



## Preschool children's behavioural intentions towards and perceptions of peers with disabilities in a preschool classroom

Binnur Yıldırım Hacıbrahimoglu

To cite this article: Binnur Yıldırım Hacıbrahimoglu (2022): Preschool children's behavioural intentions towards and perceptions of peers with disabilities in a preschool classroom, Early Child Development and Care, DOI: [10.1080/03004430.2021.2023516](https://doi.org/10.1080/03004430.2021.2023516)

To link to this article: <https://doi.org/10.1080/03004430.2021.2023516>



Published online: 11 Jan 2022.



Submit your article to this journal [↗](#)



Article views: 43



View related articles [↗](#)



View Crossmark data [↗](#)



# Preschool children's behavioural intentions towards and perceptions of peers with disabilities in a preschool classroom

Binnur Yıldırım Hacıbrahimoğlu 

Department of Special Education, Faculty of Education, Giresun University, Giresun, Turkey

## ABSTRACT

In this study, we examined and compared preschool children's behavioural intentions towards and perceptions of peers with physical, intellectual and no disability. Capabilities and behavioural intentions scales, based on picture cards, were administered face-to-face to 144 preschool children. Significant differences were found between perceptions of and behavioural intentions towards children with physical, intellectual and no disability. When these differences were examined, it was determined that the perceptions on and behavioural intentions towards children with an intellectual disability were less positive than those towards children with a physical disability and no disability. Children's behavioural intentions towards and perceptions of children with physical, intellectual and no disability did not differ according to participants' variables. These findings show that in early childhood education, rather than just placing peers with disabilities in classroom environments, it is necessary to promote quality interactions.

## ARTICLE HISTORY

Received 26 July 2021  
Accepted 22 December 2021

## KEYWORDS

Behavioural intention;  
preschool children; peer  
acceptance; kindergarten;  
disability

## Introduction

Considering the impact of the experiences that young children gain in early childhood education on their development and learning, it is important to provide them with an early childhood education environment that is adequate. The definition of inclusion in early childhood by the National Association for the Education of Young Children (NAEYC) and Division for Early Childhood (DEC) encompasses the values, policies and practices that support the rights of young children and their families as fully participating members of society. For all disabled and non-disabled children and their families, the experience of inclusion involves a sense of belonging, positive social relationships, friendship, development and learning for children's full access to their potential (DEC/ NAEYC, 2009). Early childhood inclusive environments facilitate the implementation of practices that ensure the participation of all children and the promotion of friendships among children (Barton & Smith, 2015; Hollingsworth & Buysse, 2009). Promoting peer acceptance and social interaction by raising awareness of individual differences is an important objective of inclusive education (Guralnick, Neville, Hammond, & Connor, 2007; Han, Ostrosky, & Diamond, 2006; Nowicki, 2007; Odom et al., 2006). Guralnick (2005) stated that being able to establish relationships with peers is an important developmental characteristic of children and that it also affects other processes of development.

The preschool period is an important process for developing peer acceptance for children with special needs because children's awareness of their peers or their choice of playmates begin to form at the very young age of 4 or 5 years (Dyson, 2005; Hong, Kwon, & Jeon, 2014). Children with no disability often have positive attitudes towards children with special needs, supporting

peer acceptance and the practice of inclusion (de Boer, Pijl, Post, & Minnaert, 2012; Diamond, 2001; Han et al., 2006; Odom et al., 2006; Trepanier-Street, Hong, Silverman, Morris, & Morris, 2011). However, preschool children's perceptions and behavioural intentions towards their non-disabled peers are more positive than that towards their peers with a disability (Dyson, 2005; Han et al., 2006; Nowicki, 2006).

### ***Preschool children's perceptions of peers with disabilities***

Preschool education is a milestone for all children and, as compared to the children's homes, provides a more formal environment facilitating peer interaction. Such peer-interaction dynamics become even more significant in the context of children with special needs. Children with special needs typically interact most regularly with their peers in preschool education setups. Peer attitudes constitute crucial components of peer relations and inclusive education for children with special needs. Attitudes towards disability are typically established in early childhood and are crystallised as childhood progresses. For this reason, the preschool years are regarded as critical in terms of sensitizing children towards disabilities (Dyson, 2005; Werner, Peretz, & Roth, 2015).

Variables such as gender, age, type of disability and experience are emphasized in children's attitudes towards their disabled peers (Beck, Fritz, Keller, & Dennis, 2000; Favazza & Odom, 1997; Huckstadt & Shutts, 2014; Nikolarazi et al., 2005; Nowicki, 2006; Tamm & Prellwitz, 2001; Werner et al., 2015). The type of disability is an important but inconsistent variable in peer attitudes towards children with a disability (Nowicki, 2006; Nowicki & Sandieson, 2002; Odom et al., 2006; Werner et al., 2015). Children with an intellectual disability are considered especially vulnerable in terms of peer acceptance (Norwich & Kelly, 2004; Nowicki, 2003; Ring & Travers, 2005; Siperstein, Norins, & Mohler, 2006). Studies show that attitudes towards children with an intellectual disability are either neutral (Georgiadi, Kalyva, Kourkoutas, & Tsakiris, 2012) or negative (Georgiadi, 2002; Harper, 1997; Nowicki, 2006; Okagaki, Diamond, Kontos, & Hestenes, 1998; Siperstein et al., 2006). However, both positive and negative peer attitudes can be observed in peer acceptance towards physically disabled children; therefore, there are no definite inferences (Laws & Kelly, 2005; Nowicki, 2006). Considering the variable of being a part of an inclusive environment, previous studies have found that children with no disability were more accepting to their peers with a disability when they had experienced inclusivity (Diamond & Hestenes, 1994; Diamond, Hestenes, Carpenter, & Innes, 1997; Favazza & Odom, 1997); Nikolarazi et al.'s (2005) findings are consistent with this observation. However, Van Hooser (2009) found that children with experiences of inclusion had less positive attitudes towards their disabled peers' abilities than those who had not experienced in inclusive practices. In inclusive environments, the acceptance of children with a disability is related to the type of disability. In their study conducted in preschool inclusion environments, Odom et al. (2006) found that none of the participants had an attitude of social acceptance towards their peers with autism, social-emotional or behavioural disabilities. Children with speech or physical disabilities were in the more socially accepted group.

### ***Behavioural intentions towards peers with disabilities***

Behavioural intention, described as the motives influencing a particular behaviour in a given situation, is an important element with regard to peer attitudes towards children with special needs. However, compared to the large volume of research discussing the cognitive and emotional aspects influencing peer attitude, there are few studies that analyse the significance of behavioural intent in this context. Moreover, there are even fewer studies on the behavioural intent in young children (de Boer et al., 2012; Yu, Ostrosky, & Fowler, 2012). Studies by Nikolarazi et al. (2005), Favazza and Odom (1997) and Yıldırım Hacıbrahimoğlu and Ustaoğlu (2020) have implemented the Acceptance Scale for Kindergarten-Revised (ASK-R), which considers the affective and behavioural dimensions and is not limited to the study of a specific type of disability.

The findings from the research reveal that children at the kindergarten level display peer acceptance towards children with special needs; however, their acceptance levels differ with respect to environmental factors such as the overall classroom inclusion level and the child's prior exposure to and experiences with individuals with disability. In another study (Dyson, 2005), it was found that although children in kindergarten displayed positive perceptions towards the competencies of children with disabilities, most of these participants in the study did not have peers with disabilities. In other words, having a positive attitude does not necessarily lead to positive behavioural intention or behaviour. Nowicki (2006) examined the behavioural intentions of children aged between four and ten to understand their attitudes towards children with special needs. In the study, it was found that the participants' scores on their behavioural intentions towards children with physical, intellectual and combined disabilities were lower as compared to their scores on their behavioural intentions towards other children with no disability. Moreover, they were also much less willing to interact with children with disabilities. Hong et al. (2014) found that kindergarten children aged four and five have more positive regard towards individuals with disabilities as their understanding of disabilities begins to develop at this age. However, the study found that children's behavioural intentions to include their peers with disabilities in their play activities were not associated with their knowledge of the disability or their attitudes towards people affected by it.

