Enhancing Social Acceptance of Early Adolescents with Physical Disabilities: effects of role salience, peer interaction, and academic support interventions

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ABSTRACT The study designed and field-tested the effectiveness of a school-based program for enhancing the social acceptance of early adolescents (i.e., ages 11 to 14 years) with physical disabilities attending ordinary Zimbabwean schools (N = 218; Mean age 12.49, SD = 1.87 years). Actual (i.e., peer) social acceptance and perceived (i.e., self) social acceptance were considered and for same-gender and opposite-gender groups. The program involved (a) a role salience intervention, (b) a peer interaction intervention, and (c) an academic support intervention, and combinations of the individual interventions. The social enhancement protocols were pilot tested over a three-month period. The main study involved entire classrooms (N = 194 classrooms; 8342 students) in order to avoid contamination of the interventions, treat the context of prejudice and enable non-disabled classmates to benefit from participation. Nomination sociometric techniques were used to measure social acceptance, and identify student-preferred school or classroom roles, preferred peers, and preferred academic services. Measures of intervention effectiveness were taken at 12-week intervals over a 6-month period. Repeated measures analysis showed that the peer interaction intervention was singularly more effective than the role salience and academic support interventions in raising the actual social status of students with physical disabilities. Interventions involving role salience were effective in raising the students’ perceived social status.

Introduction

In a recent study, Zimbabwean early adolescents with physical disabilities were twice as likely to be nominated for socially negative behaviours (e.g., uncommunicative, hostile, physically repulsive, unreliable) than same-gender peers without physical
disabilities (Mpofu, 1999). A physical disability is a skeletal motor condition (e.g., hemiplegia, poliomyelitis, malocclusion) or disfiguring impairment of the face, head, neck, trunk or limbs (WHO, 1980). Three factors may explain the lower social acceptance of students with physical disabilities: role marginalisation (Devlieger, 1998a; Mpofu, Thomas, & Thompson, 1998; Murphy, 1990), limited peer social interaction and lower school achievement (Mpofu, 1999; Okullu-Mura, 1997). Interventions for ameliorating these constraints on the social acceptance of students with physical disabilities have not been investigated. The current study investigated the ability of a school-based social enhancement program to increase the social acceptance of Zimbabwean early adolescents with physical disabilities attending ordinary schools. Social acceptance is a person’s degree of in-group membership of a social unit with which he or she is significantly involved (Mpofu, 1997).

Students who are socially accepted are more likely to succeed in school (Wentzel, 1993), have a higher identification with school (Mpofu, 1997), and remain in school longer (Kann, Mapolelo, & Nleya, 1989). Regardless of the importance of social acceptance to children’s school adjustment, only 13.2% of a sample of Zimbabwean teachers regarded peer interaction important to school success of students with disabilities (Barnartt & Kabzems, 1992). The finding by Barnartt and Kabzems suggested that the social needs of a significant majority of Zimbabwean school children with disabilities are unlikely to be met. The present study built on an earlier study by Mpofu (1999) on the school social acceptance of Zimbabwean early adolescents with physical disabilities by exploring ways of enhancing their social acceptance.

Role Marginalisation of Persons with Physical Disabilities

Persons with disabilities tend to be perceived by the non-disabled as lacking in clear social role functions, a phenomenon which has been described as role marginalisation (Devlieger, 1998a; Mpofu et al., 1998) or social liminality (Murphy, 1990). For example, the marginalisation of persons with disabilities in sub-Saharan African societies is suggested by the widespread use of the word “lema” or “rema” (i.e., become heavy, fail, or experience difficulty) to refer to physical disability (Burck, 1989; Devlieger, 1998a). In other words, having a physical disability is thought to make an individual incapable of undertaking many roles. Moreover, in sub-Saharan Bantu languages, the word “lema” or “rema” is prefixed by the object or animal-referent “ki”, “chi,” or “isi” (for “it”) as in “kilema” (e.g., in Luba, Sanga, Songye), “chirema” (Shona), or “isilima” (Ndebele/Nguni), or the human-referent “mu” as in “mulema” (e.g., in Luba, Sanga, Songye). Therefore, some sub-Saharan African languages consider a person with a physical disability to be at the borderline between a human being and an animal (Devlieger, 1998a). Persons with physical disabilities in Africa also tend to be more involved in the lower occupations (e.g., small-scale crafts, street vending, begging) than the general population (Devlieger, 1998b), which is both a reflection and result of their liminal status.

Ethnographic studies of East and Southern African cultures have also reported the absence of a large number of Western terms for disabilities (Devlieger, 1995), which
suggests that having a disability may not be a culturally salient characteristic. In fact, certain forms of psychiatric and physical disabilities as defined in Western culture are considered spiritual gifts and worthy of reverence rather than treatment (Devlieger, 1995; Gobodo, 1990). Anthropological studies also suggest that, among some East African tribes, children with disabilities are not any more socially stigmatised than children in general (Devlieger, 1995; Walker, 1978). For instance, among the Chagga of East Africa, children with disabilities are regarded as hosting evil spirits, thus guaranteeing the safety of the whole community from the same spirits (Walker). Some Africans with disabilities could therefore enjoy wider social acceptance than their Western counterparts. Nonetheless, the perception of persons with physical disabilities as capable of only marginal roles may lower the social acceptance of students with physical disabilities in schools. For instance, teachers and classmates may consider a student with a physical disability to be not capable of important school or classroom roles or activities (e.g., school or class prefect, high academic achievement), which may lower the student’s social acceptance. The present study investigated the effect of role salience on the social acceptance of students with physical disabilities. Role salience refers to role visibility and importance to the individual or social group (McGuire & McGuire, 1988). In the present study, the effect of having students with physical disabilities in important school or classroom roles was investigated.

