ED 333 627   EC 300 380

AUTHOR   Stinson, Michael S.; Whitmire, Kathleen
TITLE   Self-Perceptions of Social Relationships among
              Hearing-Impaired Adolescents in England.
PUB DATE   Aug 90
NOTE   38p.; Paper presented at the International Congress
              on Education for the Deaf (17th, Rochester, NY, July
              29-August 3, 1990).
PUB TYPE   Speeches/Conference Papers (150) -- Reports -
              Research/Technical (143)

EDRS PRICE   MF01/PC02 Plus Postage.
DESCRIPTORS   Adolescents; Attachment Behavior; College Students;
              Foreign Countries; *Hearing Impairments; Higher
              Education; Identification (Psychology); Interaction;
              Interpersonal Competence; Mainstreaming;
              Participation; Peer Acceptance; *Peer Relationship;
              Secondary Education; *Security (Psychology); *Self
              Concept; *Social Integration; Young Adults
IDENTIFIERS   *England

ABSTRACT
              This study focused on self-perceptions of social
relationships of hearing-impaired adolescents. Three sets of
perceptions regarding social relationships were investigated:
participation, relatedness, and perceived social competence. The
Social Activity Scale was administered to 84 mainstreamed
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education programs in England. Correlations indicated that students
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related to emotional security and to one measure of participation for
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no evidence that increased mainstreaming promoted identification and
relational bonds with hearing peers. (23 references) (JDD)

Self-Perceptions of Social Relationships

Among Hearing-Impaired Adolescents in England

Michael S. Stinson and Kathleen Whitmire

National Technical Institute for the Deaf

Rochester Institute of Technology

Running Head: SOCIAL RELATIONSHIPS

Paper presented at the International Congress on
Education of the Deaf
(17th, Rochester, NY, July 29-August 3, 1990).

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Abstract

The Social Activity Scale (SAS) was administered to 84 mainstreamed hearing-impaired adolescents in secondary schools and further education programmes in England. Correlations indicated that students varied in terms of their social orientation toward hearing or hearing-impaired peers. Perceived social competence was positively related to emotional security and to one measure of participation for hearing peers, but was not related to any measures pertaining to hearing-impaired peers. Further, students rated themselves as interacting more frequently with hearing peers than with hearing-impaired ones in the classroom and in outside-of-school activities. As mainstreaming increased, ratings of participation with hearing peers rose while those regarding hearing-impaired peers decreased. In contrast to results for participation, students indicated that they were more emotionally secure in relationships with other hearing-impaired peers than with hearing peers. There was no evidence that increased mainstreaming promoted identification and relational bonds with hearing peers.

Self-Perceptions of Social Relationships Among

Hearing-Impaired Adolescents in England

Current developmental theory recognizes the significant

contributions of peer relationships to the cognitive and social

development of children and adolescents (Johnson, 1980; Parker &

Asher, 1987). Among the ways that peer relationships contribute to

development are (a) acquisition of attitudes, values and information

for mature functioning in society, (b) promotion of future psychological

health, and (c) development of social skills that reduce likelihood of

social isolation (Johnson, 1980). Positive peer relationships are as

essential for the development of disabled children as for the non-

disabled (Johnson & Johnson, 1980).

The present study focuses on self-perceptions of social

relationships of hearing-impaired (i.e., deaf and hard of hearing)

adolescents. Such self-perceptions are one way of assessing quality of

social relationships, along with judgments of individuals by their peers

and teachers (Parker & Asher, 1987). Study of these self-perceptions

may help identify particular educational settin;s where hearing-

impaired students are less likely, or more likely, to enjoy peer

acceptance. Such study may also identify individual differences among

students associated with peer acceptance.

