European Journal of Special Needs Education

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rejs20

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Version of record first published: 02 Apr 2009.

To cite this article: Efrosini Kalyva & Ioannis Agaliotis (2009): Can contact affect Greek children's understanding of and attitudes towards peers with physical disabilities?, European Journal of Special Needs Education, 24:2, 213-220

To link to this article: http://dx.doi.org/10.1080/08856250902793701

European Journal of Special Needs Education
Vol. 24, No. 2, May 2009, 213–220

Routledge
Taylor & Francis Group

SHORT REPORT

Can contact affect Greek children's understanding of and attitudes towards peers with physical disabilities?

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The present study explored typically developing children's understanding of, and attitudes towards, the inclusion of children with physical disabilities (PD) in mainstream settings. The 60 children who participated in the study attended sixth grade in two mainstream primary schools (30 in contact with a child with PD and 30 without such contact). They filled in a questionnaire to measure understanding of disabilities and one to explore attitudes towards inclusion. Analyses revealed that children in contact with a child with PD had a better understanding of the emotional and social problems associated with the presence of PD than the comparison group. Moreover, children in contact with a child with PD expressed more positive attitudes towards the inclusion of children with PD in relation to children without such contact. Results are discussed in terms of the importance of contact in the formation of more positive attitudes towards the inclusion of children with PD.

Keywords: physical disabilities; peers; inclusion; attitudes; contact

Many children with physical and other disabilities are attending mainstream schools (Laws and Kelly 2005). However, the mere placement of children with and without disabilities in the same educational environment does not suffice to foster social acceptance (Rivzi and Lingard 1996) and could even cause emotional and behavioural difficulties due to inadequate social inclusion (Hay, Payne, and Chadwick 2004). One of the most decisive factors for successful social inclusion is peer acceptance (Lewis 1995), which is mirrored mainly in positive behaviours towards peers with disabilities and can act as a protective factor against the appearance of behavioural problems (Criss et al. 2002).

Previous research on the attitudes of typically developing children towards children with disabilities revealed both negative (e.g., Nowicki and Sandieson 2002) and positive (e.g., York and Tundidor 1995) attitudes. These contradictory findings may be due to numerous factors, such as: (a) age (attitudes become more negative in early adolescence) (King et al. 1989); (b) gender (boys are more negative than girls) (Nowicki and Sandieson 2002); (c) environmental factors, such as parental and teachers' attitudes (students tend to adopt attitudes towards inclusion that are similar to those expressed by their teachers) (McDougall et al. 2004); (d) contact with children with disabilities (Maras and Brown (2000) concluded that contact *per se* is very likely to have positive outcomes and can become even more effective where similarities are perceived); and (e) type of disability (children understand sensory

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ISSN 0885-6257 print/ISSN 1469-591X online

DOI: 10.1080/08856250902793701
http://www.informaworld.com

and physical disabilities better, followed by learning disabilities) (Magiati, Dockrell, and Logotheti 2002). All these and more variables interact in various and complex ways to form attitudes (Ladd and Coleman 1997) towards children with disabilities.

The culture in which children are raised shapes their views, attitudes, and understanding of difference and disability because it promotes the internalisation of social and cultural rules (Vlachou 1997). It is, therefore, essential to conduct research in different cultural contexts in order to gain a better understanding of the impact of 'macro' environmental structures, such as society and school on children's attitudes towards disabilities (McDougall et al. 2004). Greece follows the one-track approach that promotes the inclusion of almost all pupils (European Agency for Development in Special Needs Education 2003), especially since the implementation of the law 2817/2000. It should be pointed out, however, that although provisions were made for the academic inclusion of children with disabilities, there is no officially organised policy on the promotion of the social inclusion of these children (Ministry of Education 2001). Children with disabilities are not clearly identified by the schools to their typically developing peers as being members of a wider group, following the model of 'decategorised' contact (Brewer and Miller 1984). Nikolaraizi and deReybekeil (2001) and Nikolaraizi et al. (2005) compared the attitudes of Greek typically developing children with those of children from the UK and USA respectively – where inclusion has been implemented for a longer period of time – and found that Greek children were equally or even more accepting of children with disabilities than their peers from the other two countries. Moreover, Magiati, Dockrell, and Logotheti (2002) found that Greek children aged 8–11 years held overall positive attitudes towards educational inclusion and could differentiate between diverse kinds of disabilities.

