Chapter 6
Risk and Resilience for Social Competence: Deaf Students in General Education Classrooms

Shirin D. Antia, Susanne Reed, and Linda Shaw

Abstract Increasing numbers of deaf students receive most of their education in general education classrooms. These students may not have easy access to peers and adults with whom they can communicate; consequently professionals have expressed fears that these students will be socially isolated and lack opportunities to develop the social competence necessary for success. We briefly review the available literature on social competence of deaf students in general education classrooms, paying particular attention to student-related, school-related, and family-related factors that influence risk and resiliency. Student-related risk factors include the presence of a hearing loss (however mild) and lack of social maturity due to age; resilience factors include an outgoing personality, good communication skills, and the ability to self-advocate. School-related risk factors include school transitions (e.g., from elementary to middle school); resilience factors include opportunities to work collaboratively and become familiar with hearing peers; access to extra-curricular activities; and stable, continuing services from teachers of the deaf. Family-related risk factors include lack of resources; resilience factors include parental communication with school personnel and social coaching by parents. Case studies of three deaf students are provided to illustrate the effects of risk and resilience factors. Although there continue to be gaps in our knowledge of the social competence of deaf students in general education classrooms, the current literature indicates that these students are not necessarily lonely or isolated. However, additional research on how to minimize risk and increase resilience is needed.

Deaf children have long been considered a population at risk for difficulties in developing social competence because of the negative effects of hearing loss on language and communication development. This is particularly true for deaf children of hearing parents. In a classic article, Meadow (1980) suggested that the communication and language difficulties experienced by many deaf children result

S.D. Antia (✉)
Department of Disability and Psychoeducational Studies,
University of Arizona – Tucson, Tucson, AZ, USA

in experiential deficiencies that, in turn, negatively influence their social maturity (Meadow, 1980). Specific areas of social delay may include the development of emotional understanding, and predicting the motivation and feelings of others (Greenberg & Kusche, 1993). More recently, researchers studying the development of Theory of Mind suggest that language focuses children's attention on mental explanations of behavior and provides them with a vocabulary for abstract concepts such as thoughts and feelings (Schick, deVilliers, deVilliers, & Hoffmeister, 2007). Such a vocabulary, in turn, plays an important role in understanding the feelings, motivation and actions of others that is essential to the development of social relations. The lack of full accessibility to language and communication therefore can negatively influence deaf children's social development.

Deaf children's difficulties in acquiring social competence can also be attributed to their inability to pick up incidental cues about social behavior from the people around them and from "linguistic overprotection" (Calderon & Greenberg, 2003; Greenberg & Kusche, 1993). Most children learn social behavior by incidental and passive exposure to events such as adult discussions, or siblings' and parents' talk about the resolution of social difficulties. Such incidental learning may be unavailable to many deaf children who cannot access communication not specifically directed toward them. Linguistic overprotection occurs when the adults (parents or teachers) do not provide extended or complete verbal explanations to the deaf child regarding the child's own actions, the actions of the adults themselves, or the actions of other individuals. Thus, deaf children may not always understand the reasons for specific actions; neither may they understand that specific behaviors might have social consequences or affect social relationships. The paucity of explanation may occur because the adult believes that the deaf child's communication abilities would prevent comprehension of the explanation or because the adult feels insecure communicating with the child. Such insecurity may be most acute for parents whose children use sign language.

In the past, most deaf students attended residential or day schools. The signing environment at these schools allowed deaf students access to communication and opportunities to interact with multiple deaf peers. Since the 1970s, however, deaf students have increasingly been attending their local public schools. In the USA, data collected by the Gallaudet Research Institute (GRI) indicated that, in 2006–2007, 75% of deaf children nationwide attended local public schools and 44% of deaf students attended general education classrooms for 16 or more hours per week (Gallaudet Research Institute, 2006). These children may not have easy access to peers and adults with whom they can communicate. Professionals have expressed fears that these children will consequently be socially isolated and not have opportunities to develop the social competence necessary for success (Stinson & Kluwin, 2003).

Although hearing loss may place deaf students in public schools at risk for poorer social outcomes, there are many factors that can mitigate against those risks. A body of research has emerged examining factors that influence individual reactions to adverse life events. Those factors that enhance one's ability to successfully cope with difficult or traumatic life circumstances are collectively referred to as "resilience." Resilience has been defined in many different ways but is perhaps best

described as "the individual's capacity for adapting successfully and functioning competently despite experiencing chronic stress or adversity, or following prolonged or severe trauma" (Cicchetti & Rogosch, 1997). Resilience literature has identified numerous factors that appear to exert a "protective" effect that allows individuals in adverse conditions to achieve a variety of positive outcomes. These factors range from a wide range of personality factors such as self-efficacy, self-esteem, a sense of humor, prosocial values, and an optimistic attitude (Brooks, 1999; Cicchetti & Rogosch, 1997; Peng, 1994; Rutter, 1990; Werner, 1993) to relationships with parents, counselors, teachers, and others (Cicchetti & Rogosch, 1997; Gilligan, 2000; Masten, 1994; Wolin & Wolin, 1993). Community participation and access to various needed resources are also seen as important contributors to resiliency (Gilligan, 2000; Sandler, 2001).

In this chapter, we will review the literature on social competence for deaf students in general education classrooms, examine factors that contribute to risk and resilience and present three case studies of deaf students in public schools that illustrate the contribution of various risk and resiliency factors to social outcomes.

Social Competence

Social competence is a complex concept that includes the ability to appropriately communicate with others; the knowledge of the rules governing interactions within a variety of social contexts; the ability to take multiple perspectives in different situations; an understanding of the feelings and motivations of others; and the ability to use these skills and abilities to maintain healthy social relationships (Antia & Kreimeyer, 1992; Calderon & Greenberg, 2003). Social competence can therefore be measured in a variety of ways. Researchers have examined deaf children's social interaction with peers (Antia, 1982; Arnold & Tremblay, 1979; Lederberg, 1991; Lederberg, Ryan, & Robbins, 1986; Minnett, Clark, & Wilson, 1994; Rodriguez & Lana, 1996); social acceptance by peers (Bowen, 2008; McCain & Antia, 2005; Nunes & Pretzlik, 2001; Wauters & Knoors, 2008), their ability to make and keep friends (Musselman, Mootilal, & MacKay, 1996; Stinson & Kluwin, 1996; Stinson & Whitmire, 1991, 1992), and their social skills as rated by teachers, parents, and themselves (Antia et al., 2008).

Peer Social Interaction

Early observation studies of social interaction of deaf children with hearing peers found that preschool and elementary-age deaf children in integrated settings (i.e., with hearing children present) interacted less frequently with peers, spent less time in interaction with peers, and interacted with fewer peers than hearing children (Antia, 1982; Antia & Kreimeyer, 2003; McCauley, Bruininks, & Kennedy, 1976;

Vandell & George, 1981). Deaf children were also found to engage significantly less in associative/cooperative play than hearing children (Antia & Dittillo, 1998). Early studies of high school students using self reports of social interaction and participation also indicate that deaf students reported more frequent in-school interaction with deaf than hearing peers (Stinson, Whitmire, & Kluwin, 1996). Antia and Kreimeyer (2003) provide a comprehensive review of deaf children's social interaction with peers. In this chapter, we will focus on the factors that appear to facilitate peer interaction.

