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**SOCIAL INTEGRATION OR SOCIAL ALIENATION:
A LOOK AT THE SOCIAL FUNCTIONING OF ORAL DEAF
TEENAGERS IN THE MAINSTREAM EDUCATIONAL SETTING**

by

Marzena Razny

**An Independent Study
submitted in partial fulfillment of the requirements for the
degree of:**

Master of Science in Deaf Education

**Washington University School of Medicine
Program in Audiology and Communication Sciences**

May 20, 2011

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Abstract: The purpose of this literature review was to determine the social functioning of oral deaf adolescents in the mainstream educational setting.

Acknowledgements

I want to thank my advisor, Karen Stein, for her patience with me, for her understanding, and for all the help with the revisions of this paper. I want also to thank Dr. Heather Hayes for her encouragement and for her help with the revision of this paper.

Secondly, I want to thank my husband, Adam, for his continued support, for believing in me throughout this process and during the past two years, for his emotional support, as well as financial support.

I also want to thank my children, Peter and Ann Marie for their understanding, smiles and cheering for me. Additionally, I want to thank Peter for teaching me so much about deafness, for if it wasn't for him, I wouldn't be in this program.

Last, but not least, I want to thank my good friend, Dr. Ann Lijowska, for all the support I received from her and her family while writing this paper, as well as during the last two years of my studies. Thank you.

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Introduction

Communication involves so much more than clear speech production, or grammatically correct English sentences. Advanced social skills, and the ability to recognize subtleties of social communications are an integral part of successful communicative interactions. Traditionally, deafness has meant limited spoken communication skills, resulting in limited reading and written skills, and limited social interactions. With the advancement of cochlear implant technology, and the impact of early identification and early intervention, the potential achievements for children with hearing loss have changed significantly. Revised cochlear implant criteria along with advancements in the cochlear implant technology, now allow children with hearing loss to have clearer access to auditory input, putting a stop to the widening gap in language acquisition, and opening the door to participation in the hearing world wider than ever before. The combined effect of early identification, early intervention, and advancements in amplification technology are producing a measurable impact on the development of children with hearing loss. For my independent study, I chose to focus on one aspect of this development, that of social competence in this population, and its impact on success in the mainstream setting.

I began by taking a look at the social development that occurs in adolescence. Adolescence is an important time of maturing not only physically, but also emotionally and psychologically. It is time when great importance is attached to friendships and peer groups, and when adolescents become sensitive to their appearance. It is a time of personal discovery and attempts to define oneself through peer interactions. Adolescents spend more time with their peers, who serve as a reflection of their self-worth, and play a crucial role in their emotional development. The driving force behind social development in adolescence is the ability to establish close friendships, to participate in social interactions, and to establish independence.

Adolescents seek friends who will understand them, friends who share similar values, and ideas, friends with whom they can share their feelings, and who prove to be loyal to them.

Although students in general may be taught that they should not discriminate because someone is different, the reality is that during adolescence being different is generally not valued (Coyner, 1993). Adolescents look to peers for what is “normal,” and for many adolescents conforming to existing social norms and fitting in, is how they survive this period. Coyner (1993) stresses the importance of a strong social foundation as an essential base for academic success, noting that “the best predictor of academic success in a mainstream program for hard of hearing and deaf students is their acceptance by hearing peers.” (p.90) Adolescents’ social behavior is a major contributing factor to acceptance or rejection by their peers and plays an important role in the development of friendships (Scheetz, 2004). Peer acceptance is of critical importance for the emotional well-being of adolescents contributing to their feelings of self-worth and self-esteem. Friendships become an integral part of the school experience and when an adolescent struggles to develop those close friendships, he or she may experience decreased self-esteem, isolation and loneliness. In other words, social competence is a significant factor in building self-esteem, and students who feel good about themselves have greater success in school.

Language is central in human communication, but it is often taken for granted until a breakdown in communication occurs. For deaf adolescents, language moves to center stage and becomes pivotal in the socialization process (Scheetz, 2004). The ability to ask questions, request clarification, respond appropriately to requests, and the ability to choose appropriate strategies when communication breakdowns occur, are essential communication skills. Although basic language skills are sufficient for younger children to be successful in their communicative attempts, adolescents need to have facility with more complex language, strategies, and social

scripts in order to function well in social interactions. Adolescents with hearing loss who have acquired sophisticated use of language have an increased chance of being accepted by their hearing peers (Scheetz, 2004). On the other hand, for those deaf teens whose language skills lack proficiency, social interactions may become a frustrating struggle, leading to social isolation and loneliness.

Historically, social competence has been identified as an area of concern for children with hearing loss who often lag behind their hearing peers in social development. For those who are in the mainstream setting, this gap in social development may cause increased social isolation, reduced self-esteem, and a less successful mainstream experience. The primary goal of this literature review is to describe the social functioning of adolescents with hearing loss in a mainstream educational environment and to attempt to identify some of the key factors influencing their social success. Identifying factors that might contribute to or detract from social competence may lead to an increased understanding of what is needed for a successful mainstream experience. In order to function well in a mainstream setting, children with hearing loss have to have the skills to be able to communicate, to learn and to socialize with others.

This literature review tries to answer the following questions:

- How do adolescents who are deaf and hard of hearing compare socially to their hearing peers?
- What factors contribute to social acceptance of oral deaf adolescents in the mainstream educational setting?

Defining Social Functioning

Social competence, according to Welsh and Bierman (2001), refers to “social, emotional, and cognitive skills and behaviors that children need for successful social development.” (p.2). It

can be defined as a child's ability to establish and maintain healthy, satisfying social relationships. To do so, one must have use of social skills and social intelligence. Social skills refers to the "knowledge of and ability to use a variety of social behaviors" that are appropriate to a social context (p.2). Social intelligence refers to the "child's ability to understand the emotions of others, perceive subtle social cues, 'read' complex social situations, and demonstrate insight about others' motivations and goals." (p.7) During the first years of life, parents are the primary source of social-emotional support; in adolescence, peer relations serve as "training grounds" for the development of future relations (p. 3).

Domains of social development

In order to discuss the impact of hearing loss on the social development of adolescents who are deaf or hard of hearing, one must first consider the complexity of social development for any teenager—hearing or deaf—going through this stage of life.

Stinson and Whitmore (2000) list three domains that are critical in the social development of an adolescent: motivation, peer relations, and identity. These domains can be associated with three of Erikson (1994) stages of development in the life cycle. When discussing the development of motivation, peer relations and identity, it is essential to discuss it in the context in which these domains develop, with educational setting playing a major role. These domains are influenced by the educational setting and are closely connected with proficient communication skills.

