TEACHER-STUDENT RELATEDNESS: THE IMPORTANCE OF CLASSROOM
RELATIONSHIPS FOR CHILDREN WITH HEARING LOSS

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Abstract

There is evidence to suggest that there is a strong relationship between psychosocial development and academic performance. The school is an important setting for developing social skills, and students function optimally in the context in which their needs are satisfied. A large amount of research has examined the importance of the teacher-student relationship as an important, contributing factor to student wellness, peer relationship development and academic success. Early identification of hearing loss, early habilitation and new hearing technology have moved the majority of deaf and hard of hearing students into their neighborhood schools. This study explored the facilitators and barriers to the teacher-student relationship for students with hearing loss in mainstream classrooms. Surveys and interviews were used to gather information from teachers, parents, and students on their experiences with the teacher-student relationship and their early elementary classroom. Results revealed five main constructs that were crucial to promoting the teacher-student relationship, and therefore supported the development of relatedness of students who are deaf or hard of hearing. They were transitions, social skill development, teacher understanding of hearing loss, classroom inclusion, and the importance of the teacher of the deaf and hard of hearing. This study found that parents were doing a great deal of work to ensure that the needs of their deaf or hard of hearing child were being met in their mainstream classroom. Teachers of the deaf and hard of hearing were also found to be instrumental because they supported parents, teachers and the student with hearing loss. This work identified a set of requirements to facilitate a successful teacher-student relationship and it is important that parents are equipped with this knowledge as early as possible.

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Dedication

This dissertation is dedicated to my wonderful family for their continuous encouragement, patience, love, and support as I navigated the challenges of juggling home, work and university life. Mom and Dad, Thomas, Larissa, Alexandra, Carolyn and Darren, Wayne and Angela, Stan and Carol, I am very fortunate to have you in my life, and I could not have done this without you.

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Chapter One: Introduction

Students with hearing loss, like their hearing peers, have the desire to learn, make friends, understand who they are, and feel connected to their school community (Antia, Stinson, & Gaustad, 2002; Israelite, Ower, & Goldstein, 2002). Problems with social interactions at school both between the student and his or her teacher, and between the student and his or her peers, have long been recognized to be an issue for students with hearing loss (Dalton, 2011). This issue was summarized concisely by English (2013), who said "our long-term goal should be to help children develop independence, confidence and strategies to succeed, and these goals are acquired by practice and support. They cannot be taught by telling." English (2013) voiced concern that today's classrooms and pedagogical practices are not providing the opportunity for the social interaction and growth that supports students with hearing loss. This research aligns well with my own professional experiences working with children with hearing loss. As an audiologist who has worked with deaf and hard of hearing (DHH) children for nearly twenty-five years, I have observed and discussed with parents, teachers, students and hearing care professionals, the variability in the social experiences of DHH children at their neighborhood elementary school. While these individuals acknowledged that there can be different social experiences for DHH students in their mainstream classroom, most felt uncertain about understanding all the facilitators to promote social competency.

The issue of teacher-student relatedness for DHH children has received little attention in the research literature, (particularly for the population of students of interest in this study), for two reasons. First, while there is a research literature describing social skills difficulties in DHH children, it has focused on the population of students with more severe to profound hearing loss (i.e., those who might be termed "deaf"). Due to factors such as late identification of hearing loss

in the absence of universal newborn hearing screening, and less sophisticated amplification technology, this population of deaf students typically demonstrated severe deficits in language, literacy and academic achievement which complicates the study of social skills and social interactions. In addition to the fact that the research focuses more on a particular population of children with hearing loss, it also tends to focus on children in a particular educational setting. Because of the severity of their language, literacy and communication difficulties, their school experience tended to occur in the context of congregated classes, with very small class sizes and low student-teacher ratios with intense support (Geers, Moog, Biedenstein, Brenner, & Hayes, 2009). Trying to apply research on student-teacher relatedness for hearing students in typical classrooms, to the congregated classroom experience of students with severe to profound hearing loss with significant language deficits, is extremely difficult and may not be valid. However, given that most children with hearing loss today are generally included in regular classrooms in their local schools, it is important to understand social interactions and relationships between teachers and children with hearing loss (Consortium of Research in Deaf Education [CRIDE], 2017).

Because most children with hearing loss are born to parents who have typical hearing, it is understandable that most parents hope their children will develop good speech and language skills and integrate into the hearing world (Moeller, 2000). Prior to the 21st century, development of speech and language was primarily connected to the type, degree, and configuration of hearing loss, the age of intervention, and the capabilities of the hearing aid technology fitted. Since the average age of identification was between age two and three years of age, children were challenged to overcome the negative effects of auditory deprivation. Auditory deprivation may have adverse effects on oral communication, and development of language, and

cognition (Geers, Brenner, & Tobey, 2011). However, the life experience of the deaf or hard of hearing (DHH) student has changed dramatically in the past twenty years. Instrumental to that change were two advancements; first was the mandate and intent to implement universal newborn hearing screening in North America and provide appropriate intervention services for those identified with hearing loss by six months of age (Yoshinaga-Itano, 2004). A second major event that changed the lives of children with hearing loss was when the Food and Drug Administration approved the use of cochlear implants in children in 1990. Children with severe to profound losses who often relied primarily on visual languages (e.g., American Sign Language or ASL, signed forms of English), and were enrolled in Total Communication or Sign Bilingual programs, now had the opportunity to be successful with oral communication.

While cochlear implants do not restore hearing to a normal level, they greatly improve the opportunity to acquire speech and language. With early implantation and early educational interventions, many children with severe to profound hearing losses have age-appropriate speech and language skills by the time they enter kindergarten (Geers et al., 2011; Moog, 2002). For children with lesser degrees of hearing loss, exciting innovations in hearing technology also have had a huge impact. Smaller, more powerful hearing aids with digital technology have given the audiologist more options in addressing the hearing loss. Universal newborn hearing screening and improved hearing technology (primarily cochlear implants) reduce auditory deprivation with early fitting of amplification, and favorable speech and language outcomes have been realized (Archbold & Mayer, 2012; Geers et al., 2011; Mayer & Trezek, 2017).

The world has also changed significantly in the field of DHH education. In the latter part of the 20th century, most deaf, and hard of hearing students with more severe hearing loss, were educated at schools for the deaf or attended special classrooms with Total Communication

programs where sign language alone, or sign language in combination with spoken language were used as the primary modes of instruction (Moeller, 2000). Because of early identification, early intervention, advancements in hearing aids and cochlear implants, and improved speech and language skills, education choices for children with hearing loss have also changed. While there is no Canadian data on the exact numbers of DHH children who use spoken language versus signed language, data from other countries indicate that communication methodologies and educational placements are shifting, and there is no reason to expect that Canada is different (Consortium of Research in Deaf Education [CRIDE], 2017).

Enrollment of DHH children into mainstream classrooms at their neighborhood schools is increasing, while enrollment into schools for the deaf and congregated classrooms is decreasing (Angelides & Aravi, 2006; Consortium of Research in Deaf Education [CRIDE], 2017; Powers, 2001). Further contributing to increased enrollment into mainstream schools is legislation directing movement towards social inclusion for DHH students (Antia, Stinson, & Gaustad, 2002). In addition, Brown, Bakar, Rickards, and Griffin (2006) found that when education options were presented to parents, 85% chose spoken language compared to 15% who chose a sign language option. These figures contrast with those in 1995 when 40% of parents chose spoken language options compared to 60% who opted for a sign language communication. Today, most DHH students find themselves at their neighborhood schools, interacting with hearing classmates and being educated by hearing education professionals (Consortium of Research in Deaf Education [CRIDE], 2017).

Even in the past, there were students with hearing loss who used spoken language for communication and were educated in mainstreamed classrooms with hearing peers; however, these "hard of hearing" students have been largely ignored in the literature. There is no

significant literature on social skills and social relationships for mainstreamed students with hearing loss that might serve as a foundation or framework to consider this new population of children with hearing loss whose early identification, amplification and intervention histories allow them to *appear* to function very much as hearing children in mainstreamed classrooms. This gap in the literature must be addressed in light of the successful advancements in early identification and intervention, as well as technologies such as cochlear implants.

These students, whose hearing losses are often identified and addressed beginning at around four months of age, are demonstrating significantly better outcomes in all areas of language, literacy, and academic achievement (Archbold & Mayer, 2012; Cole & Flexer, 2007; Yoshinaga-Itano, 2004). With today's amplification technology, even students with severe to profound hearing loss (particularly those with cochlear implants), function much more as hard of hearing students than as deaf. The experience of students with hearing loss today includes full participation in a regular classroom in their neighborhood school. Many will continue their postsecondary education at "hearing" institutions, not at colleges or universities for the deaf. They spend their day interacting with their hearing friends, classroom teachers, principals, guidance counselors, volunteer parents and lunchroom supervisors who have little experience with, or knowledge about hearing loss. However, despite their favorable outcomes in speech, language and literacy, new research suggests that social skills development continues to be an area of difficulty for many mainstreamed children with hearing loss (Hoffman, Quittner, & Cejas, 2015). It is extremely important to examine the social relationships of students with hearing loss in these changed classroom environments.

There is evidence to suggest a strong relationship between psychosocial development and academic performance. The school is an important setting for developing social skills and

students function optimally in the context in which their needs are satisfied (Deci & Ryan, 2002). Psychological membership in the classroom, and school context are important for student's motivation, participation and achievement (Goodenow, 1993). Children who have experienced secure relationships are more likely to view the world as safe and are ready to explore and learn (Lynch & Cicchetti, 1997). The school community for most students with hearing loss is their neighborhood school. Students with hearing loss are more likely to experience loneliness than their hearing peers and are at risk for delays in cognitive and social cognitive processing, social maladaptation and psychological disorders (Kent, 2003; Warner-Czyz, Loy, Evans, Wetsel, & Tobey, 2015). Little is known about the social relationships between children with hearing loss and their classroom teachers, and how these dynamics impacts their school success. The lack of research attention on how mainstreamed students with hearing loss can manage socially in a classroom with hearing students and teachers is a problem because there is growing evidence to suggest that positive teacher-student relationships result in increased engagement and improvement in academic and social outcomes (Decker, Dona, & Christenson, 2007).

Understanding the impact and dynamics of teacher-student relationships is most important in early elementary grades, as this period is when students have the closest relationship with their teacher (Pianta, 1994). As Birch and Ladd (1997) noted, students with whom the teacher described as having a close relationship, were more likely to display academic readiness, be more independent learners and have a positive perspective on school. Those students who were dependent and in conflict with the teacher, were described as less academically ready, lonelier, not as happy at school, and less cooperative. Peer perceptions of student-teacher relationships are equally important. Hughes, Cavell, and Willson (2001) found that teacher and peer perceptions were frequently matched. They noted that when peers in elementary school

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described their classmates who had conflicting or supportive relationships with their teachers, it contributed to their perceptions of likeability and socially competence.

Self-determination theory by Ryan and Deci (2000) is a comprehensive framework that will be used to explore the social development and well-being of students with hearing loss. The notion of relatedness, a key concept in self-determination, was used to inform my research study as it supports the importance of school relationships for individuals from early childhood, to adolescence and into adulthood. This research study builds on the work of Deci, Vallerand, Pelletier, and Ryan (1991), Furrer and Skinner (2003), Pianta (1994), and Lynch and Cicchetti (1997). Their research suggested that positive school bonding experiences were associated with strong feelings of student relatedness that promoted security, motivation, exploration and wellbeing. They found that the early years of school were an optimal period for development, as they laid the foundation for future social and academic success. Students who felt their teacher was warm and supportive had higher motivation and felt more competent in the classroom. This dissertation will contribute to this research by providing new perspectives on the facilitators and barriers to the development of the teacher-student relationship, and how they are affected when the student has hearing loss.

Chapter Two: Literature Review

This chapter will describe self-determination theory, with a particular focus on the construct of relatedness. Research discussing the application of self-determination theory to all children with disabilities will then be described. While there is no research literature describing the use of self-determination theory for children with hearing loss, an overview of the small body of research investigating issues related to classroom social skills and interactions for mainstreamed children with hearing loss will also be provided. It is important to acknowledge that this last body of research should be analyzed critically and cautiously, for several reasons. First, most studies were completed before, or in the early stages of, provision of early hearing detection and intervention programs (EDHI). For example, in any research study in DHH education, participants who were late identified and had late fitted hearing devices, have very different outcomes to those children in studies where they were early identified, and had early fitted hearing aids, so outcomes from a study published in 1985 will likely vary significantly from a study published in 2000.

A second consideration is the geographical location of the research studies. Hearing services and hearing technologies may differ from significantly from one country to another, because of differences in health care funding, availability of early intervention services, funding for devices such as hearing aids and educational contexts. In addition, the important details of the type of hearing device and the hearing device fitting protocol is generally scant. The fact that participants in a research study were reported to wear hearing aids, for example, does not mean that the hearing aids were properly fitted, working well and used consistently.

The final consideration was the differences in study sample composition. Sample sizes varied, with some studies using twenty or more participants, others using six or less participants.

Some studies also focused their work exclusively on children with severe to profound hearing losses. All of these factors can make it difficult to synthesize the findings of the research in this area.

Self-Determination Theory (SDT)

Self-Determination Theory (SDT) is a macro perspective of motivation and personality that describes an individual's internal growth tendencies and their innate psychological needs. SDT is an organismic dialectical approach, in which individuals are viewed as active with desires to grow, take on challenges, and make new experiences their own (Ryan & Deci, 2000). The focus of this study is to examine self-determination in students with hearing loss and to examine the social context in which students with hearing loss develop self-determination (primarily focusing on the mainstreamed classroom environment) with an interest in the concept of teacher-student relatedness.

Ryan and Deci (2000) describe three key components to becoming self–determined: relatedness, competence and autonomy. Relatedness and relating to others can be thought of as the desire or need to have positive, understanding relationships that will facilitate motivation and growth. In the classroom, relatedness offers students a connection and relationship opportunity with the school environment and with their teacher and peers (Dalton, 2011). Relatedness is the starting point for individuals to become self-determined. The second component described by Ryan and Deci is competency. Competency is the general desire to succeed in achievement type events, and to perceive one's own success. It involves the process of active engagement to learn about oneself and the environment and to feel in control. The final component is autonomy. Autonomy refers to the feeling that one is engaging in voluntary behaviour, regardless of whether or not the behaviour is encouraged or related to another individual's desires. Ryan and

Deci stated that experiencing a sense of autonomy and making choices were critical for people's optimal functioning. Because all of the concepts of self-determination build on one another, if the development of one concept is interrupted, the potential for optimal learning and functioning is compromised. Self-determined individuals know how to make choices, assert their preferences, create goals and solutions, and evaluate their progress (D. E. Mithaug, D. K. Mithaug, Agran, Martin, & Wehmeyer, 2002).

Self-Determination Theory in Education

Early childhood is a very important time for the development of language, cognition and social skills. Research in SDT has been applied to many different disciplines including education (Vallarand, Koestner, & Pelletier, 2008). While most of the literature on self-determination skills has focused on adolescents with typical hearing transitioning from high school to college or to the workforce, self-determination is a skill that can begin to develop at a very young age. Erwin et al. (2009) found that although young children may not be able to be autonomous and self-regulating, exposure to self-determination attitudes and experiences was very useful to lay the foundation for self-determination. In addition, creating an encouraging and supportive environment at home promoted active involvement and choice making, leading to successful transitions into school (Pomerantz, Grolnick, & Price, 2005; Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000). Research has also compared how controlling environments versus those that were autonomy supportive affected an individual's an overall wellness (Baumeister & Leary, 1995). Teachers who promoted an autonomous supportive classroom (e.g., offered choice-making and opportunities to express personal preferences) increased students' intrinsic motivation in elementary, middle and high school grades (Guay, Ratelle, & Chanal, 2008). As Vallarand et al. (2008) noted, students with higher autonomous motivation reported more

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positive emotions in the classroom, greater enjoyment of academic work and more satisfaction at school. This observation was also supported by the research of Sheldon and Krieger (2007) who found that autonomy supportive practice helped to reduce some negative effects of classroom learning environments, such as competition, rigidity, and controlling behaviour.