Peer interaction is influenced by familiarity, gender, and mode of communication. Lederberg et al. (1986) observed preschool deaf children in dyadic play with peers. They reported that deaf children had more successful initiations and engaged in more physical communication and pretend play with familiar than with unfamiliar hearing partners. Studies of high school students also indicate that those deaf students who spend more time with hearing students in general education classrooms also report higher social participation with hearing students. Stinson and Whitmire (1991) obtained student self-ratings from 84 deaf adolescents in secondary and postsecondary programs in England using the Social Activity Scale (Stinson & Whitmire, 1992). Results indicated that the deaf students rated themselves as interacting more frequently with hearing than with deaf peers during in-classroom and out-of-school social activities, and equally frequently with deaf and hearing peers for in-school social activities (e.g., eating lunch with friends). As the number of general education classes increased, a corresponding increase in the amount of time interacting with hearing peers was reported. Students who spent the least amount of time in general education classrooms reported significantly less interaction with hearing peers in class and in school than those who spent the most amount of time in general education classes.

The positive effect of peer familiarity can also be seen in studies of the interaction of deaf students in coenrolled classrooms. In coenrollment models deaf and hearing students are educated in the same classroom by a team of two teachers, a general education teacher and a teacher of deaf students, who collaborate to provide instruction to all the students. A typical coenrollment classroom may consist of an approximately 2:1 ratio of hearing and deaf students. In many coenrollment classrooms, the teachers and students frequently use both spoken English and sign language thus allowing communication access for all students and deaf children can become familiar with their hearing peers as they participate together in all classroom activities (Kluwin, 1999; Kluwin & Gonsher, 1994; Kreimeyer, Crooke, Drye, Egbert, & Klein, 2000). Kreimeyer et al. (2000) examined the social interaction of five deaf students in a coenrolled third/fourth grade classroom. The authors obtained observational data throughout the school year on the frequency of peer interaction between five deaf students and their deaf and hearing classmates in the classroom and in the lunchroom. The results indicated that, after the first week of school, each of the deaf students increased positive interactions with their hearing peers in the classroom. Four of these five children also increased their interaction with hearing peers in the lunchroom. Unfortunately, because no comparative data were obtained of the frequency of peer interaction of hearing students in either setting, it was not possible to know whether the deaf students engaged in peer interaction as frequently

as the hearing students. It is conceivable that although the rate of interactions between hearing and deaf students increased, the deaf students may have continued to have low rates of peer interaction when compared with that of hearing students. Because the presence of supportive relationships seem to increase resilience, opportunities that enhance the quality and quantity of social interactions among peers might be particularly important to the development of resilience among deaf students.

In addition to familiarity, gender may influence the amount of interaction between deaf students and their hearing peers (Musselman et al., 1996). In a study of Canadian high school youth, Musselman et al. (1996) administered the Social Activity Scale to 72 deaf and 88 hearing high school students. This study included three groups of deaf students: those who attended no general education classes, those who attended 1–4 general education classes, and those who attended five or more general education classes. The researchers found that both in-class and out-of-school social participation with hearing peers increased for deaf girls with increased time in general education classrooms. However, this was not true for deaf boys who demonstrated comparable levels of in-class and out-of-school social participation regardless of the amount of time in general education classes.

As one might expect, a shared mode of communication facilitates the quantity and quality of peer interaction. Researchers examining the interaction of deaf adolescents report that those who use oral communication are more likely to have interaction with hearing peers than those who use sign communication (Bat-Chava & Deignan, 2001; Stinson & Kluwin, 1996; Stinson & Whitmire, 1992). Bat-Chava and Deignan examined the oral language and social relationships of elementary-aged deaf children with cochlear implants who spent most of their day in general education classrooms. Parents of children whose oral communication improved post implant also reported that their children were more willing and able to interact with hearing peers. Conversely, children whose oral communication did not improve were reported to have difficulties in social relationships with hearing peers. Two early studies (Stinson & Kluwin, 1996; Stinson & Whitmire, 1992) of adolescents also examined the relationship between mode of communication and peer interaction. Stinson and Kluwin (1996) collected self-reported data on the social activity, speech and signing skills of deaf adolescents in 15 public high schools while Stinson and Whitmire (1992) reported on deaf adolescents participating in a summer camp. In both studies, those who rated themselves as having a preference for oral communication reported more interaction with hearing peers. Adolescents who rated themselves high in signing skills or with a preference for sign communication reported interacting mostly with other deaf adolescents.

Social Acceptance and Friendships

Socially accepted students are known and liked by their classmates, thus not rejected by peers. However, students can be neglected or minimally accepted by peers without being socially rejected. Social acceptance by peers is one outcome

(although not an inevitable outcome) of positive interaction with peers. Social acceptance is typically measured through the use of peer nomination and peer rating scales. Peer nomination scales require students to specifically name their friends, while peer rating scales provide students with a list of peers to be rated, usually on a scale such as "don't like," "like a little," "like a lot" (Bierman, 2004). However, social acceptance is not synonymous with friendships. A child could be socially neglected, but have one close friend. Friendship patterns can be examined either by student self report, parent reports of friendships, or by examining sociometric networks in the classroom for reciprocal friendship choices. Studies of social acceptance of deaf students in public schools have yielded varying results. Factors that appear to influence social acceptance and provide resilience include the amount of time that deaf students spend with hearing peers, and the age of the children (Antia & Kreimeyer, 1996; Bowen, 2008; Cappelli, Daniels, Durieux-Smith, McGrath, & Neuss, 1995; Nunes & Pretzlik, 2001).

Antia and Kreimeyer (1996) examined the social acceptance of 45 preschool through first grade deaf children who were in public schools but spent only part of the school day with their hearing peers. These children were participants in a study to determine whether a social skills intervention or an intervention that promoted only familiarity with hearing peers would result in increased interaction and acceptance between deaf and hearing children. All children completed a peer rating scale prior to and after the intervention. The researchers found that deaf children were significantly less accepted than their hearing peers before and after the intervention. However, despite the lower levels of acceptance, the hearing children did not reject deaf children as playmates. Instead, one could characterize the deaf children as being minimally accepted.

Cappelli et al. (1995) studied 23 first- through sixth-grade oral deaf students and 23 hearing classmates matched for gender. All students completed peer rating and peer nomination measures. Results indicated that the deaf students received significantly lower likeability and social preference ratings than their hearing classmates. These researchers reported that a higher percentage of the younger students (first to third grade) were rejected by hearing classmates than the older students (fourth to sixth grade) suggesting that age might be associated with resilience due to increasing social maturity and better developed social skills, leading to increased social acceptance.

In a more recent study of students in England, Nunes and Pretzlik (2001) examined the social status of nine oral fourth and fifth grade deaf students and their hearing classmates in two public schools in England. Results indicated that the deaf students were no more likely than their hearing peers to be disliked. No significant differences in the proportion of students identified as *popular* or *rejected* were found between deaf and hearing students. However, the proportion of deaf students identified as *neglected* was significantly higher than that of hearing classmates. Moreover these researchers reported that the deaf students were significantly less likely than their hearing classmates to have a friend in their classroom.

In a study conducted in the Netherlands, Wauters and Knoors (2008) gave a sociometric assessment to 18 elementary deaf students who attended general

education classrooms, and 344 hearing classmates. These researchers found no differences between the social status (popular, rejected, neglected, controversial, or average) of deaf and hearing students, or how much students were liked or known within the classroom. Moreover, data collected over a 2-year period showed that these outcomes remained stable over time. They also found no differences between deaf and hearing students in the number of mutual friendships.

