Children's Willingness to Share Activities With a Physically Handicapped Peer: Am I More Willing Than My Classmates?

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Objective: To examine factors affecting children's willingness to share activities with a peer presented as physically handicapped.

Method: Participants were 120 elementary school children randomly assigned to view a video of an ambulatory child or the same child in a wheelchair. They rated, on the Shared Activities Questionnaire (SAQ), their own willingness (SAQ-Self) and their perceptions of classmates' willingness (SAQ-Others) to participate in activities with the child.

Results: SAQ-Self ratings were consistently higher for the peer in the wheelchair. On the SAQ-Others, differences favoring the child in the wheelchair disappeared, and ratings of this child were lower than SAQ-Self ratings. No interactions were found between ambulation status and age or rater gender or preference for type of shared activity.

Conclusions: Children showed highly positive intentions toward a peer in a wheelchair, but intentions attributed to classmates were less positive, which suggests "social desirability" influenced their own ratings.

Key words: physical disability; attitudes; behavioral intentions; social desirability.

The current trend to integrate children with handicaps into regular educational activities has lent special significance to the research topic of children's attitudes toward peers with handicaps. A more thorough understanding of such attitudes, and the variables that affect them, could provide a basis for development of programs to foster in children more positive attitudes toward peers with different types of disabilities.

Richardson and colleagues (Richardson, 1970; Richardson, Goodman, Hastorf, & Dornbusch, 1961) developed a method in which children ranked line drawings of children with varying degrees of physical impairment (from no impairment to wheelchair-bound). These researchers generally found that children presented as having physical impairments were rated as less preferred playmates than were children presented with no impairments. Harper, Wacker, and Seaborg-Cobb (1986) used Richardson's method to investigate children's pref-
ferences, within different play contexts, for peers presented in drawings with different disabilities. When the setting required little physical activity (e.g., playing house), children with no disability ranked the nondisabled child as a preferred playmate, whereas children with an orthopedic handicap ranked the child in the wheelchair as a preferred playmate. However, when the setting required more physical activity (e.g., riding a skateboard), children with and without handicaps ranked the picture of the physically normal child as the preferred playmate. These authors concluded that children prefer to play with a physically normal child in certain activities because the child would be able to meet the physical demands of the tasks. Thus, type and context of the shared activity appear to be relevant variables in research on attitudes toward children with disabilities.

One obvious problem with research based on Richardson's technique involving line drawings is the possible lack of generalizability of results. Children's responses to line drawings of children with disabilities may differ significantly from their reactions to actual children with disabilities. Some studies have addressed this issue of generalizability by presenting children with handicaps in a manner that more closely approximates reality. Perlman and Routh (1980), for example, observed boys in play interactions with a boy in an ordinary chair and a confederate in a wheelchair and found more frequent cooperative play with the boy in the ordinary chair as well as a stated preference for this child.

Morgan and Wisely (1996) used slides to present a child in a wheelchair or a regular chair to elementary school children. These children consistently rated, on two measures of behavioral intentions and a measure of stereotypic attitudes, the child in the wheelchair more positively than the same child in a regular chair. However, highly significant negative correlations were found between age and ratings on all measures for the handicapped child but not for the nonhandicapped child. These findings are generally inconsistent with those of many other studies (e.g., Cobb & Hancock, 1984; Devenney & Stratford, 1983; Donaldson, 1980; Perlman & Routh, 1980; Rapier, Adelson, Carey, & Croke, 1972; Rosenbaum, Armstrong, & King, 1988; Wetstein-Kroft & Vargo, 1984) and suggest much more positive attitudes toward a handicapped peer than reported in previous studies.

Several factors may account for the discrepancy between these results and those of previous studies. First, in recent years the increasing amount of information promoting more positive attitudes toward individuals with handicaps may have had a positive impact on children's attitudes. Second, this recent promotion of positive attitudes toward peers with disabilities might have caused children to respond in a "socially desirable" manner; that is, they may have presented themselves through their ratings to be consistent with their conceptions of how "good boys" and "nice girls" should respond to someone with a disability. Third, most research has used line drawings or vignettes to which children may react with less identification and empathy than to a slide of an actual peer.

Our general purpose in the current study was to expand the assessment of children's behavioral intentions toward peers with handicaps through use of a videotape to present a peer under two conditions: with a physical handicap (in a wheelchair) and without a physical handicap (ambulatory). Such video presentation would appear to more closely approach a realistic interaction, because the child on the video can be seen in action, either walking or maneuvering the wheelchair. Moreover, the child in the video directly addresses the viewing children. The study also used a recently developed measure of behavioral intentions—the Shared Activities Questionnaire (SAQ; Morgan, Walker, & Bieberich, 1996)—that yields not only an overall rating but also ratings on subscales representing general types of activities (general social, academic, and active recreational). However, the scale does not include items regarding activities (e.g., rollerblading) that would obviously preclude someone in a wheelchair.