There is also literature that focuses on some of the challenges associated with implementing a self-determined classroom. Price, Wolensky, and Mulligan (2002) and Grigal, Neubert, Moon, and Graham (2003) discovered that some teachers felt restricted in promoting self-determination because of limited administration support, a lack of training to deliver such a curriculum, and a lack of active participation from their students. Wehmeyer et al. (2000) commented on an apparent lack of consistency in pre-service teacher training programs in terms of how the concept of self-determination was addressed. They cited research from the US Council on Education that found that pre-service programs tended to report "infusing" the concepts of SDT in other courses and content areas. Unfortunately, content that is infused in these programs is not necessarily clearly understood or learned.

There has been work done using SDT with respect to students with disabilities, and in developing teaching curriculum to specifically address this important aspect of child development. Wehmeyer, Field, Doren, Jones, and Mason (2004) noted that while most classroom teachers understood the concept and importance of self-determination, one-third indicated it was not a goal on the individualized education programs of students with special needs. They concluded that teachers needed to be formally taught how to create opportunities for their students to practice self-determination. Special education teachers were found to be much more familiar with teaching these concepts and how to implement them. It is uncertain to what

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extent self-determination is addressed in Canadian curricula; and, evidence of its application to the education of students with hearing loss is extremely scant.

However, teaching curricula based on the development of these skills with students with disabilities have been published and are commonly used in the United States. These curricula include the Self Determined Learning Model of Instruction (Wehmeyer et al., 2000). Field, Martin, Miller, Ward, and Wehmeyer (1998), also used a SDT model, and defined 19 specific skills and sub-skills necessary for the successful development of self-determination that could be explicitly taught. These skills included: (i) awareness of personal preferences, interests, strengths and limitations; (ii) the ability to self-assess, to self-regulate and to communicate; (iii) development of problem solving, self-advocacy and self-evaluation skill; and (iv) skills and traits related to persistence, self-confidence and creativity. When teachers, parents, peers and other supportive partners purposefully attempt to understand, get involved and engage with children's perspectives, interests and preferences, self-determination is promoted. When controlling behaviour and non-supportive behaviour occurs, optimal functioning for the student will suffer (Haakma, Janssen, & Minnaert, 2017; Ryan & Deci, 2000).

Also important to consider in the implementation of SDT in the classroom is the cultural background of students, parents and teachers. Researchers are now beginning to understand the effects of culture and how it promotes or inhibits self-determination in children (Zhang, 2005). H. R. Turnbull, A. P. Turnbull, Wehmeyer, and Park (2003) noted that concepts of self-determination are rooted in the Western world, primarily in white, Anglo cultural backgrounds and therefore may be absent in other countries. Zhang (2005) examined a set of culturally diverse immigrant and non-immigrant parents who were Asian, African American, and Caucasian to understand if they promoted and practiced self-determination with their children. His findings

suggested that Caucasian non-immigrant families were more likely to encourage independence and provide more practice opportunities than Asian immigrant families. While these assumptions were supported in the work of Chao (1994), Zhang (2005) also found that immigrant parents who were educated in Western institutions or had more exposure to Western culture, tended to increase their self-determination practices with their children.

The issue of culture comes into play in this proposed study not in the typical way that "deaf culture" is referenced in the field of DHH education (e.g., O'Brien & Brooks, 2015), but in the same way that Zhang (2005) addresses it. Given today's multicultural society, particularly in large urban school boards such as the Toronto District School Board, it is not surprising that there is a very large number of students with hearing loss whose families are immigrants to Canada, who belong to diverse cultural communities, and are learning English as a second language (Toronto District School Board, 2017). These important factors, which are relevant for all students in all schools, can be particularly challenging in the case of families with children with hearing loss. For example, students in these scenarios may have had late diagnoses of their hearing loss because of their cultural background and may face opposition from family members to amplification or special education because of negative attitudes towards disability.

Importance of Teacher-Student Relatedness

The need to belong and feel connected to others is what Ryan and Deci (2000) described in their self-determination theory as relatedness. This concept has grown from previous developmental theories, particularly those on belonging (Furrer & Skinner, 2003). The need to belong is a fundamental human motivation. From their extensive review of the literature on belonging, Baumeister and Leary (1995) and Osterman (2000) concluded that there was evidence to suggest that the need to belong had effects on cognition, emotion, behaviour, health, and well-

being. For cognition, belonging affected individuals' perceptions of one another. Friends were viewed more favorably and were thought of in more complex ways. With respect to emotion, they found that feeling accepted lead to positive emotions, like happiness and contentment, while being rejected lead to negative emotions like loneliness, depression and anxiety. They found that the absence of belongingness was associated with the occurrence of mental and physical illnesses as well as some behavioural problems. In a similar vein, Resnick et al. (1997) found that an adolescent's sense of belonging with family and school was associated with a lower incidence of emotional issues. Based on their analysis of the data, Baumeister and Leary (1995) and Osterman (2000) believed that the lack of belonging was a significant factor in the psychological and behaviour problems students experienced at school.

Ryan and Deci (2000) believed relatedness is a dynamic concept. It provides growth opportunities in different environments, allowing individuals to adjust their behaviour depending on the social context and the nature of the relationship. Central to their concept of relatedness is the individual who facilitates its development. They believe that individuals who promote relatedness are attentive and adaptable, and purposefully attempt to understand the needs of others with whom they are engaged. Within their environment they also create a feeling of trust that promotes optimal functioning for the individual. As LaGuardia and Patrick (2008) noted, relatedness presents a unique opportunity to satisfy our psychological needs from the care we receive. Trusted relationships provide children with support and allow them to respond to stressful events with more flexibility and constructive actions (Pianta, 1994). Feeling that you belong and are special is believed to encourage energetic behaviour, increase effort, interest and enthusiasm, and reduce anxiety and boredom. Relatedness creates a safety net, social support and alliances (Furrer & Skinner, 2003).

The importance of relatedness in the classroom has long been supported by the theories of cooperative and collaborative learning. Researchers asserted that education was a social process and was optimized when students and teachers engaged in collaborative learning (Osterman, 2000; Oxford, 1997). Educational researchers have examined the effects of students' feelings of relatedness in the classroom (Anderman, 1999). These studies have focused on the relationship between students and the adults who are with them at school, their classroom teachers. Skinner and Belmont (1993) found that children's feelings of relatedness contributed to their motivation and performance in the classroom. This observation was supported by the findings of Jennings and Greenberg (2009) who found the quality of elementary teacher and student relationships were very influential. These relationships affected whether the student enjoyed school or felt a lasting feeling of dislike and disengagement. Davis (2003) found that teacher-student relationships were also associated with students' social and cognitive development from elementary school to middle school. The quality of the relationship was determined by the teacher's instructional practices and their interpersonal skills.

While there is little research showing causality of relatedness to achievement, there is convincing data to support the relationship of relatedness to student academic achievement through engagement in the classroom. Osterman (2000) reported that the experience of belongingness was associated with critical psychological processes. When children had a sense of relatedness, they had a confident, protective manner. This experience created a strong sense of identity and higher level of intrinsic motivation. Pianta (1994) also recognized the importance of the teacher-student relationship and its connection to positive academic outcomes. Interventions by teachers with children facilitated student development and provided enjoyment and enhancement of teaching.

Current literature suggests that the teacher-student relationship may be more important for younger children, given that elementary school students in early grades reported closer relationships with their teachers than those students in higher grades (Eccles & Roeser, 2011). Researchers found that the teacher-student relationship began to decline after the transition to middle school. They believed this decline reflected a more rigorous curriculum, more teacher control and a shift towards an importance on peer relationships (Eccles & Roeser, 2011). As Pianta (1994) found, children felt closer to teachers who were aware of their needs and supported their autonomy in the classroom. This closeness was particularly important for young children who were identified as disruptive or aggressive. Teachers who made deliberate interactions with these children and attempted relationship building, helped improve their social and academic success (Madill, Guest, & Rodkin, 2011).

The teacher-student relationship is important for peer relationship development in the classroom. Hughes, Cavell, and Wilson (2001) noted that the classroom teacher acted as a social guide for third and fourth grade classmate's perceptions of one another. They found that based on the interactions between a student and teacher, other students assigned either, positive or negative attributes and a trait of likeability or not to that student. This observation was consistent with the findings of Birch and Ladd (1997) and Royer, Provost, Tarabulsy, and Coutu (2008) who found that preschool and early elementary students who established a good relationship with their teacher were viewed more positively and accepted by their peers. Hughes et al. (2001) also found some interesting gender differences related to peer perceptions. Girls were viewed by their classmates as having a better teacher relationship than boys, who were believed to be more likely to conflict with the teacher. Birch and Ladd (1997) uncovered similar findings with respect to

teacher perceptions. Teachers described relationships with girls to be closer and less conflicting than with boys.

The creation of positive teacher-student relationships may be particularly beneficial to those children coming from stressful or challenging home environments. As Lynch and Cicchetti (1997) found, positive and secure relationships with teachers helped compensate for those that may be negative with adults in a child's home. These relationships were important for children who were maltreated at home as they were less likely to come to school with a social readiness to learn (Aber & Allen, 1987). Jang, Reeve, Ryan, and Kim (2009) found the connection of relatedness to positive outcomes also had a cultural component. While differences in cultural beliefs affected the teacher-student relationship, it was not connected to development or motivation. Their study of Korean students found that a lack of teacher relatedness was not linked to successful classroom behaviour or academic performance.

Students with Disabilities and Teacher Relatedness

Crucial determinants in the success of students with disabilities are when students feel engaged, in control and free to make choices in their school environment (Grigal, Neubert, Moon, & Graham, 2003). Because self-determination is a developmental process, it is important that young children with disabilities be exposed to these concepts at an early age. Erwin and Brown (2003) described the potential benefits to this early introduction to self-determination. Since children with disabilities may take longer to acquire more difficult social skills, beginning at an early age allows more time to learn, practice and internalize these behaviours. Next, an early start allows adults time to provide practice and closely monitor the child's progress. Early instruction allows children time to adjust their self-determination skills. An early start in

promoting self-determination reduces the likelihood of overdependence on the adults in children's lives (Erwin & Brown, 2003).

Skills and attitudes associated with self-determination are connected to early childhood development practices and therefore easy to integrate into early education programs. Involving families and educators in the early development of self-determination creates collaborative opportunities that help facilitate positive relationships (Cosden, Elliot, Noble, & Kelemen, 1999). This involvement is particularly important since the literature suggests that parents of young children with disabilities are less likely to involve them in daily household and community activities to give them choice making opportunities and to give them practice in making decisions. They had fewer options to participate in decisions involving their own lives (Zhang, 2005). Both Zhang (2005) and Grigal et al. (2003) believed that parents' controlling actions were most often seen as overprotective behaviour because their young child had a disability.

Murray and Greenberg's (2001) research investigated how dedicated special education classrooms compared to typical classrooms in their ability to facilitate relatedness between the student and teacher. They found that grade five and six students with disabilities who spent most of their day in dedicated classrooms did not experience the same level of teacher closeness and had poorer bonds with the school than those students without disabilities. They believed that the special education classrooms did not provide the same opportunity for relatedness, as did the typical classroom. This observation was supported by the research of Algozinne, Browder, Karvonen, Test, and Wood (2001) and Fowler, Konrad, Walker, Test, and Wood (2007), who also found that students with disabilities were more at risk for experiencing negative social and emotional outcomes and difficulty with academic adjustment.

Social Skill Development

Spence (2003) stated that successful social interactions were dependent on the child, the response of other individuals, and the social context. Essential to these positive social interactions, were developed social skills. Social skills are a construct that has been defined in many ways, by different researchers, and while they share many similarities, there is not one accepted definition in the literature. For the purposes of this research, I refer to the definition provided by Merrell and Gimpel (2014), who suggest that, "social skills are learned, composed of specific behaviours, include initiations and responses, maximize social reinforcement, are interactive and situation-specific, and can be specified as targets for interventions." (p. 8)

Age of the child was identified as a crucial component to social skill development. Within the developmental stages of early childhood, middle childhood, and adolescence, social cognitive and friendship pattern changes contributed to the development of social skills (Eisenberg & Harris, 1984). Social skills required two components to engage others in social interactions; developed verbal and non-verbal behaviours. Verbal behaviours included vocal tone, volume, rate and clarity of speech. Non-verbal behaviours included eye-contact, facial expressions, posture, social space, and use of gestures (Spence, 2003). Children must be able to apply these micro-level verbal and non-verbal skills in the appropriate context. These social skills could be used to start a conversation, ask for help, share information, and offer invitations.

Rimm-Kaufman, Pianta, and Cox (2000) found that when children enter school, there is an expectation from their classroom teachers they will possess certain skills that will prepare them for the school learning environment. This set of social skills will allow them to be prepared for learning, social activities, and teacher-student relationships in the kindergarten classroom. When they lack these social skills, they are at risk for academic challenges and poor relationships with their teacher and their classmates. All teachers, regardless of experience level place the

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same amount of importance on developed social skills (Rimm-Kaufman, Pianta, & Cox, 2000). According to Lane, Pierson, and Givner (2004), teachers identified seven social skills that they believed were crucial for classroom success. They included: the ability to follow directions, attend to instructions, control temper with adults and peers, get along with people who are different, respond appropriately when hit, and use their free time in an acceptable way. These were skills that teachers felt were necessary for restraint, compliance, cooperation, and to minimize disruption, all of which promoted a socially stable classroom. Expectations did not differ for children in elementary, middle or high school (Campbell, Gilmore, & Cuskelly, 2003; Lane, Pierson, & Givner, 2004). Although research has shown that social skills are also important to school success, they are rarely taught in the classroom (Meier, DiPerna, & Oster, 2006).

An area of concern discussed in disability research, is the underdeveloped social skills of students with special needs who attend a mainstream classroom (J. L. Matson, M. L. Matson, & Rivet, 2007). One of the arguments for full inclusion of children with disabilities into a mainstream classroom is the opportunity to observe typically developing children and adapt and modify their own behaviours, making them more socially acceptable (Snell, 1991). However, as Kauffman (1995) noted, physical placement into mainstream educational settings does not guarantee improved social skills or better social acceptance. Students with disabilities required coaching and mentoring of their social skills. Research from Vaughn et al. (2003), Nientimp and Cole (1992), and Hundert and Houghton (1992), also found students with disabilities who participated in a structured social skills training program could enjoy better relationships and social acceptance with their classmates. These researchers concluded that children with disabilities required explicit teaching of social skills and opportunities to practice. They further

concluded that modeling and prompting by educators was essential to their acquisition of social skills.

Most children with hearing loss are attending their neighborhood elementary school with their hearing peers (Consortium of Research in Deaf Education [CRIDE], 2017). Studies on how children with hearing loss function socially at home and in their mainstream classroom, show mixed findings with a lack of consensus on the social experiences of students with hearing loss (Batten, Oakes, & Alexander, 2013). As noted previously, when evaluating research in this area, one must always be cognizant of issues related to when studies were conducted, and to their geographical, educational and health care context. In addition, research studies on social skills in children with hearing loss have used a very wide range of different methodologies and outcome measures, with little consistency in participant characteristics. Batten et al. (2013) concluded that few conclusions could be drawn from the research literature although, unsurprisingly, communicative competence was associated with better social skills.

