



Israeli children's attitudes toward children with and without disabilities



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ABSTRACT

Using a multidimensional perspective, we examined and compared kindergarten children's attitudes toward children with a physical disability, a hearing impairment, or no disability. Attitude scales, based on picture cards, were administered face-to-face to 106 kindergarten children in Israel. Each reported their attitudes toward each of three target children. More positive attitudes were reported toward a child without a disability as compared with a child with a physical disability or a child with a hearing impairment. More negative cognitions were reported toward the child with a hearing impairment compared with the child with a physical disability. Furthermore, moderate correlations were found between the three attitude components. The findings call for the provision of knowledge regarding disabilities, especially those disabilities that are less clearly understood by young children, as well as opportunities for contact between children with and without disabilities.

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Introduction

Attitudinal barriers act as strong forces in the participation and inclusion of individuals with disabilities in society (Ditchman et al., 2013). The UN Convention on the Rights of Persons with Disabilities (CRPD) (UN General Assembly, 2007) requires nations to promote equality, accept individuals with disabilities as part of human diversity, and prohibit discrimination on the basis of disability. According to the CRPD, fostering positive attitudes should start early with children at all levels of the education system. This is important because studies have shown that attitudes learned at early ages are internalized by children and are held throughout their lifetime (Dunham, Chen, & Banaji, 2013). Furthermore, children with disabilities may be negatively influenced by other children's negative attitudes, i.e. influencing acceptance and peer relationships within and outside of the classroom environment, thus hindering their inclusion in society (Han, Ostrosky, & Diamond, 2006; Laws & Kelly, 2005).

The main aim of this study was to examine kindergarten children's attitudes toward children with disabilities by comparing

attitudes toward children in three groups: those with a physical disability, those with a hearing impairment, and those without a disability.

Attitudes of children toward peers with disabilities

Children's attitudes toward peers with disabilities are highly important because positive attitudes promote acceptance and inclusion of the child with a disability within the classroom and in society (de Boer, Pijl, Post, & Minnaert, 2013; Vignes et al., 2009). It has been shown that these attitudes frequently emerge in the preschool years and intensify throughout childhood, with the kindergarten years being a critical point at which a child's sensitivity and negative attitudes toward disabilities become more apparent (Dyson, 2005).

Most theoreticians agree that the study of attitudes should consider a multidimensional perspective (Findler, Vilchinsky, & Werner, 2007) by differentiating among three main components: cognitive, affective, and behavioral (Olson & Zanna, 1993). The cognitive component refers to the individual's ideas, thoughts, perceptions, beliefs, opinions, or mental conceptualization of another individual. The affective component is said to reflect the emotional underpinnings of an attitude (Antonak & Livneh, 1988), that is, the amount of positive or negative feelings toward the individual. Finally, the behavioral component relates to the individual's intent or willingness to behave in a certain manner toward another, or

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the actual behavioral response (Cook, 1992). According to the literature on multidimensionality of attitudes, a moderate correlation between attitude components reflects that they have a common core, while at the same time representing separate and distinct entities (Findler et al., 2007).

Despite acknowledging the importance of multidimensionality, most previous studies do not focus on all three attitude components. Some research has focused on the cognitive component but most have focused on the behavioral component. Studies assessing the cognitive attitude component have focused on children's identification and understanding of disabilities and on children's perceptions of the competency of those children with disabilities (Yu, Ostrosky, & Fowler, 2012). For example, Dyson (2005) found that, overall, typically developing children had positive attitudes toward individuals with disabilities. Further, Diamond, Hestenes, Carpenter, and Innes (1997) found that children rated a doll with a physical disability as having lower motor skills than dolls representing typically developing children or children with a visual or hearing impairment. A doll with a hearing impairment received lower competency ratings for language skills than did dolls representing other disabilities or a typically developing child.

Research on behavior has shown that both children with and without disabilities preferred to play with children without disabilities (Han et al., 2006). Furthermore, even if the children reported positive attitudes toward children with disabilities, only half of them were willing to acknowledge that they have a friend with a disability (Dyson, 2005; Laws & Kelly, 2005). Differences in the type and intensity of the behaviors displayed toward children with disabilities were also reported. Whereas most kids were willing to say hello or give candy to a child with a disability, only a few of them intended to develop a strong bond with the child (Roberts & Smith, 1999). In line with this, an additional study found that although, overall, children held positive attitudes toward peers with disabilities, less positive attitudes were held in relation to activities that required their personal involvement (Magiati, Dockrell, & Logotheti, 2002). Moreover, children who held more positive attitudes tended to have closer and more meaningful interactions with classmates who have disabilities (Dyson, 2005).

Variables affecting the formation of attitudes among children

Several variables are cited in the literature as being related to the formation of attitudes toward individuals with disabilities. The most important ones are the type of disability and gender.

The type of disability has been consistently found to be one of the central variables in the formation of attitudes. The existence of a disability stigma hierarchy, i.e. an order of preference for some disability groups over others, emerges consistently, with less visible disabilities being the most accepted, whereas visible disabilities (e.g., cerebral palsy), disabilities involving mental functioning (e.g., psychiatric illness), or disabilities for which the individual is perceived to be morally responsible (e.g., alcoholism) were the most stigmatized (Tringo, 1970). Within this hierarchy, hearing impairment is rated in the middle of the scale whereas physical disabilities are rated lower, i.e. greater acceptance was attached to hearing impairment while greater social distance was attached to physical disabilities (Tringo, 1970; Westbrook, Legge, & Pennay, 1993). Consistent with these studies, a more recent study, including 344 high-school and university students, found that participants reported more positive attitudes toward individuals who were hard of hearing or blind, more negative attitudes toward individuals who had a physical disability, and the most negative attitudes toward individuals with intellectual disability (de Laet, Frierksen, & Vervloed, 2013).