Mainstreaming and Social Adjustment

One educational setting where it is desirable to study hearing-

impaired adolescents' social relationships is when they are placed in

classes with primarily hearing students, often called mainstreaming. The limited research on effects of mainstreaming on hearing-impaired adolescents suggests that they often experience difficulty in social relationships (Davis, 1986; Lynas, 1986). Two studies of hearing-impaired students in Great Britain enrolled in ordinary school settings found that these students showed poorer adjustment than their hearing peers (Fisher, 1965; Johnson, 1962). Several studies of hearing-impaired students in the United States have yielded similar findings (e.g., Farrugia & Austin, 1980; Foster, 1988; Mertens, 1989). For example, Foster (1988) reported that these students' descriptions of their social experiences in secondary school included much loneliness, rejection, and social isolation.

While these reports emphasize the difficulties of social adjustment in the mainstream setting, there have been a few reports of mainstreamed students having positive or mixed social experiences. Lynas (1985) on the basis of interviews with British deaf adolescents and young adults concluded that they felt that their social experiences had been mixed and that they varied considerably depending on the person. In an American investigation, Ladd, Munson, and Miller (1984) found that when special efforts were made to establish a climate that supported positive interaction between hearing-impaired and normally hearing peers, such positive interaction and friendship occurred.

Thus, the above studies show that there has been variation in hearing-impaired children's and adolescents' social experiences. Given

the social difficulties of many students, it is important to specify further the factors that account for this variation.

The social experiences of mainstreaming are further complicated by issues of self-identity. Glickman (1986), writing about his counseling experiences with hearing-impaired youths, has suggested that establishment of identity with hearing-impaired and hearing social groups is often a complex issue for hearing-impaired adolescents, especially for those who have been mainstreamed. On one hand, contacts in the family, neighbourhood, and school are predominantly with hearing individuals. On the other hand, it is generally easier for hearing-impaired individuals to communicate and establish friendships with each other.

Self-Perceptions of Social Relationships: Dimensions

One way of thinking about social adjustment is in terms of how people see themselves functioning in various aspects of their social lives. In this study, three sets of perceptions, or dimensions, regarding social relationships were investigated:

1. Participation. A major reason for examining participation was that in previous research hearing-impaired students have stated that limited participation is a major concern in the mainstream setting (Foster, 1988; Saur, et al., 1986). As used here, participation refers to self-reports of frequency of activity in three areas: (a) in the classroom (e.g., helping other students), (b) school-based social events (e.g., eating lunch with friends), and (c) social activities out of school (e.g.,

visiting a friend's house). Perceived participation may reflect views regarding extent of contact, situational difficulties, support of others, and personal capabilities. For example, students who are frequently placed in classes with hearing peers might report more participation with hearing peers than those always in self-contained classes, regardless of actual interaction.

2. <u>Relatedness</u>. In this study, the investigation of relatedness is based in part on Connell's (1990) motivational model which emphasizes the individual's appraisal of oneself and of relationships with others. The major components of this model are termed self-system processes. One of these, relatedness, is regarded as a fundamental psychological need "to feel securely connected to the social surround" (p. 4).

For social relationships, relatedness refers to self-appraisals of the security of one's relationships with significant others. This dimension includes the <u>need for closer relationships</u>, i.e., the degree to which individuals want to have closer relationships with their peers, and <u>emotional security</u>, i.e., the appraisal of the security of one's relationship with peers. Relatedness may be closely associated with the extent to which an individual identifies with particular social groups and feels relational bonds with these groups.

3. <u>Perceived social competence</u>. Perceived social competence pertains to appraisals of the extent to which one has the skills and personal characteristics to establish good peer relationships, such as "being willing to talk (or sign) in groups," and one has successfully

established peer relationships, such as "having a lot of friends." Individuals who assign positive evaluations on items tapping these domains are assumed to evaluate their social selves favourably.

Items used to tap perceived social competence in this study are in some respects similar to items in the loneliness questionnaire for children developed by Asher, Hymel, & Renshaw (1984). Both the perceived social competence scale and the loneliness questionnaire contain a set of items concerned with having prerequisite characteristics for establishing relationships. In addition, the two measures contain items that are concerned with extent of successful relationships. Some of these items are concerned with the appraisal of current peer relationships, and others are concerned with the extent to which relationship provisions are being met (e.g., "I have friends I can talk with").