Israelite, Ower, and Goldstein, (2002), in their study of mainstreamed DHH students, identified a difference in the social functioning of children with hearing loss as compared to those with typical hearing. They found that DHH students in a mainstream classroom experienced more social difficulties compared to their hearing peers. Israelite et al. (2002) concluded that because DHH students had less experience interacting with peers with typical hearing, they found it difficult to understand the social rules of their classroom and the behaviour of their hearing peers. Researchers in Australia at the Hear and Say centre (2014), also found differences in the social skills of children with typical hearing and those with hearing loss. They believed that this was because children with typical hearing developed many of their social behaviours by overhearing. Because the children with hearing loss did not have the same access

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to overhearing, their social skill learning opportunities were reduced, and they required more support (Hear and Say, 2014). Lack of social experience was also found by Brown, Bortoli, Remine, and Orthman (2008), who looked at social skills in children with profound hearing loss and compared them to their typical hearing classmates. Their findings led them to conclude that children with profound hearing loss had lower levels of social engagement, with typical hearing children being able to maintain social relationships longer.

There have been some studies which indicated that DHH students have had positive social outcomes in their mainstream classroom. Antia, Jones, Luckner, Kreimeyer, and Reed (2011), looked at the social experiences of DHH students who attended a general education classroom. They asked DHH students and teachers in grade 3 and above to rate their social skills. Results showed that they demonstrated similar social skills as their hearing classmates. Students' use of their functional hearing in the classroom contributed to the teachers rating of the students' social skills. In addition, participation in extracurricular activities helped promote social well-being of students with hearing loss. These results were similar to those found in the research of Andersson, Olsson, Rydell, and Larser (2000). They compared social competence and behavioural problems of children with hearing loss and to those children with typical hearing. They found little difference when they compared teacher and parent ratings of DHH children's social competence.

Hoffman, Quittner, and Cejas (2015) investigated the relationship between social competence and hearing status. Their study had teachers rate social competence of children with typical hearing and those who were deaf, prior to cochlear implantation. They found that young deaf children were rated by their teacher as having significant deficits in their social competence when compared to their age-matched peers with typical hearing. They also found a correlation

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with social competence and language abilities. In both groups of children, stronger language skills were associated with better social competence.

Dammeyer (2009) in his research on psychosocial development, examined degree of hearing loss as a predictive factor in developing successful social skills in DHH students. Severity of hearing loss was not an influence on the development of successful social skills. However, the presence or absence of early detection of hearing loss, early fitting with hearing devices and participation in early intervention programs was not considered or studied as a predictor of social outcomes for students with hearing loss. In today's context, these are likely as important, if not more important, than degree of hearing loss. An important area of research that has not been studied is on auditory accessibility, the potential communication barriers that exist for DHH children because of difficulty hearing and participating in social interactions, and how they might impact social skill development.

Transitions to the Elementary School Classroom

The transition into kindergarten for children has been identified as an important developmental milestone as they are learning and practicing new skills and engaging in more relationship activities. Moving from preschool based services, to elementary school services is a big adjustment for children with hearing loss and their parents. Classroom dynamics are different; as there are more children, less educators, and less support staff (McIntyre, Blacher, & Baker, 2006). In addition, the teachers' expectations are much higher for social skills, autonomy and academics in the elementary school classroom. While children learn to adapt to their new classroom environment, their parents are learning how to navigate the school, interact with teachers and support staff, and understand school policy (Dunst, Trivette, & Jodry, 1997).

Although there is a paucity of research on transitions and children with hearing loss, there are studies in disability research that are informative. Rosenkoetter, Hains, and Dogaru (2007) noted that the goal for transition planning is to manage the stress that may be present during the change from preschool to elementary school by utilizing available services and supports. They believed that it was critical to develop a written plan with all the stakeholders that included roles and responsibilities for each member of the transition team. They further recommended that a transition coordinator must be identified to organise all the stakeholders and to ensure that the supports are in place at school with staff ready to meet the needs of the child. The plan could also identify specific school staff training needs to manage any social and functional challenges. When considering the specific needs of the student, Rosenkoetter et al. (2007) found that young children with special needs who were transitioning into kindergarten at their neighborhood elementary school had specific requirements. These included coordination and meetings between professionals, parents and children to ensure that there is understanding on how best to meet the needs of the child.

In a study that looked at transitions for children with intellectual disabilities, McIntyre et al. (2006) found that children's risk for early school difficulties was related to poor adaptation to their new classroom. In comparison to children with typical intellectual development, they found that children with intellectual disabilities had more difficulty with transitions. They concluded that this was because many of the children with intellectual disabilities had reduced social, emotional, and behaviour regulation skills, which were essential for a good transition into elementary school. They further concluded that while these reduced skills could be identified, finding the support services and program required to promote and develop these skills were not well defined for students with intellectual disabilities. When students were taught social survival

skills, they found children with disabilities could learn and retain classroom survival skills and apply them in different environments.

Inclusion and Children with Hearing Loss

Advantages of, and barriers to, inclusion for DHH students have been extensively discussed in the literature. There are many social and academic benefits of inclusion in a general classroom for students with hearing loss (Eriks-Brophy & Whittingham, 2013). However, placement in a mainstream school classroom does not guarantee the delivery of required services for DHH children. In addition, students with hearing loss are a very diverse group. They vary greatly in their degree of hearing loss, family supports, cognitive skills, cultural backgrounds, communication abilities and use of hearing devices (Luckner & Ayantoye, 2013).

Researchers have recognized a number of stakeholders who promote inclusive classroom experiences in the classroom for students with hearing loss. Duquette et al. (2002) identified teachers of the deaf and hard of hearing as the most important stakeholders in their study, as well as being the strongest facilitators of inclusion. Results indicated that they promoted inclusion by supporting knowledge sharing related to childhood hearing loss, speech and language development, and classroom acoustics to all school staff and administrators. They ensured that hearing technology was working and support services were provided in a structured and consistent manner for the student with hearing loss.

The second important stakeholder to facilitating inclusion was parents. Parents volunteered in the school and advocated for their child, which helped by establishing a relationship with the school. Parents felt this involvement in the school also allowed them to become better informed with school policies around students with hearing loss. Duquette et al. (2002) also found that peers also played a role in supporting the inclusion of children with

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hearing loss. Those students with typical hearing who became knowledgeable about difficult listening situations for students with hearing loss, assisted in helping their deaf or hard of hearing classmate. Finally, students with hearing loss were themselves stakeholders who developed communication and advocacy skills, they educated others about hearing loss, and their needs in the classroom.

Another essential element of inclusion is attitudes and skill levels that affect the willingness to participate in inclusive education. Research from Blecker and Boakes (2010) and Kurth and Forber-Pratt (2017), found that all educators believed that students with special needs benefited from interactions with typically developing students, however educators were less able to articulate a method or process to achieving these interactions. Participants in their study reported concerns for lack of time to plan and professional development on working with children with special needs that would promote effective collaborations. The largest barrier to inclusion that was consistently cited in the literature was teacher awareness and understanding of hearing loss and its effect on learning (Cawthon, 2001; Duquette et al., 2002; Eriks-Brophy & Whittingham, 2013).

Eriks-Brophy et. al (2013), looked at the attitudes of classroom teachers towards students with hearing loss and inclusion in a regular classroom. They were interested in understanding whether classroom teachers had the requisite knowledge to support inclusion of DHH students. They found that teachers were supportive of inclusion, however were not adequately prepared in their teacher training program on how to facilitate the required accommodations for students with hearing loss. They relied on the teacher of the deaf and hard of hearing to teach them how best to support the inclusion of students with hearing loss.

Cawthon (2001) investigated strategies that teachers used to create inclusive learning environments. She noted that one of the major challenges to providing inclusive learning classrooms is supporting individual students with differing academic and social needs. She reported that teachers who facilitated successful inclusive classrooms did so by adapting their language levels to include DHH students while also being able to provide appropriate instruction for the rest of the class. Teachers who chose an inclusive teaching practice did so by selecting curriculum and assessment practices that supported students' needs for accommodation.

A final area of research worth noting comes from Borders, Barnett, and Bauer (2010), in a study that examined the participation of DHH students in their mainstream classroom. Researchers looked at the differences in participation of children with mild to moderate hearing loss and those children with typical hearing in inclusive classrooms. In addition, they compared the amount of prompting for classroom participation that was required for students with hearing loss and their hearing peers. Although the results from their study found that most of the students with hearing loss had similar engagement to their hearing peers, they concluded that direct observation of the DHH student by the classroom teacher was necessary to monitor their inclusion. This was important as it identified areas of weakness that could be mentored and coached to improve and facilitate their classroom participation.

One of the unique educational support services for students with hearing loss has traditionally been the TDHH. In the past, the TDHH was likely to have been the classroom teacher in the days when most students with significant hearing loss tended to be educated in congregated or self-contained classroom. However, an alternative model for students with hearing loss who are mainstreamed is the support provided by an itinerant TDHH. The itinerant TDHH is one who visits DHH students at their neighborhood school to provide support services.

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The support that itinerant TDHH provide to their students with hearing loss is multifaceted and crucial to their success in their mainstream classroom. An itinerant teacher of the deaf and hard of hearing can be described as a specialist teacher who provides instruction and consulting services to students attending their mainstream classroom and travel from school to school (Luckner, 2006). They provide services to a diverse caseload of students of different ages, degree of hearing losses and communication modes (Luckner, 2006). The relationship between the itinerant teacher of the deaf and hard of hearing and a student with hearing loss is very special. It starts in kindergarten and often extends to the end of high school. According to Luckner and Ayantoye (2013), TDHHs possess unique insights into the academic, social, and emotional well-being of the DHH students.

Antia and Rivera (2016) studied the roles and responsibilities of the TDHH. They found many students were receiving assistance with their reading and writing; and nearly all students were receiving support to develop self-advocacy, social skills, and study skills. This was consistent with the work of Foster and Cue (2009) who found that the TDHH's major role was to provide direct support to students with hearing loss and consulting services to regular classroom teachers. In addition, they also facilitated the development of student's self-regulation and understanding of their own hearing loss. Although TDHHs understood the importance of supporting the social and emotional needs of their students, many indicated they did not have formal training in how to support social and emotional needs of deaf and hard of hearing students. Norman and Jamieson (2015) found that the majority of TDHHs surveyed reported that this was an important topic, and they were dedicated to getting additional training.

Relatedness is the starting point to becoming self-determined. Where there is relatedness between the teacher and student, it promotes well-being, a sense of belonging, and facilitates

positive emotional and behavioural outcomes (Mithaug et al, 2003). The notion of relatedness, and its associated constructs are important to understanding the classroom experiences of DHH students. They will be used to explore and answer the overarching research question: What are the facilitators and barriers for the development of the teacher-student relationship for children with hearing loss in their elementary school classroom?

Chapter Three: Methodology

The methodology for this study was a two phase, mixed methods approach, specifically an online survey of students, parents and teachers as well as semi-structured interviews with participants from each of these groups who volunteered for the second phase of the study. As discussed previously, while there is research exploring teacher-student relatedness for hearing children, there is very little on children with hearing loss. Therefore, the rationale for doing a mixed methods study was to address the research questions in a way that considered a comprehensive approach with different perspectives that would overcome the limitations of a single design (Creswell, 2013; Glesne, 2011). Education and disability research can be very complex, and mixed methods methodology may be better at unraveling these complexities by validating one set of data with another and providing the opportunity for comparison. In this study, it also gave a deeper understanding of teachers', students', and parents' perspectives, giving insight into their environment and a context for their responses (Berliner, 2002; Creswell, 2013).

The methodology for this study was based on the work of Creswell (2013) and, more specifically, on the methodology described by Creswell, Plano Clark, Gutmann, and Hanson (2003) as sequential transformative. As Creswell (2013) noted, in this design, a theoretical framework is introduced that informs the development of a research question that will direct the researcher to investigate a problem. Data collection is completed in two phases. The researcher may choose to collect and analyze the survey data first, or interview data first, with the results of the data integrated into the interpretation process. This allows for the use of methods that best serve the theoretical purpose for the research question. For this study, survey data was collected first, to help refine, inform, and focus questions for use in the semi-structured interviews.

Ethical Considerations

This research study received approval from the Human Research Participants Committee at York University (see Appendix A). The Toronto District School Board, Edmonton Public School Board, and North Vancouver District School Boards each provided formal ethics approval to work with teachers (see Appendix B, C, D). The community agencies and clinics did not have formal ethics boards, processes, or requirements and were supported by the York University ethics process. The risk of harm to the participants in this study was very low. Prior to the start of the research potential ethical issues with respect to the interview portion of the data collection were identified. Recalling one's own experiences and events attending school may bring up feelings of anxiety with some of the student participants. Next, an important section of the interview referred to classroom teacher experiences. Teachers may not want to discuss a student with whom they had a poor relationship. They might feel it was not a positive reflection on them as an educator, or view it as damaging to their reputation. None of these participants identified any feelings of discomfort or anxiety during interviews, and the interviewer's perceptions were that the participants were relaxed, engaged and forthcoming during interviews.

Participants

The sampling technique used to obtain participants for the survey and interviews were non-probability, purposive sampling. Non-probability, purposive sampling describes a process where the sample is not randomly selected, and the sampling procedure is approached with a planned, specific strategy. While purposive sampling has some drawbacks in terms of generalizability, because it was necessary for the characteristics, backgrounds, and experiences of potential participants to be quite narrowly defined, more random sampling techniques were not appropriate (Creswell, 2013).

Teachers

The focus of the research question in this study is on the experiences of primary grade classroom teachers who had taught students with hearing loss. Initially, the possibility of including TDHH was considered, as these are the professionals who are likely to be most familiar with issues regarding socioemotional skills, language development, and obstacles to inclusion. However, the focus of this study was on the issues of relatedness for teachers and students in regular classrooms. Finding a way to specifically recruit regular classroom teachers known to have taught students with hearing loss was a challenge. However, it was reasoned that teachers in schools where there are, or had been, congregated classrooms for students with hearing loss would be very likely to have such students in their classrooms for their mainstreamed subjects. Recruitment efforts were focused on large urban school boards that have dedicated DHH programs in Toronto, Edmonton, Victoria, and North Vancouver. Teachers of the deaf and hard of hearing and educational audiologists assisted in identifying schools with and without congregated classrooms for students with hearing loss, that would be likely to have staff members who had taught DHH students. Ethics applications were completed for seven school boards, of which three provided approval to conduct research with their classroom teachers. These school boards included the Toronto District School Board, North Vancouver School Board, and Edmonton Public School Board (See Appendices B, C, and D).

TDHH and educational audiologists in each school board that were known to the researcher, assisted by providing a list of schools and principals who have served students with hearing loss. A letter was sent via email to elementary school principals at each of these schools at the approved school boards, asking them to distribute a link to the web-based survey to those teachers known to have had students with hearing loss in their grade one, two or three classrooms (See Appendix E for principal letter and Appendix F for teacher survey link and

consent). Letters of support from the school board hearing professionals and/or departments (See Appendix G for request for support), along with the school board's ethics approval letter were also included with the school principal letter. For the interview research, participants were asked to indicate interest in participating in an interview at the end of the survey and provide their email to arrange a phone or SKYPE interview.

Students

Student participants were recruited through professionals working at community DHH organizations and audiology clinics in Toronto, Vancouver, and Edmonton (See Appendices H and I for request to distribute survey). Organizations that consented to participate in this study included VOICE for Hearing Impaired Children and Union Hearing (Toronto); BC Family Hearing Resource Centre, The Canadian Hard of Hearing Association, and Western Institute for the Deaf and Hard of Hearing (Vancouver); and Wild Rose Audiology and Professional Audiology (Edmonton). These organizations distributed a letter explaining the study, inviting them to participate in the study, and a link to the web-based survey to those students known to them who fit the following description (See Appendix J). This included young adults living in the greater Toronto, Edmonton, and Vancouver areas, age 16 years and older, who have a documented hearing loss, wear a hearing aid(s), bone anchored hearing aid(s) or cochlear implant(s), use spoken English as their primary mode of communication, had attended grade one, two or three in an elementary school in a mainstream classroom, and have no identified additional disability. While the focus of this study was to investigate questions of teacher-student relatedness in the primary grades (rather than high school), young children currently enrolled in grade one, two, or three were not considered to have the language or cognitive skills for the complexity level of the survey questions or to be able to articulate their perceptions of their

classroom teacher (Borgers, DeLeeuw, & Hox, 2000; Fuchs, 2009). Therefore, survey questions asked the young adults to think back to their elementary school experiences.