Adolescent friendships have been typically studied using a rating scale that examines deaf students' emotional security with both hearing and deaf peers. Stinson and Whitmire (1991) examined the emotional security of 84 deaf adolescents in England who spent varying amounts of time in general education classrooms. All students, including those who spent most of the day with hearing peers in general education classrooms reported feeling more emotionally secure with deaf than hearing peers. However, as with social interaction, those deaf students who spent more time in general education classrooms also reported significantly greater emotional security with hearing peers. Stinson et al. (1996) also studied friendships of 220 deaf adolescents in the USA who attended public schools but spent varying amounts of time in general education classrooms with hearing peers. Again, students reported that they felt more emotionally secure with deaf than hearing peers. However, their ratings of emotional security with hearing peers increased as they spent more time in the general education classroom. Thus, access to deaf peers may aid in increasing resilience among deaf adolescents.

As mentioned earlier, coenrolled classrooms may provide a facilitative social environment for deaf students. In these classrooms students have access to both hearing and deaf peers, while in general education classrooms deaf students may have access to only hearing peers. It is possible that the coenrolled classrooms provide the deaf children the security of having deaf peers similar to themselves as well as access to familiar hearing peers. In contrast to students who spend only some of their time in the general education classroom and thus may be perceived as visitors in the classroom social structure, students in the coenrolled classroom are likely to be perceived as members of the classroom. Studies of social acceptance in these classrooms have indicated positive social outcomes for the deaf students (Bowen, 2008; Kluwin, 1999; Kluwin & Gonsher, 1994).

Kluwin and Gonsher (1994) examined social acceptance among 17 hearing and 7 deaf kindergartners in a coenrolled classroom using a peer nomination procedure to provide a measure of popularity and a description of the social networks in the classroom. They reported that there were no significant differences in the popularity of the hearing and deaf children. Moreover, the deaf children were in the middle to upper range of the classroom social system throughout the year. Finally, they also found that the number of reciprocal friendship nominations between deaf and hearing children increased during the school year.

Kluwin (1999) examined the self-perceived popularity, and social isolation of deaf and hearing elementary and middle school students (grades 4–8) in coenrolled classrooms. Students completed a series of questionnaires that included a self-concept scale and a loneliness scale. No differences were found between the hearing and deaf students on their perception of their own popularity among peers, or on

their feelings of loneliness, leading Kluwin to conclude that coenrollment was a facilitator of social outcomes for deaf students.

Bowen (2008) also explored the friendship patterns of deaf and hearing students in a fourth/fifth grade coenrolled program. Students completed a friendship sociogram where they responded to eight positive and eight negative questions with peer nominations. Each student was ranked based on the nominations. The author reported no statistically significant differences in the rankings of deaf and hearing students. Deaf students received more positive and negative nominations from their peers in the co-enrolled class than from peers in a traditional class (i.e., from familiar rather than unfamiliar peers). Unfamiliar peers only gave one positive nomination to a deaf student. Thus, being a member of the classroom can lead to friendships as well as antipathies. However, coenrollment classrooms seem to facilitate peer relationships.

As with social interaction, the ability to communicate easily with peers can affect the social status and friendship patterns of deaf students in general education classrooms. Deaf students who have good oral ability may be more likely to gravitate toward hearing peers than those who do not have such ability. A survey study of friendship patterns of 100 profoundly deaf oral students in Australia (Roberts & Rickards, 1994) reported that 83% of the students who attended general education programs reported having mostly hearing friends. However, the hearing status of their friends appeared to be related to how well their speech could be understood. Similarly, in a summary of research findings on the social relationships of deaf adolescents Stinson and Whitmire (1992) concluded that students who preferred oral communication had a high need for closer relationships with hearing peers.

Social Skills

Social skills are often measured through teacher, student, and parent rating scales (Andersson, Rydell, & Larsen, 2000; Antia et al., 2008; Mejstad, Heiling, & Svedin, 2008/2009). Andersson et al. (2000) compared the social competence of 48 elementary-age deaf students in Sweden, most of who were enrolled in general education classrooms, with data collected previously on a normative sample of hearing children. Teachers and parents completed the Social Competence Inventory (Rydell, Hagekull, & Bohlin, 1997) and the Children's Behavior Questionnaire (Achenbach, 1991). These rating scales measured prosocial orientation, social initiative, externalizing, internalizing, and concentration problems. The authors reported no differences between the groups on any of the scales except parent-reported social initiative, on which the deaf children had significantly lower scores than the hearing norms.

Antia et al. (2008) completed a 5-year longitudinal study of 197 deaf students in general education classrooms. The students' hearing levels ranged from mild to profound; they were in grades 2–8, and 85% spent three or more hours per day in the general education classroom at the beginning of the study. The researchers

obtained teacher ratings of social skills and problem behaviors of deaf students annually for 5 years using the Social Skills Rating System (SSRS) (Gresham & Elliott, 1990). The Social Skills scale of the SSRS requires teachers to rate students' cooperation, assertion, responsibility, empathy, and self-control. The Problem Behaviors scale requires teachers to rate behaviors such as inappropriate aggression, anxiety, sadness, loneliness, and hyperactivity. Antia and her colleagues found that, over the 5-year period, between 79 and 86% of students were rated as displaying average or above-average social skills, a percentage comparable to that of the typical hearing normative group. In addition, 86–94% of students were rated as displaying average or below-average problem behaviors, which was better than expected of the normative group. Teacher ratings of social skills remained constant as students moved into middle and high school, while ratings for problem behaviors significantly declined as students became older.

Mejstad et al. (2008/2009), in a large-scale study of mental health and self image of Swedish students, examined prosocial behaviors through questionnaires completed by teachers, parents, and students themselves. The participants in this study were 111 Swedish students between the ages of 11 and 18, who attended a public school, a special school for hard-of-hearing students, or a special school for deaf students. Mejstad et al. reported that the deaf students had similar scores to the hearing norms obtained in other Nordic countries. Moreover, students attending the public school program had significantly higher scores on prosocial behavior than those at schools for the deaf, suggesting that being in general education classrooms did not put deaf students at risk socially.

McCain and Antia (2005) also used the SSRS to compare the social behavior of 10 deaf and 18 hearing students in a multigrade (third to fourth to fifth grades) coenrolled classroom. They found that the deaf students who had no additional cognitive or attentional learning problems scored within the normal range and had scores similar to their hearing classmates. In contrast, teachers rated the deaf students with additional problems in the below average range for social skills and these students also scored significantly lower than their hearing classmates. Thus, it appears that hearing loss alone did not depress social skills of these students.

Risk and Resilience Factors Influencing Social Outcomes

Several researchers have examined resilience in deaf children/adolescents. While the characterization of deafness as "adversity" or "risk" has, perhaps justifiably, been criticized as an unsubstantiated assumption (Young, Green, & Rogers, 2008), there seems little doubt that there are a number of factors that may serve to result in improved outcomes for deaf children. Although the literature in deafness is limited, there are a number of factors that are important in helping deaf children and adults to achieve a variety of kinds of successful outcomes. Rogers, Muir, and Everson (2003) have provided an excellent review of the literature in deafness and resilience. Unfortunately, there exist only a few studies and most of these are theory-based

or use a case study approach. However, these authors identified 13 factors that they grouped into three general categories of "assets." These are (1) Interpersonal Assets, which include a good sense of humor, caring, responsible and committed to worthy goals, a strong sense of social bonds, emotionally self-perceptive, awareness of strengths, and comfort with solitude; (2) Environmental Factors, which include quality time with caring mentors in school, positive learning partnerships with peers in college, supportive family environment, and rich opportunities for participation in the community; and (3) Behavioral Assets, including self-advocacy, self-reliant, goal-directed behaviors and persistent problem solving, and authentic presentation of self.