Motivation plays a significant role in the social development of adolescents. It is related to Erikson (1994) stage of industry and inferiority, which refers to a person's sense of competence (Stinson & Whitmore, 2000). Adolescents need to cope with new social and academic demands. Success leads to a sense of competence, while failure can result in feelings

of inferiority. Persistence and effort may serve as facilitators of adolescents' achievement, while anxiety and lack of sustained effort may inhibit it. Adolescents face increased responsibility for their own achievement, and the extent to which they respond to that demand will influence their future success. For adolescents who are deaf or hard of hearing, the increased complexities of communication skills during high school and beyond, and the need to meet expectations in order to socially "fit in" may for those with inadequate language skills affect their motivation, and interfere with their achievement. Stinson and Whitmore (2000) concluded that access to communication, ease of communication between adolescents who are deaf or hard of hearing and their normal hearing peers, and perceived control are the factors that can negatively influence motivation. Less than sufficient access to communication resulting from the lack of adequate language skills negatively affects deaf adolescents' motivation. The ease of communication is related to one's self-perception of control, which in turn influences students' motivation to perform well academically. The students who experience few communication difficulties feel that they have greater control over their learning, and as a result are more motivated to participate in learning. One can conclude based on these findings, that deaf or hard of hearing students' perceptions about their communication with normal hearing students can influence their motivation and consequently have an impact on their learning.

Another domain of social development during adolescence is peer relationships. This domain relates to Erikson (1994) stage of intimacy versus isolation. According to Erikson, adolescents need to form supportive, intimate relationships with other people. He proposes that success leads to strong social bonds, while failure leads to isolation and loneliness. At this stage of human development, friendships and peer groups play a paramount role in the development of social relationships. Through peer groups, teenagers learn how to participate in a group, how to

express their feelings, and how to respond to rejection or acceptance (Stinson & Whitmore, 2000). Peer interactions such as collaborative learning in a classroom setting, whispering in class, or informal exchanges in the hallway and at lunch, are all important to the social growth of an adolescent. Peer communications are more likely to be successful when both communicating parties share fluent or near fluent communication skills. Stinson and Whitmore (2000) report that adolescents who are deaf or hard of hearing rated themselves as interacting more frequently with peers who were deaf or hard of hearing than with normal hearing students. The authors report that students' feelings of social isolation and loneliness are a result of communication difficulties that make social participation unavailable to adolescents who are deaf or hard of hearing.

The third domain that is relevant in the social development of adolescents is identity: "the most significant task of adolescence." (Stinson & Whitmore, 2000, p. 65) Adolescents need to develop a sense of self and personal identity. Success leads to a strong sense of self, while failure leads to role confusion and a weak sense of self. Adolescence involves a quest for a definition of self, by trying to evaluate one's own characteristics. The social identity component involves the question of "*Where do I belong?*" and one's cultural or ethnic background plays a vital role in identity formation. For adolescents with hearing impairment, the degree to which they identify with peers who are deaf or hard of hearing, with hearing peers, or with both, determines their social identity. Equally important is personal identity, which involves answering the question "*Who am I?*", and focuses on our own beliefs, ideas, and direction in life. For a teenager with a hearing loss, adolescence poses an increased struggle and additional stress associated with attempts to establish close friendships and define self-worth.

Adolescents, who are deaf or hard of hearing have to deal not only with all the demands that their normal hearing peers have to consider, but additionally with obstacles placed on them

by their disability. They are at risk for social and emotional challenges that are indirectly connected to their early sensory deprivation, language and speech delays, and are often difficult to overcome. Those social challenges can manifest themselves in less social acceptance, more difficulty making friends, and greater problems interacting with their hearing peers. The degree to which adolescents feel socially accepted or socially included can affect their self-esteem (Punch & Hyde, 2005).

Changes in the field of deaf education

Several events in the field of deaf education have changed the picture for children with hearing loss, a few of which will be described below. Public Law 94-142, The Education of All Handicapped Children Act of 1975, Universal Newborn Hearing Screening, the deepened emphasis on intensive early intervention programs, and the improved technology of hearing aids and cochlear implants are all influencing what is now possible for these children. More children with hearing loss are being educated in the mainstream; they are entering the mainstream at younger ages than before, and with greater access to sound. These changes mean that children with hearing loss are getting greater opportunity to participate in and benefit from the mainstream environment.

Public Law 94-142 mandated *free and appropriate public education* (FAPE) for all children with disabilities. This law gave the right to children with disabilities to be educated in the least restrictive environment that is appropriate for the child. Public Law 94-142 had a tremendous impact on educational placement of children who are deaf and hard of hearing (Eriks-Brophy, Durieux-Smith, Olds, Fitzpatrick, Duquette, & Whittinham, 2006). It resulted in the increased enrollment of children with hearing loss in general education classrooms with normal hearing peers, rather than in schools for the deaf, or residential facilities. The general

education setting then, becomes the primary arena for the socialization process to take place, and for friendships to be established for both adolescents who are deaf and hard of hearing, and for their normal hearing peers. In these settings children gain valuable opportunities to form social relationships. Together with their peers they share exciting discoveries, their greatest fears, and their common interests, and also discuss topics that they may not discuss with their parents. At school children learn to navigate social relationships, by adjusting their behavior to a given social interaction. Regardless of the setting, mainstream schools or residential schools, each school environment provides opportunity for academic growth and for social-emotional development (Scheetz, 2004). Formal interactions such as during class discussions and group projects, in addition to casual interactions such as those in the cafeteria, during extracurricular activities, and while playing sports, all play an important role in forming friendships between deaf teens and their hearing peers. During those times common interests are being discussed, and strong social ties are being built, determining who belongs to a group and who stays on the outside. (Scheetz, 2004).

Since the advent of the cochlear implant more than 20 years ago, the devices have benefited thousands of children with hearing loss, and have had an unprecedented impact on deaf education. Recent changes in cochlear implant technology and use, including revised candidacy criteria, more sophisticated processing strategies and bilateral implantation have added to the benefits (Peters, Wyss, & Monrique, 2010). The U.S. Food and Drug Administration (FDA) first approved cochlear implants for children in 1990. Since then, the age of pediatric candidates was moved from 2 years to 12 months of age, with some centers performing surgeries at the age of 8 months. In addition, simultaneous bilateral implantation has become the standard of care in many hospitals throughout the U.S. (Peters et al., 2010). Bilateral cochlear implant users show

significant improvement in speech perception and sound localization abilities, as well as “subjective reports of significantly decreased social restriction, and reduced emotional distress” (Peters et al., 2010, p. 19). Bilateral cochlear implantation enables children to receive improved auditory input and increases the possibilities for acquiring language close to their developmental age. As a consequence these children are able to enter general education classrooms at young ages with solid language skills, improving the likelihood for success.

Universal Newborn Hearing Screening allows for children with hearing loss to be identified at birth, amplified early, and receive early intervention services at a very early age. These intense interventions allow for children with hearing loss to enter the mainstream educational setting at the much younger age than was previously possible. The following discussion addresses the two primary questions of my independent study.