Gender (Hong et al., 2014; Nowicki, 2006; Werner et al., 2015), age (Nowicki, 2006; Van Hooser, 2009) and experience (Magiati, Dockrell, & Logotheti, 2002; Nikolarazi et al., 2005) are variables addressed in studies examining children's behavioural intentions and perceptions towards peers with disabilities. Hong et al. (2014) explained that children's past interactions with individuals with disabilities determines their general attitudes towards children with special needs, particularly shaping their behavioural intent. Indeed, Favazza and Odom (1997) and Diamond (2001) demonstrate in their research that interacting with individuals with disabilities can help children develop positive attitudes towards those with special needs. However, Hong et al. (2014) found that the variables of gender, age and children's prior experiences with people with disabilities had no correlations with their behavioural intentions. The researchers further reported that there are no findings regarding the frequency, duration or content of communication between children with disabilities and those with no disabilities. The type of disability also emerges as an important determinant in children's acceptance of disabled peers. Extant studies have examined children's perceptions of and behavioural intentions towards peers according to disability type (Arampatzi, Mouratidou, Evaggelinou, Koidou, & Barkoukis, 2011; de Laat, Freriksen, & Vervloed, 2013; Gannon & McGilloway, 2009; Georgiadi et al., 2012; Laws & Kelly, 2005); however, the participants in these studies appear to be in older age ranges.

## Current study

In Turkey, with the arrangements prescribed by the Ministry of National Education [MoNE] Special Education Services Regulations, children who need special education and who are over the age of 36 months must get early childhood education (MoNE, 2018). Thus, with inclusive practices, there are more children with special needs in early childhood education settings. Therefore, the acceptance of children with special needs becomes even more important in preschool education environments. In Turkey, the preschool education programme was updated, and the new programme was initiated in 2013; it is a developmental programme and includes a number of new regulations. One regulation is to include adaptations for children with special needs. When there is a child diagnosed with special needs in the classroom, teachers are required to make adaptations for the child in the activities they prepare. To this end, a new section has been added to the activity planning format titled 'Adaptation'. In the Adaptation section, the arrangements to be made for activity methods, materials and learning processes and the situations that need attention have been explained (MoNE, 2013).

Another arrangement made in the programme is related to the implementation of activities. The new programme explains that activities can be planned and implemented individually, in small groups or in large groups. Activities in which children are divided into groups according to their age, developmental characteristics, interests and abilities are small group activities. Large group activities aim to achieve the same gains using the same methods, techniques and materials, with all the children in the class (MoNE, 2013). The presence of adaptation and activity practices in the preschool education programme has made peer relations and peer acceptance more important in inclusive environments. When activities are carried out in small groups, children with special needs work with fewer peers. In large group activities, children with special needs interact with all their peers in the classroom. Therefore, whether it is a small or large group activity, children with special needs should be accepted by their peers during such activities. This will ensure that the activity achieves its goal and those set for children with special needs. Therefore, it is necessary to address how children with special needs are perceived by their peers.

Studies examining the peer relationships of children with special needs in the preschool period in Turkey are very limited. Two studies (Çulhaoğlu-İmrak & Sığırtaç, 2011; Küçüker, Erdoğan, & Çürük, 2014) have examined peer relations in inclusion settings using observation and video recordings; further, Ozokçu (2018) and Yüce (2015) used the Child Behaviour Scale developed by Ladd and Proffitt (1996). Karadağ, Yıldız Demirtaş, & Gırlı (2014) investigated preschool children's preference for children with special needs in their classroom by using sociometry. Fırat (2020) developed an activity-based interaction programme in a kindergarten and evaluated the effect of this programme on the social acceptance of children with disabilities. To examine peer acceptance, Yıldırım Hacıbrahimoğlu and Ustaoglu (2020) adapted the ASK-R and used it to examine the attitudes of kindergarten children towards their peers with special needs. While a review of the international literature unearths some studies that examine children's perceptions and behavioural intentions based on the type of disability, a review of the national literature on the subject yields no results. For this reason, the current research can contribute to the existing studies on peer acceptance. Such contribution may be in terms of increasing the number of studies examining peer relations among pre-schoolers in Turkey as well as providing a different cultural perspective and broadening the scope of research on young children at the international level. At the same time, the research is significant in terms of examining, within the same study, different variables determining the behavioural intentions of children towards their peers with disabilities. In addition, the evaluation of variables related to peer acceptance can help in the development of intervention programmes for individuals with disabilities. Furthermore, our evaluation of variables related to peer acceptance will help in the preparation of intervention programmes.

This study investigated children's behavioural intentions towards and perceptions of peers with physical, intellectual and no disability. The following research questions were examined. a) What are children's behavioural intentions towards and perceptions of children with physical disability, children with intellectual disability and non-disabled children? b) Do perceptions of and behavioural intentions towards children with a physical disability and those with an intellectual disability differ in terms of demographic characteristics?

## Method

### *Participants*

This study was conducted with 144 children—69 girls and 74 boys. The study group was determined using convenience sampling. Convenience sampling allows the researcher to identify a sample from a population that is close and easy to contact because it provides speed and practicality (Yıldırım & Şimşek, 2008). Children were selected from five state-run preschools. The inclusion criteria were

**Table 1.** The demographic characteristics of study groups.

Variables	Category	f	%
Gender	Girl	69	48.3
	Boy	74	51.7
	Total	143	100.0
Age	≤60 months	92	64.3
	≥61 months	51	35.7
	Toplam	143	100.0
Educational setting	Inclusive	34	23.8
	Non-inclusive	109	76.2
	Total	143	100.0
Direct experience with a disability	A friend with a disability	9	6.3
	A family member with a disability	16	11.2
	A current or former classmate with a disability	10	7.0
	No experience with an individual with a disability	108	75.5
	Total	143	100.0
Indirect experience with a disability	Read a book to your child in which disability is discussed	6	4.2
	Read a book to your child in which a character has a disability	11	7.7
	Watched a TV show/movie in which disability is discussed	4	2.8
	Watched a TV show/movie in which a character has a disability	5	3.5
	After having seen a stranger with a disability, having discussion	27	18.9
	After meeting/interacting with a friend/family member with a disability, having discussion	29	20.3
	I have never discussed disability or individuals with a disability with my child.	61	42.7
	Total	143	100.0

children attending preschool and not having any diagnosis, as well as the approval of their family. The age range of the children included in the study was 48–68 months ( $M = 59.55$ ). The demographic information of the study group is presented in [Table 1](#).

## Measures

### Child information form

This form was created by the researcher based on the past studies.

### Perceived capabilities scale (PCS)

This scale was developed to determine perceptions (beliefs) about what a child with special needs can do. The scale was created by Van Hooser (2009) using the Ages and Stages Questionnaire, Second Edition scale, developed by Bricker and Squires (1999), and looks at the skills acquired in early childhood. There are 10 questions in this scale. Children were asked to answer the questions as 'yes, no, maybe' or with smiley face symbols. The answers were scored as 0 (no), 1 (maybe) and 2 (yes). A high score on the scale indicates that children have high perceptions about what a child with special needs can do (Van Hooser, 2009).