We have categorized risk and resilience factors into similar categories but not identical, to the categories used by Rogers et al. (2003). Instead of interpersonal, environmental, and behavioral factors we have categorized factors as being student-related; school-related, or family-related. Student-level factors include both interpersonal assets and behavioral assets, while environmental factors include both school and family factors. Individual students will experience a combination of favorable and unfavorable factors, some of which are subject to change while others are not.

Student-Related Factors

Student factors influencing outcomes include communication, gender, and age. Good communication skills positively influence social outcomes and clearly are factors that can promote resilience. Preliminary data presented by Antia and her colleagues (Antia, 2009; Luckner, Antia, & Kreimeyer, 2009) indicates that students' communication participation in the classroom as measured by a questionnaire (Antia, Sabers, & Stinson, 2007), and students' expressive and receptive communication ability as rated by their teacher of deaf are significantly related to social skills scores. Students who rated themselves as understanding teachers and peers, and having higher positive affect in the general education classroom, received higher social skills scores and lower problem behavior scores than students who rated themselves lower in these areas. Students who were rated by their teachers as having good receptive and expressive communication (regardless of communication mode) also received higher social skills scores than those who had poorer communication skills. Although the correlations were significant, the magnitude of the correlations was modest to low (between 0.15 and 0.38). The communication ratings tapped children's general communicative competence, which could be broadly thought of as including not only language skills (vocabulary syntax, etc.) but also pragmatic communication skills such as communication assertiveness, repair, and the ability to match communication mode and register to one's audience. Good communication skills (separate from *mode* of communication) equip students to participate effectively in an interpersonal, dynamic social context and thus can be thought of as promoting resilience.

Although oral communication is neither sufficient nor necessary for social competence, good oral communication (receptive and expressive) allows for ease of social interaction between deaf students and hearing peers and thus appears important to the resilience of deaf students in general education classrooms (Stinson & Kluwin, 1996). Moreover, oral communication may also make it easier for deaf students to pick up social cues and learn social skills by overhearing communication among hearing parents and adults regarding acceptable social behavior. However, lack of oral communication skills does not preclude friendships with hearing peers. Studies in coenrollment classrooms indicate that hearing students can become reasonably fluent in sign communication (Bowen, 2008; Kluwin & Gonsher, 1994), thus breaking down communication barriers with deaf peers. Additionally, interpreters can help facilitate peer interaction by interpreting for the deaf and hearing students in social communication situations, and, more importantly, teaching sign language, formally or informally, to the hearing students (Antia & Kreimeyer, 2001).

Another student factor that influences social outcomes is gender. Musselman et al. (1996) reported that deaf boys and girls showed different patterns of participation with hearing peers with increased time in general education. For girls, increased time resulted in increased participation with hearing peers, while boys reported similar levels of participation with hearing peers regardless of the amount of time in general education classrooms. Martin and Bat-Chava (2003) using parental interviews to examine friendships, found that, while there were no differences between elementary-age boys' and girls' success in relationships with hearing peers, they used different social strategies to establish these relationships. An effective strategy for girls was the ability to assert their needs, an important resiliency-related skill, while for boys the single most effective strategy was to excel in sports (a resiliency factor that, while student-related, could be enhanced by access to school extracurricular activities).

Age also affects social outcomes perhaps, in part, because friendships of younger children may depend on proximity, while those of adolescents are more dependent on shared interests and perceived similarity. Elementary-age deaf students appear to have more positive relationships with hearing peers than deaf adolescents (Nunes & Pretzlik, 2001; Stinson et al., 1996; Wauters & Knoors, 2008). However, teachers' ratings of students' social behaviors remained positive over a 5-year period, indicating that students do not seem to have additional social problems as they got older (Antia et al., 2008).

Degree of hearing loss is often mentioned as a factor influencing social and academic outcomes. However, few studies have actually examined the influence of varying degrees of hearing loss on social behavior or outcomes. Typically, researchers have included only students with severe or profound hearing loss (Musselman et al., 1996; Stinson & Kluwin, 1996) or have not specifically examined the effect of different degrees of hearing loss on social behavior (Antia, 1982; Wauters & Knoors, 2008). When degree of hearing loss is examined, it has been found to have modest but significant correlations (of between 0.12 and 0.14) with teacher-rated social skills, although, when one examines functional hearing (students' use of

audition with appropriate amplification) rather than degree of hearing loss the correlations are much higher (between 0.22 and 0.27) (Antia, 2009; Antia et al., 2008). These data indicate that deaf students in general education classrooms, who have greater degree of hearing loss, or whose use of audition is less efficient, are likely to have lower social skills ratings. Similarly, Most (2004) reported a significant correlation of 0.34 between degree of hearing loss and teacher-rated social behavior. However, one must also take into consideration that the mere presence of a hearing loss is a risk factor. Students with mild hearing loss have been reported to have higher rates of dysfunction in social/emotional behavior (Bess, Dodd-Murphy, & Parker, 1998; Most, 2006) than hearing students.

Charlson, Bird, and Strong (1999) reported on the case histories of three deaf students who had achieved success despite stressful circumstances. Although the researchers did not specifically focus on social success, they identified the following student characteristics as important to resilience: a good nature, responsible commitment to worthy goals, optimism, a meaningful life philosophy, keen social perceptions of others, self-awareness of assets, self-reliant determined attitudes, assertive self-advocacy, and active problem-solving skills.

School-Related Factors

School factors influencing social outcomes include the amount of time deaf students spend with their hearing peers, and the resulting familiarity with these peers. Schools can also positively influence social outcomes by providing appropriate mentoring, opportunities for community participation, access to school extra-curricular activities, and instruction in self-advocacy and other skills that promote student resilience.

Deaf students who spend most of their time in the classroom with hearing peers tend to make friends and feel comfortable with them. Coenrollment programs where a group of deaf students spend all their time in the same classroom as their hearing peers have shown consistently positive results; in these classrooms no differences have been found between deaf and hearing students in terms of social acceptance, friendship, or social competence (Bowen, 2008; Kluwin & Gonsher, 1994; Kluwin, Gonsher, Silver, & Samuels, 1996; McCain & Antia, 2005). One reason for the social success of deaf students in coenrollment classrooms may be because all students, deaf and hearing, are equal members of the classroom; in other words, the deaf students are not merely visitors to the classroom. As classroom members, each student's learning, communication, and social needs get consideration. As a result all students can enter fully into the social life of the classroom (Antia, Stinson, & Gaustad, 2002).

Another school factor that can positively influence students' social outcomes is access to school extra-curricular activities. Schools provide opportunities for social interaction and resulting friendships through planned extra-curricular activities such as sports and clubs; these in turn facilitate development of community. These

extra-curricular activities may also positively influence socialization because they give the deaf students an opportunity to engage with others in mutually interesting activities in which they might shine. However, engagement in extra-curricular activities can be limited by the unwillingness or inability of schools to provide sign language interpreters for nonacademic events. Often deaf students in the school do not attend their neighborhood schools; in these cases transportation is often a problem (Stewart & Stinson, 1992). Finally, although there is little literature specifically on deaf students, schools can promote resilience by teaching students such skills as self-advocacy and social skills (Battle, Dickens-Wright, & Murphy, 1998; Bierman, 2004; English, 1997; Fiedler & Danneker, 2007).