We also presented a girl or a boy in both the wheelchair and ambulatory conditions to explore any differences that may emerge as a function of the gender of the target child and the rating child. In addition, children in two age groups were included to examine the effects of age on ratings. Finally, to explore a possible social desirability effect, we had the children rate not only their own behavioral intentions (SAQ-Self) toward the child in the video but their perception of their classmates' behavioral intentions (SAQ-Others). These were the specific hypotheses tested:

1. On the SAQ-Self, children will show higher (more positive) ratings of behavioral intentions to-
Willingness to Share Activities With a Handicapped Peer

Table I. Gender, Racial, and Grade Distribution for the Four Conditions

<table>
<thead>
<tr>
<th></th>
<th>Wheelchair/Boy (n = 30)</th>
<th>Ambulatory/Boy (n = 31)</th>
<th>Wheelchair/Girl (n = 29)</th>
<th>Ambulatory/Girl (n = 30)</th>
<th>Total (n = 120)</th>
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<tr>
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<td>1.38</td>
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ward the peer in the wheelchair than toward the ambulatory peer. This prediction was based on the Morgan and Wisely (1996) findings.

2. On the SAQ-Others, children will not show higher ratings of behavioral intentions toward the peer in the wheelchair than toward the ambulatory peer. Differences between ratings of the peer in the wheelchair and the ambulatory peer will diminish because the social desirability factor will be less influential.

3. In view of the social desirability factor, children's SAQ-Self ratings of the child in the wheelchair will be higher than their SAQ-Others ratings of this child, but their ratings of the ambulatory child will not differ for the SAQ-Self and SAQ-Others.

4. On the SAQ-Self, there will be an interaction between age of the rating child and ambulation status of the target child; that is, younger children will show more positive ratings of the child in the wheelchair than will older children. This expected interaction is based on the Morgan and Wisely (1996) study that showed a negative relationship between age and positive behavioral intentions toward the child in the wheelchair.

5. On the SAQ-Self, girls will show more positive ratings toward the child in the wheelchair than will boys, as reflected by an interaction between gender of the rating child and ambulation status of the target child. Most studies have reported that girls express more positive attitudes about disability than boys (Jaffe, 1966; Rosenbaum, Armstrong, & King, 1988; Siperstein, Bak, & Gottlieb, 1977; Voeltz, 1980).

6. For both the SAQ-Self and SAQ-Others there will be an interaction between type of activity and ambulation status, with ratings for the child in the wheelchair being less positive for active recreational activities than for general social and academic activities.

Method

Participants

The participants were 120 children in the 3rd, 4th, 5th, and 6th grades at an urban elementary school. The children were recruited through a parental permission/informed consent form sent to parents of all 251 children in these grades; thus, the participation rate was 49%. There were 55 girls and 65 boys, and 78 white children and 42 African American children. To examine age effects, we combined grades 3 and 4 for the younger group (mean age = 9.5), and grades 5 and 6 for the older group (mean age = 11.8). Table I presents a description of the sample in terms of gender, racial composition, grade level, and age.

The children at each grade were randomly assigned (stratified according to gender and race) to one of four conditions based on ambulation status and gender of the peer presented in the video: (1) wheelchair/boy, (2) ambulatory/boy, (3) wheelchair/girl, (4) ambulatory/girl.

Chi-square tests revealed no differences in gender or racial distribution between the four conditions from one grade level to the next. Further, a
4 (experimental condition) × 2 (grade level) analysis of variance (ANOVA), with age as the dependent variable, revealed no significant differences in age between the four experimental conditions and no significant interaction for age between experimental condition and grade level. That is, at each grade level, there were no significant differences in age between the four conditions.

**Stimulus Materials and Experimental Conditions**

 Videotapes were used to present a boy and a girl as either ambulatory or in a wheelchair. A fourth grade boy from another area was presented in two videotapes. One tape conveys him as nonhandicapped and ambulatory. He is initially seated in an ordinary chair at a table and reading a book; he then gets up, walks toward the camera, sits in another chair in front of the camera, and gives a brief speech; he then returns to his initial position. The second videotape conveys the same child as physically handicapped (in a wheelchair). He is initially seated in a wheelchair at a table and reading a book; he then turns in his wheelchair, maneuvers it toward the camera, stops in front of the camera, and gives a brief speech; he then returns to his initial position. The speech, which was identical for both conditions, was as follows:

 Hi, my name is Robby. I live in another state now, but I might be moving to your neighborhood soon. If I do, I’ll be starting to your school and might be in your class. My favorite subjects in school are arithmetic and science but I also like reading and art. I have a brother in high school and a sister in kindergarten. I enjoy doing things with my brother—like going to the movies—but my little sister sometimes bugs me. My brother is on the tennis team and I sometimes go with my parents to see him play. I also like to watch TV and play computer games but I have to do my homework first. I have a lot of friends where I live now. And if I move, I don’t like the thought of having to leave them. If I move to your neighborhood and school, I hope I’ll make some new friends. Good-bye for now.