However, note that most of these studies have been conducted with adult participants. Literature regarding the role of the type of disability in the formation of attitudes among children is less conclusive. Some studies found negative attitudes toward peers with physical (Bracegirdle, 1995) and other visible disabilities (Woodward, 1995), most probably as a result of visually salient distinctions supporting social biases (Bigler & Liben, 2007). For example, in a study including 69 pre-school-aged children, it was found that participants tended to prefer befriending a peer who was photographed without a wheelchair rather than a peer in a wheelchair (Huckstadt & Shutts, 2014). In line with this, in a study conducted among 100 elementary school children in Canada (aged 4 to 11), negative attitudes were found toward children with intellectual and combined intellectual/physical disabilities (Nowicki, 2006). However, in contrast with the above research, in this latter study, the attitudes toward a child with a physical disability versus a child without a disability did not differ.

These varying findings may be related to the difference in the age of the children included in the studies and their cognitive developmental stage. According to Piaget's theory of development, children aged 4 to 6 (which are at the focus of the current study) are in the preoperational thought stage of development. This stage features the flourishing use of mental representations and the beginning of logic (intuitive thought) (Cook & Cook, 2005). Although logic is emerging, it is based only on personal experience. Children reason according to what things "seem like," according to their personal experience with the objects and events involved. Further, children do not recognize that some logical processes can be reversed. In addition, children have not yet developed logical thought on abstract concepts such as truth, fairness, and morality (Cook & Cook, 2005).

This framework suggests that the thought processes of children aged 4–6 years, are based mainly on their daily experiences and concrete actions (Dyson, 2005). Children at these ages find it easier to understand disabilities that can be seen concretely, such as the use of a walking aid or of sign language, whereas disabilities such as intellectual disability and behavioral difficulties are more difficult to understand (Diamond & Kensinger, 2002). In addition, young children may believe that some disabilities are temporary, for example, use of a wheelchair until a broken leg heals (Tamm & Prellwitz, 2001).

Studies have also examined the role of gender in the formation of attitudes toward children with disabilities, although the findings were inconsistent. Some studies have shown that girls tend to hold more positive attitudes than do boys (Nowicki, 2006), for example, wanting to help a child with a disability and showing greater compassion (Han et al., 2006). Other studies found no differences between the genders (Tamm & Prellwitz, 2001), whereas others found that boys hold more positive attitudes (Nabuzoka & Ronning, 1997).

Moreover, several studies found that the differences between boys and girls were related to the type of disability. For example, in a study that examined the effect of knowledge on the attitudes of 9-to-12-year-old children toward disabilities, it was found that compared to boys, girls hold more positive attitudes toward children with physical disabilities, whereas no differences were found in attitudes toward children with behavioral difficulties (Laws & Kelly, 2005). Furthermore, Nowicki (2006), in the above-mentioned study, found that the differences between boys and girls varied according to the attitude component examined, with girls holding more positive cognitions than do boys but with no differences between boys and girls regarding the affective and behavioral component of their attitudes toward children with physical, intellectual, or combined physical and intellectual disabilities.

Limitations of the current research

In sum, research has generally shown that children hold more negative attitudes toward other children with disabilities than toward those without disabilities. However, several theoretical and methodological limitations exist in the research conducted to date. First, theoretically, although attitude theory calls for measuring cognitive, affective, and behavioral components, research on children's attitudes has rarely examined all three components. In support of this, a recent review has shown that of the 19 studies conducted between 1990 and 2010 examining attitudes among pre-school children; only two examined all three attitude components (Yu et al., 2012). To the best of our knowledge, very few have been added since the time of this review (Hong, Kwon, & Jeon, 2014).

Second, previous studies have concluded that preferences for some disabilities over others could confound the results if only one disability condition is presented (Nowicki & Sandieson, 2002), but few studies have assessed more than one group. Third, most research has focused on older children (elementary, high-school, or university-aged students) (de Laat et al., 2013; Georgiadi, Kalyva, Kourkoutas, & Tsakiris, 2012; Kalyva and Agaliotis, 2009; Vignes et al., 2009), probably as a result of methodological difficulties associated with interviewing younger children (Yu et al., 2012).

Aims of the current study

Given the above literature and its limitations, the current study aimed to examine kindergarten children's attitudes toward peers with a physical disability, a hearing impairment, or no disability and by examining all three theoretical components of the attitude concept. We hypothesized that most positive attitudes would be reported toward children without a disability, followed by children with a hearing impairment, and finally children with a physical disability.

Method

A cross-sectional study was conducted by administering attitude scales based on picture cards to kindergarten children face-to-face in one meeting. The method utilized in this study mainly follows that utilized in a study conducted by Nowicki (2006), but with several adaptations that will be described.