Question #1: How do adolescents who are deaf and hard of hearing compare socially to their hearing peers?

Results from studies addressing this question were mixed. There are numerous studies concerning language and cognitive development of children who are deaf and hard of hearing, but only a small number of studies focused on social development of children who are deaf or hard of hearing. An even smaller number investigated social processes during adolescence, and the impact of friendships between adolescents who are deaf or hard of hearing and their hearing peers.

Studies conducted prior to the recent changes in the field of deaf education reported that students who are deaf or hard of hearing experienced loneliness and social isolation in the mainstream educational setting, therefore presenting a pessimistic view of mainstreaming

(Cappelli, Daniels, Durieux-Smith, & McGrath, 1995; Hyde & Power, 2004; Kluwin, Stinson, & Colarossi, 2002; Stinson & Whitmore, 2000; Stinson, Whitmore, & Kluwin, 1996).

Stinson, Whitmore, and Kluwin (1996) investigated the impact of classroom social experiences on perceptions of social competence of 220 mainstreamed hearing impaired adolescents in grades 10 to 12 in public schools in the United States and Canada. The researchers focused on students' perceptions of three domains of their social contact: participation in in-school and out-of-school activities, emotional security with hearing peers and deaf peers, and perceived social competence with both groups. They found that deaf adolescents who were mainstreamed for more subjects with hearing peers (more in-school contact) chose to participate in out-of-school activities less with hearing peers than the same grade deaf adolescents who were mainstreamed less frequently. Students who were mainstreamed to the greatest extent reported greater emotional security and feelings of social competence while interacting with peers who were deaf or hard of hearing. These findings may indicate that more contact with hearing peers does not necessarily lead to developing deeper relationships with hearing peers, and consequently may not increase feelings of emotional security with that group. It is evident, that we need to distinguish between superficial relationships of "official" in-school contact, and those close friendships where a sense of belonging and "real" conversations take place between deaf and hearing adolescents every day.

Cappelli and colleagues (1995) examined the psychosocial development of 23 students who were in grades 1 through 6, used spoken communication, and had bilateral mild to severe losses. They were matched with 23 hearing children, and ratings of likability were used to determine peer acceptance. Assessment was done using student self-reports, in contrast to studies that included parent ratings. The researchers found that children with hearing loss were rejected

by their peers (30%) more than hearing students were (5%). Additionally, the study indicated that 39% of students with hearing impairment were rated by their classroom peers as having low social status while only 13% of hearing peers were rated as such. Hearing-impaired students perceived themselves as less socially accepted than their hearing peers. There were no differences between the groups on self-perception of competence, social knowledge, or self-worth. Degree of hearing loss was not related to social status. In addition, there were significant developmental differences noted within the hearing impaired group. Children in grades 1 through 3 experienced significantly less rejection or neglect than children in grades 4 through 6. The older students reported more feelings of social anxiety. There were no developmental differences on social status or affective functioning noted for the normal hearing group. The design of this study was limited in several ways. More information is needed to better understand what factors contributed to those low social acceptance scores of students with hearing loss.

Coyner (1993) studied deaf and hard of hearing junior high school students to determine their self-concepts and their social acceptance by hearing peers in the mainstream educational setting. Deaf or hard of hearing students received significantly lower social acceptance ratings from their hearing peers than from peers who were deaf or hard of hearing. This result suggested that deaf adolescents as a group may not be included in hearing students' social circles. Additionally, Coyner reported that there were no significant differences between hearing and deaf students' self-perceptions of their social acceptance. This finding may indicate that deaf as well as hearing adolescents were aware of their social position at school. In this study, deaf and hard of hearing students were part of a well-established group of other deaf and hard of hearing students, but did not enjoy the same kind of social relationship with hearing peers. One possible explanation may come from the physical location of the classrooms for the deaf students. These

classrooms were located in a separate, portable building located behind the school, thus resulting in the physical isolation of these students from their hearing peers.

Hyde and Power (2004) surveyed 143 itinerant teachers serving students with hearing losses ranging from mild (7%), to moderate (30%), to severe (32%), and profound (32%) in the general education schools in Australia. Fifty-one percent of the profoundly deaf students used sign language interpreters, and the percentage of oral versus sign communication skills for the rest of the students was not reported in this study. Data showed that 81% of the students spent over three-quarters of their time in regular classes and over two-third of the students performed at a “competitive level” academically when compared to their hearing peers. Eighty-seven percent of hearing itinerants spent six or more hours each week in pull-out services with hearing impaired students. The data in regards to their social participation shows, that only one-third of the Australian deaf students are well integrated with their hearing peers, as rated by independent participation in planning and executing the school activities. Results of this study must be considered carefully given the lack of information regarding student background and history and the fact that 22% of the surveyed itinerant teachers stated that they felt the present placement did not best meet student needs.

The next set of studies demonstrate the variation in deaf and hard of hearing students’ social experiences and presents mixed results in the analysis of social functioning of adolescents with hearing loss.

Wauters and Knoors (2008) examined the social integration of 18 children in grades 1 through 5 and found no differences between deaf children and their hearing peers in peer acceptance and social status. However, deaf and hard of hearing children differed on some measures of social competence, as they scored lower than their hearing peers on pro-social

behavior and being nominated in cooperating or helping situations less often. It would be interesting to find out if the deaf children were nominated less due to the fact that they were less cooperative or less helpful, or that hearing peers did not feel comfortable asking a deaf peer to help them.

Bat-Chava and Deignan (2001) examined 25 profoundly deaf children ages 6 to 10 who used cochlear implants, with a mean age of implantation of 3.7 years. Parents reported that their children's relationships with hearing peers improved as a result of cochlear implantation, and their children demonstrated greater self-esteem, and displayed more confidence and outgoing behavior. However, these children, while comfortable communicating with their hearing peers in one-on-one or small group situations, still experienced communication obstacles in large groups.

Martin and colleagues (2010) examined a group of ten 5- to 6-year-olds to determine their social competence. Eighty percent attended mainstream schools, and were implanted between 10 months and 4 years of age. The results show that these students had no problem socializing with their hearing peers in one-on-one situations, but were less successful joining a group of hearing peers. The researchers found that there was no significant difference between the cochlear implanted children and their hearing age-mates on scores of self-esteem, and self-esteem was strongly related to social competence. One has to consider the small size of the study when trying to draw general conclusions for the larger population.