For the interview research, students were asked to volunteer for a follow-up interview at the end of the survey and provide their email to arrange a phone or SKYPE interview.

Parents

Parents were recruited through professionals working at community deaf and hard of hearing organizations and audiology clinics in Toronto, Vancouver, Edmonton, and Victoria (See Appendices H and I for request to distribute survey). Organizations that consented to participate in this study included VOICE for Hearing Impaired Children, BC Family Hearing Resource Centre, the Canadian Hard of Hearing Association, Western Institute for the Deaf and Hard of Hearing, Wild Rose Audiology, Professional Audiology, and Union Hearing. Criteria included parents who have or had children with a documented hearing loss and no identified additional disability; who wear a hearing aid, bone anchored hearing aid, or cochlear implant; use spoken English language as their primary mode of communication; and were or are enrolled in a grade one, two, and three in an elementary school mainstream classroom.

A link to the web-based survey was given to parents who were interested in participating in the study (See Appendix K). For the interview research, participants were asked to volunteer for a follow-up interview at the end of the survey and provide their email to arrange a phone or SKYPE interview.

Instruments and Procedures

Online survey development and administration

Three separate online surveys were developed for this study: one for teachers (see Appendix L); one for students (see Appendix M); and one for parents (see Appendix N). A literature review of previous research on relatedness and teacher-student relationships revealed

that there were no existing instruments to measure teacher-student relatedness with children who are deaf or hard of hearing and how they differed from their peers with typical hearing. However, previous research helped inform construction of the survey questions, including adaptation of the questionnaire "Teacher-Student Relationship Inventory (TSRI)" developed by Ang (2005). The content and perspective of the TSRI informed the development of questions for this survey. Across all three surveys for teachers, students, and parents, the intent was for questions to address similar elements of teacher-student relatedness (Pianta, 2012). Sixteen, five-point Likert scale questions were used in each questionnaire, with participants selecting a rating of agreement from "strongly disagree, disagree, neutral, agree, and strongly agree."

Because there is a body of research on the variability in the literacy skills of deaf and hard of hearing students, it was important to ensure that the student participants' literacy levels were sufficiently high to be able to read and understand the written questions (Antia, Reed, & Kreimeyer, 2005; Lederberg, Schick, & Spencer, 2013). Survey questions needed to be sufficiently complex in vocabulary and grammatical structure to convey the intent of the question, yet easily readable by high school aged students. Student participants in this study were 16 years of age and older (or approximately grade 11 and up) and were educated in mainstream settings. While they might be expected to have age commensurate reading levels, this was not guaranteed. To attempt to control for potential issues with the literacy levels of student participants, survey questions for students were written at a grade ten literacy level (verified using the Flesch-Kincaid Grade Level test found in Word software). However, there is some discussion in the literature on the validity of the use of reading formulas in survey research (Calderón, Morales, Liu, & Hays, 2006; Lenzer, 2014). Therefore, a second check on participant comprehension was conducted. As an indirect way of ensuring that students had the requisite

literacy levels for the survey questions, two questions adapted from the Grade Ten Education

Quality Accountability Office (EQAO) test were included at the beginning of the student

questionnaire. These two questions were described to the student participants as a "security

check" (similar to a reCAPTCHA question intended to confirm that the user is a person and not

automated software).

Survey questions were provided using an anonymous web-based survey on Survey

Monkey. Links to the survey were distributed in January 2016, and participants could access the

survey until the end of April 2016.

Interview question development and administration

The development of the interview questions was guided by the work of Johnson (2008).

His qualitative research on teacher-student relationships and interview questions pertaining to the

constructs of belonging, engagement, autonomy, and self-esteem was adapted to explore the

experiences of teachers, students, and parents in this study.

As noted, survey participants were asked to indicate at the end of the survey whether they

would be interested in participating in a follow-up interview. Of the total number of teacher

survey participants (N=29), 8 volunteered to be interviewed. Of the total number of student

survey participants (N=32), 6 students volunteered to be interviewed. For the total number of

parent survey participants (N=75), 6 parents volunteered to be interviewed.

Qualitative interview research data were gathered using semi-structured telephone and

SKYPE interviews. Interview questions were short and open-ended and used simple and concise

language (see Appendices O, P, and Q for interview questions). Interview questions began with

an icebreaker question to establish rapport, then moved to simple topics which lead to more

complex ones. Interviews were recorded with a digital audio recording device and transcribed by

a certified real-time transcriber (See Appendix R for audio consent form). While qualitative

research using interviews sometimes includes allowing respondents to review the transcript of the interviews and make comments and clarifications, this step was not included in this study. Researchers have studied and published their perspectives on the downsides and problems with respondent validation in interview research (Angen, 2000; Koro-Ljungberg & MacLure, 2013; Morse, 1994; Sandelowski, 1993). Arguments against respondent validation include the possibility that participants may be motivated to be "good people" and might make changes to be seen in a more positive light and that giving participants the chance to delete or modify data may compromise the very nature of the research, where the changes to the data become an event. Rationale for excluding respondent validation in this study was to preserve the unique narratives, candid comments, and powerful quotations. The concern was that some participants who saw their words in print might make changes to make them more neutral or positive.

For those individuals who agreed to participate in the interviews, pseudonyms were assigned to them, their teachers, parents, and schools. Interviews began in April of 2016 and concluded in June of 2016.

Data Analysis and Interpretation

Descriptive statistics were used to analyze the results obtained from the parent, teacher and student web-based survey. Data for parents, teachers, and students were organized and displayed on a spreadsheet poster for easier analysis. The distribution and frequency of individual responses to questions and their ratings of disagree, agree, and neutral were analyzed. For each question in the surveys, the rating descriptor values were summed and reported as percentages.

Qualitative data was collected through audio recorded telephone and SKYPE interviews. Participant interviews were transcribed, coded, and categorized into themes for analysis and interpretation. Interview data were analyzed using an iterative process. Interview data were first

examined and coded for the three individual groups. Once themes emerged, the data were examined again across groups, to identify any commonalities across the groups.

Large data posters were constructed from all participant survey and interview data. This allowed for easy analysis and assisted in integrating survey and interview data. Survey data and interview data were initially analyzed independently. There was then a second pass of the survey data to identify questions where there seemed to be particularly strong consensus among respondents. For example, when looking at the teacher survey question regarding classroom accommodations for students with hearing loss, 100% indicated they provided accommodations. Even in a small sample, it is unusual to see 100% agreement on a relatively complex question. Themes and comments from interview data were then re-examined from teachers, students, and parents, looking for supporting or contradictory data. In this example, teachers consistently reported during interviews that they always provided accommodations in their classrooms; however, parents and students often commented that accommodations were not being made by teachers. Similarly, the themes that emerged from the interview data were compared to the survey data, to look for evidence that some of the themes might have been identified by the larger group of survey respondents rather than just by the smaller number of interview participants.

Chapter Four: Results

The objective of this study was to understand the importance of teacher-student relatedness for children with hearing loss and the factors that promoted it. The study's data collection was divided into two phases, survey research and interview research. In the first phase of the study, anonymous, web-based surveys were distributed by school-based hearing care professionals, pediatric clinical audiologists, and hearing loss support organizations to: i) classroom teachers who have taught students with hearing loss in grades one, two or three; ii) parents of children with hearing loss who attended their neighborhood elementary school; and iii) young adult DHH students, who were asked to reflect on their experiences with their classroom teachers in early elementary school. Participants lived in British Columbia, Alberta, and Ontario. Demographic information for participants is summarized in Table 1 and 6.

Survey Research Results

Table 1

Survey Participants' Demographics

Participants	Male	Female	Total
Teachers	3	26	29
Students	12	20	32
Parents	7	67	75

Teacher survey results

Response categories were merged from a 5-point scale to a 3-point scale as there were generally clear trends seen in the survey data. "Strongly agree" and "agree" were collapsed into "agree." "Strongly disagree" and "disagree" were collapsed into "disagree." Some participants chose not to answer some survey questions.

Table 2

Teacher Survey Results

Survey Statement (n=29)	Disagree	Uncertain	Agree
Students with hearing loss are integrated well within my classroom.	1 (3.5%)	2 (6.9%)	26 (89.7%)
My students with hearing loss have/had an IEP.	2 (6.9%)	2 (6.9%)	25 (86.2%)
If students had a problem at home, they were likely to ask for my help.	3 (10.4%)	10 (34.5%)	16 (55.2%)
I would describe my relationship with students with hearing loss as positive.	0	0	29 (100%)
Students with hearing loss were more challenging than other students in my class.	13 (79.3%)	2 (6.9%)	4 (13.8%)
My students with hearing loss communicated well with me and their fellow students.	3 (10.4%)	2 (7.4%)	22 (81.5%)
Students with hearing loss demonstrated similar social abilities to typical hearing.	6 (20.7%)	5 (17.2%)	18 (62.1%)
Students shared with me things about their personal life.	6 (21.4%)	1 (3.57%)	21 (75%)
I feel I have adequate time in my classroom to develop relationships with all students.	5 (17.2%)	0	24 (82.8%)
Most of my students with hearing loss were very social.	4 (14.3%)	3 (10.7%)	21 (75%)
I made accommodations for students with hearing loss in my classroom.	0	0	29 (100%)
The students with hearing loss turned to me for a listening ear.	3 (10.7%)	9 (32.1%)	16 (57.1%)

My students with hearing loss tended to keep to themselves.	22 (78.6%)	2 (7.1%)	4 (14.3%)
Students depended on me for advice and help.	8 (27.6%)	3 (10.3%)	18 (62.1%)
I am happy with my relationships with the students with hearing loss.	1 (3.5%)	0	28 (96.6%)

Many questions on the survey yielded very clear trends. For two questions ("I would describe my relationship with students with hearing loss as positive"; and "I make accommodations for students with hearing loss"), 100% of teachers responded with strongly agree/agree. Other questions that yielded very high consistency among teachers, where at least 80% of teachers agreed or disagreed with the statement included "students with hearing loss are integrated well within my classroom"; "my students with hearing loss communicated well with me and their fellow students"; I feel I have adequate time in my classroom to develop relationships with all my students"; and "I am happy with my relationships with the students with hearing loss." Seventy five percent of teachers rated their students as being very social, although some teachers reported that some of their students displayed lower social skills than their classmates with typical hearing (20.7%) and another 17.2% were uncertain.

Student survey results

Student survey results are presented in Table 3. Response categories were merged from a 5-point scale to a 3-point scale as there were generally clear trends seen in the survey data. "Strongly agree" and "agree" were collapsed into "agree." "Strongly disagree" and "disagree" were collapsed into "disagree." Some participants chose not to answer some survey questions. Again, responses overall seemed to suggest that students generally had a positive experience at school.

Table 3

Student Survey Results

Survey Statements (n=32)	Disagree	Neutral	Agree
I liked my classmates.	4 (12.5%)	7 (21.9%)	21 (65.6%)
I could hear my teachers in the classroom.	3 (9.4%)	7 (21.9%)	21 (65.6%)
My teachers helped me and wanted me to do well.	1 (3.1%)	1 (3.1%)	30 (93.7%)
My teachers were too busy and had little time for students.	22 (68.8%)	8 (25%)	2 (6.3%)
My classroom teachers listened to my ideas.	1 (3.1%)	13 (40.6%)	18 (56.3%)
My classroom was a safe place to be.	5 (15.6%)	3 (9.4%)	34 (75%)
My teachers were fair to me.	1 (3.1%)	2 (6.3%)	29 (90.6%)
My teachers had students they liked best.	7 (21.9%)	10 (31.3%)	15 (46.9%)
I felt like I fit in at my elementary school.	14 (43.8%)	7 (21.9%)	11 (34.4%)
My teachers understood my hearing loss.	6 (18.8%)	11 (34.4%)	15 (46.9%)
I was okay asking my teachers for help.	5 (15.6%)	5 (15.6%)	22 (68.8%)
I felt close to my teachers.	4 (12.5%)	9 (28.1%)	19 (59.4%)
I got good grades in school.	4 (12.5%)	5 (15.6%)	19 (59.4%)
I trusted my teachers.	1 (3.1%)	5 (15.6%)	26 (81.3%)
I felt I belonged in my class.	10 (31.3%)	4 (12.5%)	18 (56.3%)

Questions which yielded the most number of positive responses were related to feelings of trust and inclusion in the classroom community ("My teachers helped me and wanted me to do well"; "My teachers were fair to me"; and "I trusted my teachers"). When looking at the results for classroom belonging and teacher closeness, 56.3% of student participants felt their classroom teacher listened to their ideas, and over half of the students (56.3%) indicated they belonged in their classroom (although almost a third reported that they did not feel that they belonged). Interestingly, the question related to whether classroom teachers seemed to understand hearing loss indicated that less than half seemed confident that their teachers understood their hearing loss. As will be seen, this is very similar to the parent data for this question. For the question, "I felt like I fit in at elementary school", only approximately one third (34.4%) responded with agree/strongly agree, suggesting that while students seemed to generally feel that they felt a sense of belonging in their own classroom. But almost 50% either did not fit into their classroom or were uncertain about whether they did.

The student survey included some personal information questions about whether they were male or female, and when they received their first hearing device. Therefore, it was possible to analyze survey data with respect to students who were diagnosed and fit with amplification early (under 2 years of age) versus students who were diagnosed and fit at an older age. This is important, because earlier diagnosis and fitting of amplification means earlier and more consistent access to spoken language. As Moeller (2000) reported, early identification is one of the most predictive factors for later success for students with hearing loss, therefore this was an important piece to investigate. Table 4 summarizes the responses for the two groups.

Table 4

Results of Students with Early- Versus Late-Fitted Hearing Aids

Survey Statements	Students with early-fitted hearing aids (n=13)			Students with later-fitted hearing aids (n=18)		
	Disagree	Uncertain	Agree	Disagree	Uncertain	Agree
I liked my classmates.	7.69%	7.69%	84.62%	11.11%	33.33%	44.44%
I could hear my teachers in the classroom.	7.69%	23.08%	69.23%	5.56%	22.22%	55.56%
My teachers helped me and wanted me to do well.	0	0	38.46%	0	5.56%	38.89%
My teachers were too busy and had little time for students.	30.77%	23.08%	0	33.33%	27.78%	11.11%
My classroom teachers listened to my ideas.	0	23.08%	76.92%	0	50%	38.89%
My classroom was a safe place to be.	7.69%	23.08%	46.15%	16.67%	0	55.56%
My teachers were fair to me.	0	7.69%	76.92%	0	5.56%	77.78%
My teachers had students they liked best.	7.69%	38.46%	38.46%	16.67%	27.78%	33.33%
I felt like I fit in at my elementary school.	30.77%	23.08%	38.46%	38.89%	22.22%	22.22%
My teachers understood my hearing loss.	15.38%	30.77%	38.46%	5.56%	38.89%	16.67%
I was okay asking my teachers for help.	0	15.38%	76.92%	16.67%	11.11%	50%
I felt close to my teachers.	7.69%	23.08%	69.23%	11.11%	33.33%	50%
I got good grades in school.	0	7.69%	53.85%	22.22%	22.22%	50%
I trusted my teachers.	0	7.69%	61.54%	0	22.22%	61.11%

I felt I belonged in my class.	23.08%	0	61.54%	22.22%	16.67%	44.44%

The sample sizes for this survey were too small to appropriately test for statistical significance between the two groups; however, some interesting preliminary trends were seen. More striking differences were seen on questions that dealt with a sense of belonging in the classroom; feelings of closeness to the teacher; and fitting in at school. Those who were fit with a hearing device at young age (early amplified) rated their sense of belonging in the classroom higher (61.5%), than those that were given a hearing device when they were older (late amplified) (44.4%). Early-amplified children also felt closer to their teachers (69.2%), than students who were late amplified (50%). When student participants were asked about their feelings on "fitting in" at school, only 34.4% of students agreed with this statement. Children who were early amplified expressed more agreement of "fitting in" (38.5%), than those who were late amplified (27.8%). Differences were seen in questions such as "I liked my classmates"; "my teachers listened to my ideas"; my teachers understood my hearing loss"; "I was OK asking my teachers for help"; and "I felt I belonged in my class." Both of our student groups, early and late-fitted, did not express high levels of agreement that teachers understood their hearing loss. Only a small percentage agreed that their teacher understood their hearing loss, with those that had early-fitted hearing loss, rating teacher understanding higher than those with late-fitted hearing loss. Also of interest, was the difference in ratings of how well each of the respective groups liked their classmates. Those with early-fitted hearing loss had a much higher level of agreement compared to those who were fit with a hearing device at a later age.

