

The Effects of Gender and Type of Disability on the Attitudes of Children Toward Their Peers with Physical Disabilities

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The purpose of this study was to determine the effects of gender and type of physical disability on the attitudes of kindergarten, first, second, and third grade elementary school children toward participating in recreational activities with peers who have physical disabilities. Eighteen females and 15 males volunteered to participate. Subjects were presented stimulus drawings of a peer who either used a wheelchair, had an arm amputated, or did not possess a visible physical disability. Subjects then marked whether they felt “really happy,” “did not care,” or “really sad” about engaging in recreational activities with each peer on a five-item attitude questionnaire. ANOVA was conducted to determine if there were any significant effects for gender and condition, as well as to determine whether any significant interactions between gender and condition were present. Subjects were significantly ($p \leq 0.05$) more positive about going camping with an individual in a wheelchair than with a peer with an arm amputated or a peer without a physical disability. Males were found to be significantly ($p \leq 0.05$) more positive than females about attending a movie and going camping with a peer with a physical disability.

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Within a mainstreamed setting children with and without disabilities share the same environment. Individuals involved in implementing and facilitating mainstreaming should have two major concerns: (a) How are the children without disabilities accepting their peers with disabilities, and (b) if children with disabilities are not accepted as equals, what intervention strategies could be implemented to reduce the effects of the negative attitudes on the developing child with disabilities? Even though the concept of mainstreaming is not new, all aspects of the mainstreaming process need continued exploration to determine success.

Research relating to intervention strategies and exposure to individuals with disabilities has yielded inconsistent results. Some studies have suggested that direct contact between children with and without disabilities improved attitudes toward children with disabilities (Keller & Honig, 1993; Trent, 1993; Bowden & Thorburn, 1993; Stewart, 1988; Hoenk & Mobily, 1987; Esposito & Reed, 1986). In contrast, Weisel (1988) demonstrated that contact increased negative attitudes toward peers with disabilities while Cohen, Nabors, and Pierce (1994) and Sandberg (1982) found that contact produced no changes in attitude toward individuals with disabilities. In addition, several studies have found that young children are more accepting of their peers with disabilities than older children (Diamond, 1993; Sandberg, 1982; Wisely & Morgan, 1981).

Gender and attitudes toward persons with disabilities has also been investigated. Numerous studies have reported that females displayed significantly more positive attitudes than males (Weisel & Florian, 1990; Royal & Roberts, 1987; Furnham & Gibbs, 1984; Sandberg, 1982) toward individuals with disabilities.

Numerous investigations have provided evidence that negative attitudes of peers without disabilities have profound impact

on the many aspects of the life of a child with a disability. The child's self-concept, cognitive and social development, academic performance, and general psychological well-being may be greatly affected (Rose & Smith, 1993; Waddell, 1984; Brown, Ford, Nisbet, Sweet, Donnellan, & Gruenewald, 1983). If the child with a disability is not accepted by his/her peers, not only might the child's educational environment be affected, but the child's recreational opportunities in the school, community, and home may also suffer.

Therefore, further exploration of the factors influencing the development of attitudes, either positive or negative, in young children is crucial for successful mainstreaming and optimal development of children with disabilities. As early as age four, children have different social expectations of a physically different child compared to a physically attractive peer (Byrnes, 1987). Diamond (1994) found that preschool children were sensitive to differences in peers' developmental abilities. Children with disabilities were viewed as less competent on developmental tasks than classmates without disabilities. By capturing the attention of children at an early age and providing information regarding disabilities and exposure to individuals with disabilities, more positive attitudes may be the result.

The purpose of this study was to determine the effects of type of physical disability and gender on the attitudes of kindergarten, first, second, and third grade elementary school children toward their same-age peers with physical disabilities. Of particular interest to the researcher were the attitudes toward engaging in recreational activities with children having physical disabilities in the home, school, and community. The researcher predicted that the children would have more negative attitudes toward participating in recreational activities with peers with disabilities than with peers without disabilities because subjects had little or no exposure to individuals with disabilities. In

addition, females were expected to express more positive attitudes toward their peers with disabilities than males.