Participants

The participants consisted of a convenience sample of 106 kindergarten children, 58 boys and 48 girls, aged 4 to 6 ($M = 5.8$) from ten kindergarten classes in Israel within six cities located in areas having medium-to-high socioeconomic status. The only criterion for participation in the study was that the child was four to six years of age (all children in the kindergartens were within this age range) and that the children were provided with parental consent. One child stopped participation in the middle of the study because she was too shy. Data for this child were not included in the statistical analyses.

Kindergartens in Israel and in relation to the current study

Unlike the United States of America where kindergartens are part of formal schooling system, in Israel, "school" refers to the first grade onwards. According to the 7th amendment of the Israeli *Special Education Law* (2002), an Inclusion Committee within the Ministry of Education is the one to decide whether a child with a disability has the right to learn within an inclusive setting and

decides on the supports based on the child's individual needs. Nevertheless, implementing inclusion within the kindergarten and the school system in Israel is far from being in the spirit of the law. The relatively recent Dorner Committee (*Public Committee for the Examination of Special Education in Israel*, 2009), has found that although, formally, the Ministry of Education advocates for the importance of inclusion, frequently, in real-life decisions, the Inclusion Committee prefers to recommend a special education settings over an inclusive setting. Thus, the Dorner Committee has recommended that parents of children with disabilities and children with disabilities themselves hold the right to decide and select the educational setting of the child in special education versus an inclusive setting. Currently, inclusion in Israel is still far from ideal and not all local authorities have inclusive classrooms or kindergartens.

In the current study, given restrictions of the Ministry of Education of including children from inclusive kindergartens, only non-inclusive kindergarten classes were included (i.e., none of the kindergartens included in this study were inclusive of children with disabilities). To the best of our knowledge, none of the kindergartens had any ongoing teaching curricula or program that focused on disabilities. Thus, in none of these kindergartens was there any direct teaching or exposure to children with disabilities. An additional restriction of the Ministry was to remove all identifying information on participating kindergartens so that children could not be matched to a specific kindergarten.

Procedures

The researchers contacted those kindergarten teachers who were willing to help in recruiting participants for this study. The parents were contacted by ten kindergarten teachers who sent them an explanation letter, along with a consent form that was returned to the teacher. Kindergarten teachers were recruited via convenience sampling.

The researchers only met with those children whose parents returned the consent form. A pilot study conducted with 25 children aided in constructing the rating scales, in adjusting the explanations provided to the children, and in developing an administration protocol to ensure consistency in all interviews. The rate of response in this study was approximately 33%, with roughly 10 out of 30 parents in each kindergarten consenting for their child's participation. We attribute this rather low rate of response to two main reasons: First, all communication with parents was via the kindergarten teachers while the researchers had no direct contact with parents. Thus, it is not possible for us to know the extent to which the kindergarten teacher emphasized the importance of the study or reminded the parents to return the consent forms. Second, parents may have been busy in their day to day life, thus, not taking the time to return the necessary form to the kindergarten teacher. Nevertheless, this response rate is similar to that found in some other studies conducted within the school system also in the United States (e.g. Han et al., 2006).

The scales described below were administered face-to-face, separately with each child in a closed room within the kindergarten. On average, each meeting lasted about 20 min (ranging from 15 to 30 min) and all were held by the same administrator.

Presentation of target children

Three target children were selected for this study: a child with a physical disability, a child with a hearing impairment, and a child without a disability (Fig. 1). Each child was represented by a colored drawing of a seated child; the child with a physical disability was seated on a wheelchair and the other two on a regular chair. The child with a hearing impairment was drawn with a hearing aid. The presentation of each child was accompanied by verbal information

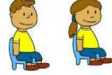


No disability	Hearing impairment	Physical disability
		
<p>This boy's name is Noam. He can walk, run, or jump, and he hears well. When he was born the doctors told his mom that everything is okay with him. Noam likes to play soccer, watch television, and eat chocolate.</p>	<p>This boy's name is Danny and he has a device in his ear. When he was born the doctors told his mom that he has a problem with his ears and that he can't hear. Danny can't hear songs or hear what is being said on television and he speaks a little differently, but with his hearing device he can hear almost everything. Danny likes playing with cars, playing chase, and eating pizza.</p>	<p>This boy's name is Alon. Alon needs to seat in a wheelchair all the time. When he was born, the doctors told his mom that his legs will not be able to move. Alon can't walk, run, or jump, but with his wheelchair he can go from place to place. He likes throwing a ball, playing Lego, and eating ice cream.</p>

Fig. 1. Drawings and verbal description of target children.

including the child's name and a description of what the child can and cannot do on his own. The descriptions also included those activities that the child enjoyed doing that are unrelated to the disability. The genders of the target child and the participants were matched. Drawings were put on the front of three boxes with an opening at the top to be used to insert answer cards of the scales described next.

Target children were presented to the participating children in alternating order (i.e., half were presented first with the child with a physical disability, whereas the other half were presented with the child without a disability). The child with a hearing impairment was consistently presented second. As suggested by Nowicki (2006), before administering the instrument, a series of practice items were used to ascertain the child's recognition of the target children. These questions included the following: Show me the child sitting on the wheelchair. What shirt is she wearing? What can't she do? Show me the child with the device in her ear. What is drawn on her shirt? What can't she do? Show me the child that can run and hear well. What's the color of his shirt? This allowed the administrator to examine the child's understanding of the task, the

child's understanding of the target children and the children were able to practice placing cards within the boxes. In two cases, the children did not understand the practice items, and the explanation was repeated. In all cases, children understood and completed the tasks described below.