Peer Interaction and Social Acceptance

Students with physical disabilities may have limited opportunities to interact with their able-bodied classmates, which could result in lower social acceptance (Mpofu, 1999). For instance, classmates of students with physical disabilities may avoid interacting with students with physical disabilities because of cultural beliefs about the passing on of the physical disability to them (Jackson & Mupedziswa, 1988). Classmates may engage in play activities that are largely physical and exclude peers with physical disabilities (Arnold & Chapman, 1992). Students with physical disabilities may therefore be (mis)perceived as lazy, unreliable, and tardy (e.g., Mpofu, 1999).

The fact that peers may regard students with physical disabilities to have lower social attractiveness could be due to the limited opportunities that students with disabilities have for peer interaction (Frederickson & Turner, 2002; Shotton, 1998). Peer interaction is the extent of involvement with similar others in a group to which one belongs (McGuire & McGuire, 1988; Shotton, 1998). This study utilised peer interaction activities in an effort to enhance the social acceptance of early adolescents with physical disabilities.

Academic Achievement and Social Acceptance

Academic achievement has status-leveling effects on minority status children’s social acceptance in school settings. For example, high achieving US racial minority
students have levels of social acceptance similar to those of majority race students (Hallinan, 1987). High-achieving students with disabilities are more socially accepted than those who are low-achieving (Mpofu, 1999, Okullu-Murra, 1997). Academic support may enhance the social status of students with physical disabilities attending ordinary schools. Academic support is extra tuition that is designed to address identified learning difficulties. The study determined the relative effectiveness of an academic support intervention in enhancing the social acceptance of Zimbabwean early adolescents with physical disabilities while taking into account differences in geographical location, gender, and age.

The Study’s Objectives and Questions

The study designed and field-tested a minimally intrusive school-based social enhancement program that addressed role marginalisation, constraints in peer interaction, and academic support of Zimbabwean early adolescents with physical disabilities. It sought to identify which from among role salience, peer interaction, and academic support interventions would enhance the social status of students with physical disabilities attending ordinary schools.

The specific questions of interest with regard to the interventions were:

1. Does assigning students with physical disabilities more socially visible school or classroom roles significantly enhance their social acceptance?
2. Does interacting with more classmates increase the social acceptance of students with physical disabilities?
3. Does academic support raise the social acceptance of students with physical disabilities?
4. Which intervention is singularly more effective in enhancing the social acceptance of students with physical disabilities?
5. Which combination of interventions is more effective in enhancing the social acceptance of students with physical disabilities?
6. Are the social acceptance gains made by students with physical disabilities in the treatment conditions significantly higher than those of peers with physical disabilities in the non-intervention condition?

The questions were considered in relation to various types of social acceptance: (a) actual (or peer) and perceived (or self) social acceptance, and (b) same-gender and opposite gender social acceptance.

Adolescents are more sensitive to physical deviance than younger children due to their ability to think hypothetically (e.g., actual body-image versus ideal body-image) (Petersen, 1988). African early adolescents had a higher regard for physical appearance than their white Australian, Canadian, and South African counterparts (Watkins, Akande, & Mpofu, 1996). A social enhancement intervention that targeted Zimbabwean adolescents with and without physical disabilities was aimed at reducing disability-related prejudice in students.
Method

Participants

Entire classrooms \((N = 194)\) provided the social acceptance data on peers with and without physical disabilities. In other words, all students attending a classroom with a peer with a physical disability provided social acceptance data on themselves and everyone in their class. Collecting social acceptance data on all class members avoided social desirability effects that would occur if classmates were asked to provide social acceptance data on students with disabilities only. In addition, students with physical disabilities attending ordinary classes are often the only one with a physical disability. The total number of students attending the classes that were surveyed was 8,342. The data for the comparative analysis were on 218 early adolescents with physical disabilities (males = 117, females = 111; mean age = 12.49 years, \(SD = 1.89\)). Ten students with a physical disability did not complete the study because they dropped out of school during the period of data collection.

Design

A pretest–posttest control-group design with two follow-up stages was used. Students with physical disabilities (and their classes) were randomly assigned to eight intervention groups (seven experimental and one control) as follows: (a) control (or non-intervention) group, (b) role salience intervention, (c) peer interaction intervention, (d) academic support intervention, (e) role salience intervention plus peer interaction intervention, (f) role salience intervention plus academic support intervention, (g) peer interaction intervention plus academic support intervention, and (h) role salience intervention plus peer interaction intervention plus academic support intervention.