Family-Related Factors

While some data are available on the influence of family factors on academic outcomes of deaf students (Antia, Jones, Reed, & Kreimeyer, 2009; Bodner-Johnson, 1986) the effect of family factors on students' social outcomes, have not been extensively studied. Antia et al. (2008) found that parental participation in their child's education is significantly but modestly correlated with student and teacher ratings of students' social behavior. These authors obtained information on parental participation by having teachers indicate the kinds of school activities in which parents were involved. These activities included attending IEP meetings, taking sign language classes, communicating with school personnel, volunteering at the school, attending parent–teacher conferences, attending school events and taking parent classes or workshops. From these data, the authors created a parental participation score by summing all the school activities in which parents or guardians were involved. Exploratory analyses showed correlation coefficients of 0.18 between parental participation and teacher-rated social skills scores, and 0.20 between parental participation and students' self-rated social skills. Thus, parental participation exerted a protective influence that clearly contributed to students' social outcomes. However, the authors only examined parental participation in the school context. Parental involvement with their children obviously goes far beyond school involvement and is likely to include the quality and quantity of parent–child communication, parents' encouragement of their children's participation in extra-curricular activities, or their ability to encourage children's friendships. These qualities were not taken into consideration.

   The quality and quantity of interaction between parents and children is likely to influence social outcomes. Parents can serve as social "coaches" for their children by discussing strategies for handling peer problems or by demonstrating competent social interaction with a variety of people (Bierman, 2004). Parental resources (both money and time) are likely also to have an effect on child social outcomes. Parents who can afford to have their children involved in social activities, and who can transport their children to these activities, can provide their children multiple opportunities for socializing with peers. However, parents' work schedules may

also prevent them from transporting children to social activities outside of school. While these parental involvement issues affect all children, they are crucial for socialization of deaf children in public schools, especially if their school socialization experiences are limited.

Case Studies

In order to illustrate the social lives of deaf students in public schools and to explore risk and resilience factors contributing to social outcomes, three case studies are presented in the following section. These case studies are part of a longitudinal study completed by Antia et al. (2008) on the academic and social status and progress of deaf students in general education classrooms. The authors completed case studies on a subset of 25 student participants. For each of the 25 students participating in the case studies, the researchers interviewed the following individuals who were involved with the students: the teacher of deaf who provided service to the student; interpreters (when applicable); one or two general education teachers who were judged by the teacher of deaf to know the student well; school administrators; parents; and the case study students themselves. Interview protocols were developed and used that addressed issues particular to each person's role. For example, administrators were asked about school-wide social initiatives, teachers were asked to describe the students' social relationships at school, while parents described social relationships outside of school. Three sets of interviews were conducted over the 5-year period so that the researchers were able to obtain information about students' social change over time. In addition to the interviews, researchers obtained academic achievement data from state achievement tests, functional data from the Gallaudet Functional Rating Scales (Karchmer & Allen, 1999), teacher-rated and student-rated social skills data, and teacher-rated problem behavior data from the Social Skills Rating Scale (Gresham & Elliott, 1990). For this chapter, three cases were selected to illustrate student, school, and family factors that influenced social outcomes. All names and other identifying information are changed to protect privacy and confidentiality.

Frank

Frank was in his first year of high school, in ninth grade, at the time of the initial interviews. He had a unilateral profound hearing loss. The researchers were not able to obtain information on the age of identification of his hearing loss, nor when he first received services. Although he had been in the same school district and had received services from the same teacher of deaf since fifth grade, his teacher of deaf and his mother noted that services had been interrupted several times while he was in elementary and middle school, because his family moved frequently. He was

rated as functioning normally in the areas of attention, as well as expressive and receptive communication, but as being mildly limited in the area of thinking and reasoning. In ninth grade, he spent most of his school day in a special education classroom with hearing students who had cognitive disabilities. However, by 11th and 12th grade he was spending increasing amounts of time in a resource room for students with learning disabilities. In 12th grade he was required to take the state achievement test, and received scores far below expectations (the lowest ratings possible) in all three content areas of reading, math, and language. In ninth grade, his general education teachers rated his social skills at the low average level and his problem behaviors as above average. However, in the following years his social skills and problem behaviors were rated as average by his teachers. He rated himself average in social skills throughout the time that he participated in the study.

In ninth grade, Frank seemed to be a withdrawn and shy person. He did not participate in any extra-curricular activities and disliked sports. It was difficult for him to stay after school because no transportation was provided for these activities and he lived quite a distance away from the school. He had few friends and when asked about his favorite person at school, he named his teacher of deaf. His teachers and his mother characterized him as shy and a loner. During this time his classroom peers were in special education and Frank reported that he did not like spending time with them. Outside of school he socialized mainly with his sisters. He disliked wearing his hearing aids, (his teacher mentioned that he had stopped wearing them in eighth grade), and also did not use his FM system. His teachers mentioned that he did not want to wear these because he hated to wear anything that might make him different from other students.

Thus, in his first year of high school Frank presented a profile of a deaf student who was lonely and isolated, not unlike the picture painted in the literature. However, during follow-up interviews in two subsequent years (his junior and senior years in high school) he presented quite a different profile. In his junior year he started driving and was able to take a job at a restaurant. His teacher and his mother reported that having a job gave him confidence and made him feel better about himself. He was described as having come out of his shell and having made friends (both boys and girls). By his senior year, he seemed to be a happy sociable person. He worked at the school copy center, where he was liked and encouraged, and for which he received a school award. He was well-known in his school, felt confident about himself and was reported as participating in class discussions, and good at collaborative classroom activities. The job at the school copy center gave him the opportunity to go to different classrooms and meet different students. As a consequence he reported having several hearing friends at school. During his senior interview, Frank stated that he had decided just to be himself and start talking to people, and to stop being shy. He seemed, at this time, to become aware of his assets and to capitalize on them by being more assertive. He was involved in school extra-curricular activities and took a leading role in some of these activities. His main activity outside of school was work – he worked at two different restaurants sometimes till late at night. His mother reported that he was well liked at work and was seen as a responsible worker. Work seemed to be an important resilience factor

for Frank as it provided him with the opportunity to engage in goal-directed behaviors. These goal-directed behaviors seemed to carry over to school in his work at the copy center and school extra-curricular activities.

When examining risk and resilience factors for Frank, it became clear that the presence of even a minimal hearing loss created a perceived difference from peers, and therefore negatively influenced his social relationships. His teacher of deaf mentioned that Frank "struggled …. to admit he had a problem with his hearing." He refused to wear his hearing aid or use the FM system because he believed this focused attention on his hearing loss. Although his expressive and receptive communication skills were rated as normal in comparison to his peers, and his preferred mode of communication was oral, he clearly had difficulties with literacy; difficulties that prompted his teacher of deaf to attempt to teach him to sign. Again, however, Frank was highly resistant to any activity that focused attention to his hearing loss. His teacher reported the following:

> …he would not participate, not lift his hands, not look… at one point he welled up with tears and actually started crying … he was so embarrassed that I was doing sign language and there was other people present.

It would appear that his shyness was due to his fear of being different.

Participation in extra-curricular sports activities appears to be a facilitator for social outcomes in boys (Martin & Bat-Chava, 2003). As Frank was not interested in sports he did not seem to have opportunities to interact with hearing peers in this area. His social life in ninth grade seemed to revolve around adults not peers, as he mentioned that the teacher of deaf was his favorite person at school. Such a preference for adults over peer interaction has been noticed before in deaf children (Antia, 1982). However, with increasing age he had access to transportation that allowed him to participate in a wider range of activities. Once he could drive, Frank was able to work; work appeared to provide him a sense of self-worth and a way to interact with a wide range of people. Jobs seemed to develop self-confidence, an important factor in resiliency.

When we examined school factors, we found that Frank was the only student with a hearing loss at his school. We speculate that this might have contributed to his sense of isolation. His peers were limited to the students in his self-contained special education classroom. His mother was aware of his isolation and mentioned that students picked on him and the other special education students because of their perceived differences. She thought that the school should have some disability awareness training for the entire student body.