 A fourth grade girl from another area was presented in two videotapes under the same conditions as the boy. Her speech was identical to the boy’s except for changes related to gender.

 The four experimental conditions were labeled wheelchair/boy, ambulatory/boy, wheelchair/girl, and ambulatory/girl.

**Procedure**

 All children for whom parental consent had been granted were advised that their participation was voluntary and that they could withdraw from participation at any time. All children gave oral assent and participated fully in the project. After the children were randomly assigned to one of the four conditions, they were shown, in small groups of four to eight children, the videotape with the following oral instructions:

 We’re going to be showing you a video and then we’ll ask you to answer some questions about it. If you decide you don’t want to participate, you can stop at any time. However, your help is really important to us and your answers are really appreciated. We think it will be fun and it shouldn’t take very long. There is going to be a child on the video and we want you to listen carefully to what he (she) says. Please don’t talk to your neighbor until we are completely done with the tape and you have answered all of the questions. Once we have finished, please sit quietly until we tell you it is OK to talk. Does anyone have any questions before we begin?

 The videotape was then shown for the condition to which the children in the group had been assigned. Following the videotape, the SAQ-Self was administered. The children were instructed to answer the questions honestly based on how they really felt and not on how others felt. They were told that their answers were private and would not be seen by friends, teachers, or parents. For the SAQ-Others, they were instructed to do the same thing again but this time to answer the questions the way they thought their classmates would feel. After the SAQ-Others was administered, the following instructions were read:

 Since there are other children in your school who will be seeing this video, please don’t talk about it with your friends or classmates. It’s OK if you want to talk about it with your parents, or you can also ask us if you have any questions. Thank you very much for participating. We will take you back to your classroom now.

**Dependent Measure.** The SAQ (Morgan, Walker, & Bieberich, 1996) is an experimental scale developed
to assess the willingness of a child to engage in certain activities with a target child. The SAQ includes 24 items assessing 3 broad dimensions of interactions, with 8 items for each dimension. The dimensions include: General Social (e.g., "Eat lunch next to Robby at school"), Academic (e.g., "Work arithmetic problems in class with Robby"), and Active Recreational (e.g., "Ask Robby to go to the zoo with me"). All of the items involve activities that a child in a wheelchair would be able to do. Below each item are line drawings of faces with corresponding responses: "yes" with a smile, "maybe" with a neutral expression, and "no" with a frown. The subject circles the answer that shows how he or she feels about sharing each activity with the target child (SAQ-Self). Each item is scored as "yes" = 3, "maybe" = 2, and "no" = 1. A total score can be obtained as well as a score for each of the three activity areas, with higher scores reflecting more willingness to share in the activity. The current study used activity area scores that could range from 8 to 24.

As noted previously, the SAQ was administered a second time, but the instructions were modified to have the raters answer as they would expect their peers to respond (SAQ-Others). This modified SAQ was used to assess social expectancy effects that may result in the children answering in a positively biased manner.

Morgan, Walker, and Bieberich (1993) performed a confirmatory factor analysis yielding a comparative fit index for the three-factor solution of .95. The mean item loadings for the three factors were as follows: General Social factor, .69 (with a range of .56 to .76); Academic factor, .68 (with a range of .54 to .83); Recreational factor, .73 (with a range of .69 to .81). Internal consistency reliability was high; coefficient alpha was .95 for the SAQ Total Score. The internal consistency reliability for the three factor scores were as follows: General Social factor score, .88; Academic factor score, .87; Recreational factor score, .90 (Morgan, Walker, & Bieberich, 1996). Bell (1998) provided evidence for concurrent validity of the SAQ through correlations, based on a sample of 180 elementary school children, with the Adjective Checklist (Siperstein & Bak, 1977), a measure of stereotypic attitudes. The correlations, all of which were highly significant, ranged from .53 to .56 for three activity areas.

### Results

For all analyses, we combined grades 3 and 4 and grades 5 and 6 to examine differences between younger and older subjects. Table II presents means and standard deviations on the SAQ-Self and SAQ-Others scales for wheelchair and ambulatory conditions at the two age levels.