The Control condition enabled assessment of intervention effectiveness by comparing social acceptance enhancement for students with physical disabilities who participated in the active interventions (i.e., role salience, peer interaction, academic support, combinations) against peers with physical disabilities who did not receive an active intervention. It also enabled an assessment of the effects of the passage of time on students’ social acceptance as well as possible confounding of intervention and halo effects with repeated collection of social acceptance data from the same classes. The impact of the interventions on the students with physical disabilities’ social acceptance was assessed after every three months as an indicator of quality control and to determine the incremental development of social acceptance for each intervention.

Instruments

Nomination procedures were used in the present study. Nomination procedures were preferred because they are less susceptible to social desirability effects when compared to self-report methods (Chan & Mpofu, 2001). The nominations data
were used to design and evaluate the various interventions. Below is a brief description of the instruments by intervention.

**Role salience preferences.** Students were asked to name: (a) three duties or responsibilities that they currently did for their school and class (students could nominate nil if they did not have any); (b) three duties that an admired classmate did for the school and class; and (c) three duties that they would like to do for their school and class. The student with physical disabilities’ most preferred school and class duties was the role salience intervention for that student. A concordance of agreement index (e.g., Cohen’s kappa: Cohen, 1960) between the students’ preferred duties, and those of an admired classmate was used as a measure of reliability of the nominations. A Cohen’s kappa of .95 was observed for the social acceptance measure.

**Peer interaction preferences.** Each student was given a list of his or her classmates’ names. Students were asked to nominate: (a) three people with whom they are currently friends (they could nominate less than three); (b) three sets of three classmates the students would like to be friends with (three sets were required to maximise the opportunities for interaction); (c) three activities each student enjoyed doing with friends; and (d) three persons other than current friends they liked to do activities with. Peer interaction interventions were based on student choices and common interests. A Cohen’s kappa concordance of agreement of .92 was observed between nominations of new friends and nomination of friends for preferred activities.

**Academic self-assessment and needs.** Each student was asked to nominate an area of study in which they were in most need of help (e.g., reading, maths, spelling), and to choose a preferred method of making up for the deficiencies (e.g., clinical remediation, independent study, peer tutoring, in-class support). The reliability of students’ learning needs and remediation nominations was determined by matching them with those indicated by the class teacher. A Cohen’s kappa concordance of agreement of .85 was observed between student identified learning needs and those of the teacher. Students were assigned academic support in areas of their choice and a preferred school-based academic support service was used.

**Social acceptance measures.** Students completed an actual (peer) social acceptance measure and a perceived (self) social acceptance measure. Actual Social Acceptance was determined by asking students to nominate three persons except themselves (same or different names) who fit the first 12 behavioural descriptions (e.g., Name three persons in this class who are (a) friendly, happy, humorous, understanding, likeable; (b) dishonest, lonely, liar, too quiet). Seven of the behavioural descriptions were positive and five negative. The social acceptance status score for each individual student was his or her same-gender and opposite gender percentage of positive nominations minus negative nominations. Perceived Social Acceptance was determined by asking the students to nominate themselves on any of the positive and
negative behavioural descriptions as perceived by (a) boys in their classroom, and (b) girls in their classroom. The reliability of the measures was determined by calculating the mean concordance of agreement among the positive and negative nominations. A concordance of agreement reliability index of .79 was observed between the positive and negative peer nominations.

**Procedure**

The social enhancement interventions were carried out during normal school hours. Permission for the children to take part in the study was obtained from the Zimbabwe Ministry of Education, Sport, and Culture. The participating students and teachers carried out the required tasks for the project under the supervision of the author and trained research assistants. The study comprised a pilot study (to develop the interventions) and a main study. The study was carried out in six provinces of Zimbabwe for which there were prior social acceptance data for students with physical disabilities (i.e., Mpofu, 1999).

**The Interventions**

Classes and schools with students with physical disabilities were randomly assigned to each of the interventions using a table of random numbers. In order to avoid identification of any of the interventions with having a physical disability, the interventions involved entire classes (e.g., peer interaction intervention) or the students with a physical disability and a random selection of classmates without a physical disability (e.g., role salience and academic support interventions). The interventions were also designed for compatibility with the regular activities of ordinary Zimbabwean primary schools in order to maximise the chances that the interventions were carried out as intended. School principals, teachers, and research assistants helped design and implement the interventions. This involvement added to the chances that the interventions would be complied with and that they were contextually relevant.

**Role salience.** School role salience interventions for a particular student with a physical disability (e.g., school prefect, time-keeper) were selected in consultation with school administration, and with consideration of the student’s preferences (as on the Role Salience survey described earlier). Similarly, salient classroom roles (e.g., book monitor, class monitor) were selected with the help of the class teacher with regard of the student with physical disabilities’ preferences. In each instance, at least one other student without a physical disability was assigned a selected or preferred school or classroom role. A comprehensive list of school and classroom positions and their descriptions was prepared as part of the pilot study. Principals, teachers, and other designated personnel used the position descriptions to prepare the students with and without physical disabilities for the new roles to which they were appointed.
Peer interaction. Students with and without physical disabilities had social interaction with peers other than their current friends through class or group projects, detailed coverage of the social studies theme *Me and My Friends*, and peer appreciation activities. For example, on the basis of their nomination of preferred or admired peers, students were assigned a common interest group project that required active collaboration of all group members. The projects were related to either class-work or school development activities, and selected in consultation with the school personnel and research assistants. Descriptions of appropriate school/class projects were compiled as part of the pilot study.