The five questions are summarized in Figure 1 where the greatest differences between students with early-fitted hearing loss, and students with late-fitted hearing loss were seen.
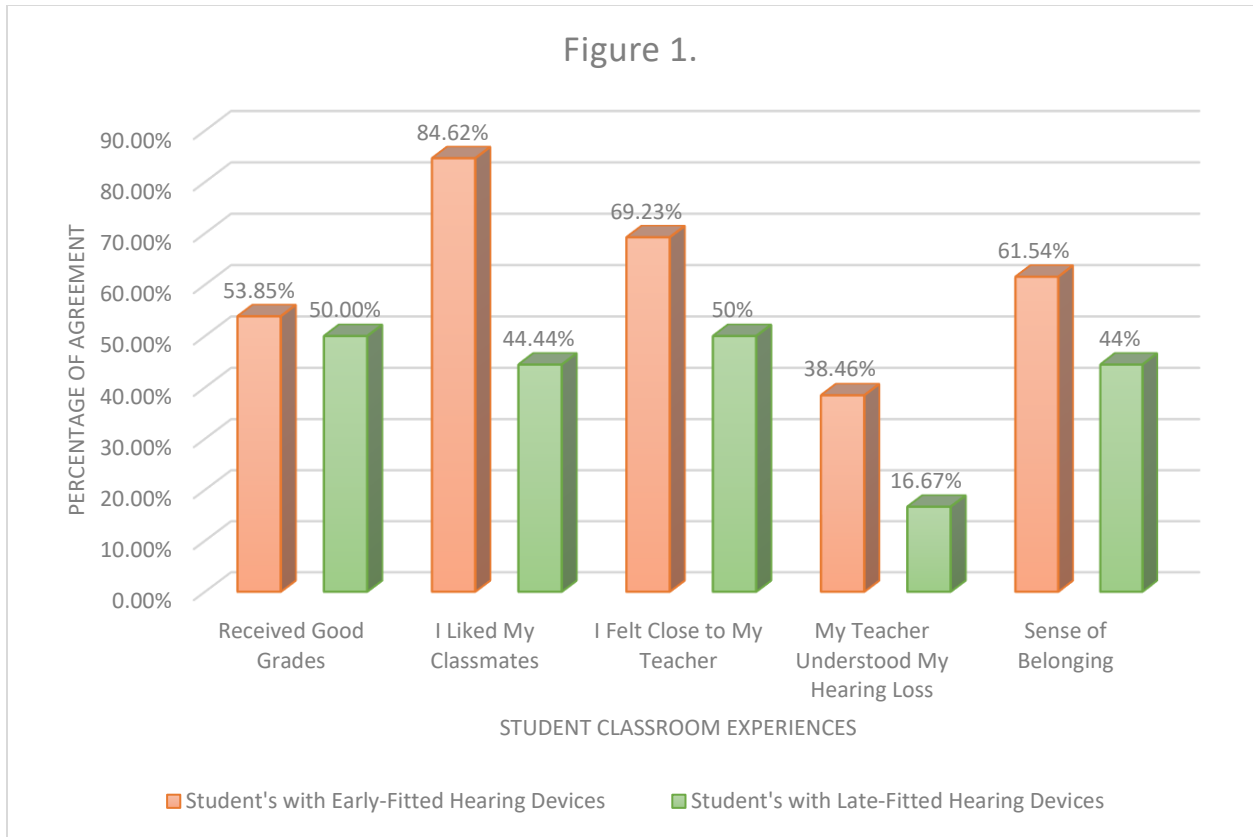
Figure 1. Perceptions of students with early-fitted versus late-fitted hearing devices.

Parent survey results

Results for the parent survey are summarized in Table 5.

Table 5

Parent Survey Results

Survey Statements (n=75)	Disagree	Uncertain	Agree
I practiced with my child how to interact with adults	9 (12.1%)	6 (8.1%)	59 (79.7%)
I felt that the teachers listened to my child	8 (10.8%)	15 (20.3%)	51 (68.9%)
The classroom teacher treated my child differently from those with typical hearing	32 (43.3%)	12 (16.2%)	30 (40.5%)

My child did not like elementary school	52 (70.1%)	5 (6.8%)	17 (23%)
My child shared their feelings about their classroom teacher with me	8 (10.8%)	3 (4.1%)	63 (85.1%)
The teachers understood my child's hearing loss	24 (32.4%)	15 (20.3%)	35 (47.3%)
My child felt connected to their school	12 (16.2%)	8 (10.8%)	54 (73%)
All of my child's teachers have been great	25 (33.8%)	7 (9.5%)	42 (56.8%)
My child makes friends easily	21 (28.4%)	9 (12.1%)	44 (59.5%)
If my child needed help, they were likely to ask their teacher	19 (25.7%)	13 (17.6%)	42 (56.8%)
My child's teachers supported all students in their classroom	8 (10.8%)	22 (29.7%)	44 (59.5%)
My child bonded with their teacher	13 (17.6%)	9 (12.2%)	52 (70.3%)
My child was frequently in trouble with their teacher	61 (82.4%)	7 (9.5%)	6 (5.4%)
My child did well in school	17 (23%)	3 (5.4%)	53 (71.6%)
My child felt safe in their classroom at school	9 (12.2%)	13 (17.6%)	52 (70.3%)

"Strongly agree" and "agree" were collapsed into "agree." "Strongly disagree" and "disagree" were collapsed into "disagree." Some participants chose not to answer some survey questions. Overall, there was more variability in parent responses to questions. While most parents believed that the classroom teacher listened to their child (68.9%), 40.5% reported that the teacher treated their child differently from those with typical hearing (in fact, an almost equal number of parents reported that the teacher did treat their child differently as parents who reported that the teacher did not treat their child differently (43.3%). Many parents further reported that they were not confident or that they were uncertain that the teacher understood their child's hearing loss

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(52.7%), and with some describing their child's teachers as "not great" (33.8%). Also, of interest was that a large percentage indicated that they practiced with their child on how to interact with adults (79.7%). Results across the survey seemed to suggest that parents were generally positive about their child's teachers and school.

Interview Research Results

Interview questions were developed with the intent to gather information from teachers, parents, and students on the importance of the teacher-student relationship and the barriers and facilitators that currently exist. Questions can be found in Appendices D, E, and F. Table 6 describes the demographics of the interview participants.

Table 6

Interview Participants' Demographics

Participants	Male	Female	Total
Teachers	2	6	8
Students	1	5	6
Parents	0	6	6

Interview data for each group were analyzed independently to identify themes and then analyzed again across the three groups (teachers, students, and parents). Five important themes related to teacher-student relatedness were identified. They included social skill development, transitions into elementary school, teacher understanding of hearing loss, inclusion, and the importance of the teacher of the deaf and hard of hearing.

Social skill development of students with hearing loss

    Social skills were viewed as essential to the teacher-student relationship by all parents,

students, and teachers interviewed. Parents and students interviewed added that social skills took

practice and may take longer to acquire for children with hearing loss. Parents discussed

strategies for promoting social skills with their DHH child. They included enrolling their child in

after school activities like sports, dance, cub scouts, and brownies. Parents believed that these

social activities also assisted the development of their child's self-confidence, which teachers

described in this study as essential for classroom learning. This was nicely summarized by a

classroom teacher who said, "A child with hearing loss will face challenges in the classroom that

other children will not. If they have self-confidence, then those obstacles won't seem as

daunting."

    Teachers made similar comments to parents, in terms of needing to pay extra attention to

social skills for students with hearing loss. One teacher commented,

> Probably eight years ago, there were a few students in our school with hearing loss. The
>
> teachers had some concerns regarding their socialization with the other students. There
>
> were some issues that needed to be worked through in order to allow them to succeed.

Another teacher noted,

> Students with social difficulties with their peer group are always going to have a little bit
>
> more challenge to create a relationship with because they are often defensive with their
>
> peer group and then do not have a strong relationship with their past teachers.

However, parents overall reported greater concern with social skills challenges than teachers seemed to do. In fact, one parent commented,

> Grade one was, I am going to say, hellish. She cried for about three months straight. We had to do a lot of, for instance, we did social stories. Something I never knew existed until that year, to help her through her different issues.

Interestingly, teachers also commented that there is an element of social interaction that is related to personality. One teacher commented "Students that are naturally outgoing and already have a level of comfort in language skills and feel confident in their abilities in the classroom tend to be easier to get relationships with"; while another noted "I tend to focus on the quiet kids, to try and draw them out and get them to be more risk takers in the class." These are interesting comments, given that the survey data suggested that both parents and students seemed to have far less confidence in teachers' knowledge of the implications of hearing loss than did teachers themselves. There are not enough data to speculate, but comments such as these do lead us to wonder whether teachers do not sometimes attribute challenges in social interactions to personality traits such as being shy, quiet or introverted, when they are actually manifestations of language, communication, and social skills deficits.

Transitions into school for children with hearing loss

One of the clearest themes emerging from interview data from parents, teachers, and students, was the need for a successful transition for DHH children into their neighborhood school as a prerequisite for building a positive teacher-student relationship. Because most of the interview questions addressed issues and experiences within the elementary school classroom, it might have been expected that participants would primarily have discussed what happened in

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those classrooms, what worked and what didn't work, complaints, and suggestions. However, time and time again, participants came back to a focus on the preschool years and the student's transition into kindergarten.

Participants all agreed that a good transition was facilitated by school readiness (e.g., age appropriate social skills, confidence, comfort), and created a better opportunity for students to have a successful classroom experience. While of course, this is true for all students, participants in this study emphasized the need for conscious effort, planning, and practice of foundational social skills prior to school entry. Participants (particularly parents) did not discuss this is the context of needing a structured social skills program, but rather, described the need to be continually conscious of where social skills and social relationships could be fostered in natural contexts and environments. For example, participation in outside activities, enrollment in preschool, play dates, and role-playing were described as opportunities for their children to learn and develop skills essential for classroom readiness. Again, while many parents make an effort to introduce their preschool children to activities outside the home, participants in this study often expressed very specific goals related to the child's hearing loss which extended beyond simply making friends and having fun. As one parent advised, "Enroll them in extracurricular activities so they are used to being in not perfect listening environments. Being in large groups of people will be helpful and will prepare them for a noisy classroom at school."

Three parents, reported that they had delayed entry into kindergarten for their child because they did not feel that their child had the requisite foundational language, communication, and social skills. One parent noted "I just gave him that extra year to gain, I don't know, more social skills, more confidence, to be ready to go to kindergarten." Another commented,

So, I just kind of felt, you know, for everyone, it would be better if we waited [to start

kindergarten] and we did. The following year he was so ready; he couldn't wait, and now,

all the things [he needed for kindergarten], he hit all those check marks. I found that

waiting that extra year, he was ready. He was very excited to go to kindergarten.

A third parent explained that,

Eventually, they all catch up supposedly, but those social skills, you have that window

where they learn how to engage with other kids. That's when I decided he was not ready

for kindergarten. They expect you to have those social skills already developed because

they are moving on to read, to writing, to all this stuff. I gave him another year of

preschool, to develop his social skills.

Another component to ensuring a solid foundation in social skills and interactions to facilitate

a successful transition to kindergarten that was identified by participants was the need for

children to learn self-advocacy skills. Parents, teachers, and students believed that self-advocacy

skill development should begin at a very early age, preparing them to competently deal with

unexpected challenges in school. While self-advocacy might have been described as a separate

theme (since all participants talked about self-advocacy in the context of elementary and high

school), it has been included as a component of transitioning to elementary school because

participants emphasized the importance of beginning in the preschool and kindergarten years.

This is interesting as, while there is an extensive literature on the importance of self-advocacy

skills for individuals with disabilities, it is not necessarily clear how this should be addressed in

children as young as preschool or kindergarten age. While several parents interviewed wanted their children to acquire self-advocacy skills, they were uncertain on how to develop them. Other parents in the study who taught their children self-advocacy skills reported that they relied on teachers of the deaf and hard of hearing for support and their guidance. As one teacher stated, "Teach the child to advocate for themselves as early as possible. Even when they are young they should have simple language to report problems."

Students interviewed agreed stating that there were many classroom problems that faced DHH students where self-advocacy skills would be useful. They included managing a new, difficult listening environment, working with an inexperienced substitute teacher, and coping with hearing technology failure. One student suggested, "Practice asking for help or saying something is wrong, or I did not understand, or I did not hear." Students felt this increased self-confidence asking for help in front of their hearing peers. These were important suggestions considering 25.7% of parents surveyed reported their children would not ask the teacher for help. Interestingly, however, almost 70% of students themselves reported that they felt comfortable approaching a teacher for help, while only 56.8% of parents reported that their child would be likely to ask a teacher for help.

For parents in this study, the next critical part of the transition into school was the school orientation. Parents reported that meetings with TDHH and parent hearing loss support networks like AG Bell, Hands and Voices, and VOICE helped prepare them to make these arrangements. Several parents interviewed felt that a parent/child visit to the classroom to meet their new teacher was an opportunity to reduce any of their DHH child's anxiety and uncertainty about starting school. As one parent stated, "I think for him I could see a big difference in him this morning. He was telling me how glad he was that we went in to meet the teacher." The parent

believed that the school orientation was their first contact with the classroom teacher and the first step in developing a relationship with them.

Teacher understanding of hearing loss

While parent and student survey results indicated that many felt like their classroom teacher was a good listener, they also show that 53.1% of students and 52.7% of parents were not confident that the teacher understood hearing loss. This was supported by the results from parent and student interviews. Those interviewed described poor teacher understanding of hearing loss as a major barrier to the development of the teacher-student relationship. As one parent said, "So pretty much our experience has been if someone has never taught a child with hearing loss, they are terrified, and they really don't know what to expect."

Interview data from students and parents identified three main areas where the classroom teacher lacked knowledge and may create a barrier to the teacher-student relationship. The first was the use of classroom FM hearing technology. Parents and students reported that when teachers lacked competency in classroom FM hearing technology, and its importance as a tool for access to auditory information, they used it intermittently or not at all. A parent also expressed frustration reporting that there seem to be no school policy on the provision of classroom FM hearing technology. She stated that she was told it was available mostly to the students in elementary grades, with limited or shared access in high school.

Next was teacher understanding of classroom accommodations. While 100% of teachers surveyed reported that they made classroom accommodations for their student with hearing loss, this was not reflected in responses from many of our parent and student interviews. For example, poor knowledge on the importance of visual learning support for DHH students was demonstrated when a student described her experience of not being accommodated saying, "I know in grade seven I had a bad teacher and I did a lot of lying. I lied because I could not keep

up, and because the teacher would not give me the help I needed." Several parents and students stated that when the teacher had no understanding of hearing loss, they tended to associate poor classroom performance and difficulties to student behaviour or reduced academic abilities. One parent said, "They didn't understand you know; they pretty much assume if you have a hearing loss, that you have some sort of learning disability." This was reinforced from the parent survey data, with many (40.5%) reporting that the teacher treated their child differently from those with typical hearing.