Instruments

Three scales were utilized to measure the cognitive, affective, and behavioral components of children's attitudes toward each of the three children. All scales were translated into Hebrew by a professional translator and then back translated by another professional and examined by experts in the field. Original scales were adjusted by the researchers, as described below, and also following input from the pilot study. These adjustments were necessary in order to assure that the scales were culturally adequate to an Israeli sample, that translations were clear as well as of fit to the young age of the children. These adjustments are described in more detail within the succeeding paragraphs describing each of the components.

Cognitive component

The cognitive component was measured via the Multi-Response Attitude Scale (Doyle, Beaudet, & Aboud, 1988) as adapted from Nowicki (2006), which examines characteristics linked by the child to each of the three target children. The scale included 12 characteristics: six positive and six negative. Eleven characteristics were taken from Nowicki (2006): dirty, sick, good, happy, friendly, cruel, helpful, smart, selfish, naughty, and bad. The original item “wonderful” was translated in Hebrew to mean “talented” because this was perceived to be more culturally appropriate for this participant group. This change is also related to the fact that the Hebrew language has fewer adjectives and the Hebrew word for “good” also means “wonderful.”

Eight items were removed from the original scale in order to shorten the questionnaire to fit younger children. The removed items were those whose Hebrew translation was complex or their meaning was the opposite of a characteristic that was already included (e.g., stupid was not used because smart was used; clean was not used because dirty was used).

Each child was provided with three identical cards, one at a time, of each of the twelve characteristics as well as a verbal explanation of the characteristic. For example, “unfriendly” received the following explanation “some children are not friendly. For example, they shove other children and begin to fight. Who is not friendly?” For each characteristic the child was asked to place the card into all relevant boxes, or none, if the child thought the characteristic was not relevant to any child (Fig. 2A).

Each item was scored as a yes (1) or a no (0) if the characteristic described the target child or not. Two cognitive scores (positive and negative cognitions) were calculated for each of the three target children based on the sum of six characteristics (scores ranged from 0 to 6). An overall score for each target child was calculated by subtracting the number of negative from the number of positive characteristics (ranging from –6 to +6), with a negative score indicating a negative attitude and a positive score indicating a positive attitude. Cronbach alpha reliabilities were moderate to strong for the three target children, ranging from $\alpha = .61$ to $\alpha = .75$ for the positive items and $\alpha = .78$ to $\alpha = .81$ for the negative items.

Affective component

Children’s feelings toward each of the target children were examined by three of the five original items on the Pictographic Scale designed by Nowicki (2006). The children were asked three items: “How do you feel about...playing with this boy/girl?”, “. . .about this boy/girl asking you to play with them?” and “. . .about this boy/girl asking you to help them?”

The rating scale used was adjusted from a 5-point Likert-type scale to a 3-point scale based on the pilot study. The items were rated using three cards with drawings of three faces: happy (3), neutral (2), and sad (1) (Fig. 2B). For each of the three items, the child was asked to insert a face card into each of the boxes. For example, “I will ask you to show me which face shows how you would feel if you could play with each of these children. Which face would you place in Alon’s box, which uses a wheelchair to move from place to place?” A mean affect score was calculated for each of the three target children. Higher scores indicate a more positive affect. Cronbach Alpha reliabilities ranged from $\alpha = .61$ to $\alpha = .76$ for the three target children.

Behavioral component

Items measuring the behavioral component were based on the Behavioral Intent Scale (Roberts & Lindsell, 1997) utilized by Nowicki (2006), which measures willingness to be in social contact with children with a disability with increasingly more intimate aspects of childhood friendship. This scale included six out of the original ten items: willingness to approach the child and say hello,

willingness to allow the child to play with me and my friends in the playground, willingness to share my things with him (like crayons and toys); if someone bothers him, I will defend him, invite him to my birthday, and will tell him my secrets.

The rating scale used was adjusted from a 4-point scale to a 3-point scale and was scored by yes (3), maybe (2), and no (1) (Fig. 2C) using three cards depicting these responses. Following the pilot, the smiley face for the word “maybe” was adjusted as children reported that they felt the figure had an angry face. Prior to administering the cards, five practice questions were used to examine the child’s understanding of the answer cards, for example “do you intend to wear your PJs to bed tonight?” As part of these questions, the pilot suggested to insert a practice question for the word “maybe” (i.e. “do you want to wear a costume to kindergarten”), as this option was more difficult for the children to understand.

A mean behavioral score was calculated for the six behaviors for each of the three target children. Higher mean scores indicate more positive involvement and social contact. Cronbach alpha reliability for the behavioral items ranged from $\alpha = .68$ to $\alpha = .78$ for the three target children.

Statistical analyses

Differences in attitudes toward the three target children were examined via paired sample *t*-tests. Correlations between attitude components were examined via Pearson correlations. Differences between children according to their age were examined via a one-way ANOVA. Differences between girls and boys were examined via *t*-tests.