Hearing and Hearing-Impaired Reference Groups

Hearing-impaired students may have more positive perceptions about their relationships with other hearing-impaired peers than about those with hearing ones. The obvious barrier to hearing/hearing-impaired relationships is communication, especially if the hearing-impaired student relies primarily on sign language. Meadow (1980) also found that relationships across peer groups may be impeded by negative attitudes which are sometimes held by hearing adolescents toward hearing-impaired peers. This consideration of relationships with both hearing and hearing-impaired peers provides an additional

perspective on the extent of social integration that occurs in the mainstream setting. For example, in one investigation in England, Dale (1984) concluded that hearing-impaired students who had very little contact with other hearing-impaired peers established better relationships with hearing peers than did those who were attached to partially hearing units and who had more contact with hearing-impaired peers. It seems, however, that Dale did not examine the quality of relationships of the hearing-impaired students with each other. It is possible that these relationships were more satisfying than those with normally hearing peers. Consequently, this current study includes questions about participation and relatedness with hearing-impaired peers as well as hearing ones.

Purpose

This study addresses the need for additional research on the social development of mainstreamed hearing-impaired adolescents. It includes students who vary in their mainstreaming experience in regular secondary schools and further education settings. The following questions are considered:

1. What are the interrelationships of the dimensions of participation, relatedness, and perceived social competence? In a study conducted in the United States, deaf students were enrolled in relatively large special programmes attached to regular secondary schools and tended to be infrequently mainstreamed, usually for one or two hours during the school day (Stinson, Chase, & Kluwin, 1990). In

that study, scales within social group orientation tended to be highly correlated with each other. For example, high ratings for emotional security with hearing-impaired peers were associated with high participation in the classroom, in school-based social events, and in social activities outside of school with the hearing-impaired reference group. The overall pattern of these correlations indicated that students varied in terms of their orientation to hearing or to hearing-impaired peers. One question of interest is whether results for the English students would provide further evidence of systematic variation in social orientation.

An additional finding in the previous study was that participation in activities and relationships with either hearing or hearing-impaired peers appeared to provide a basis for positive perceptions of social competence. However, if students were in a programme with few other hearing-impaired students, then associations of participation and relatedness with perceived social competence might be less likely to occur because there would be few hearing-impaired students available with whom to participate in activities and develop relationships.

2. What differences exist for participation and relatedness in regard to relationships with hearing peers, as compared to those with hearing-impaired ones? In the American study, students assigned more favourable rating of relatedness to items referring to hearing-impaired than to hearing peers (Stinson et al., 1990). These results indicate that relational bonds and identification with hearing-impaired peers are

stronger. In this study, where there were many hearing-impaired classmates in the schools, students also rated themselves as interacting more frequently with other hearing-impaired than with hearing peers in mainstream classes and at school. If the student population as a whole experienced more mainstreaming, however, students might not necessarily indicate that they participate in activities with hearing-impaired schoolmates more frequently since participation may depend on availability.

3. How are self-perceptions concerning participation, relatedness, and perceived social competence influenced by extent of mainstreaming? With increased mainstreaming, participation of hearing-impaired students in activities with hearing peers might increase because the physical placement generates more contact and opportunities. An increase in perceived participation with hearing peers did, in fact, occur in the American study (Stinson, et al., 1990). The present study attempted to determine whether variation in mainstreaming affected perceptions of participation among students in England in a similar fashion. Such placement might not necessarily, however, imply greater relatedness or bonding with hearing peers. In the American study, relatedness with hearing peers did not increase with greater mainstreaming, and relatedness with hearing-impaired peers was higher, even for the group of students mainstreamed to the greatest extent.

Method

Subjects

Subjects were 84 hearing-impaired adolescents enrolled in nine secondary school or further education programmes throughout England. The mean age of these students was 14.7 years (range 12-20), and the mean pure tone average in the speech range for the better ear was 90.3 dB (range 35-120 dB). Half the students were male and half were female (42 each).