Methods

Subjects

The subjects in this study were children without visible physical disabilities, ages five through eight years. All were enrolled in kindergarten, first, second, or third grade classrooms in a medium sized, midwestern university community. One elementary school in this particular community was represented. Thirty-three subjects comprised of 18 females and 15 males volunteered for this study. Number of children in each grade were (a) kindergarten ($n = 8$), (b) first ($n = 8$), (c) second ($n = 7$), and (d) third ($n = 10$). In order for the children to complete the experiment, each child's parent had given written permission for participation.

Variables

The independent variables in this investigation were gender and condition. The condition variable was represented by stimulus drawings of identical children except for the presence of a physical disability. The three drawings consisted of a child in a wheelchair (WC), a child with one arm amputated (AA), and a child without physical disabilities (ND). The gender (male) of the child in the drawing remained constant to control gender bias. Upon returning permission slips, parents were asked to indicate whether their child had any previous exposure to individuals with disabilities. Parents indicated amount of previous exposure by completing a five point Likert scale ranging from none to a lot. The dependent variable in this study was attitude toward interacting with children with physical disabilities, measured by a five-item attitude questionnaire.

Instrumentation

Because of the lack of a reliable and valid measurement instrument for young children's attitudes toward peers with disabilities, a five-item attitude questionnaire was constructed by the researcher. The instrument was modeled after a similar attitude questionnaire designed by Hoenk and Mobily (1987). The five items describing various recreational activities in the school, home, and community included:

1. This boy wants to play games with you.
2. This boy wants to go to the movies with you.
3. This boy wants to be on your team at recess.
4. This boy is going camping with you.
5. This boy is going to ask you to his birthday party.

Subjects were presented with the three drawings (conditions) and then indicated their feelings toward interacting using a non-verbal, three-point Likert scale which consisted of smiling and sad faces. The faces represented "really happy" ($pt = 3$), "do not care" ($pt = 2$), and "really sad" ($pt = 1$). Possible scores ranged from five to 15 points per questionnaire. High scores represented more positive attitudes.

Procedures

Each subject in this study was tested on an individual basis either before or after school. Before testing began, each subject was given a brief introduction about the purpose of the study and then the testing procedures. Next, each subject was given a brief training session to familiarize them with the happy/sad face Likert scale, questionnaire format, and the drawings.

To meet the criteria for testing, each child had to master two tasks. First, each child was to identify the three faces. Secondly, each was asked to answer four gen-

eral statements by marking the appropriate face. A pilot study was performed on five elementary school children without physical disabilities to determine if meeting the two criteria was feasible.

After satisfactory performance in the training session, the subjects immediately began the testing process. A slide of each drawing was presented. Subjects were then allowed to study each drawing for one minute and ask questions if necessary. Subject's comments such as "he's ugly" or "he's weird" were answered with "yes" in an unbiased manner. Questions such as "Can he run as fast as me?" or "How can he kick the ball?" were answered with "I am not sure." Questions such as "Why does he not have an arm?" were answered factually by explaining that he had been born without an arm. The examiner read each item to the subject because of variable reading abilities within the age groups. After each item, the subject was asked "How do you feel?" and then he/she was directed to mark the appropriate face. One questionnaire was completed for each drawing and the drawings were presented in random order. The duration of each testing session was approximately 30 minutes.

Results

Results of the present study were based on a 2×3 split-plot design. Gender served as the between subjects' variable. Condition (in wheelchair, arm amputated, without physical disabilities) functioned as the within subject variable. Analysis of variance was used to determine if any significant interactions or main effects were present. Level of significance was determined at $p \leq 0.05$. Tukey's Honest Significant Difference (HSD) post-hoc procedure was used to examine differences between means of any significant treatment effects. An internal consistency analysis of the questionnaire revealed a Cronbach's Alpha of .77.