Punch and Hyde (2005) measured social loneliness, as a reverse concept of social competence in 65 deaf adolescents in general education classrooms, grades 10 through 12. The breakdown of hearing sensitivity of these students was as follows: mild loss (8%), moderate loss (20%), moderate-severe loss (37%), severe loss (15%), and profound loss (20%). The quantitative measure obtained from the Social Loneliness Scale indicated that fully

mainstreamed deaf adolescents reported on average that they did not feel more social isolation, or less social participation than their hearing peers. However, the second part of the study involved a qualitative measure using interviews with participants, revealing patterns of social participation, and complexities of students' perceptions. The difficulties identified included feelings of awkwardness and self-consciousness, though some displayed resilience and developed strategies for improving their interactions. All adolescents reported a desire to be treated normally, not to be seen as different, and not to draw attention to their hearing loss. Many deaf adolescents commented that they felt more socially isolated in the early years of school. We can ask whether it may be due to mastering more social skills, gaining confidence, or due to greater tolerance of hearing peers as they got older. They reported areas of concern related to being pulled out of class by their hearing itinerant, use of their FM system in the classroom, and times when some of their friends forgot, or were unaware of the need to speak clearly and face them. The participants reported that these difficulties caused negative reactions from hearing peers, feelings of embarrassment due to misunderstanding, and self-consciousness while interacting with hearing peers, had "an effect on their social self-concept, decreased their self-confidence in social interactions, and inhibited their social behavior" (Punch, and Hyde, 2005, p. 135).

More recent studies present results in which mainstreamed students demonstrated positive social experiences (Leigh, Maxwell-MacCaw, Bat-Chava, Christiansen, 2009; Loy, Warner-Czyz, Tong, Tobey, & Roland, 2010; Moog, Geers, Gustus, & Brenner, 2011; Nicholas & Geers, 2003). Nicholas and Geers (2003) assessed the psychosocial functioning of 181 eight and nine year old cochlear implanted children, of whom 83% were partially or fully mainstreamed. The measure of perceived self-competence, as well a parent assessment of the

children's social adjustment revealed that those deaf students were emotionally and socially well-adjusted in five areas of daily life: cognitive competence, physical competence, socio-emotional competence, school adjustment, and communicative competence. All participants were pre-lingually deaf (before age 3), implanted before age 5, and the duration of implant use was between 4 to 6 years. There was no difference in social performance between those who used only spoken language and those who used oral and sign communication together.

One of the goals of a longitudinal study conducted by Moog and colleagues (2011) was to determine the extent to which psychosocial skills found during elementary school years were similarly present in high school. The authors examined 112 adolescents with cochlear implants, ages 15 through 18, and included both parents' and students' perceptions of functioning. Deaf adolescents who participated in the study were implanted on average at age 3.41 years. Of this group, 73% used speech only, whereas 26% utilized speech and sign. Regarding educational setting, 95% were mainstreamed for more than half of the day; 85% were in their age-appropriate grade level. Additionally, 80% scored within average range on a reading comprehension test, and 98% reported having hearing friends. The results show that parents perceived their adolescents as socially well adjusted, and those ratings were stable from elementary to high school years. Those deaf adolescents who had a positive self-image in elementary school, maintained that positive self-image during high school, and 87% assigned either moderate or high self-esteem ratings to themselves. Those who showed high levels of self-esteem used spoken language as a primary mode of communication. The majority of these deaf adolescents demonstrated social skills such as assertion, responsibility, or empathy at similar or better levels than those of their hearing peers. Students self-reported that they saw themselves as more cooperative, and having better self-control than age- and gender-matched hearing peers. Female cochlear implanted adolescents

displayed significantly fewer internalizing problems, such as anxiety and loneliness than their hearing female peers, while male cochlear implanted adolescents displayed significantly fewer externalizing problems, such as physical aggression and arguing than their hearing male peers.

There is some concern that results of this study were affected by possible selection bias.

Although the sample was large and geographically diverse, those families who responded to the invitation to the study may be characterized as well-educated, two-parent households, who were among the first in U.S. to implant their children.

Loy and colleagues (2010) examined the quality of life of 88 pediatric cochlear implant users in two age groups: 8-11 years old and 12-16 years old. Participants were identified on average at 12 months of age, and implanted by age 5.83, with the length of cochlear implant use of over seven years. Cochlear implanted adolescents rated themselves in several psychosocial domains including physical well-being, emotional well-being, self-esteem, family, friends and school. Adolescents in both age groups rated themselves similar to hearing peers on overall quality of life (QOL) measures. When looking at the individual subscales, however, some differences emerge. Cochlear implant recipients in the 8-11 year old age group rated overall QOL more positively than those in the 12-16 year old group. One possible explanation could be that younger children may not have experienced yet the peer-pressure, self-consciousness, or self-identity issues characteristic of adolescence. The students in the 12-16 year old group scored similarly to their hearing peers on all QOL subscale measures and on the total QOL score. However, cochlear implanted adolescents rated themselves less positively than their hearing peers on the friends and the school subscale, indicating those teens, although overall similar to hearing peers in social functioning, still may see themselves as deficient in peer relations. Those adolescents who were implanted the earliest and had the most experience with the implant

showed greater success in school. This group was implanted relatively late (5.83 years of age) when compared to today's standards of implantation (12 months of age or below).

Leigh and colleagues (2009) measured psychosocial adjustment in 57 deaf adolescents with and without cochlear implants. The authors found that adolescents who are deaf or hard of hearing did not exhibit more loneliness than their hearing peers, inferring that socialization with and acceptance by hearing peers may prevent loneliness. The parents of the adolescents in the mainstream educational setting reported increased scores of social competence compared to those who were not mainstreamed. The uneven distribution of potentially influencing factors in this study may have an influence on the interpretation of the results.

Question #2: What factors contribute to social acceptance of oral deaf adolescents in the mainstream educational setting?

A review of the literature revealed a wide range of factors influencing the social performance of adolescents who are deaf or hard of hearing which in turn may increase their success in the mainstream setting. Not surprisingly, language and speech facility play important roles. For example, several studies have found that language competence is necessary for social acceptance (Bat-Chava, Martin, & Kosciw, 2005; Martin & Bat-Chava, 2003; Moog et al., 2011). Many adolescents report that good oral skills allow them to participate with hearing peers in school activities, in nonacademic activities and allow them to talk on the phone (Moog et al., 2011). In a longitudinal study of 7 to 13 year olds, Bat-Chava and colleagues (2005) concluded that improvements in oral language skills and in speech have an indirect effect on socialization; better communication skills lead to better socialization of deaf children with their hearing peers. This finding is compatible with research on theory of mind. As the oral skills of deaf children improve, they are more exposed to conversations with normal hearing peers, allowing them to

gain understanding about what others think and feel (Bat-Chava et al., 2005). Being able to understand the perspective of others may increase a child's ability to be more successful socially. This relationship is not surprising, given the fact that children must be competent in language in order to be able to converse with their peers.

Suarez (2000) pointed out that language of emotions plays an important role in the social-emotional functioning of profoundly deaf children. Deaf adolescents have limited emotional vocabulary and it may have an impact on their ability to communicate their own feelings and understand those of others. Again, this relates to the importance of theory of mind in successful social experiences. Additionally, Cambra (2005) noted that hearing impaired adolescents tend to express feelings based on their personal experiences, while hearing students display a wider social perspective, as they are concerned with problems that affect society as a whole such as justice, war, violence, and solidarity. This finding can be attributed to the lack of emotional vocabulary and the limited access to information. However, the implications of this social immaturity as demonstrated by an inability to consider a wider social perspective may contribute to a reduction of social acceptance by hearing peers.

