PATTERNS OF SOCIAL INTERACTION OF HARD OF HEARING ELEMENTARY SCHOOL CHILDREN: PERSPECTIVES OF HEARING RESOURCE TEACHERS

by

NANCY ALICE NORMAN

B.A., University of Victoria, 1990
B.Ed., University of British Columbia, 2000

A THESIS SUBMITTED IN PARTIAL FULLFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in
THE FACULTY OF GRADUATE STUDIES
(Special Education)

UNIVERSITY OF BRITISH COLUMBIA

January 2007

© Nancy Alice Norman, 2007
ABSTRACT

The purpose of this qualitative study was to investigate peer interactions and social relationships between elementary school aged hard of hearing children and their hearing peers, who are educated together in regular educational settings. The three Hearing Resource Teachers in the North Vancouver School District (the entire collaborative Hearing Resource group) were interviewed using a semi-structured question format and were asked to comment on the peer interactions and social experiences of 10 elementary school aged, hard of hearing students they support (6 girls/4 boys). Interviews were conducted one-on-one and took approximately 1 hour each to complete. Taped interviews were transcribed and then analyzed using a constant-comparative method and thematic analysis, and then identified pattern and themes were discussed.

The findings of this study included the following: 1) Communication Difficulties: communication breakdown was reported for all students, especially in noisy environments (gym, large groups, in background noise); repair strategies appear to be developmentally linked, where younger children used less overt ways of filling in the gaps (lip reading, watching for visual cues) and older children were more proactive (good self-advocates, asking for help when needed); successful communication was noted most often occurring in quiet environments where background noise is controlled (one-on-one settings, small groups); 2) Friendship Patterns: difficulties making and maintaining friends were cited, however; 9/10 children were reported as having some successful social interactions and meaningful friendships; 3) Developmental Trends and Gender Differences: children were reported as seeing peers as important for social interaction and friendships endured year after year. Boys were more involved in group or team
interactions, whereas girls preferred small, intimate social interactions; 4) Personality Connection: children with positive characteristics were reported as having accepted their hearing loss, using amplification equipment and having fewer difficulties in their social relationships than children who reported as having negative characteristics; 5) Family Involvement: successful peer interaction was positively associated with the degree of family involvement; 6) Social Interaction with other Hard of Hearing Individuals: regular contact with other individuals with hearing losses appears to have a positive effect on social-emotional development. Unexpected findings include the role of the Hearing Resource Teacher and Friendship Patterns.

Recommendations are made for Hearing Resource Teacher support, professional preparation of teachers of the deaf and hard of hearing and the use of family-centered interventions to support the social development of elementary school aged hard of hearing children. Implications for future research are discussed.
TABLE OF CONTENTS

ABSTRACT .................................................................................................................. ii

TABLE OF CONTENTS ............................................................................................. iv

LIST OF TABLES ......................................................................................................... ix

LIST OF APPENDIXES ............................................................................................... x

ACKNOWLEDGEMENTS ............................................................................................. xi

CHAPTER I: INTRODUCTION ....................................................................................... 1

Overview ..................................................................................................................... 1

Impetus for the Study ................................................................................................. 2

Background to the Problem ....................................................................................... 3

Purpose of the Study and Research Questions ......................................................... 5

Significance of the Study ........................................................................................... 6

CHAPTER II: LITERATURE REVIEW ......................................................................... 7

Introduction ................................................................................................................ 7

Part I: Definitions ....................................................................................................... 7

Audiological Definitions of Hearing Loss ................................................................. 7

Functional Aspects of Hearing Loss ....................................................................... 9

Functional Benefits with Amplification ................................................................ 11

Demographics of Hearing Loss .............................................................................. 12

School Setting ......................................................................................................... 13

Itinerant Hearing Resource Teacher ..................................................................... 14

Part II: Typical Social Development in Middle Childhood ................................. 15

Part III: Social Development of Deaf and Hard of Hearing Children ............... 19
Limitations of the Research on Peer Interaction and Socialization During Adolescence (High School Age) ........................................ 38
Research Questions ....................................................................... 38