The *Me and My Friends* theme is part of the Zimbabwean primary schools Social Studies syllabus (Zimbabwe Ministry of Education and Culture, 1985) and is normally covered in a couple of lessons at each grade level. This theme was expanded on and given more teaching time for this study. The major focus was on helping students to recognise and utilise day-to-day opportunities to be better friends with more classmates (or people). This component of the intervention had a *Friendships Across the Curriculum* focus which demonstrated how students could be resources for each other in coping with a broad range of school challenges. Peer appreciation activities included using a diary to report (to peer groups or the class) on the notable peer development opportunities and challenges that occurred to individual students during the week. The emphasis was on perspective-taking and positive behaviours. Principals, teachers, and other resource persons contributed other activities that supported the *Friendships Across the Curriculum* concept.

Academic support was provided in areas nominated jointly by the students and their class teachers. The students with physical disabilities and randomly selected peers were assigned to an academic support program undertaken at the school. For example, all Zimbabwean primary schools have an ongoing clinical remedial program which is organised by individual schools with the technical support of educational psychologists and clinical remedial tutors from the Zimbabwe Schools Psychological Services (SPS & SE). As far as possible, the academic support sought to strengthen and utilise already existing academic remediation provision in order to enhance intervention compliance and continuity.

Analysis of Data

Data were analysed using a split-plot univariate repeated measures analysis of variance (ANOVA), with planned contrasts. Within-group (or within-intervention) effects on the social acceptance of adolescents with physical disabilities were determined in two ways: (a) by having each group serve as its own control; and (b) compared to a non-intervention of peers with physical disabilities (or control group).

Evidence has already been presented that social acceptance status scores (i.e., actual, perceived, same-gender, opposite-gender) did not differ across the demographic variables of geographical location, gender, or age in this sample (see Mpofu, 1997, 1999). These analyses are therefore not repeated in this article. The overall alpha for statistical tests was set at .05.
Results

The descriptive statistical analyses are presented first and by disability status, interventions (e.g., Role Salience, Academic Support) and stage (Time 1, Time 2) as background to the presentation of findings for the specific research questions. Table I shows the mean social acceptance for students with physical disabilities across interventions and by stage of measurement at follow-up (i.e., Time 1, Time 2).

As can be seen from Table I, the students’ perceived social acceptance tended to be higher than their actual social acceptance scores. The students with physical disabilities saw themselves as more socially accepted by peers than their actual social acceptance. However, opposite gender social acceptance was lower than same gender social acceptance. Students with physical disabilities achieved some social acceptance enhancement. The absolute magnitude of scores by interventions appeared not to differ for single interventions (e.g., Role Salience, Peer Interaction) when compared to composite interventions (e.g., Role Salience plus Peer Interaction plus Academic Support). The social acceptance scores for students with physical disabilities in the Control (or non-intervention) group were the most inconsistent in terms of direction and magnitude of variation.

For the specific research questions, the within-intervention social acceptance gain scores for students with physical disabilities are presented first. These are then followed by the findings for the comparison of social acceptance scores for students with physical disabilities who received the active interventions against those who did not receive any intervention.

The Effects of Individual Interventions on the Social Acceptance of Students with Physical Disabilities

The questions of interest were whether (a) each of Role Salience, Peer Interaction, and Academic Support interventions enhanced the social acceptance of students with physical disabilities; and (b) a combination of interventions (e.g., Role Salience plus Peer Interaction) had earlier and more sustained effects on social acceptance than a singular intervention (e.g., Role Salience alone). Gain scores (GS) at follow-up (i.e., at 3 months, 6 months) over the baseline score were examined to establish the effect of each of these three interventions on the student’s actual (peer) and perceived (self) social acceptance. Table II shows the social acceptance gain scores for each of the interventions. As could be expected, students in the Control (or non-intervention) group had low and inconsistent social acceptance gain scores when compared to those in alternative interventions.

Actual social acceptance. Among the active interventions, statistically significant gains over the baseline score were observed for same gender actual social acceptance at three months (i.e., Time 1) for the Role Salience plus Peer Interaction (Effect size = .61; Mean GS = 1.60; t(df = 35) = 1.76, p < .05) and at six months (Time 2) (Effect size = .65; Mean GS = 1.74; t(df = 35) = 1.91, p = < .05). The same gender
### Table I. Mean social acceptance scores and (standard deviations) by social enhancement intervention: Students with physical disabilities (N = 218)