During freshman year, Frank had limited opportunities to interact with peers outside the special education classroom in which he spent most of his day. The school did not provide transportation for after-school activities, and Frank did not join general education classes. In Frank's junior and senior years he moved out of the special education classroom to the resource room. Such a move provided him an opportunity to interact with classmates who were not cognitively limited. His work in the school copy room also provided him with opportunities to socialize with a wider range of peers than he had access to in ninth grade. Thus, access to a

wide range of peers in a context where he was successful (the copy room) led to increased self-confidence, and more social interaction and relationships, which appeared to facilitate social success.

Finally, Frank appeared to have many family facilitators. He was reported to be very close to his mother and to his siblings. His mother supported his working outside of school. She was also aware of the support services provided to him by his teacher of deaf and communicated regularly with her. She welcomed other children to their home (but mentioned that there were no youth in the neighborhood who were Frank's age, or who went to his school). Frank initially presented a profile of an isolated student, with few friends. However, access to a wider group of peers in school, the ability to be successful at work, and a supportive home environment resulted in a positive social outcome.

Santiago

Santiago was in middle school, in grade 7, at the time of the initial interviews. He had a mild bilateral hearing loss and had received his elementary and middle school education in the same rural school district. He had always been fully included in the general education classroom and his hearing loss was identified at 1 year of age, he received amplification at age 5, and school services started at age 7, in elementary school. Santiago was followed from grade 7 through grade 11. He was rated by his teacher of deaf as functioning normally in expressive and receptive communication, attention, and thinking/reasoning. He was bilingual in Spanish and English; his home language and his parents' preferred language was Spanish. He was a high achieving student scoring above the 50th percentile in math, and close to the 50th percentile in reading and language on state achievement tests. During the 5 years that he participated in the research study, he received average social skills and problem behavior ratings from his teachers. He self-rated his social skills as average during grades 7 and 8 but above average in grades 9–11.

Santiago was described by his teachers and his parents as a very social person. Friendships were important to him and he had many friends through school, church, and through his extra-curricular activities. He was very concerned that he appear similar to other students and through the entire 5 years refused to wear either hearing aids or glasses. In seventh grade his teachers described him as a typical seventh grade boy who was unruly and uncooperative at times. By eighth grade he gravitated toward a group of boys who were trouble-makers; consequently he had been in trouble in school several times resulting in detention and a behavior program. By the time he was in high school, his teacher of deaf mentioned that his social skills were "too good" and that he sometimes hung out with his friends instead of going to class. However, he continued to be popular, friendly, and participatory in class. His parents reported that the phone was always ringing for him, that he went to many parties. In 11th grade he had a weekend job working for a friend of his

father's who was a carpenter. He had his own transportation (a motor bike) and was saving up to buy a car. He had responsibilities in the home to look after his young sibling after school.

Apart from the hearing loss itself, Santiago seemed to have few risk factors and many protective factors that facilitated positive social outcomes. At the individual level, he had good oral communication skills resulting in ease of communication with his hearing peers. He was involved in, and enjoyed, sports; sports provide an arena for deaf boys to interact on an equal footing with hearing peers. One aspect that might have put him at risk was his embarrassment and subsequent refusal to use amplification or to wear glasses even though he admitted that he needed both. His teachers and parents mentioned that this refusal affected his academic work, but that he was not open to any change. It appeared to be extremely important to him that he not appear different from his peers.

At the school level, many protective factors seemed to be in place. He had received services continuously since age 7. In high school, many of the general education teachers mentioned that they used cooperative learning strategies in the classroom, and encouraged students to work with one another. The high school itself appeared to be a friendly community. One teacher mentioned that it was small enough that the students knew one another quite well and she did not see as many "cliques" as she had in other schools. The school population was largely Hispanic, and the students, including Santiago, conversed in Spanish outside of the classroom. Although some of the teachers appeared to see the predominant use of Spanish as a problem for the students academically, it appeared to be "social glue" for the students themselves and provided Santiago with opportunities for participation in the school community. Thus, his Spanish communication skill was clearly a resilience factor for him. Although the school was in a rural area, he lived close enough to be able to see his friends after school.

Santiago was one of only two deaf students in the school. Although he was not a particular friend of the other deaf student, the presence of another student meant that he was not totally isolated; the teacher of deaf mentioned that the two students had talked with one another about using amplification in the classroom. The presence of more than one deaf student also seemed to have raised teachers' awareness of deaf students in the school.

Santiago's family was very involved with him. There were no language barriers between him and his parents as they could converse in oral Spanish. His parents encouraged him to become involved in a number of after-school activities; he played several different sports and his father encouraged him to join the school band and learn to play an instrument. All Santiago's teachers stated that his parents were supportive of him, that they had expectations that he would do well in school, and be respectful of his teachers. His parents gave the interviewers many instances of how they expected him to behave socially. His father encouraged him to express himself and speak his mind:

> If he feels anger let it be known, … if he has something to say he should say it so that people can pay attention to him and listen to him.

They also let him know when they disapproved of his friends. They responded to teachers when they complained about Santiago's behavior in class and set contingencies for Santiago's good behavior. At the same time, they allowed him to spend time with his friends and attend parties. Santiago presented a profile of a student who was well integrated socially and who had few social risk factors and many social facilitators.

Sheila

Sheila was in elementary school, in third grade, at the time of the initial interviews and in seventh grade at the time of the final interviews. She had a profound bilateral hearing loss that was identified before she was 1 year old. The researchers were not able to get information about the age at which she first received services, but she had spent some time at a school for the deaf. She was rated by her teachers of deaf as functioning normally in receptive and expressive communication, attention, and thinking/reasoning. She spent almost the entire school day in the general education classroom and received services from a teacher of deaf and a sign language interpreter. Her preferred language was American Sign Language (ASL). She was able to take the state standardized achievement tests in math and language/writing at grade level, and scored at the 50th percentile for math, and the 35th percentile for language/writing. Her reading scores, however, were below average. Her general education teachers rated her as above average in social skills and below average in problem behaviors during her years in elementary school (third to fifth grades). After she moved to middle school (sixth grade), teachers rated her as average in social skills and problem behaviors; thus, her social skills ratings decreased and her problem behavior ratings increased, though they remained within normal levels. Sheila's self-ratings mirrored those of her teachers; she rated herself above average in social skills in elementary school but average in middle school.

In early elementary school Sheila was a popular child. Teachers commented that she was extremely well liked by both peers and teachers, that everyone wanted to be around her, and that she was always invited to all the birthday parties. The teacher of deaf reported that Sheila had no problems with friendships because "she just has warmth like sunshine." She had both deaf and hearing friends. She had a close deaf friend with whom she spent time outside school hours. Her family reported that they would drive some distance to ensure that she could play with her friend. They also tried to find other deaf playmates for her.

She visited with her school friends both after school and on weekends. Her hearing friends were reported as having learned to sign by interacting with her. The teacher of deaf mentioned that her hearing girlfriends did a good job signing and interpreting for Sheila, though the communication might be "a little heavy on fingerspelling." There was also a sign language club in place. During this time Sheila was active in after-school activities. She attended an after-school program where she completed homework and participated in recreational activities. Her friends interpreted for her

in this after-school program, as there was no interpreter. By fourth grade, she was also involved in a private gymnastics program and went to the campus of the school for the deaf to play volleyball. At the gymnastics program she had no interpreter but managed by watching all the other students do the movements before she took her turn.