Results

Differences in attitudes among the three target children

The means and standard deviations for each of the three attitude components toward the three target children are presented in Table 1. Paired-sample *t*-tests between each of two target children revealed statistically significant differences, with more positive attitudes reported toward the child without a disability when compared with the child with a physical disability on the cognitive ($t_{(104)} = 2.59, p = .011$) and on the behavioral scales ($t_{(105)} = 2.66, p = .009$). Furthermore, more positive attitudes for children without a disability were found when comparing the child with a hearing impairment on the cognitive ($t_{(103)} = 3.78, p = .000$) and the behavioral scales ($t_{(105)} = 3.13, p = .002$). More negative cognitions were found toward the child with a hearing impairment, as compared with the child with a physical disability ($t_{(103)} = 2.36, p = .020$). No significant differences were found between the three target children in terms of the affective component. Nevertheless, statistically significant borderline differences were found on the affective scale, with more positive emotions reported toward the child without a disability, as compared with the child with a hearing impairment ($t_{(105)} = 1.78, p = .078$).

Correlations between attitude components

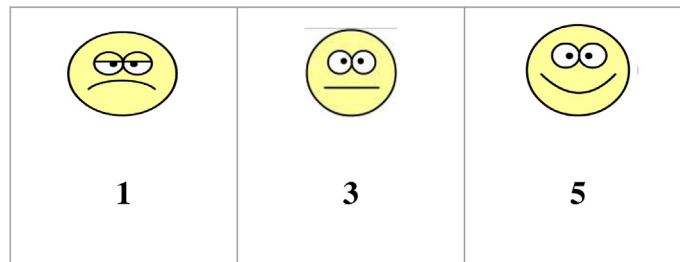
Table 2 presents Pearson correlations among the three attitude components within each disability group. Moderate correlations were found between the three attitude components within each of the three target children. Thus, for example, positive cognitions toward the child with a physical disability were correlated with positive affective reactions and positive behavior. This pattern was replicated for the child with a hearing impairment and the child without any disability.

In addition, the findings in Table 3 show a correlation in attitudes toward the target children with the two types of

A. Cognitive dimension



B. Affective dimension



C. Behavioral dimension

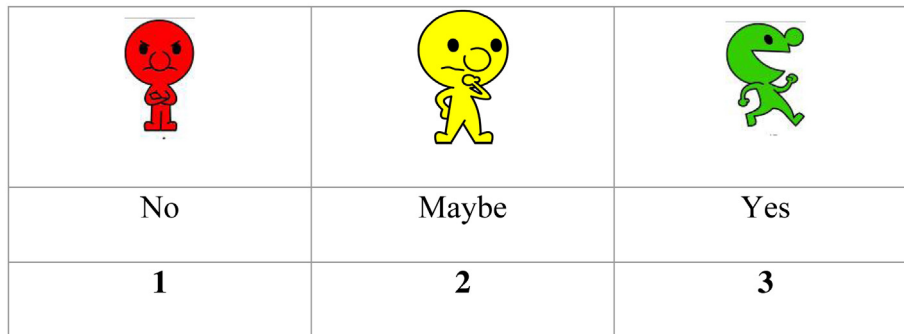


Fig. 2. Answer cards used in the study. (A) Cognitive dimension. (B) Affective dimension. (C) Behavioral dimension.

Table 1
Differences in children's attitudes toward children with physical disability, hearing impairment, and children without a disability.

	Physical disability Mean (SD)	Hearing impairment Mean (SD)	No disability Mean (SD)	Repeated measures
Cognitive—overall (−6 to +6)	2.07 (2.77) ^a	1.76 (2.90) ^b	3.09 (2.84) ^{a,b}	$F(1.69, 172.81) = 9.47^{***}$
Cognitive—positive (0–6)	4.67 (1.42) ^a	4.70 (1.63) ^b	5.20 (1.25) ^{a,b}	$F(1.73, 179.88) = 5.41^{**}$
Cognitive—negative (0–6)	2.59 (2.07) ^{a,c}	2.91 (2.05) ^{b,c}	2.11 (2.04) ^{a,b}	$F(1.61, 166.08) = 9.89^{***}$
Affective (1–5)	2.55 (.55)	2.51 (.61) [±]	2.62 (.52) [±]	$F(1.88, 197.23) = 1.86$
Behavioral (1–3)	2.48 (.52) ^a	2.45 (.54) ^b	2.62 (.42) ^{a,b}	$F(1.92, 201.81) = 6.29^{**}$

[±] Borderline difference between hearing impairment and no disability.

^{**} $p < .01$.

^{***} $p < .001$.

^a Significant difference between physical disability and no disability.

^b Significant differences between hearing impairment and no disability.

^c Significant differences between physical disability and hearing impairment.

disabilities. Correlations were also found in attitudes toward the child without a disability and the child with a disability, but these correlations were weaker regarding the affective and behavioral components and were not found for the cognitive component.

Gender differences in attitudes

Statistically significant differences between boys and girls were found only in the overall index for the cognitive component reported toward the child with a physical disability ($t(103) = 2.15$,

Table 2
Correlations between attitudes within three target groups.

	Cognitive	Affective	Behavioral
Physical disability			
Cognitive	1		
Affective	.37***	1	
Behavioral	.54***	.52***	1
Hearing impairment			
Cognitive	1		
Affective	.50***	1	
Behavioral	.48***	.60***	1
No disability			
Cognitive	1		
Affective	.31***	1	
Behavioral	.55***	.35***	1

*** $p < .001$.**Table 3**
Correlations between attitudes across three target groups.

	Physical	Hearing	No disability
Cognitive			
Physical disability	1		
Hearing impairment	.59***	1	
No disability	.06	.16	1
Affective			
Physical disability	1		
Hearing impairment	.63***	1	
No disability	.36***	.40***	1
Behavioral			
Physical disability	1		
Hearing impairment	.59***	1	
No disability	.30**	.33***	1

Note: Bold print indicates correlations between the two disability groups.