Of the 82 students for whom there were data, 19 were enrolled in schools for the deaf and attended mainstream classes at a nearby regular school part-time, 48 were enrolled in schools with partially hearing units, and 15 were in schools without units and received services from a parapatetic teacher. Only nine of 84 reported using an interpreter in their mainstream classes. However, 42 reported that they always received additional instructional support when in mainstreamed classes. (This could be a teacher of the deaf, an interpreter, etc., who was present in the mainstream class.) An additional five received such support part of the time, and 37 received no support. Twenty-one students reported having five or fewer other hearing-impaired students at their school, 30 reported having 6-10, and 30 reported having more than 10 other hearing-impaired students.

Extent of Mainstreaming

For each student, a teacher of the deaf or other special staff member was asked the number of hours the student was enrolled in all

classes, both self-contained and mainstreamed, per week during the current academic year. The teacher was then asked the number of hours the student was mainstreamed per week, and from this information the percentage of time in mainstream classes was computed. An index of mainstreaming was created by collapsing these scores into the following three categories: (a) mainstreamed for 9-43% of class time ($\underline{N}$ = 27); (b) mainstreamed for 44-84% of time ($\underline{N}$ = 27); and (c) mainstreamed for 85-100% of time ($\underline{N}$ = 30).

Social Activity Scale

To assess participation, relatedness, and perceived social competence, the questionnaire included a Social Activity Scale (SAS), British version, which consisted of 59 items. The SAS (American version) had previously been pilot tested with over 100 hearing-impaired students from four programmes in the United States and Canada, and had also been used in a further study of 257 hearing-impaired students in secondary schools in the U.S. Prior to administration of the questionnaire in England, two persons in the U.S. familiar with differences in British and American use of English and a British teacher of the deaf reviewed the instrument for changes in wording in order to make the British and American versions as equivalent as possible.

Items for the three dimensions of the SAS are summarized as follows:

1. Participation. Subscales dealt with participation (a) in the classroom (e.g., "In my mainstream classes, I talk with hearing/hearing-

impaired students), and (b) at school-based social events (e.g., "I have lunch with hearing/hearing-impaired friends). As can be seen, for each type of participation, there were two subscales of corresponding items, with items in one subscale referring to hearing peers and those in the other referring to hearing-impaired peers. Students responded on a 5-point scale indicating frequency of participation; never, two or three times a year, about once a month, about once a week, and everyday. Additional subscales dealt with (c) participation in out-of-school social activities (e.g., "Get together with hearing/hearing-impaired friends at their house"). For these, students responded on a 4-point scale: never, once or twice a year, about once a month, and about once a week.

Relatedness. Subscales tapped need for closer relationships (e.g., "I wish I had more friends who were hearing/hearing-impaired") and emotional security (e.g., "When I'm with hearing/hearing-impaired students my age, I feel nervous."). Students answered on a 4-point scale: almost never, not very often, most of the time, always. Some of these items are adapted from Connell and Wellborn (1987).

Perceived Social Comptence. One subscale asked about ability and success in establishing good peer relationships (e.g., "I feel nervous in groups of people."). These items did not distinguish between relationships with hearing and hearing-impaired peers. Students responded on a 4-point scale: not at all true of me, a little true of me, mostly true of me, very true of me.

Descriptive information regarding the 11 subscales, including alpha indices of internal consistency reliability, are presented in Table 1. These data indicate that all subscales have satisfactory-to-good reliability with respect to internal consistency for research purposes (Nunnally, 1967; cf. Skinner, Chapman, & Baltes, 1988).

Insert Table 1 about here

Procedure

The SAS was administered in groups of five or fewer students by a person familiar with them, such as their partially hearing unit teacher, or by one of the investigators (MSS). Each student received a copy of the questionnaire to complete with pencil. In addition, the examiner read aloud or read aloud and signed (in sign-supported English or British Sign Language) as many of the items in the scale as was desirable to ensure maximum comprehension. This approach was used because the optimal way for understanding the questionnaire varied considerably among students. The extent to which questions were read aloud/signed to students was distributed as follows for the 71 students for whom these data were available: (a) all questions were read aloud/signed, 20 students; (b) about half, 20; (c) a few questions, 16; and (d) no help, 15.