First, confirmatory factor analysis (CFA) was performed for PCS. When the fit indices were examined according to the CFA results, the  $\chi^2$ /sd ratio (68.38/35) was calculated as 1.954. A ratio less than 3 indicates perfect fit (Kline, 2005). The root mean square error of approximation (RMSEA) was 0.86; this value complies with the perfect fit criteria of RMSEA (<0.90) (Steiger, 2007). Standardized root mean square residual (SRMR) was calculated as 0.078; this value meets the perfect fit criteria of SRMR ( $\leq 0.08$ ) (Çokluk, Şekercioglu, & Büyüköztürk, 2010). The incremental fit index (IFI), comparative fit index (CFI) and non-normed fit index (NNFI) values were calculated as 0.90, 0.90 and 0.87, respectively. These values indicate a good fit because they are close to 0.90 (Tabachnick & Fidell, 2001). When the CFA results for PCS were examined, the scale was found to meet the fit criteria and show good fit. The Cronbach's alpha internal consistency coefficient for PCS was calculated as 0.866, indicating that the PCS tool is highly reliable (Özdamar, 2004).

### ***Behavioural intentions scale (BIS)***

This scale determines the willingness to interact with a child with special needs. The scale was created by Van Hooser (2009) based on the Behavioural Intentions Scale (Roberts & Lindsell, 1997) and Friendship Activity Scale (Siperstein, 1980). There are 15 questions in the scale. The interviewer poses the question 'Would you do ... .. with this child?' inserting an activity typical of a preschool-aged child's day. These activities fall into five categories: helping behaviours, sharing behaviours, physical proximity, common activities and intimacy level. As in the PCS scale, the child to be treated is shown pictures, and the descriptions of each child are read. Scale items are scored as 0 (no), 1 (maybe) and 2 (yes). A high score on the scale indicates positive behavioural intentions towards children with special needs (Van Hooser, 2009).

First, CFA was performed for the BIS. When the fit indices were examined according to the CFA results, the  $\chi^2/sd$  ratio (218.35/90) was calculated as 2.426. A ratio less than 3 indicates perfect fit (Kline, 2005). RMSEA was found to be 0.102, and this value is above the perfect fit criteria of RMSEA (<0.90) (Steiger, 2007). SRMR was calculated as 0.072. This value meets the perfect fit criteria of SRMR ( $\leq 0.08$ ) (Çokluk et al., 2010). The values for IFI, CFI and NNFI were calculated as 0.94, 0.94 and 0.93, respectively, and these values indicate good fit because they are close to 0.90 (Tabachnick & Fidell, 2001). When the CFA results for the BIS tool were examined, the scale was found to meet the fit criteria and show good fit. The Cronbach's alpha internal consistency coefficient for PCS was calculated as 0.869. This value shows that the PCS measurement tool is highly reliable (Özdamar, 2004).

### ***Procedure***

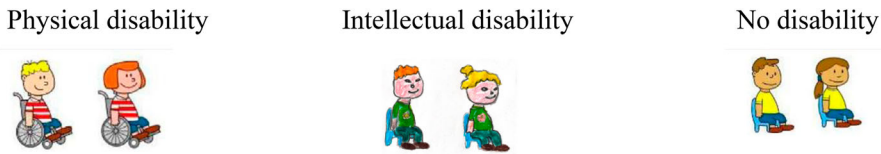
First, adaptation studies of PCS and BIS measurement tools were carried out. For this, first, the scale was translated into Turkish by two experts in the field of early childhood who are fluent in English. Later, the resulting Turkish form was translated back into English by a linguist. The final version of the measurement instruments was applied to 10 children by the researcher. In the pre-application, the items in the original scale and their Turkish translations were found to be conceptually and linguistically equivalent. Further, the application process of the scales was reviewed. Afterwards, permissions were obtained from the relevant authorities to implement the application. Through the teachers, the researcher sent an information letter to the families about the study, a family consent form documenting the parents' consent and a child information form. The children whose family consent form was approved were included in the study. Verbal consent was obtained from the children, written consent was obtained from the families. The study data were collected between February and June 2019. Participants were given the opportunity to withdraw from the study at any time.

During the data collection process, 11 children were excluded from the study because they did not want to participate, and six children stated that they did not want to do it during the study. Interviews with the children were conducted in an empty classroom.

### ***Presentation of target children***

The study involved three target children: a child with a physical disability, a child with an intellectual disability and a child with no disability. In the presentation of target children, illustrations from Werner et al. (2015) and pictures from Van Hooser (2009) were used. Both drawings and pictures were used to describe the target children. In the drawings, all children sit on a chair. In the pictures, all the children's faces are shown except for those with a physical disability. Werner et al. (2015) worked on children with physical, hearing and no disability. Therefore, in this study, a new drawing on intellectual disability was created. In Van Hooser's (2009) study, intellectual disability was depicted with children with Down syndrome. Therefore, children with intellectual disabilities were drawn with split and slanted eyes based on the physical signs of Down syndrome. Children





**Figure 1.** The example of drawing and verbal description of target children.

with a physical disability were pictured with a wheelchair. There are descriptions for each group of children. The gender of the interviewed child is matched with the gender of the target child. The pictures of the children of the three groups were shown to children who participated in the study along with descriptions. For example, 'This boy uses a wheelchair to get around. He learns new things easily. He is learning to count to 10 and knows some of his ABCs. He can also understand a story that is read to him and tell the story to someone else'. This statement describes a physically disabled child. Descriptions of other groups are shown in [Figure 1](#).

### Data analysis

First, an outlier analysis was performed, and 13 subjects were excluded from the dataset according to their standardized z-scores (Raykov & Marcoulides, 2008). After the outliers were discarded, the analyses were continued with the data of 130 participants. LISREL and SPSS 24 were used for data analysis. CFA was used to check the construct validity of the scales and to verify the scales, and the Cronbach's alpha internal consistency coefficients were calculated for the reliability of the scales.

To determine the analysis method to be used, first, the Kolmogorov–Smirnov and Shapiro–Wilks test results were examined, and it was determined whether the data showed a normal distribution. The PCS (children with physical, intellectual and no disability) and BIS (children with physical, intellectual and no disability) scores did not show a normal distribution. To ensure the comparability of PCS and BIS scores, all scores were divided by the number of items and converted to a range of 0–2. The scores did not show normal distribution according to the variables of gender, age, being in an inclusive environment, direct experience with disability and indirect experience with disability. Therefore, the Friedman's test, Wilcoxon test, Mann–Whitney U test and Kruskal–Wallis H test, which are non-parametric analyses, were used in the analyses to be made according to these variables.

## Results

### Descriptive findings on PCS and BIS scores

When the scores obtained from the PCS were examined, the mean score was found to be 1.338 for children with a physical disability, 0.971 for children with an intellectual disability and 1.924 for children with no disability. According to these findings, perceptions on children with a physical disability are higher than those on children with an intellectual disability ([Table 2](#)).

**Table 2.** Descriptive statistics on PCS and BIS scores.

	N	Minimum	Maksimum	Mean	Std. Deviation	Skewness	Kurtosis
PCS Physical	130	.00	2.00	1.338	.473	-.444	-.572
PCS No disability	130	.00	2.00	.971	.557	-.016	-.880
PCS Typical	130	1.30	2.00	1.924	.157	-2.254	4.519
BIS Physical	130	.40	2.00	1.749	.320	-1.877	3.759
BIS Intellectual	130	.00	2.00	1.522	.509	-1.212	.967
BIS No disability	130	.93	2.00	1.842	.230	-1.569	1.887



**Table 3.** Friedman's test results for PCS and BIS scores.

	N	Mean rank	$\chi^2$	sd	$p$
PCS_Physical	130	1.82	182.294	2	.000
PCS_Intellectual	130	1.30			
PCS_No disability	130	2.88			
BIS_Physical	130	2.07	60.297	2	.000
BIS_Intellectual	130	1.58			
BIS_No disability	130	2.35			

The average score of the BIS measurement tool was 1.749 for children with a physical disability, 1.522 for children with an intellectual disability and 1.842 for children with no disability (Table 2). The high mean scores obtained from BIS and being close to 2 indicate that behavioural intention towards children with special needs is positive. Therefore, the behavioural intention shown to children with physical disability is more positive than the behavioural intention shown to children with intellectual disability.

