
Adolescents' Attitudes toward Their Peers with Hearing Impairments

Ramona Stein

Rochester Hearing and Speech Center

Kim Gill

University Otolaryngology

Donald Gans

Kent State University

A questionnaire was distributed to 80 adolescents with normal hearing to determine whether gender and/or the presence of a classmate with a hearing impairment affected attitudes toward socialization with, appearance of, and achievement of peers with hearing impairments. While some negative attitudes continue to exist toward those with hearing impairment, the degree of negativity appears to have decreased compared to studies conducted in the 1980's. These results suggest that educational programs should continue to be implemented in the home and at school to further improve acceptance of children with hearing impairments.

Introduction

Numerous changes have occurred in the past 20 years regarding the education of children with disabilities. In the past, students who were eligible for special education services were typically served outside of the regular classroom and sometimes in separate schools. Current educational inclusion models are designed to include all students, regardless of degree and type of disability, into regular education classrooms. Inclusion allows children with disabilities to be educated (to the greatest extent possible) with children of the same age who are not disabled.

Although inclusion has been adopted by many school systems, questions still remain as to the acceptance of the child with a disability into a regular classroom by peers without disabilities. Inclusion programs have recently been described as having a generally positive effect on social relations between students with and without disabilities (Baker, 1994). Research conducted in the last two decades focusing on the attitudes of individuals without disabilities toward people with disabilities has found that very young children did not exhibit negative attitudes toward their classmates with hearing impairments (Hall, McCarthy, & Peach 1985). However, negative attitudes have been documented for older children and adults. For example, several studies indicated that teachers have stereotypical views of children wearing hearing aids (Brimacombe, Danhauer & Mulac, 1983; Brooks & Fisher, 1981; Cox, Cooper, & McDade, 1989). Dengerink and Porter (1984) reported that school-age children also exhibit negative attitudes toward the appearance, achievement, personality and intelligence of children with hearing impairments. Specifically, ratings were significantly poorer when a hearing aid was visible to the respondent, and larger hearing aids produced more negative responses.

Previous studies in the 1980's have also documented the existence of a gender bias toward young hearing aid wearers. Specifically, Kasten and Henry (1986) found that attitudes of school-age girls toward peers wearing hearing aids were more negative than those of school-age boys. Young hearing aid wearers were also characterized differently by adults on the basis of gender. Dengerink and Porter (1984) found that teachers rated boys wearing hearing aids more negatively in the areas of appearance and achievement than boys not wearing hearing aids. A study conducted by Cox et al. (1989) found similar results for school-age girls wearing hearing aids. However, the girls were also rated more negatively than boys for items pertaining to personality. Although anecdotal reports indicate that inclusion programs provide social benefit to students with disabilities (Turner & Traxler, 1995), we have found no recent data-based studies that have investigated whether negative perceptions continue to exist toward school-age children with hearing impairments.

Establishing educational programs that provide information to students regarding different disabilities may facilitate the acceptance of a child with a disability by his/her peers. In order to design effective educational programs, it is necessary to obtain up-to-date and specific information from children who are not disabled regarding their attitudes toward their peers with disabilities.

The purpose of the present investigation was to determine whether gender and/or the presence of a student with a hearing impairment in the classroom affects adolescents' attitudes toward socialization with, appearance of, and achievement of peers with hearing impairments.

Methods

Subjects

Participants consisted of 80 adolescents with normal hearing (40 males, 40 females) attending a suburban middle school. The demographics of the school system reflected a diversity of race, gender, socioeconomic status, standardized test scores, and graduation rates that were essentially average for school systems in the state of Ohio. The students were selected from seventh- and eighth-grade classrooms. The mean age of the students was 13.1 years, with a range between 12 and 14 years. One-half of the students were selected from classrooms which included one (seventh grade) or three (eighth grade) mainstreamed student(s) with hearing impairments ("Classroom With" in Table 1), and half were selected from classrooms which contained students with no known hearing impairments ("Classroom Without"). All students with hearing impairments utilized both hearing aids and FM auditory trainers. There were 20 males and 20 females from each classroom, and all were regular education classrooms. All participants were students attending the same middle school and had no known hearing impairment.