Similarly, improvements in speech production due to the use of cochlear implants are linked to improvements in socialization skills (Bat-Chava et al., 2005, Martin & Bat-Chava, 2003). Clear speech production helps remove the stigma associated with imperfect speech and may help in building successful relationships with hearing age-mates. Conversely, those deaf children without clear speech may get ignored or rejected by their hearing peers, affecting their ability to socialize (Bat-Chava et al., 2005). Martin and Bat-Chava (2003) listed low speech perception, low language/communication competence, and low speech intelligibility among the factors that served as barriers to successful social interaction between deaf and hearing students.

However, the research again is not clear. Nicholas and Geers (2003) found no correlation between psychosocial functioning and speech intelligibility or speech perception.

Satisfactory psychosocial functioning does not depend solely on language competency or speech perception clarity, but it also involves complex relationships between language and cognition (Bell & Wolf, 2004). Moeller (2007) points to two developmental concepts that are closely related to psychosocial development in a child: emotion regulation and theory of mind. Emotion regulation is a developmental construct that relates to a child's "ability to self-regulate the intensity of emotion appropriate to the context." (Moeller, 2007, p.732) The author concluded that there is a need for further research to establish a better understanding of how emotions serve as a driving force for thinking, learning and socializing.

The second construct closely related to psychosocial development is the concept of theory of mind (Moeller, 2007). Theory of mind allows a child to understand that people have thoughts, and feelings and we can predict and explain behaviors based on those thoughts and feelings. Remmel and Peters (2009) state that "mature theory of mind is necessary for a mature understanding of social situations and social relationships, and allows one to more accurately predict and explain people's behavior" (p. 218). Theory of mind development is a major milestone in the development of social reasoning. It allows a child to understand different aspects of social life, including surprises, secrets, and lies, and to be able to switch from one view point to another as they overhear conversations. Later in life, theory of mind serves as a foundation for social reasoning, as it relates to the ability to predict other's responses, and to develop empathy (Moeller, 2007). Theory of mind, as it relates to psychosocial development, is a crucial factor in successful interactions between peers. Typically developing children reach this milestone between 3 and 5 years of age. The research concerning theory of mind development in

children who are deaf and hard of hearing shows mixed results. Rimmel and Peters (2009) found that children with cochlear implants show little or no delay in theory of mind in comparison to their hearing peers, while Peterson (2004) reported that children with cochlear implants are as delayed in theory of mind development as those with hearing aids. Additionally, there was no difference between those children who exclusively used oral communication and those who used sign and oral communication. Peterson (2004) concluded that “early fluent communication with peers and family, either in sign or in speech, facilitates the growth of social cognition and language” (p. 1096). Schick and colleagues (2007) reported that deaf children of hearing parents show a significant delay in development of theory of mind. Language development drives theory of mind development, and understanding of the perspectives of others, sets the stage for metacognitive thinking (Moeller, 2007).

Another differentiating factor relative to social acceptance of deaf and hard of hearing adolescents is gender. Female adolescents who were deaf and hard of hearing were rated significantly higher than male students by hearing adolescents (Coyner, 1993). Martin and colleagues (2010) looked at 5 and 6 year olds and found gender to be a strong predictor of peer competence. Girls displayed higher rates of peer competence and pro-social behavior than the boys regardless of their hearing status. One may explore whether the findings of this study can be applied to children who enter adolescence. Martin and Bat-Chava (2003) looked at the nature of socialization of 5 to 11 year olds based on gender and its implications on social functioning. The researchers pointed out a difference in socialization settings with different communication requirements for each gender. In general, boys socialize in larger groups, such sports teams, and girls prefer small groups and more intense social ties. This preference for interactions in smaller groups may place deaf females in an acoustically more favorable environment, therefore making

those social interactions a little easier. Difficulty hearing increases in larger groups, perhaps placing deaf males at a slight disadvantage but at the same time, it is interesting to note that larger groups may place less stress on verbal communication.

Self-esteem and social skills were identified in several studies as contributing factors to social competence of deaf adolescents (Leigh et al., 2009; Loy et al., 2010; Martin & Bat-Chava, 2003; Martin et al., 2010; Moeller, 2007; Moog et al., 2011). In a study by Moog and colleagues (2011), a majority of the students reported strong social skills and high self-esteem, which they had maintained since elementary school. Additionally, it was reported that 50% of adolescents in the study held jobs, and those experiences help them acquire self-confidence and self-reliance; both are important components of one's self-esteem. Conversely, poor social skills serve as a barrier to communication between hearing-impaired students and their hearing peers (Martin & Bat-Chava, 2003). Martin and colleagues (2010) pointed out that students with weak social skills, showed a negative influence on their social interactions. The authors found that girls scored higher than boys on self-esteem measures. This finding may be attributed to the difference in cultural expectations for social behavior between girls and boys. When controlled for gender, successful peer entry was an important predictor of high self-esteem in a group of 5 to 6 year olds with cochlear implants. Leigh and colleagues (2009) reported that higher self-esteem for deaf adolescents is tied to school setting with adolescents attending mainstream educational settings reporting higher self-esteem than those in separate schools for the deaf.

Moeller (2007) addressed the often recognized additional area of acoustical considerations that create difficulty in social participation in mainstream settings. For deaf and hard of hearing adolescents, listening in larger groups is challenging even with the most up-to-date digital aids or cochlear implants. These difficulties stem from the need to track multi-talker

conversations, a task which is known to be challenging for deaf people, additional complications of background noise, and reverberation (Bat-Chava et al., 2005; Martin et al., 2010; Moeller, 2007; Zheng, Caissie, & Comeau, 2001).

Several studies pointed out that involvement in nonacademic activities such as clubs, sports and jobs, was an important factor related to psychosocial functioning of deaf adolescents (Coyner, 1993; Hung & Paul, 2006; Martin & Bat-Chava, 2003; Moog, Geers, Gustus, & Brenner, 2011; Stinson, Whitmire, & Kluwin, 1996). Increased participation in nonacademic activities not only provides additional opportunity for social interactions in a more relaxed environment than the typical classroom, but it also allows students who are deaf and hard of hearing to show their hearing peers those “hidden” talents that may not be easily visible in a classroom, such as excellence in sports, art, etc. They may feel more confident and more accepted by their hearing peers in these situations (Coyner, 1993). Similar results were noted by Martin and Bat-Chava (2003), who found that the single most effective strategy for deaf or hard of hearing boys to develop good social functioning was to gain the respect of their hearing peers through excelling in sports, underscoring the competitive nature of boys’ social interactions. On the other hand, the study found that girls’ athletic abilities were unrelated to the quality of their social relationships. Moog and colleagues (2011) reported that adolescents who showed positive self-esteem and strong psychosocial functioning were active participants in high school activities and sports (94%) and often also held jobs (50%). Involvement in nonacademic activities and sports plays an important role in the high school experience and offers opportunities for socialization between deaf adolescents and their hearing peers.