At the beginning, students were told that the questionnaire was not part of their school work and would not be graded. Furthermore,

students received training on four occasions in using the response alternatives (e.g., never......everyday, etc.), just before answering the associated questions. In each instance, the training consisted of practice in responding to statements regarding frequency (e.g., "how often do you make your bed?") or agreement (e.g., "I am good at maths"), as well as discussion and feedback from the examiner. Administration time was approximately 45 minutes.

Results

To facilitate comparison between scales which had different numbers of items, average item scores were calculated for each scale by totaling the ratings for individual items within the scale and dividing this total score by the number of items.

Intercorrelations Among Subscales

In order to obtain information regarding the dimensions of social relationships and individual differences in orientation toward hearing-impaired and hearing peers, the subscales were correlated with each other. Table 2 displays means, standard deviations, and correlations among subscales. The three participation subscales correlated at a statistically significant level with each other within social orientations toward hearing or hearing-impaired peers. That is, students who assigned ratings that indicated a relatively high level of in-class participation with hearing-impaired students also tended to assign high ratings for in-school participation and for social activities with hearing-impaired students. The same pattern of significant

correlations occurred for the measures of participation with hearing students.

Insert Table 2 about here

The need for closer relationships and emotional security subscales correlated significantly with each other for hearing-impaired peers but not for hearing peers. That is, students who expressed a desire for closer relationships with hearing-impaired peers also indicated a more positive rating of emotional security with hearing-impaired peers.

Students who rated themselves as having a greater need for closer relationships with hearing-impaired peers also tended to report a relatively high degree of participation in classroom interactions, in school-based social events, and in social activities outside of school with hearing-impaired peers, as indicated by the significant correlations among these measures. Furthermore, those students who reported relatively high ratings of class, school, and social activities with hearing peers also reported more emotional security with these peers.

The perceived social competence subscale, in which items did not refer differentially to hearing or hearing-impaired groups, correlated significantly with two subscales pertaining to hearing peers. High ratings of perceived social competence were associated with greater participation in social activities with hearing students, and with higher emotional security with hearing peers.

Participation

The next set of analyses focused on the extent to which self-rated participation in class, school, and social activities was influenced by (a) extent of mainstreaming, and (b) reference group. Data were subjected to separate 3 (percent of classes mainstreamed: 9-43, 44-84, 85-100) X 2 (reference group: hearing-impaired, hearing) repeated measures analyses of variance, with reference group as the within-subjects factor. Results for participation in class indicated that, overall, students rated themselves as interacting more frequently in the classroom with hearing peers (M = 3.0) than with hearing-impaired peers (M = 2.2), F (1,71) = 15.41, p < .001.

The relevant means for this interaction can be seen in Figure 1. These data show that as students were more frequently mainstreamed, participation with hearing-impaired classmates decreased. Newman-Keuls tests revealed that the mean rating of participation with hearing-impaired classmates for students mainstreamed 85-100% of the time was significantly lower than ratings of participation with hearing-impaired classmates for students mainstreamed for 9-43% and 44-84% of the time (both ps < .01). In addition, participation with hearing classmates increased with more frequent mainstreaming. The mean rating for participation with hearing classmates for students mainstreamed for 85-100% of their classes was significantly higher than that for students mainstreamed for 9-43% of the time (p < .01). It should also be noted that for students in the group mainstreamed to

the greatest extent, the rating of participation with hearing peers was significantly higher than that with hearing-impaired peers ($p < .01$), although ratings for the two reference groups were very similar to each other at the low and middle levels of mainstreaming.

None of the other effects for class participation were statistically significant.