<table>
<thead>
<tr>
<th>Group × Intervention</th>
<th>Actual Social Acceptance</th>
<th>Perceived Social Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Same Gender Social Acceptance</td>
<td>Opposite Gender Social Acceptance</td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>Follow-up 1 (^a)</td>
</tr>
<tr>
<td>Control ((n = 25))</td>
<td>2.34 (.105)</td>
<td>2.29 (.188)</td>
</tr>
<tr>
<td>Role Salience ((n = 30))</td>
<td>2.28 (.28)</td>
<td>3.54 (.14)</td>
</tr>
<tr>
<td>Peer Interaction ((n = 23))</td>
<td>2.36 (.105)</td>
<td>3.32 (.122)</td>
</tr>
<tr>
<td>Academic Support ((n = 36))</td>
<td>2.26 (.117)</td>
<td>2.98 (.121)</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction ((n = 22))</td>
<td>2.29 (.76)</td>
<td>3.89 (.103)</td>
</tr>
<tr>
<td>Role Salience plus Academic Support ((n = 24))</td>
<td>2.27 (.112)</td>
<td>3.45 (.78)</td>
</tr>
<tr>
<td>Peer Interaction plus Academic Support ((n = 32))</td>
<td>2.30 (.012)</td>
<td>3.22 (.112)</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction plus Academic Support ((n = 26))</td>
<td>2.23 (.85)</td>
<td>3.63 (.102)</td>
</tr>
</tbody>
</table>

\(^a\) At 3 months; \(^b\) At 6 months
### TABLE II. Mean gain scores by intervention

<table>
<thead>
<tr>
<th>Baseline by</th>
<th>Same Gender Social Acceptance</th>
<th>Opposite Gender Social Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time 1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Effect size</td>
</tr>
<tr>
<td>Control (n = 25)</td>
<td>−.05</td>
<td>.02</td>
</tr>
<tr>
<td>Role Salience (n = 30)</td>
<td>1.26</td>
<td>1.68</td>
</tr>
<tr>
<td>Peer Interaction (n = 23)</td>
<td>.96</td>
<td>1.99*</td>
</tr>
<tr>
<td>Academic Support (n = 36)</td>
<td>.72</td>
<td>.52</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction (n = 22)</td>
<td>1.60*</td>
<td>.61</td>
</tr>
<tr>
<td>Role Salience plus Academic Support (n = 24)</td>
<td>1.18</td>
<td>1.55</td>
</tr>
<tr>
<td>Peer Interaction plus Academic Support (n = 32)</td>
<td>.92</td>
<td>1.85*</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction plus Academic Support (n = 26)</td>
<td>1.40</td>
<td>1.75*</td>
</tr>
</tbody>
</table>

**Perceived Social Acceptance**

<table>
<thead>
<tr>
<th>Baseline by</th>
<th>Time 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Effect size</th>
<th>Time 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Effect size</th>
<th>Time 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Time 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Effect size</th>
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</thead>
<tbody>
<tr>
<td>Control (n = 25)</td>
<td>.04</td>
<td>−.14</td>
<td>−.08</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Salience (n = 30)</td>
<td>2.64**</td>
<td>.73</td>
<td>1.51*</td>
<td>.52</td>
<td>.63</td>
<td>1.75*</td>
<td></td>
</tr>
<tr>
<td>Peer Interaction (n = 23)</td>
<td>1.46</td>
<td>1.53</td>
<td>.54</td>
<td>1.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Support (n = 36)</td>
<td>.88</td>
<td>1.99*</td>
<td>.72</td>
<td>.14</td>
<td>.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction (n = 22)</td>
<td>1.69*</td>
<td>.62</td>
<td>1.85*</td>
<td>.65</td>
<td>1.19</td>
<td>1.74*</td>
<td>.64</td>
</tr>
<tr>
<td>Role Salience plus Academic Support (n = 24)</td>
<td>.53</td>
<td>1.77</td>
<td>.70</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Interaction plus Academic Support (n = 32)</td>
<td>1.42</td>
<td>1.62*</td>
<td>.58</td>
<td>.71</td>
<td>1.63*</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction plus Academic Support (n = 26)</td>
<td>1.57</td>
<td>1.73*</td>
<td>.51</td>
<td>1.50</td>
<td>1.27*</td>
<td>.52</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The more recent follow-up scores were entered first. The symbol * refers to statistically significant gains from baseline. 
*At 3 months; †At 6 months; *p < .05; **p < .01
actual social acceptance gain score for the Role Salience plus Peer Interaction intervention was higher than the baseline score by 70% at three months and 76% at six months. Statistically significant gains in same gender actual social acceptance over the baseline score were observed at six months for Peer Interaction (Effect size = .66; Mean GS = 1.92; \( t(df = 22) = 1.78, p < .05 \)), Peer Interaction plus Academic Support (Effect size = .67; Mean GS = 1.85; \( t(df = 31) = 2.15, p < .01 \)), and Role Salience plus Peer Interaction plus Academic Support (Effect size = .59; Mean GS = 1.75; \( t(df = 25) = 1.70, p < .05 \)). These gains were 81%, 80%, and 78% respectively.

The opposite gender actual social acceptance gain scores over the baseline were not statistically significant across interventions at three months. The gains in opposite gender social acceptance were statistically significant for Peer Interaction (Effect size = .78; Mean GS = 1.82; \( t(df = 29) = 2.10, p < .05 \)), and Peer Interaction plus Academic Support at six months (Effect size = .73; mean GS 1.76; \( t(df = 29) = 2.04, p < .05 \)). As there were no gains at three months that were not also maintained at six months, scores at three months will not be discussed further.