Questionnaire

An 18-item questionnaire was developed in order to assess adolescents' attitudes toward their peers with hearing impairment (see Appendix A). Agreement-disagreement questions were used to evaluate students' attitudes toward socialization with, appearance of, and perceived achievement of their peers with hearing impairments.

Procedure

The classroom teachers administered the questionnaire in December, 1995. The classroom teachers told their students that researchers wanted to determine middle school students' attitudes toward classmates with hearing impairments. After asking for volunteers to complete the questionnaire, the students were instructed not to write any identifying information on the questionnaire and to complete all items on the questionnaire. The students were also assured that there were no right or wrong answers to the questions.

Statistical Analysis

A Chi-square analysis was used to determine whether adolescents' attitudes toward peers with hearing impairments were independent of gender and the presence of a classmate with a hearing impairment. The Chi-square analysis was computed for within each classroom to determine whether there were differences in attitudes between males and females. Additionally, the Chi-square analysis was used to determine if there were attitude differences between students in each classroom, regardless of gender.

Results

Thirty-nine of forty students from the Classroom With a student with a hearing impairment and the majority of students from the Classroom Without a student with a hearing impairment (93%; 37/40) knew an individual with a hearing impairment. All

Table 1. Responses to Selected Questionnaire Items Regarding Adolescents' Attitudes Toward Their Peers with Hearing Impairments: SOCIALIZATION

| Questionnaire Item | | Percentage Responding | | | |
|---|----------|-----------------------|------------|-------------------|-----------|
| | | Classroom Females | W/O* Males | Classroom Females | W** Males |
| I don't like to talk to hearing-impaired kids because they sound different | Agree | 6% | 6% | 0% | 12% |
| | Disagree | 94% | 94% | 100% | 88% |
| My friends with normal hearing would laugh at me if I were friends with a hearing impaired kid. | Agree | 0% | 0% | 0% | 22% |
| | Disagree | 100% | 100% | 100% | 78% |
| I would feel comfortable wearing a hearing aid if I had a hearing loss, even in a classroom with no other hearing-impaired kids | Agree | 83% | 84% | 74% | 89% |
| | Disagree | 17% | 16% | 26% | 11% |

* W/O = without student with a hearing impairment; ** W = with student with a hearing impairment

forty students in the Classroom With reported that they knew an individual who wears a hearing aid. All female students and twelve male students (80%) in the Classroom Without reported that they knew someone who wears a hearing aid.

The following is a summary of the major findings of this study. It is important to note that, despite being instructed, some students provided more than one response for certain questionnaire items, and several students failed to respond to all items on the questionnaire. These questionnaires were also included in the analysis.

Socialization

Table 1 summarizes the results from three questionnaire items (# 14, 15, and 18) targeting socialization. Item #18 was categorized as a socialization item rather than an appearance item because it dealt with projected comfort levels in a social setting. One male and one female student from the Classroom Without (6%; 2/36) agreed with the following statement, "I don't like to talk to hearing-impaired kids because they sound different." Two male students from the Classroom With (6%; 2/36) agreed with the same statement.

The Chi-square analysis revealed a significant difference in attitude between males and females from the Classroom With in the area of socialization ($X^2_{0.05}(1) = 4.73$)[see Appendix B]. All 19 females (100%) but only 78% (14/18) of the males disagreed with the statement, "My friends with normal hearing would laugh at me if I were friends with a hearing-impaired kid." Further analysis of responses to this questionnaire item yielded a significant difference in attitudes for students in Classrooms With and Without a student with a hearing impairment ($X^2_{0.05}(1) = 4.23$).

None of the thirty-seven students in the Classroom Without agreed that their friends with normal hearing would laugh at them if they were friends with a student with a hearing impairment. However, four of the thirty-seven students (11%) from the Classroom With agreed with the same statement.

Eighty-four percent (31/37) of students in the Classroom Without agreed with the following statement, "I would feel comfortable wearing a hearing aid if I had a hearing loss, even in a classroom with no other hearing-impaired kids." Overall, responses from the Classroom With were similar, although fewer females (74%; 14/19) than males (89%; 17/19) agreed with the statement.