Insert Figure 1 about here

Analysis of ratings for participation in school, shown in the top half of Table 3, indicated no significant difference overall for participation with hearing-impaired peers in school-based social events as compared to hearing peers (Ms = 3.1 and 2.9, respectively). There was, however, a significant interaction between mainstreaming and reference group, $F(2,78) = 37.20$, $p < .001$. As with class participation, mean ratings for school participation with hearing-impaired peers decreased with more frequent mainstreaming. Newman-Keuls tests revealed that ratings of participation with hearing-impaired peers dropped markedly for those mainstreamed for 85-100% of their classes, relative to those mainstreamed for fewer classes (both $ps < .01$). In addition, participation with hearing peers again increased as a function of mainstreaming. Ratings of participation with hearing peers for students mainstreamed for 44-84% and 85-100% of their classes were

significantly higher than those for students mainstreamed for 9-43% of the time (both ps < .01).

Mean ratings of extent of participation in social activities out of school with hearing and hearing-impaired peers are presented in the bottom half of Table 3. The only statistically significant result for this analysis was that students reported more social activity with hearing peers than with hearing-impaired ones (Ms = 2.6 and 2.0, respectively), $F(1,71)$ = 22.05, p < .001.

<u>Relatedness</u>

The same experimental design was used in analyses of subscales of need for closer relationships and emotional security. Table 4 shows the means of these two subscales as a function of mainstreaming, with the results of need for closer relationships shown in the top portion. Mean ratings of need for closer relationships with both reference groups dropped consistently as a function of increased mainstreaming (Ms = 3.1, 2.9, 2.5, respectively), $F(2,72)$ = 4.88, p < .01. No other effects were statistically significant.

Insert Table 4 about here

The analysis for emotional security, shown in the bottom portion of Table 4, revealed that overall ratings increased as a function of greater mainstreaming (Ms = 3.1, 3.3, 3.4, respectively), $F(2,72)$ = 3.60, p < .05. In addition, students assigned higher ratings for hearing-

impaired ($\underline{M}$ = 3.4) than hearing ($\underline{M}$ = 3.1) peers, $\underline{F}$ (1,72) = 17.39, $\underline{p}$ < .001. The mainstreaming by reference group interaction was not significant.

Perceived Social Competence

The final analysis dealt with perceived social competence. Mean ratings decreased as a function of greater mainstreaming ($\underline{Ms}$ = 3.0, 2,7, 2,8, respectively), $\underline{F}$ (2,78) = 3.40, $\underline{p}$ < .05.

Discussion

Relations Between Dimensions

The correlations between measures of participation and those of relatedness, within each reference group, are of interest. For the subscales referring to hearing-impaired peers, high ratings of need for closer relationships were associated with high participation in classroom interaction, in school-based social events, and in social activities out of school. For subscales referring to hearing peers, high emotional security was associated with the three participation measures. In contrast, correlations of these subscales across reference groups tended to be nonsignificant (8 vs. 4 significant). This overall pattern of correlations indicated that students varied in terms of their social orientation toward hearing or hearing-impaired peers, although variation seemed to be less systematic than in an American study where all 12 participation-relatedness correlations within reference group were significant (Stinson et al., 1990). The English students, relative to the American ones, were younger and generally had less contact with

many other hearing-impaired persons, and, consequently, differentiation in social orientation toward hearing and hearing-impaired peers may not have been as fully developed as among the American students.

Another set of findings was that perceived social competence was positively related to emotional security and to one measure of participation for hearing peers, but social competence was not related to any measures pertaining to hearing-impaired peers. With respect to relationships with hearing adolescents, these results support the proposition that students who engage in many activities and who are emotionally secure in their relationships are also likely to feel confident about their social skills and relationships. The association between participation and social competence is consistent with previous research with hearing adolescents that has demonstrated links between participation and self-esteem (Holland & Andre, 1987). These findings also suggest that even though there are potential communication difficulties and possible negative attitudes towards deafness that may make establishment of rewarding relationships with hearing peers difficult (Meadow, 1981), those hearing-impaired students who feel they can establish such relationships appear to also enjoy a sense of social competence.