By fifth grade, however, Sheila stated that she wanted to attend the school for the deaf because she was lonely. She was the only deaf child in her grade and told the interviewer that the other children ignored her and that she had trouble communicating with them:

> I had friends but I couldn't communicate with them totally. I could communicate with them but it was not good communication, it was like spelling out words.

She reported that she wanted to be part of the group and involved in many activities. The move to sixth grade (middle school) in the subsequent year left her with few friends and a feeling of depression. During her interview, she stated that people should have more than one friend.

> There should be a variety of people [available for friendship] with no limitations on who you know and who you socialize with.

However, by seventh grade she was happier. Her parents attributed part of her happiness to having a boyfriend who helped her have "a more typical middle school experience" according to her general education teacher. She once more had hearing friends in the general education classroom and chose to work with them during classroom small group activities. In middle school, Sheila reported that she had deaf friends who lived near her. She also was friends with another deaf girl who was in some of her seventh grade classes. She and her deaf friend started a sign language club attended by 12–13 hearing students. These hearing students also became friends with whom she could communicate.

Sheila presented an interesting picture of risk and resilience factors at the individual, school, and family level. At the individual level, clearly her profound hearing loss and her preference for ASL was a risk factor because it hindered communication with her hearing peers. However, she was reported to be a well-adjusted person, and her outgoing and friendly personality was facilitative in developing friendships with hearing peers. She was motivated to be in public school and stated that while she could communicate better with her friends at the school for the deaf, she was glad she was in public school for the academics. Thus, she had a commitment to her goals, a resilience factor that helped her during difficult times at school. As she got older, she seemed to have more difficulties socially, and was more aware of the need for fluent communication with friends. However, again, a resilience factor was her ability to engage in active problem solving and her self-reliant attitude that was seen when she took on the task of helping her hearing peers learn sign language through a school sign language club. Having close deaf friends appeared to be a protective factor, as was having a close relationship with her boyfriend.

School facilitative factors included the sign language club, the presence of interpreters, and the presence of at least one other deaf peer in her class at middle school. Another important facilitator was that opportunities for socialization were

written into her IEP, which called for promoting socialization, meeting deaf people, and learning about deaf culture. In fourth grade, her teacher of deaf helped her obtain a TTY. Her mother reported that with this machine, "her world got expanded…she feels she can communicate with the entire world and that has helped a lot." The sign language club appeared to be important in encouraging sign language learning among hearing students. However, it was most successful in facilitating peer relationships when Sheila and her friend took major responsibility for managing the club in middle school. The presence of deaf peers was important to Sheila's social life. The school participated in an annual middle school get together for all the deaf students in the region. The teacher of deaf created opportunities for Sheila and another deaf student on her caseload by giving them a chance to "chat" and communicate on the computer.

As one would expect, Sheila's interpreters were key to her communication with hearing teachers and peers in school. Sheila mentioned that she enjoyed being herself and communicating when she had interpreters

> Without interpreters it is really hard, not fluent, and not smooth. [It is] not natural. I enjoy being myself and communicating and being able to let myself shine and show myself…

During school, her interpreters were flexible and sensitive to her need to communicate with her peers. When the class was engaged in small group work, the interpreter would interpret when there were no hearing peers who could sign, but when peers could sign, she did not interpret very much and "let them work things out for themselves." The interpreter reported that she let Sheila "be in charge of when she wants an interpreter there and when she doesn't."

The absence of interpreters appeared to be the largest single risk factor for Sheila. The interpreters were present for those after-school activities that were related to Sheila's Individual Education Plan (IEP). Unfortunately, in fifth grade, Sheila could not participate in some after-school activities, because interpreters were not always available. Neither were interpreters available during the students' lunch break.

Sheila's close family relationships were clearly a protective factor. Her parents were able to communicate with her fluently in ASL. Her home languages were Spanish and ASL; because her father was a Child of Deaf Adults, sign language was always part of her life. Her parents went to considerable lengths to facilitate socialization, driving her to meet her deaf friends and including her boyfriend on family trips. They had always been involved in her education, moving the family several times in order to provide her the best services possible.

Risk and Resilience Factors Across Cases

These case studies illustrate risk and resilience factors that contribute to the social outcomes of students who are deaf and in general education classrooms. Individual student factors include communication competence, gender, age, the interpersonal

assets of responsibility, and commitment to goals, and behavioral assets of problem solving, self-reliance and goal-directed behaviors. School factors include teacher support and mentoring, peer learning partnerships, and access to out-of-classroom activities. Family factors include family bonds, communication between parents and the deaf student, and support for socialization.

The ability to communicate with peers is clearly a factor that promotes positive social outcomes. Communication competence goes beyond mode, and, as mentioned earlier includes such pragmatic skills as comfort and ability in communicating in different situations with a variety of individuals. Thus, Frank, although he has a minimal hearing loss and uses oral communication, had difficulty communicating with peers, while Santiago did not. Santiago's use of Spanish with his friends facilitated friendships in his school environment. Sheila was a competent communicator but needed an interpreter to communicate comfortably with peers who did not sign. However, social resilience involves more than the ability to communicate. Both Santiago and Sheila were socially aware and socially perceptive of others, traits which allowed them to positively engage with their peers. Such social perception has been found to be a resilience factor in deaf children (Charlson et al., 1999).

Both boys, Frank and Santiago, were happiest when they were involved in extra-curricular activities. Santiago was involved in sports, while Frank, in his last years of high school, had a job, which seemed to provide the same advantage as involvement in sports. While Sheila participated in extra-curricular activities, these apparently did not play as important a role for her. She seemed happiest when she had a group of friends to "chat with."

Age seemed to influence social relationships. All three students were reported to have social problems around their middle school years. Frank had difficulties in middle and early high school, Santiago started showing some problem behavior in late middle school, while Sheila, who had many friends in third and fourth grade, started feeling the lack of close relationships during fifth and sixth grade. However, over time the social issues appeared to resolve themselves. Frank expanded his peer circle once he could work; Sheila had a boyfriend by seventh grade. No specific reasons were provided for Santiago's improved social behavior in tenth grade; however, his parents communicated to him clearly about his responsibilities and their disapproval of some of his friends.

A student-related risk issue was "appearing different" from peers. This was the case for both boys, who did not want any attention called to their hearing loss. Santiago reported that he was embarrassed by having to wear hearing aids and glasses though he admitted he needed both. He even went so far as to refuse services so he wouldn't appear to be different, while Frank cried when a teacher used sign language to communicate with him in front of other people.

Interpersonal assets and personality are important in promoting resilience in deaf students (Charlson et al., 1999; Rogers et al., 2003). Sheila and Santiago were described as being friendly and outgoing individuals who could make friends easily. The opposite was true for Frank who, in ninth grade, was reported to be very shy. However, later he made a decision to "be himself" and start talking to people, thus showing that he was emotionally self-perceptive. Sheila's motivation for academic

excellence and her own goals for her future kept her in public school even though she was aware that she might have more friends if she attended the school for the deaf. Again, her commitment to her established goals seemed to help her through difficult times.

School resiliency factors included familiarity with peers, opportunities to work collaboratively in learning partnerships with peers within the classroom, access to extra-curricular activities, and services from teachers and interpreters. Although the literature suggests that peer familiarity is a resiliency factor, these case studies show that familiarity can also be a risk factor. Santiago had been with the same peers, and in relatively small schools, since elementary school. His high school was small, apparently with few cliques, where most students knew one other. For him, familiarity with peers promoted resilience. Frank, also in a small rural school district, had been with the same peers from fifth grade. In his case, however, he had not been well accepted by these peers. He apparently needed a wider circle of peers with whom he could share interests. Within the classroom itself, working within collaborative small groups appeared to facilitate peer familiarity and interaction. Several general education teachers reported this strategy and all three students participated readily in collaborative activities with peers.