Two significant gender effects were observed. Analysis of variance for subjects' at-

titudes toward interacting with peers with physical disabilities by attending a movie with them revealed a significant ($p \leq .05$) gender effect (see Table 1). Males were significantly more positive about attending a movie with peers with disabilities than females. Analysis of variance for attitudes toward going camping with a peer with physical disabilities also revealed a significant ($p \leq .05$) gender effect (see Table 1). Males were more positive than females.

The main effect for condition when going camping with a peer with physical disabilities was significant (see Table 1). Post-hoc analysis (HSD = $p \leq 0.05$) revealed a significant difference between mean attitude toward the child without physical disabilities and mean attitude toward the child in a wheelchair. Also, the HSD for the difference between mean attitude toward the child with an arm amputated and mean attitude toward the child in a wheelchair was significant. Children were more positive about going camping with the child in a wheelchair than toward going camping with both the child without physical disabilities and the child with an arm amputated.

Analysis of variance for subjects' Total Attitude Score (all five items summed) toward interacting with peers with physical disabilities did not reveal a significant ($p > .05$) gender effect (see Table 2), although gender effects did approach conventional levels of statistical significance. The main effect for condition was not significant nor was the interaction effect for condition \times gender (see Table 2). Analysis of variance for subjects' attitudes toward interacting in a play situation, at recess, and at a birthday party with a peer with physical disabilities did not reveal any significant gender, condition, or interaction effects. The lack of these effects was evident upon inspection of the means for each group (see Table 3).

Analysis of variance was used to determine if there were any significant effects for previous exposure to persons with disabilities between genders. A significant differ-

Table 1.
ANOVA For Total Attitude Per Item Per Condition Toward
Interacting With A Child With Disabilities

Source	DF	SS	MS	F
Item 1—Playing Games				
Between S				
Gender	1	.62	.62	1.08
Ss Within Group	31	17.69	.57	
Within S				
Condition	2	.54	.27	1.38
Condition × Gender	2	.78	.39	2.01
Error	62	12.01	.19	
Item 2—Going to the Movies				
Between S				
Gender	1	5.53	5.53	6.84*
Ss Within Group	31	25.09	.81	
Within S				
Condition	2	.15	.08	.30
Condition × Gender	2	.15	.08	.30
Error	62	15.71	.25	
Item 3—Team at Recess				
Between S				
Gender	1	2.75	2.75	2.66
Ss Within Group	31	32.00	1.03	
Within S				
Condition	2	.02	.01	.07
Condition × Gender	2	.43	.21	1.15
Error	62	11.55	.19	
Item 4—Camping				
Between S				
Gender	1	7.32	7.32	5.55*
Ss Within Group	31	40.92	1.32	
Within S				
Condition	2	1.63	.81	4.58*
Condition × Gender	2	.01	.01	.03
Error	62	11.02	.18	
Item 5—Birthday Party				
Between S				
Gender	1	.24	.24	.28
Ss Within Group	31	26.67	.86	
Within S				
Condition	2	.72	.36	3.10
Condition × Gender	2	.07	.04	.32
Error	62	7.20	.12	

* $p \leq .05$.

Table 2.

ANOVA For Total Attitude Score Toward Interacting With A Child With Disabilities

Source	DF	SS	MS	F
Total Attitude Score				
Between S				
Gender	1	49.11	49.11	3.56
Ss Within Group	31	427.21	13.78	
Within S				
Condition	2	3.67	1.83	.93
Condition × Gender	2	4.15	2.08	1.05
Error	62	121.95	1.97	

* $p \leq .05$.

ence ($p > 0.05$) was not found between males and females.