Appearance

Three questionnaire items (# 9, 16, & 17) targeted appearance (Table 2). The Chi-square analysis yielded a significant difference ($X^2_{0.05}(1)(1) = 4.69$) between males and females from the Classroom Without for item number nine which states "Kids who wear hearing aids are as good looking as kids who don't wear hearing aids." All of the 20 female students agreed with that statement, while only 79% (15/19) of the males agreed with the same statement.

Eighty-four percent of the students (32/38) from the Classroom With agreed with the following statement, "I would want to wear a hearing aid if I were hearing impaired." Ninety-two percent of the students from the Classroom Without agreed with the same statement (34/37), although fewer females than males agreed. Only 32% of the students (24/75) surveyed in either classroom agreed with the statement, "I would only wear a hearing aid if nobody could see it" (35% [13/37] from the

Table 2. Responses to Selected Questionnaire Items Regarding Adolescents' Attitudes Toward Their Peers with Hearing Impairments: APPEARANCE

| Questionnaire Item | | Percentage Responding | | | |
|---|----------|-----------------------|------------|-------------------|-----------|
| | | Classroom Females | W/O* Males | Classroom Females | W** Males |
| Kids who wear hearing aids are as good looking as kids who don't wear hearing aids. | Agree | 100% | 79% | 90% | 85% |
| | Disagree | 0% | 21% | 10% | 15% |
| I would want to wear a hearing aid if I were hearing impaired. | Agree | 88% | 95% | 89% | 79% |
| | Disagree | 12% | 5% | 11% | 21% |
| I would only wear a hearing aid if nobody could see it. | Agree | 22% | 35% | 26% | 44% |
| | Disagree | 78% | 65% | 74% | 56% |

* W/O = without student with a hearing impairment; ** W = with student with a hearing impairment

Classroom With a student with a hearing impairment, and 29% [11/38] from the Classroom Without a student with hearing impairment).

Achievement

Three questionnaire items (# 5, 11, & 13) targeted achievement. Nearly all of the students (93%; 37/40) from the Classroom With agreed with the statement, "Hearing-impaired kids are as good at sports as kids with normal hearing." Eighty-eight percent (35/40) of students in the Classroom Without agreed with the same statement (Table 3).

All 40 students from the Classroom With agreed with the following statement, "Hearing-impaired kids are as smart as kids with normal hearing." All but one male student (36/37) from the Classroom With agreed with the following statement, "Hearing-impaired kids do as well in school as normal hearing kids." Nearly all of the students from the Classroom Without agreed with the same statement (36/38).

Discussion

This study examined whether gender and/or the presence of a classmate with a hearing impairment affected adolescents' attitudes toward peers with hearing impairments. Overall, results of the present study revealed more acceptance of classmates with a hearing impairment than reported in the literature of the 1980's. Dengerink and Porter (1984) surveyed children between the ages of 10 and 12 years, and reported that these children gave significant negative ratings to their peers wearing hearing aids in the

areas of appearance and achievement. Significantly less favorable responses were obtained for children pictured wearing a hearing aid of any size, versus no hearing aid or glasses only. No significant differences were found in the present study in the area of socialization.

It is likely that educational policy changes occurring over the past 20 years have made inclusion of students with hearing impairments less uncommon for their normal-hearing peers than was the case in the early stages of implementation. Heightened public awareness of disabilities may also be a factor. The implementation of the Americans with Disabilities Act (ADA) has resulted in visible signage and accessible public areas. Over the years since the implementation of the ADA, this exposure to the issues facing individuals with disabilities may have contributed to the apparent increased acceptance by classmates with normal hearing.

Nevertheless, the results of the present investigation indicate that some adolescents continue to have negative attitudes toward socialization with, the appearance of, and the achievement of children with hearing impairments. These results support previous research findings which indicate that children with hearing impairments are rated lower by other students on traits including intelligence, achievement, personality, and appearance (Blood, Blood, & Danhauer, 1977; Blood, Blood, Danhauer, & Gomez, 1980). However, as indicated above, results of the present study do not demonstrate the same magnitude of effects reported in previous research conducted in the 1980's.