The third area arising from the parent and student interview data was the need for more knowledge around the impact of poor classroom acoustics. Students interviewed reported that their requests for quiet spaces for test taking and working were taken lightly and met with teachers feeling that this would be "favoritism" and "unfair to the other students." The classroom teachers' lack of knowledge of the negative effects of background noise was demonstrated when several parents described classroom incidents around group work. During these activities when the room was noisy, their classroom teachers described their children with hearing loss as "dawdlers, controlling, or daydreamers," not recognizing how difficult it was to hear in this situation. A parent interviewed commented that when she made suggestions for classroom accommodations for her child with hearing loss, the classroom teacher thought she babied her child.

Inclusion: The classroom as a community

For students, teachers and parents, the classroom as a community was a theme described as being central to promote teacher-student relationships. From the teachers, students, and parents interviewed, they believed the classroom should be a nurturing environment where students with hearing loss feel safe, respected, cared for, understood, valued, trusted, and able to express their thoughts. Some students felt this sense of community, with 56.3% of student survey participants

feeling like their classroom teacher listened to their ideas, and over half of the students (56.3%)

indicating they belonged in their classroom. Classroom belonging and teacher closeness were

strongly correlated with one another, with 73.7% experiencing both conditions. Data from parent

and teacher interviews indicated that they believed when a classroom functioned as a

community, it naturally supported choice making and activities that engaged children. The

importance of community was nicely summarized by a classroom teacher who said, "When they

feel comfortable, when they feel safe, and they know that they are going to be heard and have

their needs met, they are able to take risks and enjoy grade one."

Interview data gathered from parents indicated that they believed they were an important

partner in the classroom community. Several parents in this study reported they wanted to be

informed and included in education decisions for their child with hearing loss, and good teacher-

parent communication was also crucial for this to happen. Parents further stated that essential to

a classroom community was to recognize that each other had value and to be respectful of one

another. Relationship building thrived when teachers and parents shared knowledge, ideas, and

strategies on how to best meet the needs of their DHH child. A student speaking about inclusion

and community said,

> Good teachers were willing to communicate with my parents, especially when I was little.
> I had a book that would go home every day and would be written in by the teacher, this is
> what we did today and this is what was hard, so maybe you can work on this tonight.

This allowed the student to get the support at home and keep up with the lessons in the

classroom. One teacher captured the comments of others in articulating some of the most

important goals in the primary grades in saying "In grade three, we are not teaching physics here, it's really teaching life skills. At this age, this comes first before anything."

The importance of the Teacher of the Deaf and Hard of Hearing (TDHH)

The need for teaching resources to promote a better understanding of how to work with DHH students was critical for many of the classroom teachers interviewed. Data gathered indicated that TDHH were identified as the most important teacher resource available to them. Several teachers commented that the TDHH was the expert, who could provide knowledge and support on how best to work with students with hearing loss in their classroom. A teacher in this study commented that when he understood the use, benefits, and limitations of hearing technology he felt inspired. He said,

> I assumed because she had hearing aids that she could hear me. When she told, me she could hear much better with the FM system, that was like, wow, wait a minute, you weren't hearing me so well before, were you? I got to thinking that this technology came to me halfway through the year, what have you missed in the first half that you didn't tell me about?

When asked about access to additional resources, several teachers in this study wished they could have access to workshops on hearing loss, opportunities for teacher mentorship, and teaching guides to understand how to support student's needs in the classroom. They reported that these resources previously were available but were eliminated due to school budget cuts.

Parents commented many times on the crucial support provided by TDHH at all stages of their child's academic life, from preschool to kindergarten entry and through the primary grades. Parents noted that when a TDHH was available to facilitate transitions (for example, setting up a

school team meeting in the spring, well before school entry), students were more likely to be successful. However, some also noted that with larger caseloads and fewer resources, the TDHH was sometimes not available to see their student into a few weeks into the fall term, leaving parents to pick up the slack.

In considering the interview data, there is a clear thread running through all of the data that all of the constructs identified (social skills development, transition to school, teacher understanding, the importance of a classroom community and the importance of the support provided by TDHH) were necessary, none of these happened automatically or incidentally. For hearing children and their parents, starting kindergarten (for example) the process is well established. Parents send their children off to the first day of school, knowing that kindergarten teachers are well-versed in welcoming students, establishing routines, and generally ensuring that everything will be off to a smooth start. This routine transition to school was not what was described by teachers, students and parents; similarly, other foundational aspects for student-teacher relatedness required deliberate, explicit attention.

Chapter Five: Discussion

Hearing loss is a low incidence disability. Therefore, it is not surprising that there is a lack of understanding by school professionals of the classroom implications for students with hearing loss related to learning, social interaction and wellness (Luckner, Slike, & Johnson, 2012). This study investigated the construct of social interaction, looking at the importance of the teacher-student relationship for children with hearing loss using survey and interview research. Parents, teachers, and student participants were asked about their experiences in early elementary school classrooms. This research sought to better understand the development of relatedness in students with hearing loss and their teacher, and the contributing factors. A main finding was that positive teacher-student relationships, and the foundational skills that underlay these relationships, did not happen automatically. While developed student social skills, planned transitions into kindergarten, teacher understanding of hearing loss, support from TDHH, and an inclusive school environment all were essential to the successful development of these relationships, these elements needed to be promoted and facilitated.

Social Skill Development of Students with Hearing Loss

Social skills are important for children starting elementary school. As Lane, Pierson, and Givner (2004) reported, elementary students who did not meet teacher expectations for appropriate social skills were at risk for poor school outcomes, suboptimal teacher and peer interactions, and reduced academic skills. In the current study, parents and teachers both agreed that developed social skills made it easier to build relationships in the classroom. While parents, students, and teachers believed that social skills of children with hearing loss were important, they reported that they took longer for these students to acquire these skills compared to their typical hearing peers. For example, parent survey and interview data indicated that parents

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developed strategies outside the school for promoting the development of social skills. It is fair to say that while teachers talked about the importance of social skills and relatedness for all children, these issues appeared to be far more central and concerning for parents than for teachers. Many parents in this study self-identified these social needs of their deaf and hard of hearing child and did "invisible work," pre-teaching social skills, to better prepare their child for school entry. This included enrollment in sporting and recreational activities and providing other opportunities to practice social skills. This was supported by the work of Light (2006), who found that involvement in sport and recreation activities promoted social and personal skill development in all children. Several teachers were unaware of this practice and coaching by parents prior to the start of kindergarten, and they assumed that some of their students with hearing loss as having an inherent quality of resilience. These findings highlight the need for parents, educators, and hearing care professionals to address social skill development early, as an integral part of the management of hearing loss.

Student survey participants in the study who were late fitted provided responses that suggested their social skills might be less developed than those fitted with a hearing device early. One parent from the study said this about her child who was had a late fitted hearing loss: "She was very social at home, yet at school she would have staring spells and would sit by herself. Any sort of transition, where things looked new or different, she struggled!" The reasons related to differences in survey responses from early-fitted and late-fitted students were not explored either in the survey or the interviews, but one might speculate. Questions, such as "I liked my classmates," where 85% of early-fitted students agreed compared to only 44% of late-fitted students certainly have a number of possible underlying explanations. However, given the large body of research on students with hearing loss with respect to challenges with language,

communication and access to interactions with peers in difficult listening situations, it seems at least possible that early-fitted students, with earlier and more consistent access to incidental language and better performance in noisy listening situations (and potentially better speech articulation), might have been better equipped to interact, and make friends with, their hearing classmates. While the research questions of this study did not focus on age of identification and fitting of amplification, and sample sizes were small, this research suggests that when children are not provided with access to language and with intervention until after the critical period for language learning, special attention is needed in the assessment of their social skills, providing intervention where recommended.

With the establishment and implementation of early hearing detection and intervention (EHDI) programs, there is an opportunity to include social skill development as an essential component for consideration. Social skills can be addressed and developed early with deaf and hard of hearing children, allowing them to be better prepared for school entry.

Transitions into School for Children with Hearing Loss

The transition into kindergarten is a milestone that is viewed as important, and of concern to parents of children with disabilities (Mawdsley & Hauser-Cram, 2013). McIntyre, Eckert, Fiese, Reed, and Wildenger (2010), noted that this was because early childhood preschool programs for children with disabilities tend to be family-focused and work primarily with parents to identify and support their child's specific needs. Children entering kindergarten require a new set of skills to navigate the elementary school, and this may not be a focus for early intervention programs. Parents involved in this study reported that social skill practising and coaching were closely linked with successful transitions from preschool to elementary school. Parents, teachers, and students identified the need for a successful transition for their DHH children into their

neighborhood school as a prerequisite for building a positive teacher-student relationship. Parents and teachers agreed that a good transition was facilitated by school readiness (e.g., age appropriate social skills, confidence, comfort), and created a better opportunity for students to have a successful classroom experience. Students wanted to visit the school, see their classroom, and meet their teacher all of which made them feel more comfortable.

According to LaParo, Pianta, and Cox (2000), for most classroom teachers who received a student with special needs, they used some form of transition practice. However, these transition practices were limited. They typically included reviewing the child's education reports, with only a few contacting the students' preschool teacher. Few offered opportunities for an "open house" to the classroom, creating an opportunity to speak directly to the parent prior to the start of school. In this study, this was also the experiences of several of the parents. One parent stated,

> Typically, the school does not tell you who your child's teacher will be, they save that as a surprise for the first day. But, I advocated and explained the importance of being able to meet with the teacher before school started. This was for my son's comfort level and to explain to them how the FM classroom hearing equipment worked. The hearing teacher would not see him until the third or fourth week of September and that was a long time for him to be missing out on what the teacher was saying.

Because a school orientation and formal transition was not standard practice for students with hearing loss entering their neighborhood school, TDHH often facilitated the transition from preschool into kindergarten, by arranging a meeting with the school principal and classroom

teacher prior to the start of school. This activity was viewed as critical to the students'

adjustment and confidence in a new environment. Parents felt that this created a better start to the

teacher-student relationship. Findings from this study suggest that hearing care professionals

work with educators and school administration to promote the importance of transitions from

preschool to kindergarten as an essential element for children with hearing loss. This also could

include knowledge sharing with teacher professional organizations and teacher training

programs. In Ontario, the early intervention model for the Infant Hearing Program (IHP)

provides services for children up to age 6, so in theory, there is overlap in services by teachers of

the deaf and hard of hearing or speech-language pathologists working in the IHP and school

professionals (e.g., special education resource teachers and classroom teachers). However, this is

not necessarily true in other provinces and is not guaranteed to happen even in Ontario, which

often places the burden for navigating the transition to school on the parents' shoulders.

Teacher Understanding of Hearing Loss

A teacher's awareness and understanding of hearing loss was a key facilitator to the

successful inclusion of a student with hearing loss into mainstream classrooms. Unfortunately,

regular classroom teachers who were working with DHH children felt their teacher education

and professional development programs were inadequate in educating them on hearing loss, and

they had to rely on the support of the school district TDHH (Eriks-Brophy & Whittingham,

2013). In this study, teacher interview research found that teacher confidence in working with

DHH students was related to their knowledge of hearing loss, support, and being equipped with

strategies to support these students. While many teachers expressed a willingness to support their

students with hearing loss, they felt challenged by their large classes and other students with

special needs who also required unique accommodations. The teachers in this study became

participants because they were teaching in schools where there were, or had been, students with hearing loss, so there might be an expectation that these teachers would have some level of expertise in teaching mainstreamed students with hearing loss, but this was not necessarily the case. When classroom teachers have no experience in teaching students with hearing loss, and no TDHH available, it is unclear if they would understand their needs, or even understand how their needs differed from those students with typical hearing.

Parents and students agreed that limited knowledge of hearing loss was challenging and added that poor teacher understanding was also a major barrier to the development of the teacher-student relationship. A parent reflected on her child's experiences in elementary school and said, "So pretty much our experience has been if someone has never taught a child with hearing loss, they are terrified, and they really don't know what to expect." A teacher discussing some of the challenges her student with hearing loss experienced in the classroom stated, "It's that kind of mild to moderate hearing loss where you are not sure what is holding them back." She had presumed that degree or amount of hearing loss was an indicator of academic and social ability. In my own experience, it seems to be the case that when students *appear* to function quite well auditorily with a mild or moderate hearing loss, teachers often dismiss the hearing loss as being the primary underlying cause of the student's difficulties and may misinterpret them as learning disabilities, behavior problems, attention deficit hyperactivity disorder, or other learning problems.

Lack of understanding of hearing loss also resulted in students' restricted accessibility to auditory-verbal information in the classroom. For example, parent and student participants reported that when teachers lacked knowledge in classroom hearing technology, and its importance as a tool for access to auditory/verbal information, they used it intermittently or not

at all. One parent participant indicated that this lack of knowledge and understanding of the importance of classroom FM hearing technology also extended to the school administration and stated,

> My overriding concern is going into high school, because I have been told the FM will only be available in one of his classes. That just ticks me off as he has a disability and they are only going to partially accommodate him.

This was problematic for a couple of reasons. First, evidence on FM classroom hearing technology use for children with hearing loss in the classroom is well established and outlines how FM systems improves classroom listening (Smaldino & Crandell, 2000). Second, for children residing in Ontario, British Columbia, Alberta and Saskatchewan, the provinces from which the study participants were selected, all have government program funding for the purchase of classroom FM systems to support classroom listening. The current research brings to light that teachers and school administrators need to be routinely educated and updated about the availability of FM classroom hearing technology and how critical it is for the functioning of deaf and hard of hearing students.

Parents and students who participated in the current study identified the concept of classroom accommodations as being misunderstood by the teacher. Although the teacher survey data indicated that all were providing accommodations to their students with hearing loss, interviews with parents and teachers contradicted this. This suggested that while the teacher (in his or her mind) used strategies, they may not have addressed the deaf and hard of hearing student's needs. Lack of knowledge around the importance of a quiet place for test taking, good

classroom acoustics, access to visual cues, and the difficulty of working in groups all seemed to be common. For example, lack of knowledge regarding the need for visual learning support was shared when a classroom teacher stated, "I always wondered why we have a sign language interpreter when he can actually hear and lip read."

This demonstrated poor understanding of the effort required to access auditory-verbal information despite wearing hearing devices. A lack of understanding of classroom accommodations was described by a student who reported their classroom teacher did not see the point of test taking outside a noisy classroom, seeing it as favoritism and as unfair to other students. She said, "He [my teacher] was very regimented with a fixed routine for school work and home work, and I guess maybe I felt like I wasn't smart enough to be in his class." For this student, this lack of support and understanding from their teacher was detrimental to the student's self-esteem.

Several parents and students also reported that when the teacher lacked an understanding of hearing loss, they tended to associate poor classroom performance and difficulties to student behaviour or reduced academic abilities. When classroom accommodations were finally made, and tailored for the student's listening needs, a parent stated,

Once the teacher started doing little things with him like taking the effort to check in with him, make sure they had eye contact, and that he understood what she was asking, would you know he became a real compliant little guy.

The implication of not understanding and providing critical classroom accommodations to students with hearing loss is that this reduces student opportunities for learning, restricting their opportunity to reach their full potential.

Inclusion: The Classroom as a Community

Inclusion has been cited as having positive effects on children with special needs pertaining to their academic achievement, social competence, and overall wellness (Hadjikakou, Petridou, & Stylianou, 2008). The number of students with special needs being educated at their neighborhood school in an inclusive academic and social environment has increased significantly over the past fifteen years. Initiatives such as "No Child Left Behind" Act of 2001 and the Individuals with Disabilities Education Improvement Act Amendments of 2004 have affected policy and perspectives on inclusion of children with developmental and physical disabilities in the US (Blecker & Boakes, 2010). While there is no comparable legislation in Canada for school children with disabilities, initiatives such as the Ontario Ministry of Education's Equity Action Plan outlines a clear plan for better inclusion for all students. In the current study, all teacher, parent, and student participants believed in inclusion. They felt that the classroom should be a nurturing environment where students with hearing loss felt safe, respected, understood, and cared for.