** $p < .01$.*** $p < .001$.

$p = .03$); these cognitions were more positive among boys ($M = 2.63$, $SD = 2.60$), as compared with girls ($M = 1.48$, $SD = 2.90$).

Age differences in attitudes

Statistically significant differences between children aged four, five or six were found mainly within the cognitive component. As seen in Table 4, children aged four were found to hold more negative cognitive attitudes toward all three target children when compared to children aged five or six. In addition, children aged four reported of less positive affect toward a target child with a hearing impairment as compared to children aged five.

Discussion

The main aim of the current study was to examine and compare the attitudes of kindergarten children toward children with a physical disability, a hearing impairment, or no disability. Overall, more positive attitudes were reported toward children without disabilities regarding the cognitive and behavioral components when compared with children with either type of disability. Regarding all three attitude components, a stronger correlation was found between a physical disability and a hearing impairment, and a lower (or no correlation) was found for children with no disability. These findings are in line with previous research, which has shown children's preferences for children without disabilities (Nowicki, 2006). Furthermore, these findings may show that children tend to generalize and classify children with disabilities into a similar group of "others" who are less preferred regardless of the type of disability. This hypothesis is supported by studies which have

Table 4
Differences in children's attitudes in different age groups.

	Physical disability Mean (SD)	Hearing impairment Mean (SD)	No disability Mean (SD)
Cognitive—positive (0–6)			
4 ($n = 15$)	4.27 (2.09)	4.73 (2.09)	5.33 (.98)
5 ($n = 21$)	4.67 (1.35)	4.95 (1.66)	5.50 (1.24)
6 ($n = 70$)	4.76 (1.27)	4.61 (1.54)	5.09 (1.30)
ANOVA test	$F = .73$	$F = .35$	$F = .95$
Cognitive—negative (0–6)			
4 ($n = 15$)	4.33 (1.40) ^{a,b}	4.67 (.98) ^{a,b}	3.33 (1.91) ^{a,b}
5 ($n = 21$)	1.90 (2.07) ^b	2.05 (2.13) ^b	1.43 (1.66) ^b
6 ($n = 70$)	2.38 (2.01) ^a	2.75 (2.00) ^a	2.03 (2.08) ^{a,b}
ANOVA test	$F = 7.70$ ***	$F = 8.59$ ***	$F = 4.16$ **
Affective (1–5)			
4 ($n = 15$)	3.84 (1.27)	3.44 (1.53) ^b	3.91 (1.41)
5 ($n = 21$)	4.17 (1.09)	4.37 (.91) ^b	4.46 (.69)
6 ($n = 70$)	4.14 (1.09)	4.04 (1.20)	4.24 (1.04)
ANOVA test	$F = .50$	$F = 2.60$ [±]	$F = 1.20$
Behavioral (1–3)			
4 ($n = 15$)	2.48 (.60)	2.28 (.66)	2.66 (.40)
5 ($n = 21$)	2.52 (.42)	2.50 (.54)	2.62 (.38)
6 ($n = 70$)	2.46 (.53)	2.47 (.51)	2.61 (.43)
ANOVA test	$F = .08$	$F = .91$	$F = .06$

± Borderline difference between hearing impairment and no disability.

** $p < .01$.*** $p < .001$.^a Significant difference between 4 and 6 year olds.^b Significant differences between 4 and 5 year olds.

shown that preschool-age children often favor peers with characteristics similar to themselves, whereas they hold a negative view toward individuals that they perceive as different from them (Castelli, de Amicis, & Sherman, 2007; Diamond & Tu, 2009).

Unlike the cognitive and behavioral components, almost no differences were found in children's reported affect among the three target children. Only one borderline difference was found with a more negative affect toward a child with a hearing impairment versus a child with no disability. A possible explanation for these findings may be that kindergarten-aged children may have had difficulties understanding and categorizing (happy, neutral, and sad) their own emotions. Indeed, it has been previously acknowledged that there are limits to children's understanding of emotions at this age (Hoffner & Badzinski, 1989). However, there are also many theoreticians who focus on the emotional competence of young children and who have agreed that children of preschool age can usually name and recognize expressions for most basic emotions, identify common emotion-eliciting situations (Denham & Couchoud, 1990), and talk about causes of emotions (Denham & Zoller, 1991). Thus, further research is needed to elucidate these findings.

Alternatively, it might be hypothesized that these findings result from methodological reasons rather than from theoretical reasons, such as limitations of the instrument utilized. First, children may have had difficulties matching their own emotions and the pictures utilized to elicit them (happy, neutral, and sad). Second, all three items on the affective scale captured the emotional response of the child to a specific behavior of the target child (e.g., asking the participant to play with them, to help them) rather than eliciting a response from the child him or herself. It is possible that when children are approached by their peers, they tend to report generally positive overall emotions. This may be supported by findings which show that children provide empathy-driven responses to questions regarding their feelings about people with disabilities (Hong et al., 2014). Third, the instrument utilized examined a limited variety of emotions and excluded others (e.g., anger, fear), which may have enabled the children to understand various emotions that might

be elicited by the target children, rather than focusing solely on sad/happy children.