Gender was a significant factor on one questionnaire item targeting appearance for students from the classroom containing no students with hearing impairments. All female students

Table 3. Responses to Selected Questionnaire Items Regarding Adolescents' Attitudes Toward Their Peers with Hearing Impairments:ACHIEVEMENT

| Questionnaire Item | | Percentage Responding | | | |
|--|----------|-----------------------|------------|-------------------|-----------|
| | | Classroom Females | W/O* Males | Classroom Females | W** Males |
| Hearing-impaired kids are as good at sports as kids with normal hearing. | Agree | 90% | 90% | 95% | 90% |
| | Disagree | 10% | 10% | 5% | 10% |
| Hearing-impaired kids are as smart as kids with normal hearing. | Agree | 95% | 90% | 100% | 100% |
| | Disagree | 5% | 10% | 0% | 0% |
| Hearing-impaired kids do as well in school as normal hearing kids. | Agree | 94% | 95% | 100% | 94% |
| | Disagree | 6% | 5% | 0% | 6% |

* W/O = without student with a hearing impairment; ** W = with student with a hearing impairment

agreed with the statement "Kids who wear hearing aids are as good looking as kids who don't wear hearing aids." Significantly fewer male students from the same classroom agreed with the same statement. Gender was also a significant factor on an item targeting socialization for students from the classroom containing a student with a hearing impairment. No female students agreed with the statement, "My friends with normal hearing would laugh at me if I were friends with a hearing-impaired kid." In contrast, approximately one-fifth of the male students from the classroom containing a student with a hearing impairment agreed with the same statement. The presence of a classmate with a hearing impairment was a significant factor for the same questionnaire item targeting socialization. Only male students from the classroom that contained a student who was hearing impaired agreed with this statement.

With regard to socialization, only 6% (4/62) of the students agreed with the statement, "I don't like to talk to hearing-impaired kids because they sound different." In addition, 5% (4/74) of the students agreed with the statement, "My friends with normal hearing would laugh at me if I were friends with a hearing-impaired kid." These findings suggest that adolescents with normal hearing are willing to accept children with hearing impairments into their peer groups. On the other hand, nearly 20% of the students said they would not be comfortable wearing a hearing aid in a classroom in which there were no other students with hearing impairments. These adolescents with normal hearing seem to be willing to accept peers with hearing impairments. At the same time, they are concerned about peer reaction when asked to put themselves in the place of a person with a hearing impairment. It is possible that although adolescents participating in this study can accept the person who is hearing impaired, they may still have difficulty accepting the visible manifestation of the hearing impairment. Thios and Foster (1991) report a similar trend regarding preschool children. A three-week program designed to educate children about disabilities produced positive changes in attitude and an increase in preschool children's knowledge of disabilities. However, the authors observed no behavioral changes in social interaction patterns.

Questionnaire items targeting the appearance of classmates with hearing impairments elicited the highest percentage of negative responses (15.5%; 48/309), with male students responding negatively more often than female students regardless of classroom (19.2%; 30/156 males and 11.8%; 18/153 females)[see Appendix C]. Although the large majority of students reported that they would want to wear a hearing aid if they were hearing impaired, nearly one-third agreed that they would only wear a hearing aid if no one could see it. Nearly 90% of students agreed that children wearing hearing aids are as good looking as children not wearing hearing aids. Although responses to this questionnaire item indicate that these adolescents do not think wearing a hearing aid affects another person's appearance, nearly one-third of the students think that wearing a hearing aid would affect their own appearance.

Nearly the same percentage of negative responses was obtained on achievement items. Students participating in this

study maintain negative attitudes toward peers with hearing impairments, but results for the socialization items indicate that negative perceptions would not be a deterrent to socializing with a student with a hearing impairment. The lowest percentage of negative responses was obtained in the area of socialization (7.4%; 34/461).

Overall, the highest percentage of negative responses was obtained from males whose classroom contained no students with hearing impairments (14.9%; 43/289). Of all student groups, females with a classmate who was hearing impaired had the lowest percentage (8.5%; 25/294) of negative responses overall (Appendix C).