To test the hypotheses, we conducted, for both the SAQ-Self and SAQ-Others, a 2 (ambulation status) × 2 (gender of target child) × 2 (gender of rating child) × 2 (age) × 3 (SAQ activity area) MANOVA, with SAQ activity area as the within-subjects variable. For the SAQ-Self, highly significant main effects were found for ambulation status, F(1, 104) = 10.38, p = .002, age, F(1, 104) = 8.40, p = .005, and activity area, F(2, 208) = 33.14, p < .001, as well as a highly significant two-way interaction between gender of the target child and gender of the rating child, F(1, 104) = 8.10, p = .005. For the SAQ-Others, highly significant main effects

### Table II. Means and Standard Deviations on the SAQ-Self and SAQ-Others Scales for the Wheelchair and Ambulatory Conditions at Two Grade Levels

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<td>Recreational</td>
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<td>Academic</td>
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<td>3rd-4th</td>
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were found for age, $F(1, 104) = 9.28, p = .003$, and activity area, $F(2, 208) = 25.53, p < .001$, as well as significant two-way interactions between grade and gender of the target child, $F(1, 104) = 9.77, p = .002$, and ambulation status and gender of the target child, $F(1, 104) = 4.63, p = .034$.

The results, as they apply to the specific hypotheses, are as follows.

Hypothesis 1. Follow-up $t$ tests examining the significant effect for ambulation status indicated significantly higher SAQ-Self ratings for the child in the wheelchair than for the ambulatory child for all three activity areas: Social $M = 19.1$ vs. $17.1$, $t(118) = 2.65, p = .009$; Academic $M = 19.7$ vs. $17.4$, $t(118) = 3.19, p = .002$; Recreational $M = 18.8$ vs. $15.5$, $t(118) = 3.12, p = .002$. Thus, this hypothesis was clearly confirmed.

Hypothesis 2. No main effects were found for ambulation status on the SAQ-Others; that is, as predicted, the differences between ratings of the peer in the wheelchair and the ambulatory peer were not significant. This hypothesis, then, was confirmed.

Hypothesis 3. As revealed by paired $t$ tests, SAQ-Self ratings of the child in the wheelchair were significantly higher than SAQ-Others ratings for all three activity areas: Social $M = 19.1$ vs. $16.8$, $t(60) = 4.07, p < .001$; Academic $M = 19.7$ vs. $18.0$, $t(60) = 3.20, p = .002$; Recreational $M = 18.0$ vs. $16.0$, $t(60) = 3.40, p = .001$. However, ratings for the ambulatory child on the SAQ-Self and SAQ-Others did not differ significantly. This hypothesis was therefore confirmed.

The graphs in Figure 1 depict the differences in ratings of the child in the wheelchair and the ambulatory child on the SAQ-Self and the lack of such differences on the SAQ-Others. The lower graph illustrates the higher ratings for the child in the wheelchair on the SAQ-Self scales as compared to the SAQ-Others scales.

Hypothesis 4. The predicted interaction between age level and ambulation status was not found. That is, younger children and older children showed the same pattern of responses to the two conditions. However, significant main effects were found for age on both the SAQ-Self and SAQ-Others. Regardless of ambulation status and activity area, younger children gave higher SAQ ratings of the target child than did older children.

Hypothesis 5. The predicted interaction between gender of the rating child and ambulation status was not found. However, the significant two-way interaction between gender of the target child and gender of the rating child indicated that, regardless of ambulation status and activity area, boys rated the target boy higher on the SAQ/Self than they did the target girl, whereas girls rated the target girl higher than they did the target boy.

Hypothesis 6. The predicted interaction between type of activity and ambulation status was not found. As indicated by the significant within-sub-
jects effect for activity area on both the SAQ-Self and SAQ-Others, children differentially preferred activity areas, but ambulation status did not affect these preferences. Student-Newman-Keuls follow-up tests revealed that children on both scales showed less willingness to engage in active recreational activities than in social or academic activities. On the SAQ-Others, children rated academic activities as the most preferred.

**Discussion**

The current study assessed children's behavioral intentions toward a peer presented, via videotape, either as ambulatory or in a wheelchair. The first hypothesis—that children, in reflecting their own willingness to share activities, would show higher ratings for the peer in the wheelchair than for the ambulatory peer—was clearly confirmed on all three SAQ-Self scales. The second hypothesis, based on the social desirability factor, was also confirmed in that the significant differences in self-ratings, favoring the child in the wheelchair, were not found for ratings from the assumed perspective of other classmates. The third hypothesis, also based on the social desirability factor, was supported by results revealing that the child in the wheelchair received higher SAQ-Self ratings than SAQ-Others ratings, but the ambulatory child showed no differences in SAQ-Self and SAQ-Others ratings (see Figure 1).