The findings of more negative cognitions toward children with a hearing impairment, as compared with children with a physical disability, as well as more negative affective reactions, as compared with children without a disability, contradicts most research on the disability hierarchy (de Laat et al., 2013; Westbrook et al., 1993), which usually favors hearing impairment versus physical disability. In understanding this contradiction, it is important to first note that most previous studies on the disability hierarchy have investigated adult populations. Thus, one explanation may be that the disability hierarchy develops over the years and differs among young children and older children or adults. Support for this explanation can be found in studies showing that understanding of impairments typically develops during the preschool years (Diamond et al., 1997).

The disability hierarchy for children of the current age group can be understood in terms of their stage of development. During the preoperational stage (Cook & Cook, 2005) children usually use themselves as the frame of reference for defining disabilities and base their understanding on perceptual and physical features. Thus, disabilities were understood as characteristics that were different from those of the children themselves, especially in terms of physical appearance, characterized by physical inability and use of adaptive equipment (Dyson, 2005).

Moreover, a hearing impairment may have been less clearly understood by the children because it is less visible. It is possible that the visible attributes inherent in physical disabilities made it more clearly understood to the children and difficulties inherent with this disability were easier for them to comprehend (Hong et al., 2014). The current findings may also be explained by the difficulty of children to understand the specific limitations inherent in a disability, especially in those disabilities that are more difficult to understand. This is supported by a study which suggests that preschool children (as opposed to older children) have a tendency to extend the limitations of a specific disability (Smith & Williams, 2001). Thus, it is possible that the limitations inherent in the inability to hear were extended by young children to also include an inability to comprehend and speak (Most, Weisel, & Turkaspa, 1999). Previous literature has shown that preschool-aged children make positive inferences about people who appear to be competent (Brosseau-Liard & Birch, 2010) but tend to view unfamiliar individuals with disabilities as less competent (Diamond et al., 1997). Thus, children might fear not having a common language and having a more difficult interaction with a child who has a hearing impairment. In support of the more favorable attitudes toward physical disabilities, children may have understood it to be temporary and changeable, such as a result of a broken leg that could heal (Tamm & Prellwitz, 2001).

Another explanation regarding the different disability hierarchy that was apparent in this study may be related to cultural and structural variances between Israel and other countries. As inclusion within the kindergarten setting in Israel is behind that of other Western countries, such as the USA, this may impact on attitudes and explain the lower ratings provided toward children with disabilities in general. Nevertheless, this may not explain the lower ratings toward children with a hearing impairment; an issue that needs to be examined closer in future studies.

Some of the above explanations may also partially explain the differences in negative cognitions found between children of different age groups. Specifically, it could be assumed that the younger children may still be at an egocentric stage in which it is more difficult for them to see situations from another persons' perspective. Thus, it may have been easier for these children to report on more negative attitudes without feeling empathy or compassion. In comparison, the older children are nearing transition to the stage of development in which fairness and morality develop (Cook & Cook,

2005). Thus, moral thinking may be related to the lower report of negative cognitions. In addition the younger children may have had a greater tendency for centration, via which they tend to focus on only one aspect of a situation at a time. Thus, the younger children may link between negative characteristics and a situation which they perceive as negative (the use of a wheelchair or a hearing device). The older children may have a better understanding and awareness of other children, including other children with disabilities which may aid them in seeing the individual in a more holistic manner and not solely in negative terms.

The finding of a moderate correlation between the attitude components and each of the target children further supports the theoretical underpinning of a multidimensionality of attitudes (Findler et al., 2007). Thus, more positive attitudes regarding one component may also associate with more positive attitudes regarding the other components. These results may also imply that the three components examined are all part of the larger concept of attitudes toward children with disabilities. These results differ from those of a recent study showing that children's behavioral intentions to include peers with disabilities in their play were neither related to their understanding of disabilities nor to their feelings about people with disabilities. The researchers of that study hypothesized that these results point to the three attitude dimensions as not being fully integrated at a very young age (Hong et al., 2014). Discrepancies between the current study and the latter one may be related to the different methodologies employed.

The current results can also be compared to those gained in other multidimensional studies, which have usually been conducted with adult populations and using different methods. These studies have usually found lower (though statistically significant) associations between the attitude components than those found in the current study (Findler et al., 2007). Thus, the current findings show that children, more so than adults, tend to generalize from one attitude component to another. This might stem from the fact that children have fewer social inhibitions and will feel and behave toward a child with a disability according to the way they perceive this child (Zeman, Cassano, Perry-Parrish, & Stegall, 2006).

An additional finding of this study was that there are more positive cognitions toward the child with a physical disability among boys versus girls. This is in line with some previous literature (Nabuzoka & Ronning, 1997) but it contradicts other studies (Han et al., 2006; Nowicki, 2006). Moreover, although studies have found that differences in attitudes between the genders may be related to disability type, the current results contradict those that found more positive attitudes among girls toward peers with physical disabilities (Laws & Kelly, 2005). Thus, these findings support the complexity of findings regarding the role of gender in attitudes.