Parents and teachers stated that when the classroom functioned as a community, it naturally supported choice making and engaged children with hearing loss. Several parents in the study believed that inclusive classrooms extended to the family of deaf and hard of hearing students. Parents reported that they wanted to be informed and included in the education decisions of their children with hearing loss and viewed this as being crucial to the development of the teacher-student relationship. A parent said, "The school has a way of doing things and they

like to do things their way and the parent is always viewed as an important person; part of the team." As Eriks-Brophy and Whittingham (2013) reported, and results of this study agree, a major barrier to the inclusion of deaf and hard of hearing students was due to the lack of knowledge, negative attitudes, and insensitivity by school-based professionals.

Unfortunately, with budget cuts and reduced government funding for education, many schools have been reducing teaching resources and may not be able to adequately implement the required elements of inclusion. A further challenge is that the management and service delivery to students with hearing loss in elementary school are not standardized in Canada. Resource and service allocation policies vary from school district to school district, and from province to province. Findings from this study indicated that this left some parents feeling confused about the availability of services and angry about lack of support for their deaf and hard of hearing child. A parent shared her frustration on the lack of school support services for her son who wears hearing aids saying,

> There are children who are completely deaf and have cochlear implants and their needs are bigger than your son's. We should not be vying for resources, and I shouldn't be jealous that someone else's child is getting more services. Hearing loss is hearing loss and it affects learning regardless of how it happens.

School hearing service delivery inequality was not unlike what has been found by the Canadian Infant Hearing Task Force (2016). In their progress report, they reviewed infant hearing service availability in the Canadian provinces and territories. They found major differences in how children with hearing loss were being screened, identified, and managed

across Canada. In provinces without early newborn hearing screening, there may be children being identified late, possibly impacting their speech and language development, social skill development, and impacting their success at school. A preventive rather than reactive approach to education of children with hearing loss is necessary to support their success, regardless of where in Canada they are going to school (Canadian Infant Hearing Task Force, 2016).

The Importance of the Teacher of the Deaf and Hard of Hearing

Hadjikakou, Petridou, and Stylianou (2008) and Eriks-Brophy and Whittingham (2013) studies found that it was crucial for classroom teachers to receive training on working with deaf and hard of hearing students. As evident in this study and supported by the research of Stinson and Liu (1999), Eriks-Brophy and Whittingham (2013), and Compton, Appenzeller, Kemmery, and Gardiner-Walsh (2015), the TDHH was critical to facilitating teacher education. Nearly all teacher participants in our study reported that they felt "uncertain" and "unprepared" when they were told they would be teaching a child with hearing loss. They identified the need for teaching workshops and formalized mentoring activities to help build their knowledge of working with students with hearing loss. Previously, these hearing loss workshops and training were available to teachers. However, in this study, teachers noted that large caseloads and a reduction in education resources meant that many teachers of the deaf and hard hearing were only able to assist in teaching the use and care of classroom hearing technology.

This change in support may have occurred because the speech and language skills of deaf and hard of hearing students who have been part of an EHDI program are not as delayed compared to the years prior to EHDI implementation, making it appear that they do not need additional support; or the result of school budget cuts. Whatever the reason, the implications of reducing support to classroom teachers was that many children with hearing loss are entering

their neighborhood school classrooms with teachers who have little or no understanding on how best to accommodate their needs.

In this study, parents reported that they wanted to develop self-advocacy skills in their preschool aged child with hearing loss but did not know how to develop them. Several parents relied on the TDHH saying, "When his teacher of the deaf would come, she did work a lot on self-advocacy. She would teach me, what she would teach him, so he could advocate for himself." "Even when they are very young, give them simple language to express these things." Although many students surveyed indicated they possessed self-advocacy skills (e.g., would ask their classroom teacher for help), parents stated their children did not.

This difference may be related to the fact that student participants in this study were adolescents or young adults reflecting on their own elementary school experience, while parent participants were reporting on their own elementary school children's current school experience. Parents may have considered self-advocacy as a comprehensive set of skills, that needed to be taught and coached, and allowed the child to successfully navigate social and academic challenges in the classroom. For students, it is possible that they defined self-advocacy skills in more simplistic ways, where the goal was simply to get the teacher to help them. There were consequences of not having developed self-advocacy skills. Parents interviewed indicated that when children did not advocate for themselves, their needs in the classroom often went unnoticed. As one parent commented,

> You know his needs were completely ignored because he is quiet and not protesting and not misbehaving. The teacher was not wearing the FM as much as she was supposed to.

We really need to be more on top of these things as my son is not a good reporter of problems.

Limitations of the Study

Several limitations need to be acknowledged for this research study. First, to achieve efficient and accessible data collection, teacher participants were selected from urban school districts, where self-contained DHH programs existed. It is unknown if the experiences of teachers working in rural communities who have or had DHH students in their classroom would align with or differ from those teachers working in large cities. Second, while the sample size did capture the experiences of quite a large number of parents, teachers, and students across three provinces in the survey, larger sample sizes are always desirable. Survey and interview data and the participant opinions and perspectives represent the present sample only and readers should be cautious in transferring these findings as being representative of all parents, teachers, and students. Last, the researcher assumed that the motivation to participate in the interview research was altruistic. However, it must be acknowledged that participants may have had other underlying reasons, that were not known to the researcher.

Future Directions for Research

The findings of this research indicate that positive teacher-student relationships are essential for DHH students and their success in their elementary school classroom, that said, a number of the things that make good teacher-student relationships and positive school experiences possible, were things that happened outside of the classroom. While parents, teachers, and students in this study strongly believed in the promotion and development of the elements to achieve teacher-student relatedness, the responsibilities to achieve this goal were not equally shared among these stakeholders.

This research study indicated that parents carried most the responsibility for ensuring that the foundations for good relationships were established. Pre-teaching social skills, planning the transition from preschool to elementary school, and advocating for accommodations and support for their child with hearing loss was often managed by the parents. The TDHH was the second key facilitator of the teacher-student relationship. They taught parents about self-advocacy, support services, and acted as a liaison with the elementary school. The TDHH is a crucial resource; educating the classroom teacher on hearing loss and hearing assistance technology. They ensured that both students and classroom teachers had the knowledge, skills, and resources needed for them to communicate effectively with each other, establish good communication and good relationships, and thereby work together to ensure student success.

From this study, areas for future investigation as well as recommendations for current practice were identified. As previously noted, parents play a critical role in the school success of their DHH child. This research identified a set of requirements to facilitate a successful teacher-student relationship and it is important that parents are equipped with this knowledge as early as possible. Future work should address collecting and coordinating resource materials on teacher-student relationships and organizing them into a format that is accessible and usable to parents of children with hearing loss. Second, is the development of a useable and feasible, interactive educational resource tool for classroom teachers about working with students who have hearing loss. This tool would organise existing hearing resources along with newly developed material that would be accessed on a mobile-device friendly website. This could assist in educating teachers about hearing loss, particularly where TDHH support is limited. Third, an important research initiative is exploring how social skill development, transitions, and classroom relationships can be included as an essential element for discussion in the management of young

children with hearing loss. This could include the development of a teacher-student relatedness checklist, but could also include information for all stakeholders, including hearing health care professionals. Finally, a potential outcome from this research could be the development of a guidance document outlining provision of essential school supports for the inclusion of today's DHH students. This could serve as a teaching tool for schools and educators on optimizing the classroom experience of students with hearing loss.

Chapter Six: Conclusion

The purpose of this study was to understand the facilitators and barriers to the development of the teacher-student relationship, and its impact for the student with hearing loss. The goal was to explore and identify attitudes, behaviours, and strategies that can be adopted and promoted by parents and educators to create a more supportive school environment for DHH students. Survey and interview data revealed five main constructs that were crucial to promoting the teacher-student relationship and, therefore, supported the development of relatedness of students who are DHH. These were transitions, social skill development, teacher understanding of hearing loss, classroom inclusion, and the importance of the teacher of the deaf and hard of hearing.

For a successful classroom experience, and a positive teacher-student relationship, strong social skills for children with hearing loss were essential. However, these skills required teaching and coaching, but many of the stakeholders were uncertain on how to do this. Findings from this study highlighted the need for parents, educators, and hearing care professionals to address social skill development early, as an integral part of the management of hearing loss.

The transition from preschool to kindergarten is a major milestone for children with hearing loss (McIntyre, Blacher, & Baker, 2006). Parents involved in this study reported that social skill practice and coaching were closely linked with successful transitions. There is a need for a successful transition into their neighborhood elementary school because it was revealed that this was a prerequisite for building a positive teacher-student relationship. However, while schools understood the need for positive transitions for their students, parents generally took the responsibility to facilitate them; often there did not appear to be any formal mechanism or process for parents of children with hearing loss to follow when their children were ready for

school. This study found that positive transition activities for students with hearing loss could best be addressed by establishing collaborations between hearing care professionals, educators, and school administration.

Teacher understanding of hearing loss was found in previous studies to be a key element for the successful inclusion of students with hearing loss in their mainstream classroom (Eriks-Brophy & Whittingham, 2013). In this study, teacher understanding of hearing loss was also found to be critical to the development of the teacher-student relationship. However, teachers reported a lack of confidence in working with deaf and hard of hearing students due to their lack of understanding of hearing loss. This impacted the teacher-student relationship negatively, and in some cases, necessary classroom accommodations were not applied appropriately. When teachers did not understand hearing loss, they were not able to differentiate DHH student needs from those students with typical hearing. The implication of not understanding and providing critical classroom accommodations to students with hearing loss was that this reduced student opportunities for learning and restricted their opportunity to reach their full potential.

For DHH students who do not have their needs met in the classroom due to the teacher's lack of understanding of hearing loss, their feeling of inclusion within the classroom can be impacted (Luckner & Friend, 2011). The concept of inclusion has been researched within the area of DHH students and it has been shown to have positive effects in the areas of academic achievement, social competence, and wellness (Eriks-Brophy & Whittingham, 2013). Due to the large numbers of students being educated in their neighborhood school, having a classroom that functions as a community, where DHH students feel included, that promotes choice-making and feelings of respect, as well as being understood and cared for, is crucial. Parents in this study

indicated that this inclusive classroom community, where they were included in the education of their child with hearing loss, was critical for the development of the teacher-student relationship.

Supporting the development of the teacher-student relationship with DHH children requires deep understanding of hearing loss (Eriks-Brophy & Whittingham, 2013). A TDHH provides multifaceted support to their students with hearing loss and their support is crucial to the students' success in their mainstream classroom (Antia & Rivera, 2016). In this study, parents, students, and teachers relied on the TDHH to support them in their mainstream classroom. TDHH provided information to classroom teachers on hearing loss through workshops, in-service and meetings. However, increased caseloads for TDHH meant that opportunities for knowledge sharing with classroom teachers were reduced. For parents, the TDHH was also an important partner; they provided guidance and knowledge on how to develop self-advocacy skills with their child, and how to navigate policy and support services in the school system. In addition, this study found that students relied on the TDHH for academic, social, and emotional support, and to learn about their hearing loss, self-advocacy, and meeting their needs in the classroom. Relationships were longstanding; they began at a young age and often extended until the completion of high school.

To conclude, this study found that parents were doing a great deal of visible and invisible work to ensure that the needs of their DHH child are being met in their mainstream classroom. Teachers identified that their inexperience and lack of knowledge in hearing loss meant that the needs of the DHH student were not always well understood. These findings aligned well with my own professional experiences, as those DHH who are successful at school, and have a positive teacher-student relationship, had parents and/or guardians with the knowledge, communication, and advocacy skills to ensure their needs in the classroom were being met. In addition, TDHH in

this study were also found to be instrumental. They supported parents, teachers and the student with hearing loss. The combination of advocating, informed parents and TDHH were reported by participants in this study as essential to facilitating positive teacher-student relationships. This is also known to support the development of relatedness for the DHH student, a key element to becoming self-determined.

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Appendices

Appendix A: York University Ethics Approval Letter

YORK
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UNIVERSITÉ
UNIVERSITY
OFFICE OF
RESEARCH
ETHICS (ORE)

Certificate #:	STU 2015 - 128
Approval Period:	09/10/15-09/10/16

Memo

To: David Gordey, Education - Graduate Program

From: Alison M. Collins-Mrakas, Sr. Manager and Policy Advisor, Research Ethics
        (on behalf of Veronica Jamnik, Acting-Chair, Human Participants Review Committee)

Date: **Thursday, September 10, 2015**

Re: Ethics Approval

        Teacher-Student relatedness: The importance of classroom relationships for
        children with hearing loss

        _____

I am writing to inform you that the Human Participants Review Sub-Committee has
reviewed and approved the above project.

Should you have any questions, please feel free to contact me at:
via email at:

                    Yours sincerely,

                            Alison M. Collins-Mrakas M.Sc., LLM
                            Sr. Manager and Policy Advisor,
                            Office of Research Ethics

Appendix B: Toronto District School Board Ethics Approval Letter

Toronto District School Board

Academic, Research & Information Services

January 12, 2016

Dear David Gordey,

Teacher-student relatedness:
The importance of classroom relationships for children with hearing loss

On behalf of the External Research Review Committee (ERRC), thank you for your careful attention, explanations, edits and responses to the questions and comments raised in our November 2015 letter. You have adequately clarified and/or addressed these items, and so this updated decision letter now confirms ERRC approval for your study of the relationships between teachers (Grade 1-3) and their students with hearing loss in three schools.

Please note that this ERRC approval does not obligate any schools or staff to participate and the invited individuals may make the final decision about their own involvement. ERRC will also look forward to receiving both an electronic and paper copy of your final report upon completion, and which you anticipate will be available in July 2016. These may be sent to my attention.

Sincerely,

Sally Erling, Chair
External Research Review Committee, TDSB

c.c. Tim Myrden, Program Co-ordinator, Deaf and Hard of Hearing Programs

2015-2016-21

Appendix C: Edmonton Public School Board Ethics Approval Letter

EDMONTON PUBLIC SCHOOLS

February 10, 2016

David Gordey, PhD Candidate
York University

Dear

Re: **Teacher-Student Relatedness: The Importance of Classroom Relationships**
       for Students with Hearing Loss

The aforementioned research request has been approved, subject to the following conditions:

- participation in the study is voluntary;
- participants are free to withdraw at any time;
- parental permission will be sought for students to participate in the study (absence of clear, written, informed consent must be interpreted as the absence of authorization);
- anonymity of the participants and confidentiality of information obtained is assured;
- personal information may only be used for the stated purpose for which the information was collected or compiled; and
- dissemination of the research results must be submitted to Research and Innovation for Student Learning; and
- the researcher conforms to the requirements of the Freedom of Information and Protection of Privacy Act and Regulation.

You may now make the necessary arrangements for conducting this study. It is the responsibility of the researchers to provide the principal with a copy of the proposal and all related documents if requested. Please note that it is at the discretion of Edmonton Public Schools to rescind this approval at any time.

If you require further information, please contact Jan Favel, District Information Coordinator

Sincerely,

Jennifer Allen
Director Research and Innovation for Student Learning

/jf

epsb.ca

Appendix D: North Vancouver School Board Approval Email

Sent: October-28-15 5:01 PM
To: David Gordey
Cc:
Subject: RE: PhD Project

Hi Dave

This looks great to me - we will look forward to reviewing the final report.

In terms of practicalities of access - please liaise with Maureen regarding student names and work with the DHH teacher for each school to gain teacher and student participation.

I have copied Vince White as he has oversight of these students too.

All the best

Dr Julie Parker
Director of Instruction: Learning Services

North Vancouver

From: David Gordey
Sent: Monday, October 26, 2015 4:45 PM
To: Julie Parker
Cc:
Subject: PhD Project

Hi Julie

I believe Maureen Clarke spoke to you about my PhD dissertation, looking at the importance of classroom relationships for students with hearing loss.

My research will focus on gathering information from classroom teachers who have worked with students with hearing loss in grade one, two and three. I hope this study will help generate some new knowledge and understanding on the importance of the teacher-student relationship for children with hearing loss.

The study would involve classroom teachers completing an anonymous online survey.
For those that volunteered, I would also complete a short interview that would be videotaped.