### Findings on PCS and BIS scores

The results of the Friedman's test performed to examine the differences in PCS and BIS scores in the study are presented in Table 3. There is a statistically significant difference between perceptions on children with a physical disability, children with an intellectual disability and children with no disability ( $\chi^2 = 182.294$ ,  $p < 0.05$ ). Similarly, there is a statistically significant difference between the intentions for these three groups ( $\chi^2 = 60.297$ ,  $p < 0.05$ ). The Wilcoxon test results, which were conducted to examine between which groups the obtained difference was, are shown in Table 4.

As can be seen in Table 4, there is a statistically significant difference between participants' perceptions about children with physical disability and those about children with intellectual disability ( $Z = 5.925$ ,  $p < 0.05$ ). Compared to participants' perceptions about children with an intellectual disability ( $\bar{X} = 9.714$ ), those about children with a physical disability ( $\bar{X} = 13.381$ ) appear to be higher. There is a statistically significant difference between participants' perceptions about children with a physical disability and those about children with no disability ( $Z = 9.162$ ,  $p < 0.05$ ). Participants'

**Table 4.** Wilcoxon test results of PCS and BIS findings.

Groups		N	Mean rank	Sum of ranks	Z	$p$
PCS Intellectual	Negative rank	89 <sup>a</sup>	61,30	5455,50	5.925	.000
	Pozitive rank	26 <sup>b</sup>	46,71	1214,50		
	Ties	15 <sup>c</sup>				
PCS No disability	Negative rank	1 <sup>d</sup>	12,50	12,50	9.162	.000
	Pozitive rank	111 <sup>e</sup>	56,90	6315,50		
	Ties	18 <sup>f</sup>				
PCS Intellectual	Negative rank	3 <sup>g</sup>	4,67	14,00	9.634	.000
	Pozitive rank	121 <sup>h</sup>	63,93	7736,00		
	Ties	6 <sup>i</sup>				
BIS Intellectual	Negative rank	67 <sup>a</sup>	47.16	3160.00	5.846*	.000
	Pozitive rank*	18 <sup>b</sup>	27.50	495.00		
	Ties	45 <sup>c</sup>				
BIS No disability	Negative rank*	25 <sup>d</sup>	39.70	992.50	3.030*	.000
	Pozitive rank	55 <sup>e</sup>	40.86	2247.50		
	Ties	50 <sup>f</sup>				
BIS Intellectual	Negative rank*	11 <sup>g</sup>	19.50	214.50	6.951*	.000
	Pozitive rank	72 <sup>h</sup>	45.44	3271.50		
	Ties	47 <sup>i</sup>				

Note: For PCS findings; a.Intellectual<Physical, b. Intellectual>Physical, c. Intellectual = Physical, d. No disability<Physical, e. Normal>Typical, f. No disability = Physical, g. No disability<Intellectual, h. No disability> Intellectual, i. No disability = Intellectual

For BIS findings; a.Intellectual<Physical, b. Intellectual>Physical, c. Intellectual = Physical, d. No disability<Fiziksel, e. No disability>Physical, f. No disability = Physical, g. No disability<Intellectual, h. No disability>Intellectual, i. No disability = Intellectual

perceptions about children with a physical disability ( $\bar{X} = 13.381$ ) seem to be lower than those about children with no disability ( $\bar{X} = 19.238$ ).

There is a statistically significant difference between participants' perceptions about children with an intellectual disability and those about children with no disability ( $Z = 9.634, p < 0.05$ ). Participants' perceptions of children with an intellectual disability ( $\bar{X} = 9.714$ ) seem to be lower than their perceptions of children with no disability ( $\bar{X} = 19.238$ ). There is a statistically significant difference between the intentions of the participants towards children with a physical disability and those towards children with an intellectual disability ( $Z = 5.846, p < 0.05$ ; Table 4) and their intentions towards children with no disability ( $Z = 3.030, p < 0.05$ ). The participants' intentions towards children with a physical disability ( $\bar{X} = 26,229$ ) seem to be more positive than their intentions towards children with an intellectual disability ( $\bar{X} = 22,831$ ). The participants' intentions towards children with a physical disability ( $\bar{X} = 26,229$ ) seems to be less positive than their intentions towards children with no disability ( $\bar{X} = 27,629$ ). There is a statistically significant difference between the intentions of the participants towards children with an intellectual disability and their intentions towards children with no disability ( $Z = 6.951, p < 0.05$ ). The intentions of the participants towards children with an intellectual disability ( $\bar{X} = 22.831$ ) seem to be more positive than their intentions towards children with no disability ( $\bar{X} = 27,629$ ).

### Findings on variables

The results of the Mann–Whitney U Test, which was conducted to examine the differences of the scores obtained with PCS (physical and intellectual) and BIS (physical and intellectual) according to the variables of gender, age, being in an inclusion environment and experience with a disability. It is presented in Table 5.

When Table 5 is examined, perceptions of children with physical ( $U = 2104.500, p > 0.05$ ) and intellectual ( $U = 1902.000, p > 0.05$ ) disabilities and intentions towards children with physical ( $U = 1809.500, p > 0.05$ ) and intellectual ( $U = 1745.000, p > 0.05$ ) disabilities do not show a statistically significant difference according to gender. There was no statistically significant difference between the participants aged 60 months and below and the participants aged 61 months and above in terms of their perception of children with a physical disability ( $U = 1717.500, p > 0.05$ ) and children with an intellectual disability ( $U = 1911.000, p > 0.05$ ) and in terms of their intentions towards children with a physical disability ( $U = 1630.000, p > 0.05$ ) and children with an intellectual disability ( $U = 1812.000, p > 0.05$ ). There was no statistically significant difference between the participants who have been in an inclusive environment and those who have not in terms of their perception of children with a physical disability ( $U = 1465.000, p > 0.05$ ) and children with an intellectual disability ( $U = 1564.500, p > 0.05$ ) and in terms of their intentions towards children with a physical disability ( $U = 1541.000, p > 0.05$ ) and children with an intellectual disability ( $U = 1467.000, p > 0.05$ ).

There was no statistically significant difference between participants with direct experience with disability and participants with no direct experience with disability in terms of their perception of what children with a physical disability can do ( $U = 1246.500, p > 0.05$ ) and what children with an intellectual disability can do ( $U = 1530.500, p > 0.05$ ) and in terms of their intentions towards children with a physical disability ( $U = 1543.000, p > 0.05$ ) and towards children with an intellectual disability ( $U = 1513.000, p > 0.05$ ) (Table 5).

The results of the Kruskal–Wallis H test, which was conducted to examine the differences of the scores obtained from the participants according to children's indirect experience with disability, are presented in Table 6.

There was no statistically significant difference between perceptions of what children with a physical disability can do ( $H(3) = 2.197, p > 0.05$ ) and of what children with an intellectual disability can do ( $H(3) = 4.122, p > 0.05$ ) and between intentions towards children with a physical disability ( $H(3) = 1.468, p > 0.05$ ) and intentions towards children with an intellectual disability ( $H(3) = 1.319, p > 0.05$ ) according to the status of having an indirect experience with disability (Table 6).

**Table 5.** Mann–Whitney U test results according to sex, age, being in an inclusive environment and having direct experience with disability.