It is possible that the responses obtained in this study were influenced by the respondents' desire to appear politically correct. Real or perceived social pressure could have prompted some students to provide responses they thought were expected of them, rather than those that reflected their true feelings and opinions. Further, because of current or prior exposure to peers with hearing impairment, the majority of students participating in this study were able to base their responses on actual experiences. Earlier studies required subjects to base their judgments on pictures, which may result in different responses.

In a future study, it would be interesting to obtain information on the degree to which the students agree or disagree with a questionnaire item. For the purposes of this study, this information would have helped to quantify how strongly the males in classrooms without a student with a hearing impairment felt about each item.

To summarize, male and female students' attitudes toward their peers with hearing impairments were not significantly different for most of the questionnaire items. Therefore, educational programs could include the same information and format for all participants. Further, there was little evidence of large-scale negative attitudes toward classmates with hearing impairments. The presence of a classmate with a hearing impairment did not have a significant impact on the attitudes of classmates without hearing impairments. However, respondents' attitudes may have been affected by previous exposure to peers with a hearing impairment.

Nearly every student knew someone with a hearing impairment, regardless of classroom. In fact, 82% of students from the classroom that contained no student with a hearing impairment indicated that the person they knew who was hearing impaired was in their school. Previous exposure and familiarity with individuals with hearing impairments may have had an impact on students' responses to certain questionnaire items. It would be interesting to obtain the responses of adolescents with no prior exposure to peers with hearing impairment to determine whether attitudes differ significantly from those obtained in this study.

Hall et al. (1985) found that kindergartners and first grade children did not exhibit negative attitudes toward their classmates with hearing impairments. The results of their study suggest that negative attitudes toward individuals with hearing impairments develop at some point beyond school entry age. Dengerink and Porter (1984) found that negative attitudes toward hearing aid wearers did exist among fifth and sixth grade students. The

results of these studies suggest that negative attitudes may develop at some point between the ages of 6 and 12 years, but that inclusion may reduce the overall negative perceptions toward those with hearing impairments.

In order to discourage negative attitudes toward persons with disabilities, education about individuals with disabilities should continue to be emphasized in the home and in the school setting. Parents have an important job as educators and role models for their children. Because negative attitudes appear to develop after school entry, the positive feelings generated toward individuals with disabilities in the home should be further developed by school personnel. It is important to focus on similarities between children with disabilities and those without disabilities. Focusing on similarities rather than differences is a more positive approach that can be used to teach children about their peers with hearing impairments. This approach may prevent the formation of negative attitudes and misconceptions.

Several successful programs have been described in the literature. For preschool children, Keller and Honig (1993) report that inclusion programs produce more positive interactions between children with and without disabilities after participation in the programs. Kluwin, Gonsler, and Silver (1996) report that kindergarten children with and without hearing loss were successfully integrated, and that the children with hearing impairments were accepted by normal-hearing children.

Audiologists and speech-language pathologists should play a primary role in educational programs about hearing impairment by providing information to students, parents, and teachers. Educational programs should be provided for all students who attend the same school as the student with the hearing impairment. These programs should be conducted annually from the time a child enters the school system in order to reinforce the information as much as possible.

Educational programs for all students should include general information about the effects of hearing loss on communication, hearing aids, and assistive devices commonly used in educational settings. Because prior exposure to peers with hearing impairment may influence attitudes, opportunities for interaction with peers with hearing impairments should be provided. Common misconceptions regarding the appearance and achievement of persons with hearing impairments should also be addressed.

In addition to these general programs, programs that include more specific information should be arranged for classrooms that contain a student with a hearing impairment. These programs should include opportunities for small groups of students to interact with the student with a hearing impairment, as well as the chance to view and learn about hearing aids and assistive devices used by the student. Role-playing activities can be used to encourage interaction in a controlled setting. Other suggestions to increase social interaction in inclusion programs include organization of the classroom so that peer interaction is encouraged, fostering discussions regarding friendship in general, and the provision of social skills training (Bergen, 1993). These activities should reduce students' fear of the unknown and increase tolerance of all individuals with disabilities both inside and outside the classroom.