Perceived social acceptance. At six months, statistically significant gains were achieved for Role Salience (Effect size = .52; Mean GS = 1.51; \( t(df = 29) = 2.32, p < .01 \)), Academic Support (Effect size = .72; Mean GS = 1.99; \( t(df = 35) = 2.73, p < .01 \)), Role Salience plus Peer Interaction (Effect size = .65; Mean GS = 1.85; \( t(df = 21) = 1.73, p < .05 \)), Peer Interaction plus Academic Support (Effect size = .55; Mean GS = 1.62; \( t(df = 31) = 1.72, p < .05 \)), Role Salience plus Peer Interaction plus Academic Support (Effect size = .51; Mean GS = 1.73; \( t(df = 25) = 1.69, p < .05 \)). The percentage increases ranged from 45% (Role Salience) to 66% (Academic Support).

The gains for opposite gender perceived social acceptance were statistically significant for Role Salience (Effect size = .64; Mean GS = 1.75; \( t(df = 29) = 2.03, p < .01 \)), Role Salience plus Peer Interaction (Effect size = .64; Mean GS = 1.74; \( t(df = 21) = 1.86, p < .05 \)), Peer Interaction plus Academic Support (Effect size = .62; Mean GS = 1.63; \( t(df = 29) = 1.98, p < .05 \)), and Role Salience plus Peer Interaction plus Academic Support (Effect size = .52; Mean GS = 1.27; \( t(df = 25) = 1.27, p < .05 \)). The percentage gains over the baseline were 52% (Role Salience), 53% (Role Salience plus Peer Interaction), 49% (Peer Interaction plus Academic Support), and 38% (Role Salience plus Peer Interaction plus Academic Support).

Comparison with Students with Disabilities in the Control (or Non-Intervention) Group

Another question of interest in this study was whether students with physical disabilities who were assigned to the active interventions (i.e., Role Salience, Peer Interaction, Academic Support, or combinations) had significant social enhancement gains over those who were in the Control (or non-intervention) group, and by stage of intervention. To answer this question, gain scores of students with physical
disabilities assigned to the active interventions over those in the Control condition were examined (see Table III).

The results for the same gender actual social acceptance comparison of the intervention versus the Control group were similar to those for the within-intervention baseline comparison by stage as previously described. For example, students in the Role Salience plus Peer Interaction intervention had significantly higher same gender actual social acceptance scores than those in the Control group and that was maintained at six months (Effect size = .62; Mean GS = 1.67; \( t(df = 45) = 1.79, p < .05 \)). Peer Interaction also raised the same gender social acceptance of students with physical disabilities significantly higher than those of peers with physical disabilities but receiving no intervention (Effect size = .65; Mean GS = 1.92; \( t(df = 45) = p < .05 \)). Peer Interaction was involved in all the statistically significant effects involving same gender actual social acceptance.

Students with physical disabilities participating in the seven active interventions had significantly higher opposite gender actual social acceptance scores than peers with physical disabilities in the Control condition. Those in the Role Salience, Role Salience plus Academic Support, Role Salience plus Peer Interaction plus Academic Support interventions had significantly higher opposite gender social acceptance scores (\( p < .05 \)) (see Table III). Statistically significant opposite gender actual social acceptance gain scores by students with physical disabilities over peers with physical disabilities in the Control condition were also achieved for students under the Peer Interaction plus Academic Support (\( p < .01 \)). These effects were more frequent across interventions than was the case for the within-group comparisons that were reported earlier. Statistically significant gains in same gender perceived social acceptance scores were observed for students with physical disabilities in the Role Salience condition (\( p < .01 \)) and Role Salience plus Peer Interaction conditions when compared to peers with physical disabilities in the Control condition. The effects were less frequent across interventions than was the case with the within-group comparisons as reported above. Statistically significant opposite gender perceived social acceptance gains over peers with disabilities in the Control condition were observed for the Role Salience, Peer Interaction, Peer Interaction plus Academic Support, and Role Salience plus Peer Interaction plus Academic Support interventions (\( p < .05 \)). There were no statistically significant differences in the gain scores of students under the Control condition over time.

**Discussion and Conclusion**

The results of this study indicated that the interventions with role salience were effective in enhancing the students with physical disabilities’ same gender perceived social acceptance. The Peer Interaction and Academic Support interventions significantly raised the same gender actual social acceptance of students with physical disabilities. Combination interventions involving Role Salience, Peer Interaction and Academic Support were generally more effective than single interventions (e.g., Role Salience only). Effect sizes in the moderate to high range were observed for interventions that made a positive difference to the social status of the students
<table>
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<tr>
<th></th>
<th>Same Gender Social Acceptance</th>
<th>Opposite Gender Social Acceptance</th>
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<tbody>
<tr>
<td></td>
<td>Actual Social Acceptance</td>
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<td></td>
<td>Effect size</td>
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<td></td>
<td>Baseline</td>
<td>Time 1&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Role Salience (n = 30)</td>
<td>- .06</td>
<td>1.25</td>
</tr>
<tr>
<td>Peer Interaction (n = 23)</td>
<td>.02</td>
<td>1.03</td>
</tr>
<tr>
<td>Academic Support (n = 36)</td>
<td>- .08</td>
<td>.69</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction (n = 22)</td>
<td>- .05</td>
<td>1.60*</td>
</tr>
<tr>
<td>Role Salience plus Academic Support (n = 22)</td>
<td>.07</td>
<td>1.16</td>
</tr>
<tr>
<td>Peer Interaction plus Academic Support (n = 32)</td>
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<td>.93</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction plus Academic Support (n = 26)</td>
<td>.11</td>
<td>1.34</td>
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<td></td>
<td>Perceived Social Acceptance</td>
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<td></td>
<td>Effect size</td>
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<td></td>
<td>Baseline</td>
<td>Time 1&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>2.85**</td>
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<tr>
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<td>Peer Interaction plus Academic Support (n = 32)</td>
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<td>1.62</td>
</tr>
<tr>
<td>Role Salience plus Peer Interaction plus Academic Support (n = 26)</td>
<td>.20</td>
<td>1.73</td>
</tr>
</tbody>
</table>