Successful involvement in nonacademic activities is one of the ways of perceiving someone as socially competent, however the general attitude towards hearing impaired

adolescents and the awareness of the specific communication needs of deaf and hard of hearing adolescents by hearing peers and general education teachers plays a fundamental role in social acceptance (Coyner, 1993; Eriks-Brophy et al., 2006; Hung & Paul, 2006; Martin & Bat-Chava, 2003; Zheng et al., 2001).

Zheng and colleagues (2001) examined the perspectives of 81 mainstreamed adolescents with hearing impairment and their hearing peers. They concluded that the hearing students as well as the general education teachers underestimated the degree of difficulties experienced by adolescents with hearing loss while communicating with them, especially in presence of background noise. There was a significant difference between the perception of hearing students and the perception of students with hearing loss regarding difficulties experienced in communication.

Similar findings resulted for the general education teachers, as they perceived that their students with hearing loss experienced less communication difficulty than the level of difficulty the students perceived. The authors of the study concluded that lack of awareness of the impact of auditory difficulty in listening situations between hearing impaired and normal hearing students can serve as a barrier to social integration. It is evident that there is a need to increase awareness of the impact of deafness on communication difficulties of hearing impaired students, and to encourage deaf and hard of hearing students to advocate their own needs related to their hearing loss.

Hung and Paul (2006) examined the attitudes of 241 hearing students in grades 6 to 12 towards their deaf and hard of hearing peers in two settings: inclusive classrooms and general education classrooms. The researchers concluded that 75% of hearing peers showed positive attitude towards inclusion of deaf and hard of hearing peers, with 10% within this group showing

strong positive attitudes. Students in inclusive classes demonstrated more positive attitudes than those hearing students in general education classes without deaf students. The degree of hearing students' attitudes toward inclusion of peers who are deaf and hard of hearing was related to the extent of their contact experiences; closer relationships led to more positive attitudes. The authors pointed out that the opportunities for interactions between hearing students and their deaf peers were abundant and hearing peers built close relationships with their deaf peers. On the other hand, "hearing peers who had a negative attitude towards students with hearing impairment, who were insensitive to the needs of those students, or who did not use specific communication strategies with deaf or hard of hearing students were described as barriers to inclusion" (Eriks-Brophy et al., 2006, p.74). Those negative attitudes towards children with hearing loss were "a result of perceived favoritism or reduced classroom demands" on behalf of their hearing peers (Eriks-Brophy et al, 2006, p.74). Additionally, students in more advanced grade levels demonstrated more positive attitudes than those in lower grades (Hung and Paul, 2006).

Furthermore, there is evidence that the attitude of hearing students towards the students with hearing loss is shaped by the attitude that the teacher displays. The importance of educators being role models for all others of acceptance of disabled students was confirmed by findings of this study. Class norms regarding the effects of inclusion on activities in classroom and at school were positively associated with hearing peers attitudes towards inclusion (Hung & Paul, 2006). The hearing peers' perceptions of class norms concerning classroom activities that deaf and hard of hearing students participated in and teachers' attention to hearing-impaired students serves as a crucial element of social acceptance of hearing-impaired students. One may conclude that general education teachers' attention to hearing-impaired students shapes to some degree hearing

students' attitudes towards acceptance and inclusion of students with disabilities. Eriks-Brophy and colleagues (2006) concluded "classroom teachers who had positive attitudes toward the concept of inclusion and who were flexible in their attitudes towards assignments and testing, open to the suggestions of the itinerant teachers and sensitive to the needs of students with hearing loss were seen as essential to facilitating inclusion" (p. 65). One may conclude that general education teachers' attention to hearing-impaired students shapes to some degree hearing students' attitudes towards acceptance and inclusion of students with disabilities. Educators are role models for their students.

Similarly, Coyner (1993) reported that teachers of the deaf intervened when conflicts arose between hearing-impaired adolescents and their hearing peers. These types of interventions served as a barrier between deaf students and their hearing classmates, as it is important for individuals to work out those difficulties themselves and gain strength and confidence from doing so. The teacher's role should be to offer support and encouragement rather than directly intervening. Allowing students to work out the conflicts themselves will have a positive influence on their self-concept, and will allow them to be viewed by their hearing peers as socially competent individuals.

Another factor related to social integration of deaf adolescents has to do with awareness of the specific communication requirements of deaf or hard of hearing students by their hearing peers (Martin & Bat-Chava, 2003). Misunderstanding regarding hearing impaired students' specific communication needs may result in barriers to successful interactions of deaf students with hearing peers. The requests for repetitions from hearing-impaired students may be interpreted by their hearing age-mates as lack of comprehension, or lack of attention. Similarly, a need for closer physical contact, such as a tap on the shoulder to get attention, or a need to sit

closer to the speaker in order to lip-read and hear, may appear to violate social rules and put hearing-impaired students at risk for social rejection.

Ibertsson and colleagues (2009) pointed out specific characteristics of conversations between hearing students and those with hearing loss such as the preference for specific rather than non-specific clarification from their hearing conversational partner. This strategy allows deaf adolescents to have more control of the responses than if they used requests for elaboration, which could result in longer and less predictable responses. The authors concluded that adolescents with hearing loss can function well as conversational partners with familiar same-age peers, however they take more time to get their message across, which may influence their social interaction.

A number of studies reviewed identified the impact of individual characteristics of deaf or hard of hearing students on their social acceptance by hearing peers (Coyner, 1993; Eriks-Brophy et al., 2006; Martin & Bat-Chava, 2003). Martin and Bat-Chava (2003) cited confidence, assertiveness and ease of initiating interactions with hearing peers as qualities of students who were socially successful. Eriks-Brophy and colleagues (2006) identified additional qualities that were perceived as important to social inclusion in the mainstream educational setting. Students who were outgoing, assertive, independent, organized, proactive, who displayed a sense of humor, were open to discussing hearing loss with others, who were determined to succeed, enthusiastic about learning, and utilized good advocacy skills were seen as more likely to develop good relationships with their hearing classmates and succeed in the mainstream educational setting. Maturity and social competency were identified by Coyner (1993) as characteristics that hearing students value when seeking friendships with deaf or hard of hearing peers.