Access to extra-curricular activities was an important factor affecting social outcomes. School extra-curricular activities gave these students access to peers with similar interests. Lack of transportation and lack of interpreting were barriers to access and negatively impacted social outcomes. Once these issues were resolved, social outcomes improved. An important extra-curricular offering that affected Sheila was the sign language clubs in her public school program that were organized either by the teacher of deaf, the interpreter, or Sheila herself. These clubs provided her a means of access to hearing peers who could communicate with her. By seventh grade, Sheila started and organized the club with her friends, without the need for an adult presence thus, showing her ability to solve a problem (lack of sufficient signing peers) and her ability to engage in goal-directed behaviors.

School transitions seemed to be a risky time for each of these students. Unfortunately, we did not obtain information about how teachers or other adults eased the transition between elementary and middle school and again between middle school and high school. The easiest transition (from middle to high school) was Santiago's, apparently because he had already been accepted by the small school community in the elementary grades. Frank, who was not so well accepted, was isolated his first year in high school. Despite being accepted in elementary school, Sheila had a rough transition to middle school, possibly because she alone among the three attended a large urban school district.

Consistent and stable services to the deaf student presumably assist the student to develop the communication skills necessary to succeed socially and academically. Frank seems to exemplify issues common for students with unilateral hearing loss. He was identified late, received services late, and services were unstable until he was in fifth grade. The reports of the degree of his hearing loss varied, and his mother expressed frustration at the lack of services available to him during his early years. His unilateral hearing loss did not seem to generate the urgency for services

that Sheila's profound bilateral hearing loss did. Santiago and Sheila both received stable services from a teacher of deaf from the time they entered school (and perhaps earlier). A resilience factor for deaf students is time with caring mentors (Rogers et al., 2003). Teachers of deaf appeared to serve as mentors at school for all three students. Frank clearly liked his teacher and spent time with her and Sheila's teacher opened up her world by assisting her to obtain a TTY.

Sign language interpreters are clearly necessary for students who use ASL as their primary language. Typically, interpreters in school translate the teacher's speech but may not always translate the speech of classmates. Sheila expressed unhappiness with one of her interpreters who would interpret academic but not social speech. She once petitioned her teacher for a different interpreter for a class presentation, and asked friends (instead of the interpreter) to interpret for her so she could make a point to her general education teacher. At other times, she expressed appreciation of an interpreter who allowed her to access her "natural language and natural world." The lack of interpreting services for extra-curricular activities was a risk for Sheila because it prevented her from joining activities where she might have met peers with common interests. Finally, the presence of even one additional deaf student seemed to be a protective factor because it made teachers aware of the needs of deaf students.

All three families were important to the eventual positive social outcomes for these students. Family factors included communication with their child, parental participation in the school and communication with school personnel, and parental resources to support their child's socialization. Communication and close bonds with their parents was a resiliency factor for all three students. Frank was very close to his mother and sisters. Santiago's father was a great social coach who gave him clear guidelines about how he should behave and encouraged Santiago to express himself. Sheila's parents signed; thus, they were able to communicate with her, though they admitted that they did not sign all their conversation.

All three families reported that they communicated frequently with school personnel. Frank's mother reported that she could always contact his teachers. Although Santiago's family typically only communicated with the school when he had a problem, his teachers knew they could contact the family if needed. Sheila's family was in constant contact with the teachers or administrators by phone, in person, and by email.

The three families had very different resources available to support their deaf child. Frank's family could not provide transportation for extra-curricular activities; consequently, he was not able to participate in these activities until he was able to drive himself. Santiago's family had sufficient resources to buy him his own motorbike allowing him to go to parties and spend time at his friends' homes. Sheila's parents spoke about their constant search for deaf peers with whom she could interact. In order to facilitate her social life the family spent considerable resources transporting Sheila, her boyfriend, and other friends (who lived some distance away). Finally, students' social responsibilities in the home seemed to facilitate outcomes. Frank was responsible for accompanying his younger sisters to their activities, while Santiago was responsible for the care of his young sibling after school when his parents were not at home.

Conclusions

There continue to be gaps in our knowledge about the social competence of deaf students in public schools, and, specifically, those who spend most of their time with hearing peers in a general education setting. In general, it appears that these students are not necessarily lonely or isolated, but, of course, their social outcomes vary depending on the combination of risk and resilience factors present in their lives. Although student-related, school-related, and family-related factors all contribute in various ways to social outcomes, we do not yet have a substantial body of research that examines the severity of the various risk factors, nor how risk factors interact to produce outcomes. We know very little about factors that make a positive contribution to the resilience of students and how to promote resilience in deaf students, despite factors that might put them at risk. Such research would be invaluable to professionals who work with deaf students and their families.

At the student level, communication proficiency appears to be a key resiliency factor. Communication should be thought of broadly as including not only facility with language but also the ability to communicate appropriately with a wide variety of individuals. Communication proficiency is not necessarily related to mode of communication or speech intelligibility. Mode of communication is also a factor that influences outcomes. Although oral language proficiency can be a resilience factor, such proficiency by itself does not remove the risk of poor social outcomes, as illustrated by the case studies. A preference for sign language can be a risk factor if schools do not make appropriate provisions for interpreters both for classroom and extra-curricular activities. Elementary and secondary deaf students have different social needs, but the data do not show that students are more socially isolated or have poorer social outcomes as they move from younger to older grades. A gap in the research is that few data are available on the effects of personality, locus of control, or other student traits on social outcomes. The case studies suggest that these traits, as well as other traits identified in the resilience literature may be important mediators of social outcomes in deaf students.

At the school level, the presence of additional deaf peers seems to be a protective factor. The most consistently positive social outcomes are reported for those deaf students who are in coenrolled classrooms where they have access to both deaf and hearing peers, and all students are members of, rather than visitors to, the classroom. In these situations sign language appears not to be a barrier to peer communication. However, for students who sign, school personnel need to be aware of the necessity of providing interpreters for noninstructional as well as extra-curricular activities. We also need research on whether the presence of interpreters for these activities promotes social outcomes for students in public schools. Transitions from school to school create stresses for all students, but may create particular social stresses for deaf students and their families, because support services and personnel may need to be re-created at each school transition. Thus, effective transitions will need to be studied and addressed. Research at the classroom level is also needed, to determine how classroom instruction can promote peer collaboration and enhance

social relationships. We also need research on whether instruction in self-advocacy and problem solving can improve behaviors that promote resilience.

Families play an important role in a variety of ways: by providing access to friends, by acting as social coaches for deaf children, and by promoting independence and resilience. Ideally, we need information on how professionals and families can work together to promote social outcomes for deaf students. Professionals who work with young children often have the time, skills, and inclination to work with families; however, close coordination between school and home often decreases as students get older. The field needs to develop service models where teachers of deaf students are expected to work not only with the student and teachers at school but are also given time to communicate and work with families. The field also needs to develop strategies to reach out to, and involve families who are disinclined to be involved or unable to communicate with school personnel.

An area that has not been explored is how participation of deaf students in the community outside of school might create resilience and be a protective factor for social outcomes. When students who are deaf are invisible to the community in which they live, they may also be at risk for poor social outcomes. All deaf students will not have families that help them to access their community, and schools may have to take on this role. The presence, accessibility, and affordability of community interpreters, for example, might allow deaf students to volunteer in their local community and obtain and maintain after-school employment. When deaf students are visible to the larger hearing community, they may have better opportunities for developing community bonds.

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