Limitations

The findings of this study must be considered in the context of its limitations. First, the participants were a non-random convenience sample. Second, the relatively small sample size, as well as the restriction that we had to remove all identifying information matching specific children to specific kindergartens, did not allow us to conduct Structural Equation Modeling or multilevel analyses which may have enriched the current findings. Third, Alpha levels for some of the scales utilized were only at the acceptable level. This could be related to the relatively few number of items on some scales (specifically, the affective scale).

Fourth, the study was limited to only two disability groups. In addition, the study lacked in randomization of presentation order of the target children presented. While the child without a disability and the child using a wheelchair alternated in order, the child with a hearing impairment was always presented second. In addition, it is important to acknowledge that while it was important for us to

depict each child differently in order to show that no children are identical, it is possible that the different faces, skin tone, and clothing of the children depicted may have also influenced children's responses.

Fifth, two variables that might have increased our understanding of the topic were missing from the current study: children's knowledge and awareness of disabilities and the contact of the child with individuals with disabilities. We should note that this study aimed to depict the target children by using basic and wide characteristics, allowing the participating children to bring their own associations and understanding of the situations presented. Thus, it was not our main aim to examine their deep understanding of each of the disabilities, though the interviewer also discussed with each child their basic recognition of the target figures.

Future studies should take into consideration prior knowledge and contact because they are known to have a positive impact on attitudes (Hong et al., 2014). Parents can be asked to report on contact of their children with others who have disabilities outside of the kindergarten class. Further, studies should examine additional disability groups using longitudinal methods, or cross-sectional methods with several age groups in order to depict developmental changes in attitudes toward individuals with disabilities over the years. For example, it would be interesting to see what changes occur to the perception of disability as children age and move across developmental stages. Further, studies should explore the relationship between children's and parent's attitudes as the attitudes of the latter may influence on those of the child. Within the pilot phase of the current study, questionnaires assessing the parents' attitudes toward people with disabilities were distributed to the parents via the kindergarten teachers. However, the response rate was fairly low, thus, collection of these questionnaires was ceased within the main data collection. Researchers should be aware of difficulties in gaining participation of parents in research and should possibly use additional data collection techniques, possibly an internet survey or via telephone interview. Studies should also examine if and how children's attitudes may be influenced by interventions, teachings and contact provided to children with other children who have disabilities. In relation to this, we suggest to conduct cross-cultural studies in order to learn regarding possible differences inherent within cultural or structural differences between various countries. Finally, future studies should compare between attitudes of children from inclusive setting and those of children from non-inclusive settings.

Conclusions

Despite these limitations, the current study is the first to compare the attitudes of pre-school-aged children toward a child with a physical disability, a child with a hearing impairment, and a child without a disability using three attitude components. Accepting individuals with disabilities in all areas of life as a part of society is mandatory in order to adhere to the CRPD. Attitudes are an essential element toward full inclusion, participation, and acceptance. Kindergarten might be the first setting in which a child with a disability may experience full inclusion by his or her peers, or on the contrary, experience seclusion and isolation. These early experiences may be carried by the child into additional settings and in other realms throughout his life and may have either a positive or negative effect on his later life.

Theoretically, the study stresses the importance of assessing attitudes multi-dimensionally. Each of the three attitude components is important in order to gain a holistic picture of children's attitudes toward peers with disabilities. Second, the study expands our knowledge of the child development field—specifically in the development of attitudes toward peers with disabilities.

In terms of implications for practice and policy, the findings call for providing additional information and knowledge regarding disability, especially hearing impairment, and its impact on the child. During the kindergarten years, there is great importance attached to daily experiences and concrete actions that play a role in constructing the attitudes of children at young ages (Dyson, 2005). Interventions for kindergarten children should expose them to other children with a wide range of disabilities. It is important to arrange many meetings between diverse groups of children and to provide opportunities for contact between children with and without a disability. Kindergarten teachers have an active role in providing accommodations within their classroom that will allow children with and children without disabilities to form friendships (Buysse, Goldman, & Skinner, 2003). In Israel, some special education kindergartens are located close to regular kindergartens. This can foster the development of joint activities on a regular and frequent basis. These will be most effective if the participants will find the joint activity to be fun. Furthermore, it is important for the activity to be structured and tailored to children from diverse groups and that the children receive proper guidance. Within these interventions, it is highly important to focus on and attempt to form positive attitudes regarding all three attitude components. For example, it is possible to show the positive sides of a disability, e.g., the ability to move faster with the use of a wheelchair.

Moreover, children's attitudes are also known to be impacted by the attitudes of significant others such as their parents and/or teachers (McDougall, Dewit, King, Miller, & Killip, 2004), especially as a consequence of the socialization process. Thus, teachers must have the requisite knowledge on disabilities and on inclusion so that they can properly integrate children with disabilities into their classes. More specifically, these teachers must be provided with explicit knowledge as well as specific skills regarding how to transfer knowledge and attitudes to their classes.

Since children live in various environments, they also have other socializing agents, primarily their parents. Thus, since socialization occurs from many agents (Spera & Matto, 2007), it is important for teachers and parents to work together. Interventions that bring about the positive attitudes of parents are also important. Specifically, within classes that have children with disabilities, parents of all children should be provided with knowledge on disabilities and disability-related issues, so that children without disabilities are not provided with opposing messages from their parents and that positive attitudes toward with those children having a disability continues at home. Parents should be provided with a realistic picture of the abilities, advantages, and challenges of having a child with a disability in class and the benefits of this inclusion on his or her peers without disabilities.

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