Discussion

Numerous studies have revealed that individuals have more negative attitudes toward persons with disabilities than toward those without disabilities (Weisel & Florian, 1990; Weisel, 1988; Newberry & Parrish, 1986; Esposito & Peach, 1983; Sandberg, 1982). In this study kindergarten, first, second, and third grade children were expected to have more negative attitudes toward peers with physical disabilities than toward their peers without physical disabilities.

Results did not indicate this to be the case. For Total Attitude Score, Item one, Item two, Item three, and Item five no significant condition effects were found. Only the camping scenario in Item four indicated a significant condition effect. Unexpectedly, mean attitude scores toward interacting with a peer in a wheelchair were higher than interacting with a peer with an arm amputated and a nondisabled peer.

These results contradict previous research and a variable considered as a probable cause for these results is previous exposure. Even though previous exposure to individuals with disabilities was not an inde-

pendent variable in this study, parents were asked to provide information regarding exposure when returning permission slips. Sixty percent of subjects were reported as having some exposure to individuals with disabilities while the remaining had no previous exposure. Within the elementary school studied, no children enrolled used a wheelchair. One student in this elementary school had an arm amputated, although, this particular student was not in the grades tested. Possibly, subjects in this study had minimal contact with this particular student during recess or at lunch. Therefore, all or most of the students in this study may have had some previous contact with a child with a physical disability even though such contact may not have been elicited on the questionnaire.

The analysis of these data indicated that previous exposure did not differ by gender. Several studies have shown that contact can improve attitudes (Keller & Honig, 1993; Trent, 1993; Bowden & Thorburn, 1993; Stewart, 1988; Hoenk & Mobily, 1987; Esposito & Reed, 1986). Further, because total attitude and individual item mean attitude scores were near the maximum attainable score in each analysis, previous exposure to a person with a disability may have en-

Table 3.
Means and Standard Deviations For Total Attitude
and Total Attitude Per Item Per Condition

	Wheelchair		Arm Amputation		Non-Disabled	
	Mean	SD	Mean	SD	Mean	SD
Item 1						
M	2.56	.51	2.69	.60	2.81	.40
F	2.65	.50	2.35	.70	2.59	.62
T	2.61	.50	2.52	.67	2.70	.53
Item 2						
M	2.63	.72	2.69	.60	2.81	.40
F	2.24	.83	2.24	.66	2.24	.66
T	2.42	.80	2.46	.67	2.52	.62
Item 3						
M	2.56	.63	2.75	.58	2.69	.60
F	2.41	.62	2.29	.77	2.29	.85
T	2.49	.62	2.52	.71	2.49	.76
Item 4						
M	2.75	.68	2.50	.73	2.50	.73
F	2.24	.75	1.94	.83	1.94	.75
T	2.49	.76	2.21	.82	2.21	.78
Item 5						
M	2.75	.45	2.63	.62	2.56	.73
F	2.88	.33	2.65	.70	2.71	.69
T	2.82	.39	2.64	.65	2.64	.70
Total						
M	13.25	2.15	13.25	2.49	13.38	2.28
F	12.41	1.77	11.47	2.85	11.77	2.84
T	12.82	1.98	12.33	2.79	12.55	2.67

M = Male, F = Female, T = Total Mean For Questionnaire.

hanced attitudes. This may have been the case as a function of the child with an amputation's presence in the school serving as the study site.

Kindergarten, first, second, and third grade girls were expected to have more positive attitudes toward peers with physical disabilities than kindergarten, first, second, and third grade boys. The researcher was confident in basing this prediction on the results of numerous studies where females were found to be significantly more positive

than males (Weisel & Florian, 1990; Royal & Roberts, 1987; Furnham & Gibbs, 1984; Sandberg, 1982).

The results of this study, however, indicated that males had a tendency to have more positive attitudes than females. For total attitude scores, males were not significantly more positive than females, but the gender effect was near the conventional level of statistical significance ($p \leq 0.05$). On Items two and four, which pertained to attending movies and going camping, a sig-

nificant gender effect was revealed. In both instances males were more positive than females. For Items one, three, and five no significant gender effects were revealed, therefore, in no instances were females found to possess more positive attitudes.