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The fourth hypothesis predicted an interaction between age and ambulation status, with younger children showing a greater preference for the child in the wheelchair than older children. The results failed to support this hypothesis, although younger children gave higher ratings than older children on both the SAQ-Self and SAQ-Others regardless of ambulation status of the target child. The failure to find an interaction between age and ambulation status is inconsistent with results of some previous research. Morgan and Wisely (1996) had found a
negative correlation between age and degree of acceptance of a child with a physical handicap. However, in his review of research, Ryan (1981) concluded that children's reactions to peers with disabilities become more positive from early childhood to adolescence. The relatively restricted age range in the current study may be a factor that accounted for the failure to find age effects. Age as a variable in the acceptance of children with disability is an issue in need of further study.

The fifth hypothesis predicted an interaction between gender of the rating child and ambulation status on the SAQ-Self, with girls showing more positive ratings toward the child in the wheelchair than boys. This hypothesis was not confirmed. The results showed that, irrespective of ambulation status, boys rated the boy subject higher than the girl subject, whereas girls rated the girl subject higher than the boy subject. This finding regarding gender preferences is generally consistent with those from previous studies of peer relations in children (Maccoby & Jacklin, 1987). For shared activities boys prefer boys to girls, and girls prefer girls to boys. However, the failure to find an interaction between gender and handicap condition is discrepant with previous findings that have shown that girls generally express more positive attitudes toward disability and more willingness to initiate social contacts with disabled peers than do boys (Archie & Sherrill, 1989; Kishie & Meyer, 1994; Rosenbaum et al., 1988; Voeltz, 1980).

The final hypothesis predicted an interaction between type of activity and ambulation status, with ratings for the child in the wheelchair being lower for active recreational activities than for general social and academic activities. This hypothesis was not supported, although children rated recreational activities lower across conditions. Although the children showed clear differences in preferences for certain shared activities (i.e., academic over recreational), whether or not the child was presented in a wheelchair had no effect on these preferences. If we had included activities that required physical performance that the child in the wheelchair was obviously incapable of (e.g., playing soccer), differences would likely have emerged. But for a range of the social, academic, and recreational activities, the child in the wheelchair received higher acceptance ratings than the ambulatory child on the SAQ-Self and at least equal ratings on the SAQ-Others. These findings suggest that children recognize the child's handicap would not pose a problem in these activities and that they would willing to engage in these activities with the child. In essence, they showed no prejudicial responses toward the child based on the perceived handicap.

These findings should be considered in light of several limitations in the study. Because this was an analog study, the most obvious questions concern external validity. Although the use of video to present a child in action appears to approach a realistic interaction, further research is needed to ascertain if the results can be generalized to children's actual behavioral interactions. Similarly, the extent to which a child's actual interactions can be predicted from behavioral intentions expressed through paper-and-pencil measures needs to empirically verified. The limited research on this issue has shown the correlation between attitudes and behaviors to be only moderate (Fazio & Zanna, 1978). However, in an in vivo study of interactions involving actual children with handicaps, consideration would have to be given to ethical concerns, such as guarding any possible negative effects on the children who are being rated by their peers. To avoid any "singeing out" of children with handicaps, Nabors (1997) used a sociometric technique involving all children in the class, including children with disability. Each child was asked to nominate the three classmates with whom he or she liked to play and the three with whom he or she did not like to play. This method also allows for the examination of friendships and more extended relationships, whereas the current study examined the child's willingness to share activities with a stranger.

A second limitation concerns the nature of the sample as well as the specific nature of the handicap presented. The children were in a school in which they had been exposed to programs that promoted acceptance of children with disabilities; children in schools without such programs would likely show less positive attitudes. Further, the handicap condition was restricted to a child in a wheelchair, so the results cannot be generalized to children with other disabilities.

Because of the analog nature of our study, these findings should be viewed as preliminary. The long-term goal, of course, is to ascertain whether attitudes and intentions do indeed predict children's actual interactions with peers with disabilities. Nevertheless, the use of videotapes in the study of children's attitudes and behavioral intentions toward peers with disabilities allows for the control and manipulation of certain variables that influence
such attitudes. The methodology has been extended to the study of children's attitudes toward peers with clinical disorders such as Tourette's disorder (Friedrich, Morgan, & Devine, 1996) and obesity (Bell, 1998). An important goal of such research is to ascertain what types of information promote more positive attitudes toward children with disabilities.

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