*Note.* The more recent follow-up scores were entered first. The symbol * refers to statistically significant gains from baseline.

<sup>a</sup> At 3 months; <sup>b</sup> At 6 months; *<i>p</i> < .05; **<i>p</i> < .01
with physical disabilities. The fact that the actual and perceived social acceptance of students with physical disabilities in the non-intervention group did not change over time suggests that mere familiarity with peers through attending the same classes does not enhance their social status.

Students with physical disabilities who were assigned socially desirable school and classroom roles (Role Salience intervention) and opportunities to interact more with classmates in and out of the classroom (Peer Interaction) had reliably higher same gender actual social acceptance across the intervention period. The effects were sustained over the six months of the study. Significant effects on same gender actual social acceptance were achieved for Peer Interaction alone, and Peer Interaction in combination with Role Salience and Academic Support. These findings suggest that the same gender social acceptance of students with physical disabilities is enhanced by visible social role assignment in the presence of increased peer social interaction (i.e., via mutually beneficial interactions). Peer Interaction and Role Salience may have synergistic effects on each other and on the social acceptance of students with physical disabilities. For example, peer interaction may enable students with physical disabilities to more efficiently translate their enhanced social position in the school system into social capital through sharing the benefits of their school/classroom status with peers (e.g., talking to teachers and school administrators on behalf of classmates). A superior social niche in the school or classroom may also reinforce the confidence of students with disabilities to participate in social interactions outside their customary levels of social comfort. Thus, the social role salience that came with holding a classroom or school responsibility may have been a status leveling factor for increased social interaction, with the interaction in turn leading to a greater perception of the student with a physical disability as a socially desirable person. The fact that the effect on same gender social acceptance of the Role Salience intervention alone was non-significant, and significant only with Peer Interaction intervention is consistent with the interpretation that social role visibility achieves its effect on peer social acceptance with enhanced social interaction. Moreover, Peer Interaction alone had a significant impact on same gender actual social acceptance; a finding which supports the notion that social role salience may not achieve positive social outcomes for students with physical disabilities without peer interaction. Nonetheless, and as previously observed, social role visibility may create a platform for social participation which may otherwise be missing.

The fact that peer interaction in combination with academic support significantly raised the same gender social acceptance of students with physical disabilities is also consistent with the view that involvement in mutually beneficial activities with peers raised social acceptance (Wentzel, 1993). For example, students with physical disabilities with a Peer Interaction plus an Academic Support intervention may be better able to participate in beneficial academic exchanges with peers (e.g., exchanging notes, doing homework together, informal peer tutoring), which in turn increases their social desirability.

Opposite gender actual social acceptance was not significantly impacted by any of the interventions relative to the pre-intervention social status at three months (baseline). This finding may be due to the fact that the effects of the interventions
on opposite gender actual social acceptance may be delayed rather than absent. The
evidence for a delayed effect interpretation is that the gains in opposite gender actual
social acceptance across interventions and relative to baseline were significant for
Peer Interaction and Peer Interaction plus Academic Support at six rather than three
months. In addition, the gains in opposite gender actual social acceptance of
students with physical disabilities who received the active interventions were fre-
quently significantly higher than those of peers with physical disabilities who did not
receive any intervention. The delayed effect interpretation is also conceptually
plausible when account is taken of the fact that same gender actual social acceptance
is likely to be more readily and positively changed with interventions with early
adolescents than opposite gender actual social acceptance. The fact that opposite
gender actual social acceptance may take longer to achieve than same gender actual
social acceptance may be on account of early adolescents’ higher social propinquity
with same gender peers. Adolescents are unsure about how to socially interact with
opposite gender peers, even though they may have an avid interest and sensitivity to
the opposite gender (Berndt, 1982). Uncertainty with opposite gender social rela-
tions could make early adolescents cautious about being socially involved with
opposite sex peers. This delayed effect interpretation due to mixed feelings in
adolescents with social involvement with the opposite sex is particularly compelling
in the Zimbabwe context where there are strong cultural inhibitions against social
involvement with the opposite sex by minors. Future studies should attempt to test
the delayed effect hypothesis with regard to early adolescents’ social acceptance of
opposite gender peers.