These results are different from those for the American study where participation and emotional security for both reference groups were correlated with perceived social competence (Stinson et al., 1990).

One explanation of the failure of scales pertaining to hearing-impaired peers to correlate with social competence is that as a group these students may not have participated in as many activities or had as many relationships with each other that might help foster perceived social competence. If the students had more opportunities for relationships with hearing-impaired classmates, this would provide them with alternative social groups, hearing and hearing-impaired, in which to develop a sense of security and a feeling of competence.

Participation

In regard to participation, one noteworthy finding was that students rated themselves as interacting more frequently with hearing peers than with hearing-impaired ones in mainstreamed classes. This result is not surprising, given that the group as a whole experienced considerable mainstreaming, and, thus, there was considerable potential for associating with hearing classmates. With respect to participation in school-based social events, ratings pertaining to hearing and hearing-impaired reference groups were similar.

In the present study, ratings of participation with hearing peers rose as mainstreaming increased and those regarding hearing-impaired peers decreased. This same pattern of results was also found in the American study (Stinson, et al., 1990) in which students, overall, were mainstreamed less frequently. Thus, the findings regarding effects of extent of mainstreaming on participation generalized from the American to the English setting. The changes in rated participation as a

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function of mainstreaming may reflect (a) changes in opportunity for interaction, since those who experience more mainstreaming spend less time with hearing-impaired classmates; and (b) differences in characteristics of students, since those who are frequently mainstreamed may have better oral skills, academic skills, etc. (Davis, 1986).

For outside-of-school activities, students gave higher ratings of participation with hearing peers. One explanation of this finding is that there are rarely other hearing-impaired peers in the students' neighbourhoods with whom to socialize.

Relatedness

Students indicated that they were more emotionally secure in relationships with other hearing-impaired than with hearing peers. Furthermore, there was no evidence that increased mainstreaming promoted identification and relational bonds with hearing classmates. These findings are identical to those in the two previous American studies (Stinson et al., 1988; Stinson et al., 1990). In general, these findings are congruent with Foster's (1989) conclusion based on ethnographic interviews that hearing-impaired individuals regularly turn to others like themselves to meet such needs as having "real" conversations, developing close friendships, and having a sense of belonging. While this overall tendency is important, individual differences in the students should be kept in mind. Some appeared to find relationships with hearing classmates rewarding.

Note that there was a disrepancy between students' ratings pertaining to emotional security, which were higher for hearing-impaired peers, and those pertaining to participation, which were higher for hearing peers. This discrepancy suggests that some of these mainstreamed students may have unmet needs for more social contact with hearing-impaired classmates.

Another finding was that ratings of need for closer relationships (collapsed across hearing and hearing-impaired reference groups) were highest for those who were least often mainstreamed (i.e., almost always in special classes) and dropped steadily as a function of mainstreaming. The expression of a greater need for friendship by these least mainstreamed students can be interpreted as feelings of being "left out" socially. Another finding that may also have reflected such feelings in this group was that they rated themselves lower on emotional security than the other two groups.

Monitoring Social Adjustment

It is important for school programmes to include in their educational plans opportunities for social growth and development and to monitor this development in an ongoing fashion (Davis, 1986). Positive social environments are those in which students have sufficient opportunity to develop social skills, in which they can enjoy positive experiences, and in which there are opportunities to express their feelings regarding social interactions and relationships (Davis, 1986). For example, some mainstreamed students may be functioning quite

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adequately academically, but may experience social difficulties, and these students need help (Leigh & Stinson, in press). The SAS may help identify situations where students are most likely to experience social difficulty and need additional support. One possible situation suggested by this study would be that of the students who were mainstreamed to the greatest extent; for a number of them, there may be a large discrepancy between the group with whom they tend to participate in school activities and the one with whom they feel the strongest relational bond. Furthermore, the SAS may be a potential measure for deciding what level of mainstreaming is appropriate for individual students. For example, if a student expresses clear dissatisfaction with social relationships on the SAS, and there is additional evidence, counseling and/or a change in educational placement may be appropriate.