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Appendix A

Questionnaire

What is your sex? _____ What is your age? _____

1. Do you know anyone who has a hearing loss? _____
2. If you answered yes to #1, is the hearing-impaired person in your:
(check as many as you know)
 _____ family _____ class
 _____ school, but not in your class _____ other (explain)
3. Do any of the hearing-impaired people you know wear hearing aids? If yes, is the person in your: (check as many as you know)
 _____ family _____ class
 _____ school, but not in your class _____ other (explain)
4. Hearing-impaired kids are as healthy as kids with normal hearing. ___ Agree ___ Disagree
5. Hearing-impaired kids are as good at sports as kids with normal hearing. ___ Agree ___ Disagree
6. Hearing-impaired kids are as good at playing musical instruments as kids with normal hearing. ___ Agree ___ Disagree
7. Hearing-impaired kids are as nice as kids with normal hearing. ___ Agree ___ Disagree
8. Hearing-impaired kids are as friendly as kids with normal hearing. ___ Agree ___ Disagree
9. Kids who wear hearing aids are as good looking as kids who don't wear hearing aids. ___ Agree ___ Disagree
10. Hearing-impaired kids are as fun to be with as kids with normal hearing. ___ Agree ___ Disagree
11. Hearing-impaired kids are as smart as kids with normal hearing. ___ Agree ___ Disagree
12. Kids with more hearing loss are as smart as kids with less hearing loss. ___ Agree ___ Disagree
13. Hearing-impaired kids do as well in school as normal hearing kids. ___ Agree ___ Disagree
14. I don't like to talk to hearing-impaired kids because they sound different. ___ Agree ___ Disagree
15. My friends with normal hearing would laugh at me if I were friends with a hearing-impaired kid. ___ Agree ___ Disagree
16. I would want to wear a hearing aid if I were hearing impaired. ___ Agree ___ Disagree
17. I would only wear a hearing aid if nobody could see it. ___ Agree ___ Disagree
18. I would feel comfortable wearing a hearing aid if I had a hearing loss, even in a classroom with no other hearing-impaired kids. ___ Agree ___ Disagree

Appendix B

| Questionnaire Item | Chi-Square Values | | |
|--------------------|-------------------------|-----------------------|---------------------------------|
| | Males vs. Females W/O** | Males vs. Females W** | Classroom W/O vs. Classroom W** |
| 4 | 0.23 | 1.03 | 2.88 |
| 5 | 0.00 | 0.36 | 0.16 |
| 6 | 0.63 | 0.20 | 0.18 |
| 7 | 2.00 | 1.03 | 0.32 |
| 8 | 2.00 | 1.03 | 0.32 |
| 9 | 4.69 | 0.23 | 0.09 |
| 10 | 0.29 | 3.09 | 0.56 |
| 11 | 0.36 | 0.00 | 3.12 |
| 12 | 0.40 | 1.06 | 1.83 |
| 13 | 0.02 | 1.08 | 0.32 |
| 14 | 0.00 | 2.37 | 0.00 |
| 15 | 0.00 | 4.73 | 4.23 |
| 16 | 0.56 | 0.79 | 1.05 |
| 17 | 0.75 | 1.33 | 0.33 |
| 18 | 0.01 | 1.58 | 0.06 |

* $X^2_{0.05}(1) = 3.84$

** W/O = without student with a hearing impairment; W = with student with a hearing impairment

Appendix C

Percentage of Negative Responses by Student Group

| | Classroom W/O* | | Classroom W* | | Total |
|---------------|----------------|---------------|---------------|---------------|---------------|
| | Females | Males | Females | Males | |
| Appearance | 10.7%; 8/75 | 19.0%; 15/79 | 12.8%; 10/78 | 19.5%; 15/77 | 15.5%; 48/309 |
| Socialization | 5.3%; 6/114 | 8.5%; 10/117 | 4.3%; 5/116 | 11.4%; 13/114 | 7.4%; 34/461 |
| Achievement | 19.8%; 19/96 | 16.2%; 16/99 | 10.0%; 10/100 | 15.3%; 15/98 | 15.3%; 60/393 |
| Total | 11.6%; 33/285 | 13.9%; 41/295 | 8.5%; 25/294 | 14.9%; 43/289 | |

* W/O = without student with a hearing impairment; W = with student with a hearing impairment