Groups		N	Mean rank	Sum of rank	U	p	
PCS Physical	Gender	Girl	66	65,39	4315,50	2104.500	.972
		Boy	64	65,62	4199,50		
		Total	130				
	Age	≤60 months	82	62,45	5120,50	1717.500	.225
		≥61 months	48	70,72	3394,50		
		Total	130				
	Educational setting	Inclusive	32	68,72	2199,00	1465.000	.576
		Non-inclusive	98	64,45	6316,00		
		Total	130				
	Direct experience	Experience	33	76,23	2515,50	1246.500	.057
		No experience	97	61,85	5999,50		
		Total	130				
PCS Intellectual	Gender	Girl	66	68,68	4533,00	1902.000	.327
		Boy	64	62,22	3982,00		
		Total	130				
	Age	≤60 months	82	66,20	5428,00	1911.000	.783
		≥61 months	48	64,31	3087,00		
		Total	130				
	Educational setting	Inclusive	32	65,61	2099,50	1564.500	.985
		Non-inclusive	98	65,46	6415,50		
		Total	130				
	Direct experience	Experience	33	67,62	2231,50	1530.500	.707
		No experience	97	64,78	6283,50		
		Total	130				
BIS Physical	Gender	Girl	66	70,08	4625,50	1809.500	.150
		Boy	64	60,77	3889,50		
		Total	130				
	Age	≤60 months	82	61,38	5033,00	1630.000	.095
		≥61 months	48	72,54	3482,00		
		Total	130				
	Educational setting	Inclusive	32	66,34	2123,00	1541.000	.881
		Non-inclusive	98	65,22	6392,00		
		Total	130				
	Direct experience	Experience	33	67,24	2219,00	1543.000	.753
		No experience	97	64,91	6296,00		
		Total	130				
BIS Intellectual	Gender	Girl	66	71,06	4690,00	1745.000	.083
		Boy	64	59,77	3825,00		
		Total	130				
	Age	≤60 months	82	63,60	5215,00	1812.000	.446
		≥61 months	48	68,75	3300,00		
		Total	130				
	Educational setting	Inclusive	32	62,34	1995,00	1467.000	.580
		Non-inclusive	98	66,53	6520,00		
		Total	130				
	Direct experience	Experience	33	68,15	2249,00	1513.000	.635
		No experience	97	64,60	6266,00		
		Total	130				

## Discussion

According to the scores obtained from both the measurement tools in the study, the mean scores for children with no disability are higher. Significant differences were found between perceptions of and behavioural intentions towards children with physical, intellectual and no disability. When these differences were examined, it was determined that the perceptions on and behavioural intentions towards children with an intellectual disability were less positive than those towards children with a physical disability and no disability. These findings are consistent with other studies in the literature (Dyson, 2005; Huckstadt & Shutts, 2014; Van Hooser, 2009; Werner et al., 2015). In studies dealing with behavioural attitudes (Han et al., 2006; Werner et al., 2015), children with and without

**Table 6.** Kruskal–Wallis H test results according to child's indirect experience with disability.

	Indirect experiences	N	Mean rank	H	sd	<i>p</i>
PCS Physical	TV and book	23	57,35	2.197	3	.532
	A stranger with disability	27	70,00			
	Meeting with a friend	27	71,19			
	Never discussion	53	63,85			
	Total	130				
PCS Intellectual	TV and book	23	54,65	4.122	3	.249
	A stranger with disability	27	67,26			
	Meeting with a friend	27	75,89			
	Never discussion	53	64,02			
	Total	130				
BIS Physical	TV and book	23	69,54	1.468	3	.690
	A stranger with disability	27	58,30			
	Meeting with a friend	27	65,31			
	Never discussion	53	67,51			
	Total	130				
BIS Intellectual	TV and book	23	69,07	1.319	3	.725
	A stranger with disability	27	58,69			
	Meeting with a friend	27	64,87			
	Never discussion	53	67,75			
	Total	130				

disabilities prefer to play with children without disabilities. However, some studies have contrary findings (Diamond, 2001; Diamond et al., 1997; Tamm & Prellwitz, 2001). Tamm and Prellwitz (2001) examined preschool and primary school children's thoughts about children with physical disability using wheelchairs through drawings, interview questions and a self-assessment scale. They found that many children have positive attitudes towards physically disabled children in wheelchairs. Further, children were willing to include a physically disabled child in their games, and they have the idea that a disabled child can be a friend. However, these studies considered participants' views on children with disabilities only, and the participants were not asked to make comparisons with a group of children with no disability. This may be a reason why the present study obtained findings in a different direction. Similar to this study, Nowicki (2006) found that all children preferred children without disabilities. The said study, which included children between the ages of 4 and 11 years, explained that children had negative attitudes towards children with intellectual and physical disabilities. The present study also found participants' perceptions of and behavioural intentions towards children without disabilities to be higher.

The findings related to the gender variable in this study, are consistent with the findings of the studies by Hong et al. (2014) and Tamm and Prellwitz (2001). Hong et al. (2014) found that the gender variable was not decisive in children's behavioural intentions and understanding of disabilities. Nowicki (2006) stated that the attitudes of children towards children with physical, intellectual and intellectual/physical disabilities do not differ according to the gender variable in emotional and behavioural dimensions. There are different results regarding the gender variable in the literature. Some studies show that girls exhibit more positive attitudes than boys (Favazza & Odom, 1996; Han et al., 2006; Laws & Kelly, 2005; Nowicki, 2006; Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008), whereas others indicate that boys have more positive attitudes than girls (Nabuzoka & Ronning, 1997; Werner et al., 2015). Studies have found different results regarding gender in disability type (Laws & Kelly, 2005; Werner et al., 2015). Laws and Kelly (2005) stated that the behavioural intentions of girls towards physical disability were more positive, but there was no difference in the intentions of boys and girls towards children with behavioural problems. Werner et al. (2015) found that boys have more positive perceptions of a physically disabled child than girls. Thus, research findings reflect inconsistencies with regard to the gender variable.

In the study, no difference was found in behavioural intentions and beliefs in terms of other variables (being in an inclusive environment, age and direct or indirect experiences of children with children having disabilities). This study's finding about the role of inclusive environments is consistent

with Van Hooser's (2009) findings. The reason why there was no difference between the two groups in this study may be that each of the behavioural intentions and perceptions were examined separately, as in Van Hooser's (2009) study. Previous studies (Diamond & Carpenter, 2000; Favazza, Phillipson, & Kumar, 2000; Nikolarazi et al., 2005) have not considered attitudes and behavioural intentions separately.

Using the ASK-R scale, Yıldırım Hacıbrahimoğlu and Ustaoglu (2020) found that being in an inclusive or non-inclusive classroom did not create a significant difference in kindergarten children's acceptance of peers with disability. The finding regarding the age variable is supported by Nowicki's (2006) study, which also included kindergarten children. In Nowicki's study, the variable of being in kindergarten and upper grade did not have a significant effect on behavioural intentions towards individuals with a disability. Further, children attending kindergarten scored lower than other groups in attitudes towards intellectual disability. Werner et al. (2015) did not find any behavioural difference in the peer attitudes of 4-, 5- and 6-year-old children towards the three target child groups with a physical disability, hearing impairment and no disability. They stated that in terms of the cognitive dimension, the 4-year-old age group had a negative cognitive attitude compared to other age groups.