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Author Notes

Table 1

Descriptive Information Including Internal Consistencies (Coefficient Alpha) for Subscales of the Social Activity Scale

	Items	Maximum Possible Score	Internal Consistency
<u>Participation</u>			
In-class participation			
(e.g., "I help other students in class.")			
with hearing-impaired students	4	16	.94
with hearing students	4	16	.80
In-school participation			
(e.g., "I meet a friend and say 'Hello'."			
with hearing-impaired students	3	12	.88
with hearing students	3	12	.70
Social Activities			
(e.g., "I get together with friends at their house.")			
with hearing-impaired peers	8	32	.86
with hearing peers	8	32	.85
<u>Relatedness</u>			
Need for closer relationships			
(e.g., "I wish I had more friends.")			
with hearing-impaired peers	4	16	.92
with hearing peers	4	16	.77
Emotional security			
(e.g., "When I'm with students my age, I feel lonely.")			
with hearing-impaired peers	6	24	.70
with hearing peers	6	24	.73
<u>Perceived Social Competence</u>			
(e.g., "I can talk about many different things.")	9	36	.71

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Table 2

Intercorrelations Among Subscales of the Social Activity Scale

	M	SD	2	3	4	5	6	7	8	9	10	11
Participation												
In-class participation												
with hearing-impaired students (1)	2.2	1.7	-.14	.61**	-.22	.24*	.01	.35**	.21	.09	-.21	-.03
with hearing students (2)	3.0	1.0		-.46*	.74**	-.15	.51**	-.40**	.00	-.05	.31**	.01
In-school participation												
with hearing-impaired students (3)	3.0	1.5			-.43**	.38**	-.17	.46**	.25*	.15	-.16	.06
with hearing students (4)	3.1	1.1				-.24*	.38**	-.27*	.13	-.14	.38**	-.11
Social Activities												
with hearing-impaired peers (5)	2.0	.8					.10	.39**	-.01	.13	-.26*	.04
with hearing peers (6)	2.6	.8						-.12	.06	-.06	.28*	.36**
Relatedness												
Need for closer relationships												
with hearing-impaired peers (7)	2.8	.9							.22	.29*	-.23*	-.07
with hearing peers (8)	2.9	.7								.05	.11	.05
Emotional security												
with hearing-impaired peers (9)	3.4	.5									.17	.16
with hearing peers (10)	3.1	.6										.33**
Perceived Social Competence (11)	2.9	.5										

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Note. N for subscales ranged from 76 to 83.
*p < .05; **p < .01

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Table 3

Mean Item Ratings of Participants in Class, School and Social Activities

as a Function of Extent of Mainstreaming

		Percentage of Classes Mainstreamed in Past Two Years		
		9-43	44-85	86-100
In-class participation				
	(N)	(25)	(23)	(26)
with hearing-impaired students		2.7	2.9	1.1
with hearing students		2.3	3.2	3.5
In-school participation				
	(N)	(27)	(26)	(28)
with hearing-impaired students		3.8	3.5	1.6
with hearing students		2.3	3.3	3.7
Social Activities				
	(N)	(22)	(24)	(28)
with hearing-impaired students		2.3	2.1	1.6
with hearing students		2.7	2.5	2.6

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Table 4

Mean Item Ratings of Need for Closer Relationships and Emotional

Security as a Function of Extent of Mainstreaming

		Percentage of Classes Mainstreamed in Past Two Years		
		9-43	44-85	86-100
Need for closer relationships				
	(N)	(24)	(26)	(30)
with hearing-impaired peers		3.1	2.9	2.3
with hearing peers		3.1	3.0	2.7
Emotional security				
	(N)	(26)	(23)	(26)
with hearing-impaired peers		3.3	3.5	3.5
with hearing peers		2.9	3.2	3.2

Figure 1

**Mean Item Ratings on In-Class Participation
as a Function of Extent of Mainstreaming**

Percentage of Classes Main-
streamed in Past Two Years