Many studies identified age of implantation and length of cochlear implant use as major factors affecting the social success of deaf and hard of hearing adolescents (Bat-Chava et al., 2005; Leigh et al., 2009; Loy et al., 2010; Martin et al., 2010; Moog et al., 2011; Percy-Smith, Caye-Thomasen, Gudmen, Jensen, Thomsen, 2008). A strong positive correlation exists between early implantation, the length of cochlear implant use and positive psychosocial functioning among deaf adolescents (Moog et al., 2011). Early cochlear implantation improves auditory access to spoken language at an age when it most benefits the development of spoken language. Children who are implanted at an early age are more likely to be mainstreamed at an earlier age, and consequently will have increased opportunity for socializing with hearing classmates. Several studies report increased self-confidence, greater self-esteem and improved communication skills for students with cochlear implants. (Bat-Chava et al., 2005; Leigh et al., 2009). Loy and colleagues (2009) noted that those adolescents who reported success at school were implanted the earliest and used cochlear implants for the longest time. Additional reports in this study show that the group of students who were implanted earlier (at 3 years of age) rated their satisfaction with life more positively than the group who received their implants later (5 years of age).

The degree of hearing loss was the only factor cited in several studies as having no influence on social acceptance by deaf and hard of hearing individuals by their hearing peers (Cappelli et al., 2005; Leigh et al., 2008; Martin & Bat-Chava, 2003).

Impact of social acceptance

One may wonder why it is necessary to discuss the value of social acceptance for deaf and hard of hearing students in the mainstream educational setting. A longitudinal study by Flook, Repetti, and Ullman (2005) of normal hearing students in grades fourth and six, investigated the factors that influence the relationship between lack of peer acceptance and academic performance. The authors concluded (as seen in Figure 1) that limited acceptance by peers has a direct impact on academic performance. Lack of peer acceptance negatively influences academic self-concept (one's belief about his/her academic abilities) and increases anxiety, sadness, and feelings of loneliness, indirectly affecting academic performance. The authors concluded that peer acceptance is crucial in terms of social development, but it also plays a role in academic and cognitive growth. Figure 1 represents the relationship between peer acceptance and academic performance, and has implications for students who are deaf or hard of hearing, as they may be at risk for increased difficulty while striving for peer acceptance (Moeller, 2007).

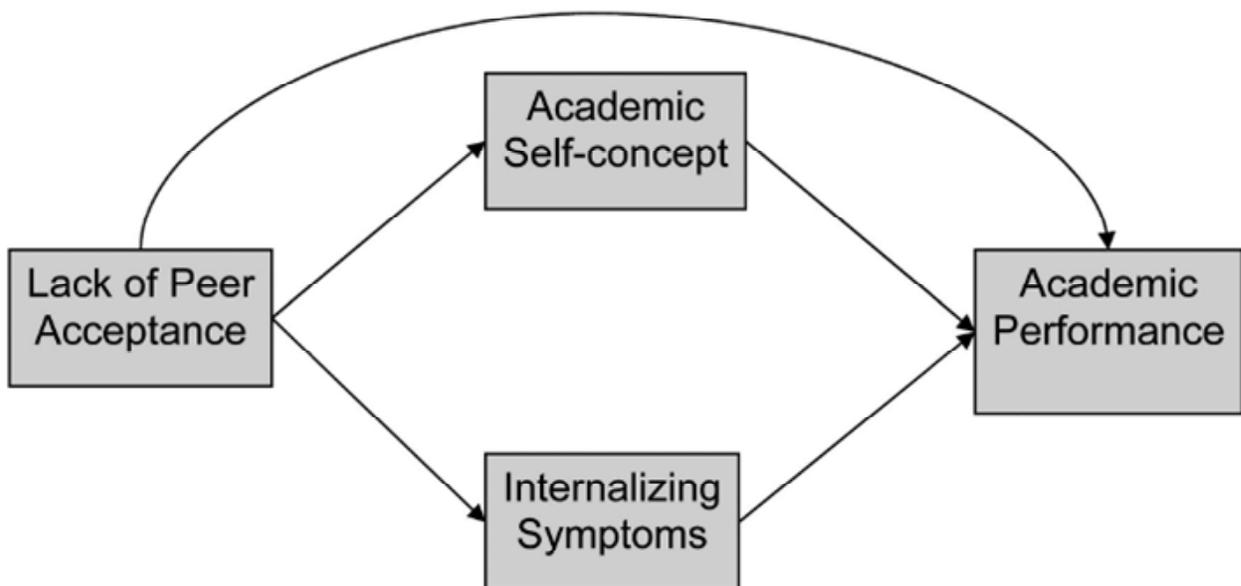


Figure 1. Model of factors influencing the relationship between peer acceptance and academic performance (Flook, Repetti & Ullman, 2005)

Coyner (1993) concluded from her study of deaf adolescents that the strongest factor of academic success for those students was acceptance ratings they received from their hearing peers. Therefore increasing successful social exchanges with hearing peers may have a positive effect on the academic performance of the deaf and hard of hearing students. Clearly, social functioning plays a major role in success in the mainstream, and warrants further attention.

Conclusion

The goal of this literature review was to examine social acceptance of oral deaf adolescents in the mainstream educational setting by answering two questions:

- How do adolescents who are deaf and hard of hearing compare socially to their hearing peers?
- What factors contribute to social acceptance of oral deaf adolescents in the mainstream educational setting?

Over the last twenty years the field of deaf education has changed dramatically. These changes have resulted in increased opportunities for deaf children to enter mainstream education earlier than ever before. Although studies show mixed results, it appears that, under the right circumstances, hearing-impaired adolescents are doing better socially than those who were mainstreamed decades ago. They are more socially accepted, have better self-esteem, and stronger social skills than those deaf and hard of hearing peers who were mainstreamed before them. However the picture remains unclear.

Although this study has not examined all the domains related to the social acceptance of hearing-impaired adolescents, the findings point to a wide range of factors having an influence on success. Some of these influencing factors are language and speech competence, development of theory of mind, gender, participation in nonacademic activities, attitudes of hearing students and general education teachers toward people with disabilities, awareness of the special communication needs of deaf students, acoustic considerations, social skills, self-esteem, individual characteristics of the student, age of implantation, and length of cochlear implant use. All of these factors contribute to a great degree to the social acceptance of deaf and hard of hearing students in the mainstream setting.

Furthermore, these findings have implications for school personnel, including itinerant teachers, general education teachers, speech pathologists, counselors and special education teachers who may help facilitate social acceptance through:

- promoting positive attitudes among hearing students and fostering acceptance of students with disabilities
- actively facilitating meaningful interactions between deaf and hearing peers, through activities such as collaborative learning, and encouraging participation in nonacademic activities
- creating acoustically sound environments and allowing extended time during collaborative learning experiences as well as nonacademic activities
- increasing awareness of the specific communication needs of deaf and hard of hearing students

- increasing social skills competency through social skills training tailored specifically to the unique needs of deaf and hard of hearing adolescents, and including the language of emotions

In conclusion, this literature review has served to confirm the complexity of the mainstream process, and the many factors that can have an impact on the mainstream student's success.