Another finding of this study is that the participants with direct or indirect experience with disability showed no significant difference in their perceptions of and behavioural intentions towards disability groups. Magiati et al. (2002), who used the scale and interview method, did not find a significant difference in the understanding of disability among young children in terms of gender, age and direct and indirect experience of disabilities. The present study's result of no difference in the variable of having direct or indirect experience may be due to the type of disability or because of participants not having a qualified interaction with a disabled person. Thus, the frequency and intensity of direct or indirect experiences may have an impact. Favazza et al. (2000), who examined the effect of the 'Special Friends' intervention programme on peer acceptance, have mentioned the variable of having direct or indirect experiences with disabled individuals. Different findings were obtained regarding these variables in the play and story groups after the intervention programme. The acceptance level of the children who had direct contact with a disabled person in the play group increased after the programme, but there was no significant difference between them and the children who had indirect contact in the story group. While an increase in acceptance levels was expected in the group with direct experience after the intervention programme, the scores of both groups were found to be similar. This was explained by the fact that although the children in the story group had indirect experience, this group received stronger intervention than the play group, which was 3 days a week at school and 1 d at home, including family members. This finding shows us the effect of frequency and intensity on experience with disability, whether direct or indirect. In some studies that dealt with the type of disability (Georgiadi et al., 2012; Manetti, Schneider, & Siperstein, 2001), previous experience with an individual with an intellectual disability did not have any significant effect on children's attitudes or choice of adjectives.

An important purpose of inclusive education is to support the social skills of children with special needs by facilitating their interactions with their peers increasing the overall level of peer acceptance towards children with special needs (Cook, Richardson-Gibbs, & Dotson, 2018; Love & Horn, 2019). In the longitudinal study conducted by Bakkaloğlu, Özbek, and Sucuoğlu (2020), the social acceptance levels of kindergarten children with and without disabilities were discussed. In the study, children with disabilities demonstrated significantly lower levels of social acceptance compared to those without disabilities in the evaluations made at the beginning and end of the academic year. Thus, the difference in social acceptance levels between children with and without disabilities remained constant at the beginning and the end of their academic year at kindergarten. The researchers have stated that there are problems with incorporating inclusive education for children with disabilities and that effective studies have not been conducted in terms of establishing inclusive environments to increase the social acceptance levels of children with disabilities. An evaluation of inclusive education in Turkey in terms of pre-school education environments unearths another study, which

demonstrates that pre-school teachers do not have enough knowledge and resources to facilitate the interactions of children with and without disabilities and to involve children with disabilities in activities with their peers (Sucuoğlu, Bakkaloğlu, İçsen-Karasu, Demir, & Akalın, 2014). Therefore, these findings establish the pivotal role of pre-school teachers in the achievement of the desired goals of inclusive education in Turkey. It is predicted that the arrangements made by pre-school teachers to increase peer acceptance and peer interaction in activities and practices to be carried out in kindergarten schools will lead to positive changes in children's perceptions of and intentions towards their peers with disabilities.

### ***Limitations and implications for future research***

First, this study used convenience sampling and not random sampling. In future studies, comparisons can be made by working with children from different schools or from varied backgrounds. Different findings can be detected with larger and more representative samples. Second, the language used for the target child in practice was different from standard descriptions. In general, the description of children with physical and intellectual disabilities contains more negative statements than those of children without disability. This may have affected the views of the participants. Further, the data collection tools used in the study are scales based on participants' self-report. Pictures and descriptions of target children were used in this study. Additionally, that the study group comprised young children could be a limitation. To eliminate these limitations, qualitative data collection methods such as video recordings and observation can be used to diversify data collection methods and obtain in-depth information. Behavioural intentions and perceptions of children regarding different disability groups can be examined through observation in the classroom environment. Therefore, children's interactions and acceptance levels towards their disabled peers in games or other routines will be reflected concretely. Furthermore, comparisons can be made by including families and teachers in this process.

That there is no difference between the children participating in this study regarding the variables can be discussed with regard to their families and teachers. The frequency and nature of the experiences offered to children were not addressed in this study. Future research can be planned on the direct or indirect experiences of families and teachers with regard to disability. Intervention programmes designed with mixed methods can be effective especially in this regard. By evaluating the behavioural intentions and perceptions of children before and after the intervention programme, important information such as which experience is more effective in this process and the effect of the home environment can be obtained. Furthermore, when considered in terms of inclusive and non-inclusive environments, the teacher is a key person because they are a crucial element for successful inclusion (Bakkaloğlu et al., 2020; Frauzer-Cross, Traub, Hutter-Pishgahi, & Shelton, 2004; Odom et al., 2004). Teachers play a role in promoting children's understanding of disability and acceptance of disabled peers, with or without an inclusive environment.

Children in this age group are in the preoperational stage according to Piaget's cognitive theory. Logical thinking on abstract concepts such as intention and truth has not developed. Considering that children in this period understand developmentally concrete situations more easily, it may be more difficult for them to understand intellectual disability (Diamond & Kensinger, 2002; Werner et al., 2015). Further, considering the continuous development during early childhood, a follow-up study can be done regarding the findings obtained. Thus, it can be examined whether there is a change in children's behavioural intentions and perceptions with development.

### **Conclusion**

The study investigated behavioural intentions towards and perceptions on children with a physical disability, an intellectual disability and no disability. This study provides important information in terms of both separating behavioural intentions and perceptions of different types of disability in

early childhood and examining them in a different culture. Although no difference was found in the study in terms of variables, it contributes to the literature by examining behavioural intentions and perceptions in terms of different variables. The study revealed that children's behavioural intentions and perceptions towards their peers without disabilities are more positive and at a higher level than that of their peers with physical and intellectual disabilities. Furthermore, children's behavioural intentions towards and perceptions of children with a physical disability were higher than those for children with an intellectual disability. These findings show that in early childhood education, rather than just placing peers with disabilities in classroom environments, it is necessary to promote quality interactions. In inclusive classrooms, teachers have important duties. Teachers should create opportunities for children to develop their awareness of disability and to establish friendships with their peers with disabilities both inside and outside the classroom. In this process, they can support children along with their families to interact with peers with disabilities. The experiences and interactions offered by teachers and families with regard to disability enable preschool children to display positive attitudes towards their peers with disability. This reflects positively on children's behaviour.

### Disclosure statement

No potential conflict of interest was reported by the author(s).

### Notes on contributor

*Binnur Yıldırım Hacıbrahimoğlu* is an assistant professor in Special Education Department at Giresun University. She received a bachelor's degree in early childhood education from Middle East Technical University and a master's degree in early childhood education from Hacettepe University, Turkey. She holds a Phd in Special Education by Ankara University. She dedicated his master thesis to creativity level of preschool teacher and children and teacher's opinion about creativity and her doctoral thesis explored the difficulties children with special needs transition from preschool to primary school. Her areas of interest and research are in early childhood education, inclusion and early intervention.

### ORCID

*Binnur Yıldırım Hacıbrahimoğlu*  <http://orcid.org/0000-0002-6471-6054>

### References

- Arampatzi, A., Mouratidou, K., Evaggelinou, C., Koidou, E., & Barkoukis, V. (2011). Social developmental parameters in primary schools: Inclusive settings and gender differences on pupils' aggressive and social insecure behaviour and their attitudes towards disability. *International Journal of Special Education*, 26(2), 58–69.
- Bakkaloğlu, H., Özbek, A. B., & Sucuoğlu, N. B. (2020). Social acceptance of children with and without special needs in inclusive preschools: A longitudinal study. *Erken Çocukluk Çalışmaları Dergisi*, 4(3), 369–391. doi:10.24130/eccd-jecs.1967202042240
- Barton, E. E., & Smith, B. J. (2015). Advancing high-quality preschool inclusion: A discussion and recommendations for the field. *Topics in Early Childhood Special Education*, 35(2), 69–78. doi:10.1177/0271121415583048
- Beck, A. R., Fritz, H., Keller, A., & Dennis, M. (2000). Attitudes of school-aged children toward their peers who use augmentative and alternative communication. *AAC: Augmentative and Alternative Communication*, 16, 13–26. doi:10.1080/07434610012331278874
- Bricker, D., & Squires, J. (1999). *Ages & stages questionnaires (ASQ): A parent-completed, child-monitoring system*, 2nd edn. Baltimore: Paul H. Brookes Publishing.
- Cook, R. E., Richardson-Gibbs, A. M., & Dotson, L. N. (2018). *Strategies for including children with special needs in early childhood settings*. United States: Cengage Learning.
- Çokluk, Ö, Şekercioğlu, G., & Büyüköztürk, Ş. (2010). *Sosyal bilimler için çok değişkenli istatistik [multivariate statistics for social sciences]*. Ankara: Pegem Akademi.