Since contact with children with disabilities has already been identified as an important parameter in the formation of attitudes, the aim of the present study was to examine the influence of contact on understanding of, and attitudes towards, children with physical disabilities (PD) 6 years after the implementation of full inclusion in Greece. It is expected that typically developing children who have contact with a child with PD will express more positive attitudes towards inclusion and show more understanding of PD than their peers without such contact.

Method

Participants

The sample of the present study consisted of a total of 60 typically developing children attending sixth grade. Thirty out of these children (16 boys and 14 girls, mean age=11 years, 7 months) were in the same school with a child in a wheelchair, and the remaining 30 children (17 boys and 13 girls, mean age=11 years, 5 months) were not in the same school with a child in a wheelchair. The participants of the study were recruited from two mainstream schools in the wider area of Northern Greece. The school with the child with PD was randomly selected from a list of all the mainstream schools in the area that had a student in a wheelchair, which is the most evident and clear type of PD (Braisby and Dockrell 1999). The child in the wheelchair was a boy attending fifth grade (1 year younger than the participants). His IQ (109) was within the normal range according to the Greek standardised

version of the Wechsler Intelligence Scale for Children (3rd ed.) (WISC-III; Georgas et al. 1997). He did not have any health problems, apart from the inability to walk and he was not diagnosed with any emotional or behavioural problem. When he was born, he was paralysed from the waist down and despite a series of surgical operations, he was not able to move. He had been attending the same school since the first grade and he was a very good student (the average grade of last year was 9.4/10). All this information was obtained from the parents of the child with PD, who consented to his participation in the study. The last step was to draw a list of all the schools in the area – in order to match children for socioeconomic status – and to select randomly a school that did not educate a child with PD and did not have a special class. The children who participated in the study were randomly selected from within three classes of each of the two schools (10 children from each class) in an attempt to reduce potential contamination effects of school practices and teachers' attitudes. All the children who participated in the study were asked if they knew a person with PD outside the school setting. Out of the 30 children who were in the same school with a child in a wheelchair, 40% knew a person with PD and 60% did not know a person with PD. Out of the 30 children who were not in the same school with the child in a wheelchair, 43% knew a person with PD and 57% did not know a person with PD. Analysis showed that there were no statistically significant differences between the two groups in terms of familiarity with a person with PD outside the school setting (χ^2=.07, *df*=1, *p*>.05), so this variable was not included in the data analysis.

Measures

The understanding of PD was assessed using the introductory questions of Magiati, Dockrell, and Logotheti (2002), with disability-specific questions focusing on PD. The suggested categories that the participants had to choose from were also adopted from the same study, while an example was provided for each category (e.g., 'cannot make friends easily' for the category 'social impact of special needs'). The attitudes of typically developing children towards their peers with PD were measured using an adaptation of the attitude scale developed by Gash (1993). It included 18 questions which the participants in the present study were asked to answer using a six-point Likert-type scale ranging from 1='definitely yes' to 6 ='definitely no'. Cronbach's alpha reliability coefficient for the whole scale in this study was .91. The scale consisted of two subscales, one measuring sociability/unsociability towards children with PD (Cronbach's α=.90) and one measuring attitude for/against total inclusion in school (Cronbach's α=.78). The minimum score was 18 and the maximum was 108, with a higher score indicating more negative attitudes.

Procedure

The current study was conducted between January and March 2006 in Northern Greece. Before answering the questionnaire, the children in the school with the boy in a wheelchair were asked to think of him, while the children in the control group were shown a picture of the particular boy, as is common practice in many studies (e.g., Maras and Brown 2000). Preliminary analysis showed that there were no gender differences, so gender was not included in subsequent data analysis.

Results

Understanding of PD

When asked to think of some ways in which children may be different from one another, 41.7% of the participants identified special needs, 35% personality/individual differences, 15% social/familial differences, and 8.3% biological/physical differences, regardless of the existence of contact (χ^2=1.67, *df*=3, *p*>.05). When required to provide different examples of special needs, 48.3% of the participants referred to physical problems, 28.4% to sensory problems, and 23.3% to cognitive/mental problems, regardless of the existence of contact (χ^2=1.69, *df*=2, *p*>.05). When asked what kind of difficulties children with 'special needs' may have in their lives, 45% referred to physical impact, 38.3% to social impact, and 16.7% to emotional impact. Statistically significant differences were identified in relation to the existence of contact (χ^2=5.69, *df*=2, *p*<.05); children in contact with a child in a wheelchair identified mainly the emotional and the social impact in comparison to children without such contact, who identified the physical impact (see Table 1).