Gains in perceived social acceptance in students with physical disabilities were
more numerous across interventions and observation times than was the case with
actual social acceptance. Statistically significant effects on same gender perceived
social acceptance were observed for Role Salience, Academic Support, Role Salience
plus Peer Interaction, Peer Interaction plus Academic Support, and Role Salience
plus Peer Interaction plus Academic Support. Similar effects were also noted for
opposite gender perceived social acceptance by Role Salience, Role Salience plus
Peer Interaction, and Peer Interaction plus Academic Support interventions. These
findings may be explained in several ways. First, it is reasonable to expect that
positive changes on actual or peer social status are supported by positive views of
own social acceptance by others. Thus, interventions designed to influence an
individual’s perceptions of social acceptance by others are likely to be reflected in
reliable and more numerous gains in perceived social acceptance. For example, if an
individual believed that he or she was socially accepted by others, he or she may
behave in ways which make him or her more socially desirable, a development which
would enhance his or her actual social acceptance. Second, the interventions in this
study (Role Salience, Peer Interaction, Academic Support) may have addressed
critical issues in the social difficulties that students with physical disabilities may
have been experiencing in ordinary Zimbabwean schools (Mpofo, 1999), hence the
students’ positive response to them as shown by the significant gains in positive
social perceptions across interventions. Third, adolescents’ self-social status ratings
have a self-serving quality which is characterised by perceptions that they have high
social impact (Xie, Mahoney, & Cairns, 1999). The self-serving quality of adolescents may explain the fact that significant gains in same and opposite gender social acceptance occurred largely with interventions involving role salience. The holding of a desired social role may have added to the sense of personal agency held by adolescents with physical disabilities, which may have added to their perceptions of being socially desirable to same and opposite gender peers.

**Implications for Socio-Educational Policy**

The educational policy of the government of Zimbabwe is that students with disabilities attend the same schools as their nondisabled peers (Peresuh, Adenigba, & Ogonda, 1997; Zimbabwe Ministry of Education, Sports and Culture, 1990). Therefore, studies on the social acceptance of Zimbabwean children with physical disabilities in ordinary schools have the potential to inform educational policy implementation and evaluation by (a) providing empirical evidence on their social participation; (b) formulating strategies for preparing schools, communities, families, and individual students to be more accepting of disability-related differences; and (c) improving the quality of school-life of students with and without physical disabilities. The findings of this study suggest that a minimally intrusive school-based social enhancement program can achieve positive gains in peer and self-social acceptance of students with physical disabilities. A strong feature of the social enhancement program that was tested in this study is that teachers and students in ordinary schools can successfully implement it. For that reason, it is likely to last long after outside help in introducing the program has ended. Education policy makers in Zimbabwe and other countries may want to consider building the interventions of this study into their programs for supporting diversity in schools.

Social acceptance is important for academic achievement (Mpofu, 1997; Wentzel, 1993), school retention (Harber, 1998), and adjustment (Mpofu, 1997) particularly for students from minority backgrounds who may be at greater risk of social rejection or neglect (Harber, 1998; Mpofu, 1997, 1999). The role of superior academic achievement and positive peer interaction as social status leveling factors for students from minority culture backgrounds has been documented (e.g., Hallinan, 1987). The findings of this study provide additional empirical support for school-based initiatives that seek to unlock student peer interaction as a resource for supporting the school adjustment of the differently abled. Studies carried out in the United Kingdom (e.g., Frederickson & Turner, 2002; Shotton, 1998) also reported a positive impact of children’s social acceptance using a circle of friends approach. The circle of friends approach is a peer interaction intervention that involves a child with a disability (or with isolation) in quality interactions with classmates. This study also provides empirical evidence for the view that supporting a student academically has gains in the social domain, as greater academic competence with peer interaction may enhance social acceptance. Educational policies that support remedial or extra tuition for students who may be experiencing academic difficulties need to be supported as they add value to students’ social experience of school.

This study demonstrated that the social statuses of students in disadvantage (e.g.,
those with physical disabilities) are unlikely to change without deliberate intervention that is aimed at social enhancement. Students with physical disabilities in the Control condition did not make any gains in social status over a six-month period. The lesson for educational policy makers and implementers is that a laissez faire attitude to addressing the social adjustment of students with disabilities will not help such students and heightens the risk of students dropping out of school.

**Strengths and Limitations of the Study**

The school-based social enhancement program described in this article was developed for Zimbabwean school conditions. For that reason, its contextual relevance was apparent. The fact that the social acceptance of students with physical disabilities attending ordinary Zimbabwean schools was significantly enhanced by the interventions that were studied was most encouraging. The social acceptance gains, made by students with physical disabilities in actual and perceived social acceptance relative to their entry statuses and vis-à-vis peers with physical disabilities in the Control condition, held over a six-month period. Therefore, there is reason to believe that these gains were relatively permanent in the context of the research sites. Among the limitations of the study is that the sample sizes per intervention were less than ideal. This could have reduced the statistical power of the tests for the effectiveness of the particular interventions. In the case of combined interventions, it was not apparent which of a combination may have been responsible for the observed changes. Future studies should use larger study samples to investigate the comparative effectiveness of single and combined interventions. Some focus group discussions with the students and teachers who took part in this study would have added to the quality of explanations for the various findings. Regardless of these limitations, this study demonstrated that a school-based social enhancement program managed by teachers and students can enhance the social acceptance of students with physical disabilities.

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**References**