These results were also unexpected. Previous exposure to individuals with physical disabilities may be the variable responsible for these results. Because the researcher had direct interaction with a majority of the subjects ten hours per week, six months prior to this project, the results may have been attributable to the positive relationship between the researcher and most of the children prior to the study.

Anecdotal observations by the researcher suggest that two groups of boys could be discriminated based on their preferred play patterns. The boys participating in this study could be identified as either "physically active" ($n = 5$) or "non-physical" ($n = 10$). The "physically active" boys preferred to engage in rough and tumble play, football, basketball, dodge ball, and kickball while the "non-physical" boys preferred to read, create structures with art materials, "invent," and play chess. The two groups rarely interacted in play situations and the "non-physical" boys tended to be loners. During testing, the "non-physical" boys made comments such as "I do not like to be on teams," "I do not like going to birthday parties because no one plays with me," and "I am not good enough at sports." These boys may have felt threatened by participating in recreational activities with the child without physical disabilities, whereas, they may have felt more confident about interacting with the child in the wheelchair or with the child with an arm amputated.

The girls, however, were a more homogeneous group and two comments were made by a majority of the girls. First of all, the activity choices could be responsible for the results. For instance, some girls said "I do not like to go camping," "I do not like to play on teams at recess," and "I do not think that

a person in a wheelchair can go camping." Secondly, it was very common for the girls to state that the boy was "weird looking" in all three drawings. Therefore, the comment could have been reference to the drawing itself, not the condition of the child in the drawing. Attitudes could have also been influenced by the fact that the drawings were of a male child.

There is no previous research regarding the above mentioned variables related to attitudes and recreational activities. But, anecdotal observations of the play preferences of the children in the present study suggest that play preferences may co-vary with gender. In addition, intervention and mainstreaming strategies could be more effective in the home, school, and community if the more "personal" factors were taken into consideration when developing programs.

One additional factor responsible for these unexpected results. Mainstreaming and intervention strategies may be succeeding, making children in general and males in particular more aware of the rights and capabilities of individuals with disabilities. Even though the sample size was relatively small and all subjects were from the same elementary school, the results may reflect a larger trend.

Alternatively, the study community was a college town, and college communities may be more tolerant of differences in general. This tolerant attitude may filter down to the children. Hence, the more receptive attitude on the part of boys and the absence of a systematic gender effect across items. Continued research of the gender variable should help clarify the current findings.

The results are encouraging to individuals attempting to implement the mainstreaming of individuals with disabilities into the home, school, and community. The fact that the predicted differences were not confirmed coupled with the fact that attitudes were very positive overall suggest that some genuine and favorable changes in attitudes toward persons with disabilities may

be finally emerging, at least in the case of the subjects studied here.

The implications of this particular study can be directed primarily to those in the fields of community and therapeutic recreation. Camping and going to the movies are both non-athletic activities usually occurring in the community, whereas, the other situations involved activities that normally occur at home or at school. The condition of the child in the drawing was used as a within subjects' variable, therefore, the problem with having heterogeneous groups was avoided. Subjects expressed their attitudes toward interacting in various settings and hence may reveal more accurate assessments of children's attitudes toward interacting with their peers who have physical disabilities. Professionals in community recreation should continue developing and assessing current programs to integrate individuals with and without disabilities in recreational programs. All ages should be considered, especially children. Therapeutic recreation professionals need to continue providing opportunities for individuals with disabilities to acquire skills to participate in recreational activities plus assist individuals in locating and using resources available in their home and community. Similar studies in different geographical areas might be valuable in assessing the variables in attitude development. It might also be important to investigate the educational level and economic status of parents. Valuable results might also arise from a similar study looking at attitudes within a gender. All in all, the outcomes will further the understanding of the attitudes toward individuals with disabilities in recreational settings.

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