When asked 'what does it mean if a child has PD?', 46.7% said that he cannot move at all, 40% that he has restraints in movement, and 13.3% that he is in a wheelchair. There were statistically significant differences in the definition of PD according to the existence of contact (χ^2=6.95, *df*=2, *p*<.05). Children in contact with a child in a wheelchair reported more use of wheelchairs than children without such contact, who reported more inability to move (see Table 2).

When asked what difficulties a child with PD might have, 66.7% referred to problems in movement, 23.3% to problems during play, and 10% to emotional problems. Statistically significant differences were detected according to the existence of contact (χ^2=19.54, *df*=2, *p*<.001). Children in contact with a child in a wheelchair reported more emotional problems and more problems during play than children without such contact, who referred mainly to problems in movement (see Table 3). Finally, when asked why they think some children have PD (the causes), 61.7% attributed it to an accident and 38.3% to birth/heredity, regardless of the existence of contact (χ^2=.63, *df*=1, *p*>.05).

Table 1. Percentages of perceptions of the impact of special needs among typically developing primary-school children, according to level of contact with a child with PD.

Impact	Contact (*n*=30)	No contact (*n*=30)	Total (*n*=60)
Physical impact	33.3%	66.7%	45%
Social impact	60.9%	39.1%	38.3%
Emotional impact	70%	30%	16.7%

Table 2. Percentages of examples of definitions of PD given by typically developing primary-school children, according to level of contact with a child with PD.

Definitions	Contact (*n*=30)	No contact (*n*=30)	Total (*n*=60)
No movement	35.7%	64.3%	46.7%
Restraints in movement	43.3%	36.7%	40%
Use of wheelchair	87.5%	12.5%	13.3%

Table 3. Percentages of perceived difficulties of children with PD among typically developing primary-school children, according to level of contact with a child with PD.

Difficulties	Contact (n=30)	No contact (n=30)	Total (n=60)
Problems in movement	30%	70%	66.7%
Problems during play	95.3%	4.7%	23.3%
Emotional problems	85.7%	14.3%	10%

Attitudes towards PD

A multivariate analysis of variance (MANOVA) revealed that contact with a child with PD had a strong significant effect on: (a) sociability ($F_{(1, 58)}$=37.39, p<.001, η^2=.41); (b) attitudes towards total school inclusion ($F_{(1, 58)}$=42.46, p<.001, η^2=.44); and (c) overall attitudes towards inclusion ($F_{(1, 58)}$=81.24, p<.001, η^2=.60). In all cases children in contact with a child with PD held more positive attitudes towards PD than children without such contact (see Table 4).

Discussion

This small-scale study showed that children in contact with a child with PD provided more sophisticated answers about understanding PD compared with children without such contact. All the participants identified special needs as the main way in which children may differ from one another, maybe because of their direct experience with disabilities outside the school setting (Magiati, Dockrell, and Logotheti 2002). They also referred mainly to physical problems as examples of special needs, since it is easier for them to identify disabilities that have clear physical manifestations (Diamond 1996). They rated overall physical impact as the most prevalent difficulty associated with special needs; however, children in contact with a child with PD referred more to the social and emotional impact, since they do not base their understanding of PD solely on the evident and prevailing motor problem (Magiati, Dockrell, and Logotheti 2002).

Although the use of a wheelchair is the clearest portrayal of PD (Braisby and Dockrell 1999), most children without contact with a child with PD used inability to move as a way to define PD. This could mean that the actual contact of some participants with a child in a wheelchair may have influenced the formation of their specific construct (Llewellyn and Hogan 2000). All the participants referred mainly to physical problems when asked to identify the difficulties faced by children with PD; however, children in contact with a child with PD identified more problems during play and emotional problems, possibly because of the characteristics of the specific child (Cook and Semmel 1999). Moreover, almost all the participants attributed PD to accidents, since people tend to blame externally visible disabilities on 'external' causes (Magiati, Dockrell, and Logotheti 2002).

