn, 2002) birlikte değerlendirilmelidir. Ülkemizde gerçekleştirilen iki çalışmada da yüksek eğitim ve gelir düzeyi olan annelerin ev ortamlarının diğer gruba göre daha kaliteli olduğu vurgulanmaktadır (Kesiktas vd., 2009; Sucuoğlu vd., 2018).

ÖG çocukların evlerindeki öğrenme ortamları araştırıldığında annenin katılımı ile ev ortamının kalitesi arasında anlamlı ilişkili olduğu belirlenmiştir. Çocuklar, ebeveynlerin onlara kitap okumaları, şarkı söylemeleri, masal anlatmaları ile evdeki materyaller, kitaplar ve ebeveynleri ile etkileşim kurarak yeni beceriler öğrenme ve bu becerileri kullanma fırsatları elde etmektedirler (Biedinger, 2011; Ergül vd., 2017; Iltus, 2006; Niklas & Schneider, 2017; Hayes vd., 2018). Ebeveyn katılımının, NG çocukların dil, matematik, ortak dikkat ve bilişsel becerileri ile diğerleriyle etkileşimleri ve sosyal becerileri üzerinde etkili olduğu alanyazında belirtilmektedir (Hayes vd., 2018). Ancak alanyazında ÖG çocukların ebeveynlerinin katılımı, genellikle anne-baba eğitimi programlarına katılım boyutunda incelenmiş; bu programların anne-babaların hem çocuklarına beceri öğretme, problem davranışlarını kontrol etme ve olumlu davranışsal destek stratejilerini kullanma gibi becerileri hem de stres düzeyleri üzerinde etkili olduğu belirlenmiştir (Feldmen & Werner, 2002; Machalicek vd., 2015; McIntyre, 2008; Meadan, Ostrosky, Zaghlawan, & Yu, 2009). Bir çalışmada ise anne baba eğitim programının ÖG çocukların ev ortamları üzerindeki etkileri araştırılmıştır (Bennet & Algozzine, 1986). Bu çalışmanın bulguları ise bir taraftan ÖG çocukların ev ortamlarının kalitesini arttırmaya yönelik daha fazla çalışmaya gereksinim olduğunu, diğer taraftan ise anne babaların erken yıllarda çocuklarının etkinliklerine daha fazla katılmaları ve onlara daha kaliteli ev ortamları sunmaları konusunda desteklenmeleri gerektiğini göstermektedir.

UNICEF tarafından yayınlanan İnsan Gelişim İndeksi'nde (2006) oyuncaklar gibi informal öğrenme materyallerinin, ev ortamının kalitesinin bir boyutu olduğu ve oyuncakların çocukların bilişsel, fiziksel, sosyal ve duygusal iyi olma halleri ile ilişkili olduğu belirtilmektedir. İlgili alanyazına göre, farklı türde oyuncaklara erişimi olan çocukların, cinsiyet, ırk ve sosyal sınıflarından bağımsız olarak zihinsel gelişimleri daha iyidir (Bradley 1985; Elardo, Bradley, & Caldwell, 1975). Alanyazın, oyuncakların ÖG çocukların duyu-algı, sosyal, psikolojik işlevlerini desteklediğini (Lewis vd., 2000); bu çocukların diğer çocuklardan daha fazla oyuncağa gereksinimleri olduğunu (Nielsen, 1979; Sinker, 1985), oyuncakların bu çocuklar için güçlü uyaranlar olduğunu (Murphy, Carr & Callias, 1986) ve özellikle ağır derecede yetersizliği olan çocuklar için oyuncakların çok önemli olduğunu vurgulamaktadır (Brodin, 1999, 2005). Bu çalışmada ÖG çocukların oyun hamuru, su, kil, kum, parmak boyası gibi sıvı oyuncaklar hariç farklı oyuncaklara sahip oldukları ve çalışma grubunun yaklaşık yarısının ise evdeki diğerleri tarafından yapılmış ev-yapımı oyuncakları bulunduğu belirlenmiştir. Sıvı oyuncaklara erişimin çok az olması, bu oyuncakların ülkemizde evlerde yaygın olarak bulunmaması ile açıklanabilir. Diğer taraftan ÖG çocukların farklı ev yapımı ve diğer oyuncaklara erişebiliyor olmasının, çocukların gelişimini destekleyen ve keşfederek öğrenmelerini sağlayan uyarıcı ev ortamlarının olduğunu düşündürmektedir.

Bu çalışmada son olarak annelerin eğitim ve gelir düzeyleri, çocuklarının etkinliklerine katılımları ve çocukların gelişimsel işlevlerinin, ev ortamının kalitesini yordadığı belirlenmiştir. Ancak annelerin katılımı, ev ortamının kalitesini (EVTA-T puanlarını) yordayan en güçlü değişkendir. Küçük çocuğa sahip ebeveynlerin

katılımları ile çocuk çıktıları arasında anlamlı bir ilişki olduğu düşünüldüğünde (Hayes vd., 2018; Melhuish vd., 2008; Sénéchal, Pagan, Lever, & Quellette, 2008); ebeveynlerin, bu konudaki farkındalıklarının artırılması ve çocuklarının etkinliklerine nasıl katılacakları konusunda bilgilendirilmelerinin gerekli olduğu düşünülmektedir.

Bu çalışmanın iki temel sınırlılığı vardır: Birinci olarak ebeveynler alışveriş yapmak, yemek yapmak, kart oynamak, sanat çalışmaları yapmak ve müzik dinlemek gibi farklı şekillerde çocuklarıyla etkinlik yapabilir ve onların etkinliklerine katılabilirler. Bu çalışmada ise sadece annelerin çocuklarına masal anlatmaları, kitap okumaları ve onlarla oyun oynamalarının sıklığı ebeveyn katılımı olarak kabul edilmiştir. İkinci olarak annelerden ev ortamındaki oyuncaklarla ilgili bilgi alınmış ancak bu oyuncakları nasıl kullandıkları, oyuncaklarda çocuklarının gelişim düzeyine uygun herhangi bir uyarlama ya da değişiklik yapıp yapmadıkları sorulmamıştır. Son olarak çalışmanın verileri sadece annelerden toplanmış, ÖG çocukların ev ortamları babaların bakış açısından değerlendirilmemiştir.

Sonuç olarak bu çalışmanın ÖG çocukların ev ortamlarının özelliklerini ve ilgili faktörler inceleyen bir çalışma olması nedeniyle alana önemli katkısı olduğu söylenebilir. Çalışma anne katılımının, ev ortamına katkısının annelerin demografik özelliklerinden daha fazla olduğunu, diğer bir deyişle katılımın ev ortamının güçlü yordayıcısı olduğunu göstermiştir. İleri çalışmalarda ÖG çocukların hem genel ev ortamının hem de ev öğrenme ortamının tüm boyutlarıyla incelenmesinin, ayrıca ebeveynlerin ÖG çocuklarına sundukları oyun fırsatları ile oyuncak ve benzeri öğrenme materyallerini nasıl kullandıklarının araştırılmasının gerekli olduğu düşünülmektedir.