I have received ethics approval from York University and have attached that certificate. I have also attached a summary of the relevant literature and why I believe the study is important.

I really appreciate you considering working with me on this study. Please let me know if you have any questions or require any additional information. Thank you

Appendix E: Principal Letter

Dear (Principal),

      I am contacting you in my capacity as a York University PhD Candidate to request your assistance with my dissertation. I am interested in completing a study with students with hearing loss. By having classroom teachers who have taught students with hearing loss in grade one, grade two and grade three complete a short survey, and an optional interview, I want to understand the key components necessary for students to construct successful social relationships at school. This understanding is important, as a large amount of research has examined the importance of the teacher-student relationship as a contributing factor to student wellness, peer relationship development and academic success. York University's Human Research Participant Committee (HRPC) approval will be provided to you before survey distribution begins. Once ethics approval has been received, I would contact you to give you more information about the interview process.

      What I need from you is a short email of support stating that you would be willing to assist me with my research project. This email will be included with the submission to York University's HRPC so that they are aware that I have support in accessing the research sample I need.

Thank you for your consideration,
Dave Gordey, PhD Candidate, York University

Appendix F: Request for Letter of Support to
Deaf and Hard of Hearing Programs in School Boards

Dear (Coordinator),

I am contacting you in my capacity as a York University PhD Candidate to request your assistance with my dissertation. I am interested in completing a study of how teacher-student relatedness happens between students with hearing loss and their teachers, and the effects of these teacher-student relationships on student achievement, self-determination, and social emotional experiences. By having classroom teachers who have taught students with hearing loss in grade one, grade two and grade three complete a short survey, and participate in an optional interview, I want to understand the key components necessary for students to construct successful social relationships at school. This understanding is important, as a large amount of research has examined the importance of the teacher-student relationship as a contributing factor to student wellness, peer relationship development and academic success. Your support of this study would be very valuable in ensuring that both the research committee, and school staff feel comfortable with participating in this study.

What I need from you is a short email of support on behalf of your hearing department, to indicate support for this study. This email will be included with the submission to the school board's research department, so that the committee members will feel confident that the board's hearing department is aware of this study should school principals or teachers present questions or concerns, that members of the hearing department feel that the study would be of value to the field of deaf and hard of hearing education. I am not asking the teachers of the deaf or hard of hearing to participate in this study, or do any additional work; however, I do feel that it is important for the Hearing Department staff to be aware of, and familiar with, any research study involving deaf or hard of hearing students, and hope that your teachers would be able to help encourage principals and teachers to feel comfortable and confident in participating.

Thank you for your consideration
Dave Gordey, PhD Candidate, York University.

Appendix G: Teacher Web-Based Survey Link and Consent Form

Dear Educator:

Little is known about the social relationships and social contexts of children with hearing loss and their classroom teacher, and how these dynamics impact school success.

Using the Self-Determination Theory (Ryan & Deci, 2000), and its construct of relatedness (the sharing of trust and empathy between individuals), this research study will explore the teacher-student relationship and its influence on the classroom experience of deaf and hard of hearing students.

When completing this anonymous survey, think about the relatedness with your student(s) with hearing loss that you have taught in your grade one, two, or three classrooms over the past two years. Please provide your general perceptions of these experiences when answering the questions below.

If you agree to participate in this study you will be asked to complete an online survey that will take approximately 15 minutes of your time. As we will not be collecting any personal identifiers within the survey, your anonymity will be preserved throughout the study. No known risks are foreseen to be associated with your participation in this study.

You may refuse to participate, refuse to answer any questions on the survey, and you may discontinue your participation at any time.

The information obtained in this study will be used for my PhD project. All answers collected will be stored on password protected on computers. Please contact Dave Gordey at (416) 997-2440 if you have any questions.

By answering the following question, clicking on the word NEXT, and then completing and submitting the questionnaire, you indicate your consent to participate in the study. Thank you for participating in our survey. Your feedback is important.

Appendix H: Letters to Community Organizations to Distribute Surveys

Dear (name of parent organization)

        I am contacting you in my capacity as a York University PhD Candidate to request your assistance with my dissertation. I am interested in completing a study with students with hearing loss. I want to understand the key components necessary for students to construct successful social relationships with teachers at school. This understanding is important, as a large amount of research has examined the importance of the teacher-student relationship as a contributing factor to student wellness, peer relationship development and academic success. I am also interested to get their parent's perspective on how they perceive their child's relationships with their elementary school teachers and what they did at home to promote relatedness.

        I would request that you distribute a web survey to parents who has a child:

- With any degree of hearing loss
- Uses a hearing aid, cochlear implant or bone anchored hearing device
- Uses spoken language in communication
- Attends a regular school (fully or partially mainstreamed)

with the understanding that there would be no identifying information requested from the students. York University's Human Research Participant Committee (HRPC) approval will be provided to you before survey distribution begins. Once ethics approval has been received, I would contact you to give you more information about the survey and its distribution.

        What I need from you is a short email of support stating that you would be willing to assist me with my research project. This email will be included with the submission to York University's HRPC so that they are aware that I have support in accessing the research sample I need.

Thank you for your consideration
Dave Gordey, PhD Candidate, York University.

Appendix I: Letter to Hearing Clinic Managers to Distribute Surveys

Dear (Hearing Clinic Manager),

      I am contacting you in my capacity as a York University PhD Candidate to request your assistance with my dissertation. I am interested in completing a study with students with hearing loss. I want to understand the key components necessary for students to construct successful social relationships with teachers at school. This understanding is important, as a large amount of research has examined the importance of the teacher-student relationship as a contributing factor to student wellness, peer relationship development and academic success. I am also interested to get their parents' perspective on how they perceive their child's relationships with their elementary school teachers and what they did at home to promote relatedness.

      I would request that you distribute a web survey to parents who have a child:

- With any degree of hearing loss
- Uses spoken language in communication
- Attends a regular school (fully or partially mainstreamed)

with the understanding that there would be no identifying information requested from the students. York University's Human Research Participant Committee (HRPC) approval will be provided to you before survey distribution begins. Once ethics approval has been received, I would contact you to give you more information about the survey and its distribution.

      What I need from you is a short email of support stating that you would be willing to assist me with my research project. This email will be included with the submission to York University's HRPC so that they are aware that I have support in accessing the research sample I need.

Thank you for your consideration

Dave Gordey, PhD Candidate, York University.

Appendix J: Student Web-Based Survey Link and Consent Form

Little is known about students with hearing loss and their relationship with their classroom teacher. I would like to ask you some questions about your experiences with your classroom teacher in elementary school. I will ask you to think about a teacher in grade one, two or three. If you agree to participate in this study you will be asked to complete the short survey below that will take approximately 15 minutes of your time. I will not ask you your name, or where you went to school.

You may refuse to participate, refuse to answer any questions on the survey, and you may discontinue your participation at any time.

The information obtained in this study will be used for my PhD project. All answers collected will be stored on password protected on computers. Please contact Dave Gordey if you have any questions.

By answering the following question, clicking on the word NEXT, and then completing and submitting the questionnaire, you indicate your consent to participate in the study. Thank you for participating in our survey. Your feedback is important.

Appendix K: Parent Web-Based Survey Link and Consent Form

Dear Parent/Guardian

Little is known about students with hearing loss and their relationship with their classroom teacher. I would like to ask you some questions about your son or daughter with hearing loss, and their experiences with their classroom teacher in elementary school. I will ask you to think about their teachers in grade one, two and three.

If you agree to participate in this study you will be asked to complete the survey below, that will take approximately 15 minutes of your time. I will not ask you your name, or where your child went to school.

You may refuse to participate, refuse to answer any questions on the survey, and you may discontinue your participation at any time.

The information obtained in this study will be used for my PhD project. All answers collected will be stored on password protected on computers. Please contact Dave Gordey if you have any questions.

By answering the following question, clicking on the word NEXT, and then completing and submitting the questionnaire, you indicate your consent to participate in the study. Thank you for participating in our survey. Your feedback is important.

Appendix L: Web-Based Survey Teacher Questionnaire

Please consider students with hearing loss you have taught in elementary school when answering these questions.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

1. Students with hearing loss were an easy addition to my class.   1 2 3 4 5

2. My students with hearing loss has/had an Individualized Education Program (IEP).   1 2 3 4 5

3. If students had a problem at home, they were likely to ask for my help.   1 2 3 4 5

4. I would describe my relationship with students with hearing loss as positive.   1 2 3 4 5

5. Students with hearing loss were more challenging for me to work with than other students in my class. 1 2 3 4 5

6. My students with hearing loss had good communication skills.   1 2 3 4 5

7. Students with hearing loss performed similar to those with typical hearing.   1 2 3 4 5

8. Students shared with me things about his/her personal life.   1 2 3 4 5

9. I feel I have adequate time in my classroom to develop relationships with all my students.   1 2 3 4 5
                                                                                                            1 2 3 4 5

10. Most of my students with hearing loss were very social.   1 2 3 4 5

11. I made accommodations for students with hearing loss in my classroom.   1 2 3 4 5

12. The students with hearing loss turned to me for a listening ear or for sympathy.   1 2 3 4 5

13. My students with hearing loss tended to be loners.   1 2 3 4 5

14. Students depended on me for advice or help.   1 2 3 4 5

15. I am happy with my relationships with the students with hearing loss.   1 2 3 4 5

16. Students with hearing loss got along well with their hearing peers.   1   2   3   4   5

General Information

Age:

Please circle one:

  I taught students with hearing loss in grade:

  I am: Female   Male

  I will participate in a short interview: Yes   No

Appendix M: Web-Based Survey Student Questionnaire

Before we begin the survey, to stop computer-generated, automated responses, please answer these two questions:

Choose the sentence that does **<u>not</u>** belong in the following paragraph.

(1) Eating a variety of nutritious foods is important for good health.

(2) Fruits and vegetables provide daily vitamins.

(3) I like watching stock car racing on television.

(4) Protein from meat, dairy foods, or legumes is needed for muscle growth.

(5) Fat intake should be limited.

(6) A proper diet is important.

Choose the option that best combines all the information in the following three sentences.

I love basketball.

The Bears are my favorite team.

I hope they win the championship this year.

a). I love basketball, and I hope the Bears win the championship this year.

b). I love basketball and the Bears because I hope they win the championship this year.

c). I love basketball and hope the Bears, my favorite team, win the championship this year.

d). I love basketball, I love the Bears, my favorite team, I hope they win the championship this year.

Thank you for answering those questions. Now we will begin the survey.

Think about what it felt like to be in grade 1, grade 2, grade 3, and answer the following questions.

1	2	3	4	5
Never	Almost Never	Every Once in a While	Sometimes	Always

1. I liked my classmates.   1 2 3 4 5

2. I could hear my teacher in the classroom.   1 2 3 4 5

3. My teachers helped me and wanted me to do well.   1 2 3 4 5

4. My teachers were too busy and had little time for students.   1 2 3 4 5

5. My classroom teachers listened to my ideas.   1 2 3 4 5

6. My classroom was a safe place to be.   1 2 3 4 5

7. My teachers were fair to me.   1 2 3 4 5

8. My teachers had students they liked best.   1 2 3 4 5

9. I felt like I fit in at my elementary school.   1 2 3 4 5

10. My teachers understood my hearing loss.   1 2 3 4 5

11. I was ok asking my teachers for help.   1 2 3 4 5

12. I felt close to my teachers.   1 2 3 4 5

13. I got good grades in school.   1 2 3 4 5

14. I trusted my teachers.   1 2 3 4 5

15. I liked my classroom teachers.   1 2 3 4 5

16. I felt like I belonged in my class.   1 2 3 4 5

General Information

Age:

Please circle one:

I am: Female   Male

I will participate in an interview   Yes   No

The language my parents speak at home is: English   Other_____

I started wearing a hearing aid. Cochlear implant, or bone anchored hearing aid when I was

_____ years old.

Appendix N: Web-Based Survey Parent Questionnaire

Think about your child and their experiences in grade one, grade two and grade three when answering these questions. At the end of the survey, you are welcome to write any additional comments you may have.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

1. I practiced with my child how to interact with adults. 1 2 3 4 5

   Additional comments:

2. I felt that the teachers listened to my child. 1 2 3 4 5

   Additional comments:

3. The classroom teachers treated my child differently from those with 1 2 3 4 5

   typical hearing.

4. My child did not like elementary school. 1 2 3 4 5

5. My child shared his/her feelings about his/her teacher with me. 1 2 3 4 5

6. The teachers understood my child's hearing loss. 1 2 3 4 5

7. My child felt connected to his/her school. 1 2 3 4 5

8. All my child's teachers have been great. 1 2 3 4 5

9. My child makes friends easily. 1 2 3 4 5

10. If my child needed help, he/she were likely to ask his/her teacher. 1 2 3 4 5

11. My child's teachers supported all students in their classroom. 1 2 3 4 5

12. My child bonded with his/her teachers. 1 2 3 4 5

13. My child frequently was in trouble with his/her teacher at school. 1 2 3 4 5

14. My child did well in school.   1   2   3   4   5

15. My child felt safe in his/her classroom.   1   2   3   4   5

16. Additional Comments (Text Box)

General Information

Age:

Please circle one:

I am: Female   Male

I will participate in an interview   Yes   No

The language we speak at home is primarily: English   Other

My child with hearing loss is currently in grade _____

Appendix O: Teacher Interview Questions

1. Tell me what you know about hearing loss?

2. How important are your relationships with the students in your classroom? What strategies do you use to develop relationships? Which students are the easiest to develop relationships with? Which are the most difficult?

3. How does your school administration or curriculum support opportunities for you to get to know your students?

4. Tell me about your experiences teaching students with hearing loss. How does their hearing loss affect the development of relatedness?

5. In the context of your classroom, how would you describe a successful student? How do you think hearing loss affects a student's ability to achieve success?

6. What is the role of the parent in promoting relatedness? What recommendations would you make to parents of young children with hearing loss to encourage relationship development with you?

Appendix P: Student Interview Questions

1. Tell me about your elementary school. What did you like about your school? What didn't you like? Did you feel connected to your school?

2. Were there other students at your elementary school with hearing loss? Was that good or bad? Why?

3. What makes a good teacher?

4. Tell me about your favorite teacher you had in elementary school. Did your relationship with that teacher affect how well you behaved in class? How well you did in class? How you did your homework? Why?

5. Tell me about a teacher you did not like in elementary school. How did that relationship affect your studies? Your behaviour?

6. How did your relationship with your teacher affect your choice in friends in elementary school?

7. Tell me about your family background.

Appendix Q: Parent Interview Questions

1. Tell me about your child's experiences in elementary school. How did you prepare him/her to attend school?

2. How did your child behave when meeting his/her teachers for the first time in elementary school?

3. As a parent, did you teach your child about relationship building? How?

4. Tell me about your favorite teacher your son/daughter had/has.

5. Tell me about your least favorite teacher your son/daughter had/has.

6. Tell me about your experiences with your child's teachers and their responses to your child's hearing loss.

7. How did your child's report card or IEP reflect their communication skills? Social skills?

8. Tell me about your family background.

Appendix R: Audio-Recording Consent Form

As part of this research project, "Teacher-student relatedness: The importance of classroom relationships for children with hearing loss," I would like to make an audio recording of your interview.

Please indicate below the uses of these audio recordings to which you are willing to consent. This is completely voluntary and up to you. In any use of the audio recording, your name will not be identified, but will be referenced by a combination of random letters and numbers You may request to stop the recording at any time or to erase any portion of your recording.

1.   The audio recording can be studied by the researcher, David Gordey, for use in his research project.

                                                                                                            Initials

2.   The audio recording can be used for scientific publications.

                                                                                                            Initials

3.   The audio recording can be reviewed at by Pam Millett, PhD supervisor at York University.

                                                                                                            Initials

You have the right to request that the recording be stopped or erased in full or in part at any time.

You have read the above description and give your consent for the use of audio recording as indicated above.

_____   _____

Signature and Date   Witness and Date