As far as attitudes are concerned, children in contact with a child with PD expressed more positive attitudes towards their inclusion than children without such contact. Ignorance, fear of the unknown and feelings of insecurity might lead children without contact with PD to adopt more negative attitudes (Ward, Center, and Bochner 1994). It is worth mentioning that providing opportunities for greater peer interaction both in and out of the classroom is considered to be the most effective type of

Table 4. Means and standard deviations of attitudes of typically developing primary-school children towards children with PD.

	Contact (n=30)	No contact (n=30)	Total (n=60)	
Attitudes	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	*F*
Sociability[a]	24.90 (3.99)	46.07 (5)	35.48 (11.58)	37.39*
Would you smile at him on the first day?	2.70 (1.15)	4.37 (1.33)	3.53 (1.49)	
Would you ask him to sit beside you?	1.67 (.76)	4.20 (1.16)	2.93 (1.60)	
Would you chat to him at break?	1.97 (.81)	4 (.91)	2.98 (1.33)	
Later on, would you tell him secrets that you keep from your friends?	1.90 (.78)	4.07 (.85)	2.99 (1.12)	
Would you make him your best friend?	2.57 (.77)	4.80 (.81)	3.68 (1.37)	
Would you invite him to your home to play?	2 (1.23)	4.80 (1.32)	3.40 (1.90)	
Would you invite him to your birthday party with your other friends?	2.47 (1.25)	4.77 (.82)	3.62 (1.56)	
Would you pick him on your team in a competition?	1.73 (.87)	4 (1.60)	2.87 (1.71)	
Would you ask him questions about himself?	2.32 (1.15)	4.75 (1.20)	3.53 (1.43)	
Would you care if other children made fun of him?	1.83 (.65)	2.03 (.76)	1.93 (.71)	
Would you go to his house to play?	3.30 (1.53)	4.73 (.78)	4.02 (1.41)	
Schooling[b]	15.60 (3.22)	27.97 (2.91)	21.78 (6.94)	42.46*
Do you think that he could take the same classes with you?	2.13 (1.14)	2.50 (1.25)	2.32 (1.20)	
Do you think that he has the same hobbies as other children?	2.33 (.99)	3.97 (1.40)	3.15 (1.46)	
Would you feel afraid of him because of his wheelchair?	1.60 (.91)	4.77 (.90)	3.18 (1.80)	
Do you think that he should be taught in the same classroom as you?	2 (.91)	5 (.83)	3.50 (1.74)	
Do you think that he can go to the same school as you?	1.30 (.87)	5.07 (1.12)	3.18 (1.68)	
Does he prefer other children in wheelchairs as friends?	4.33 (1.47)	2.20 (1.16)	3.27 (1.70)	
Do you think that he would be a good student?	1.83 (.89)	4.54 (1.03)	3.18 (1.31)	
Overall attitude[c]	40.50 (4.79)	74.03 (5.64)	57.27 (17.69)	81.24*

Notes: [a]range=11–66; [b]range=7–42; [c]range=18–108, with a higher score indicating more negative attitudes; *p<.001.

intervention for improving the social status of adolescents with disabilities among their typically developing peers (Mpofu 2003).

The limitations of this small-scale study are as follows: (a) participants may produce socially acceptable answers (Bergley 2000). Future studies could use triangulation methods, observe children in their social interactions, and gather data from their teachers, parents and peers with disability; (b) the selected group included only children with PD – in wheelchairs – because very few studies have been conducted with children other than with mild and severe learning disabilities (Nikolaraizi and deReybekeil 2001) and the researchers wanted to measure understanding of and attitudes towards children that have an explicit, visible and uni-dimensional type of 'special need' (Braisby and Dockrell 1999) in an inclusion setting that lacked any formal preparation of inclusion (Nikolaraizi et al. 2005); (c) although the type of contact was put in a specific context as proposed by Nikolaraizi et al. (2005), it was impossible to ensure that all the children had exactly the same type of contact; and (d) there was no indication as to whether this understanding of PD was translated into more humane treatment of children with PD, since the child in the wheelchair spent a lot of time alone during the break – as was mentioned informally to the researchers by some participants after the study.

This small-scale study, which builds on previous research by considering typically developing children's own perceptions and explanations of children with PD, shows that direct experiences with children with PD could shape the former's perceptions on how individuals may differ from one another and make them more positive towards the inclusion of children with PD.

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