References

- Bat-Chava, Y. & Deignan, E. (2001). Peer relationships of children with cochlear implants. *Journal of Deaf Studies and Deaf Education, 6*(3), 186-199.
- Bat-Chava, Y., Martin, D., & Kosciw, J. G. (2005). Longitudinal improvements in communication and socialization of deaf children with cochlear implants and hearing aids: Evidence from parental reports. *Journal of Child Psychology and Psychiatry, 46*(12), 1287-1296.
- Bell, M. A. & Wolfe, C.D. (2004). Emotion and cognition: An intricately bound development process. *Child Development, 75*(2), 366-370.
- Cambra, C. (2005). Feelings and emotions in deaf adolescents. *Deafness and Education International, 7*(4), 195-205.
- Cappelli, M., Daniels, T., Durieux-Smith, A., & McGrath, P. J. (1995). Social development of children with hearing impairments who are integrated into general education classrooms. *The Volta Review, 97*, 197-208.
- Coyner, L. S. (1993). Comparison of the relationships of academic success to self-concept, social acceptance and perceived social acceptance for hearing, hard of hearing and deaf adolescents in a mainstream setting. (Doctoral dissertation). University of Arizona, Tucson, AZ.
- Eriks-Brophy, A., Durieux-Smith, A., Olds, J., Fitzpatrick, E., Duquette, C., & Whittinham, J. (2006). Facilitators and barriers to inclusion of orally educated children and youth with hearing loss in schools: Promoting partnership to support inclusion. *The Volta Review, 106*(1), 53-88.

- Erikson, E.H. (1994). *Identity and the life cycle*. New York: W.W. Norton & Company.
- Flook, L., Repetti, R. L., & Ullman, J. (2005). Classroom social experiences as predictors of academic performance. *Developmental Psychology, 41*(2), 319-327.
- Hung, H. L. & Paul, P. (2006). Inclusion of students who are deaf and hard of hearing: Secondary school hearing students' perspectives. *Deafness and Education International, 8*(2), 62-74.
- Hyde, M. & Power, D. (2004). Inclusion of deaf students: An examination of definitions of inclusion in relation to findings of a recent Australian study of deaf students in regular classes. *Deafness and Education International, 6*(2), 83-99.
- Ibertsson, T., Hansson, K., Maki-Torkko, E., Willstedt-Svensson, U., & Sahlen, B. (2009). Deaf teenagers with cochlear implants in conversation with hearing peers. *International Journal of Language and Communication Disorders, 44*(3), 319-337.
- Kluwin, T., Stinson, M., & Colarossi, G. M. (2002). Social processes and outcomes of in-school contact between deaf and hearing peers. *Journal of Deaf Studies and Deaf Education, 7*(3), 200-213.
- Leigh, I., Maxwell-MacCaw, D., Bat-Chava, Y., & Christiansen, J. B. (2009). Correlates of psychosocial adjustment in deaf adolescents with and without implants: A preliminary investigation. *Journal of Deaf Studies and Deaf Education, 14*(2), 244-259.
- Loy, B., Warner-Czyz, A., Tong, L., Tobey, E., & Roland, P. (2010). The children speak: An examination of the quality of life of pediatric cochlear implant users. *Otolaryngology-Head and Neck Surgery, 142*(2), 246-253.

- Martin, D. & Bat-Chava, Y. (2003). Negotiating deaf-hearing friendships: Coping strategies of deaf boys and girls in mainstream schools. *Child: Care, Health and Development*, 29(6), 511-521.
- Martin, D., Bat-Chava, Y., Lalwani, A., & Waltzman, S. (2010). Peer relationships of deaf children with cochlear implants: Predictors of peer entry and peer interaction success. *Journal of Deaf Studies and Deaf Education*, 16(1), 108-120.
- Moeller, M. P. (2007). Current state of knowledge: Psychosocial development in children with hearing impairment. *Ear and Hearing*, 28(6), 729-739.
- Moog, J. S., Geers, A. E., Gustus, C., & Brenner, C. (2011). Psychosocial adjustment in adolescents who have used cochlear implants since preschool. *Ear and Hearing*, 32(1), 75S-83S.
- Nicholas, J. & Geers, A. E. (2003). Personal, social, and family adjustments in school-aged children with a cochlear implant. *Ear and Hearing*, 24(1S), 69S-81S.
- Peters, B. R., Wyss, J., & Monrique, M. (2010). Worldwide trends in bilateral cochlear implantation. *The Laryngoscope*, 120 (5), 16-44.
- Percy-Smith, Caye-Thomasen, Gudmen, Jensen & Thomsen, (2008). Self-esteem and social well-being of children with cochlear implant compared to normal-hearing children. *International Journal of Pediatric Otorhinolaryngology*, 72, 1113-1120.
- Peterson, C. C. (2004). Theory-of-mind development in oral deaf children with cochlear implants or conventional hearing aids. *Journal of Deaf studies and Deaf Education*, 45(6), 1096-1106.

- Punch, R. & Hyde, M. (2005). The social participation and career decision-making of hard of hearing adolescents in regular classes. *Deafness and Education International*, 7(3), 122-138.
- Rommel, E. & Peters, K. (2009). Theory of mind and language in children with cochlear implants. *Journal of Deaf Studies and Deaf Education*, 14(2), 218-236.
- Scheetz, N. A. (2004). Psychosocial aspects of deafness. Boston, Massachusetts: Pearson Education.
- Schick, B., de Villiers, J., de Villiers, P., & Hoffmeister, R. (2007). Language and theory of mind: A study of deaf children. *Child Development*, 78(2), 376-396.
- Stinson, M., & Whitmore, K. A. (2000). Adolescents who are deaf and hard of hearing: A communication perspective on educational placement. *Topics in Language Disorders*, 20(2), 58-72.
- Stinson, M., Whitmire, K. A., Kluwin, T. N. (1996). Self-perceptions of social relationships in hearing-impaired adolescents. *Journal of Educational Psychology*, 88(1), 132-143.
- Suarez, M. (2000). Promoting social competence in deaf students: The effect of intervention program. *Journal of Deaf Studies and Deaf Education*, 5(4), 323-336.
- Wauters, L. & Knoors, H. (2008). Social integration of deaf children in inclusive settings. *Journal of Deaf Studies and Deaf Education*, 13(1), 21-36.
- Welsh, J. A., Bierman, K. L. (2001). Encyclopedia of childhood and adolescence. Retrieved from http://findarticles.com/p/articles/mi_g2602/is_0004/ai_2602000487/pg_4/?tag=mantle_skin;content%20Home%20/%20Find%20Articles%20/%20Health%20/%20Encyclopedia%20of%20Childhood%20and%20Adolescence%20/.

Zheng, Y., Caissie, R., & Comeau, M. (2001). Perception of hearing difficulties by adolescents who are deaf or hard of hearing and their parents, teachers, and peers with normal hearing. *The Volta Voices*, 103(3), 185-202.