- Çulhaoğlu-İmrak, H., & Siğirtmaç, A. (2011). Kaynaştırma uygulanan okul öncesi sınıflarında akran ilişkilerinin incelenmesi [peer relations in preschool grades that apply mainstreaming]. *International Journal of Early Childhood Special Education*, 3(1), 38–65. doi:10.20489/intjecse.107946
- de Boer, A., Pijl, S. J., Post, W., & Minnaert, A. (2012). Which variables relate to the attitudes of teachers, parents and peers towards students with special educational needs in regular education? *Educational Studies*, 38(4), 433–448. doi:10.1080/03055698.2011.643109
- de Laat, S., Freriksen, E., & Vervloed, M. P. (2013). Attitudes of children and adolescents toward persons who are deaf, blind, paralyzed or intellectually disabled. *Research in Developmental Disabilities*, 34, 855–863. doi:10.1016/j.ridd.2012.11.004
- DEC/NAEYC. (2009). *Early childhood inclusion: A joint position statement of the Division for Early Childhood (DEC) and the National Association for the Education of Young Children (NAEYC)*. Chapel Hill, NC: The University of North Carolina, FPG Child Development Institute.
- Diamond, K. E. (2001). Relationships among young children's ideas, emotional understanding, and social contact with classmates with disabilities. *Topics in Early Childhood Special Education*, 21(2), 104–113. doi:10.1177/027112140102100204
- Diamond, K. E., & Carpenter, E.S. (2000). Participation in inclusive preschool programs and sensitivity to the needs of others. *Journal of Early Intervention*, 23(2), 81–91. <https://doi.org/10.1177/105381510002300203>
- Diamond, K. E., & Kensinger, K. R. (2002). Vignettes from sesame street: Preschoolers' ideas about children with down syndrome and physical disability. *Early Education & Development*, 13, 409–422. doi:10.1207/s15566935eed1304\_5
- Diamond, K., & Hestenes, L. (1994). Preschool children's understanding of disability: Experiences leading to the elaboration of the concept of hearing loss. *Early Education and Development*, 5, 301–309. doi:10.1207/s15566935eed0504\_5
- Diamond, K., Hestenes, L., Carpenter, E., & Innes, F. (1997). Relationships between enrollment in an inclusive class and preschool children's ideas about people with disabilities. *Topics in Early Childhood Special Education*, 17, 520–537. doi:10.1177/027112149701700409
- Dyson, L. L. (2005). Kindergarten children's understanding and attitudes toward people with disabilities. *Topics in Early Childhood Special Education*, 25, 95–105. doi:10.1177/02711214050250020601
- Favazza, P. C., & Odom, S. L. (1996). Use of the acceptance scale to measure attitudes of kindergarten-age children. *Journal of Early Intervention*, 20, 232–249. doi:10.1177/105381519602000307
- Favazza, P. C., Phillipsen, L., & Kumar, P. (2000). Measuring and promoting acceptance of young children with disabilities. *Exceptional Children*, 66, 491–508. doi:10.1177/001440290006600404
- Favazza, P., & Odom, S. L. (1997). Promoting positive attitudes of kindergarten-age children toward people with disabilities. *Exceptional Children*, 63(3), 405–418. doi:10.1177/001440299706300308
- Firat, T. (2020). An exploration of the effects of learning through 'interaction activities' on eighth-graders' social acceptance of students with special needs in Turkey. *Education*, 3(13), 1–17.
- Frauzer-Cross, A., Traub, E. K., Hutter-Pishgahi, L., & Shelton, G. (2004). Elements of successful inclusion for children with significant disabilities. *Topics in Early Childhood Education*, 24(3), 169–183. doi:10.1177/02711214040240030401
- Gannon, S., & McGilloway, S. (2009). Children's attitudes toward their peers with Down syndrome in schools in rural Ireland: An exploratory study. *European Journal of Special Needs Education*, 24, 455–463. doi:10.1080/08856250903223104
- Georgiadi, M. (2002). Attitudes of primary school students (fifth and sixth grade) towards children with chronic illnesses. *Education Sciences*, 3, 59–76.
- Georgiadi, M., Kalyva, E., Kourkoutas, E., & Tsakiris, V. (2012). Young children's attitudes toward peers with intellectual disabilities: Effect of the type of school. *Journal of Applied Research in Intellectual Disabilities*, 25, 531–541. doi:10.1111/j.1468-3148.2012.00699.x
- Guralnick, M. J. (2005). Early intervention for children with intellectual disabilities: Current knowledge and future prospects. *Journal of Applied Research in Intellectual Disabilities*, 18, 313–324. doi:10.1111/j.1468-3148.2005.00270.x
- Guralnick, M. J., Neville, B., Hammond, M. A., & Connor, R. T. (2007). The friendships of young children with developmental delays: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 28, 64–79. doi:10.1016/j.appdev.2006.10.004
- Han, J., Ostrosky, M., & Diamond, K. (2006). Children's attitudes toward peers with disabilities: Supporting positive attitude development. *Young Exceptional Children*, 10(1), 2–11. doi:10.1177/109625060601000101
- Harper, D. (1997). Children's attitudes toward physical disability in Nepal. *Journal of Cross Cultural Psychology*, 28(6), 710–729. doi:10.1177/0022022197286004
- Hollingsworth, H. L., & Buysse, V. (2009). Establishing friendships in early childhood inclusive settings: What roles do parents and teachers play? *Journal of Early Intervention*, 31(4), 287–307. doi:10.1177/1053815109352659
- Hong, S. Y., Kwon, K. A., & Jeon, H. J. (2014). Children's attitudes towards peers with disabilities: Associations with personal and parental factors. *Infant and Child Development*, 23, 170–193. doi:10.1002/icd.1826
- Huckstadt, L. K., & Shutts, K. (2014). How young children evaluate people with and without disabilities. *Journal of Social Issues*, 70(1), 99–114. doi:10.1111/josi.12049

- Karadağ, F., Yıldız Demirtaş, V., & Girli, A. (2014). Okul öncesi dönemde akranların sınıflarındaki özel gereksinimli öğrenciyi tercih etme durumları [preferences of preschool children towards peers with disabilities]. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 1(31), 191–215.
- Kline, T. (2005). *Psychological testing: A practical approach to design and evaluation*. Thousand Oaks, CA: Sage Publications.
- Küçüker, S., Erdoğan, N. I., & Çürük, Ç. (2014). Peer acceptance of children with disabilities in inclusive kindergarten classrooms. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi*, 36(2), 163–177. doi:10.9779/PUJE679
- Ladd, G. W., & Profilet, S. M. (1996). The child behavior scale: A teacher report measure of young children's aggressive, withdrawn, and prosocial behaviors. *Developmental Psychology*, 32(6), 1008–1024.
- Laws, G., & Kelly, E. (2005). The attitudes and friendship intentions of children in United Kingdom mainstream schools toward peers with physical or intellectual disabilities. *International Journal of Disability, Development, and Education*, 52(2), 79–99. doi:10.1080/10349120500086298
- Love, H. R., & Horn, E. (2019). Definition, context, quality: Current issues in research examining high-quality inclusive education. *Topics in Early Childhood Special Education*, 40(4), 204–216. doi:10.1177/0271121419846342
- Magiati, I., Dockrell, J. E., & Logotheti, A. (2002). Young children's understanding of disabilities: The influence of development, context, and cognition. *Applied Developmental Psychology*, 23, 409–430. doi:10.1016/S0193-3973(02)00126-0
- Manetti, M., Schneider, B. H., & Siperstein, G. (2001). Social acceptance of children with mental retardation: Testing the contact hypothesis with an Italian sample. *International Journal of Behavioral Development*, 25, 279–286. doi:10.1080/01650250042000249
- Ministry of National Education of Turkey. (2013). *Okul öncesi eğitim programı [Early childhood education programme]*. Retrieved from <https://tegm.meb.gov.tr/dosya/okuloncesi/ooqram.pdf>
- Ministry of National Education of Turkey. (2018). *Özel eğitim hizmetleri yönetmeliği [Regulation special education services]*. Retrieved from <http://mevzuat.meb.gov.tr/dosyalar/1963.pdf>
- Nabuzoka, D., & Ronning, J. (1997). Social acceptance of children with intellectual disabilities in an integrated school setting in Zambia: A pilot study. *International Journal of Disability, Development and Education*, 44, 105–115. doi:10.1080/0156655970440203
- Nikolarazi, M., Poonam, K., Favazza, P., Sideridis, G., Koulousiou, D., & Riall, A. (2005). A cross-cultural examination of typically developing children's attitudes toward individuals with special needs. *International Journal of Disability, Development, and Education*, 52(2), 101–119. doi:10.1080/10349120500086348
- Norwich, B., & Kelly, N. (2004). Pupils' views on inclusion: Moderate learning difficulties and bullying in mainstream and special schools. *British Educational Research Journal*, 30(1), 43–65. doi:10.1080/01411920310001629965
- Nowicki, E. (2006). A cross-sectional multivariate analysis of children's attitudes toward disabilities. *Journal of Intellectual Disability Research*, 50(5), 335–348. doi:10.1111/j.1365-2788.2005.00781.x
- Nowicki, E. A. (2003). A meta-analysis of the social competence of children with learning disabilities compared to classmates of low and average to high achievement. *Learning Disability Quarterly*, 26(3), 171–188. doi:10.2307/1593650
- Nowicki, E. A. (2007). Children's beliefs about learning and physical difficulties. *International Journal of Disability, Development and Education*, 54(4), 417–428. doi:10.1080/10349120701654647
- Nowicki, E., & Sandieson, R. (2002). A meta-analysis of school-age children's attitudes towards persons with physical or intellectual disabilities. *International Journal of Disability, Development and Education*, 49(3), 243–265. doi:10.1080/1034912022000007270
- Odom, S. L., Vitztum, J., Wolery, R., Lieber, J., Sandall, S., Hanson, M. J., & Horn, E. (2004). Early childhood inclusion in the United States: A review of research from an ecological systems perspective. *Journal of Research in Special Educational Needs*, 4(1), 17–49. doi:10.1111/J.1471-3802.2004.00016.x
- Odom, S. L., Zercher, C., Li, S., Marquart, J. M., Sandall, S., & Brown, W. H. (2006). Social acceptance and rejection of preschool children with disabilities: A mixed-method analysis. *Journal of Educational Psychology*, 98(4), 807–823. doi:10.1037/0022-0663.98.4.807
- Okagaki, L., Diamond, K., Kontos, S., & Hestenes, L. (1998). Correlates of young children's interactions of classmates with disabilities. *Early Childhood Research Quarterly*, 13(1), 67–86. doi:10.1016/S0885-2006(99)80026-X
- Ozokcu, O. (2018). Investigation of peer relationships of children with and without special needs in the preschool period. *International Journal of Early Childhood Special Education (INTJECSE)*, 10(2), 92–105. doi:10.20489/intjecs.506875
- Özdamar, K. (2004). *Paket programlarla istatistiksel veri analizi-1 [statistical data analysis with a package programme-1]*. Eskişehir: Kaan Kitabevi.
- Raykov, T., & Marcoulides, G. A. (2008). *An introduction to applied multivariate analysis*. NY: Taylor & Francis Group.
- Ring, E., & Travers, J. (2005). Barriers to inclusion: A case study of a pupil with severe learning difficulties in Ireland. *European Journal of Special Needs Education*, 20(1), 41–56. doi:10.1080/0885625042000319070
- Roberts, C., & Lindsell, J. (1997). Children's attitudes and behavioral intentions toward peers with disabilities. *International Journal of Disability, Development, and Education*, 44, 133–145.
- Siperstein, G. N. (1980). *Adjective checklist (ACL) and friendship activity scale (FAS): Instruments for measuring children's attitudes*. Boston: University of Massachusetts, Center for the Study of Social Acceptance.

- Siperstein, G. N., Norins, J., & Mohler, A. (2006). Social acceptance and attitude change: Fifty years of research. In J. W. Jacobson, & J. A. Mulick (Eds.), *Handbook of intellectual and developmental disabilities* (pp. 133–154). New York: Kluwer/Plenum.
- Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences*, 42(5), 893–898.
- Sucuoğlu, B., Bakkaloğlu, H., İşcen-Karasu, F., Demir, S., & Akalın, S. (2014). Preschool teachers' knowledge levels about inclusion. *Educational Sciences: Theory and Practice*, 14(4), 1477–1483.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Needham Heights, MA: Allyn & Bacon.
- Tamm, M., & Prellwitz, M. (2001). If I had a friend in a wheelchair': Children's thoughts on disabilities. *Child: Care, Health and Development*, 27, 223–240. doi:10.1046/j.1365-2214.2001.00156.x
- Trepanier-Street, M., Hong, S., Silverman, K., Morris, L., & Morris, T. (2011). Young children with and without disabilities: Perceptions of peers with physical disabilities. *International Journal of Early Childhood Special Education*, 3(2), 117–128. doi:10.20489/intjces.107949
- Van Hooser, K. N. (2009). *An investigation of preschool-aged children's perceptions of their peers with a disability* (Unpublished doctoral thesis, Iowa State University. doi:10.31274/etd-180810-1749.
- Vignes, C., Coley, N., Grandjean, H., Godeau, E., & Arnaud, C. (2008). Measuring children's attitudes towards peers with disabilities: A review of instruments. *Developmental Medicine & Child Neurology*, 50, 182–189. doi:10.1111/j.1469-8749.2008.02032.x
- Werner, S., Peretz, H., & Roth, D. (2015). Children's attitudes toward children with and without disabilities. *Early Childhood Research Quarterly*, 33, 98–107. doi:10.1016/j.ecresq.2015.07.003
- Yıldırım Hacıbrahimoğlu, B., & Ustaoglu, A. (2020). The acceptance of Turkish kindergarten children toward children with disabilities. *European Early Childhood Education Research Journal*, 28(3), 391–412. doi:10.1080/1350293X.2020.1755497
- Yüce, G. (2015). Okul öncesi eğitime devam eden özel gereksinimli ve normal gelişim gösteren çocukların akran ilişkileri ve akran şiddetine maruz kalma düzeylerinin belirlenmesi [Peer relationships and the level of peer victimization among children with special needs who receive special education and children with normal development]. [Unpublished master's thesis]. Mehmet Akif Ersoy University.
- Yıldırım, A., & Şimşek H. (2008). *Sosyal bilimlerde nitel araştırma yöntemleri* (7. basım) [Qualitative research methods in social sciences (7th edn.)]. Ankara: Seçkin Yayıncılık.
- Yu, S. Y., M. M. Ostrosky, & S. A. Fowler. (2012). Measuring young children's attitudes toward peers with disabilities: Highlights from the research. *Topics in Early Childhood Special Education*, 32(3), 132–142. <https://doi.org/10.1177/0271121412453175>