CHAPTER III: METHOD .................................................................. 41
Introduction .................................................................................. 41
Problem Statement ....................................................................... 42
Research Question ....................................................................... 43
Research Design .......................................................................... 43
Researcher’s Lens ....................................................................... 43
Teacher Participants .................................................................... 44
Recruitment Procedures ................................................................. 44
Description of Participants ............................................................ 45
Data Collection ............................................................................ 46
Student Sample ........................................................................... 46
Data Analysis and Reporting .......................................................... 47
Trustworthiness .......................................................................... 48
Triangulation .............................................................................. 49
Member Check Procedures ............................................................ 49
Credibility ................................................................................... 49
Transferability ............................................................................ 50
Validity ....................................................................................... 50
Peer Review Procedures ............................................................... 50
CHAPTER IV: RESULTS ................................................................. 52

Introduction ........................................................................... 52
Demographics ........................................................................ 52
Communication ...................................................................... 54
  Breakdown of Communication ............................................. 54
  Repair Strategies .................................................................. 55
  Successful Communication .................................................. 57
Friendship Patterns ................................................................. 58
Developmental Trends ............................................................ 60
Gender Differences ................................................................. 61
Personality Connection ............................................................ 61
Family Involvement ................................................................. 63
Social Interaction with Hard of Hearing .................................... 65

CHAPTER V: DISCUSSION ...................................................... 66

Introduction ........................................................................... 66
Major Findings ....................................................................... 66
  Finding 1: Communication .................................................. 66
  Finding 2: Friendship Patterns ............................................. 69
  Finding 3: Developmental Trends and Gender Differences ........ 71
  Finding 4: Personality Connection ........................................ 71
  Finding 5: Family Involvement ............................................. 72
  Finding 6: Social Interactions with Hard of Hearing ............... 73
Unexpected Findings ............................................................... 74
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Ranges of Hearing Loss Measured in Decibels (dB)</td>
<td>8</td>
</tr>
<tr>
<td>Table 2</td>
<td>Demographic Characteristics of Hard of Hearing Student Sample</td>
<td>53</td>
</tr>
</tbody>
</table>
LIST OF APPENDIXES

APPENDIX: Interview Question for Hearing Resource Teachers ...........................................89
ACKNOWLEDGEMENTS

I would like to take this opportunity to thank a number of different individuals for their continued support and encouragement. To Janet Jamieson, for her understanding, encouragement and gentle nudging. To Susan van Gurp, for her endless insights into the field of deaf education, her mentorship and for inspiring me to take an active role in my profession. To Marla Buchanan, for her thought-provoking dialogue, and for encouraging me to think outside of the box. To Marion Porath, for her involvement as the department examiner. To the Hearing Resource Teachers in the North Vancouver School District, for their interest in this project and for their valuable insights and feedback. To my husband Takashi, for his countless proofreading, for knowing me better that I know myself and for encouraging me to stay true to my dreams, even when times were tough. To my son Marc, for changing how I see the world and how I work with children and families.

I would also like to acknowledge my gratitude to the Ladies of the Order of the Royal Purple for their financial support.
CHAPTER I: INTRODUCTION

Overview

Peer interaction and socialization are among the most important components of child development and are major influences that help to shape the lives of most children (Guralnick, 1986). Through mutual socialization, children learn appropriate and effective interpersonal communication skills. Mutual socialization provides an opportunity for peers to learn how to help, how to co-operate during tasks and activities, how to negotiate among equals, how to resolve conflicts, and how to provide comfort during times of stress. Peer relationships are powerful forces that help shape a child's behaviour, self-concept and attitudes and, to a great extent, influence the ways that individuals will communicate with others throughout their life spans. Peers provide companionship and share experiences that cannot be replaced by any other relationship. However, in spite of the recognized importance of the peer relationship in the social-emotional development and adjustment of the child, very little is known about the nature of peer relationships between hard of hearing children and their hearing peers. Furthermore, virtually nothing is known about the social experience of hard of hearing children during the elementary school years (middle childhood).
Impetus for the Study

Professor Janet Jamieson of the University of British Columbia was approached by the parents' branch of the Canadian Hard of Hearing Association, British Columbia Chapter, regarding research on social relationships of hard of hearing children and their hearing peers. The parents of the hard of hearing children had noted that many of their children were having difficulty in their social interactions and relationships, particularly during the elementary school years (also referred to in research literature as ‘middle childhood’: ages six through eleven/ Kindergarten through Grade 7). Professor Jamieson reported that only limited research had been conducted on the topic. Furthermore, with the exception of a few retrospective studies, very little research has looked at social interactions of hard of hearing children in the elementary school years.

The study at large began during the spring of 2001 and looked at academic and social-emotional issues surrounding hard of hearing children in mainstream elementary school settings. Classroom Teachers, Hearing Resource Teachers, Educational Assistants and parents in the North Vancouver School District were interviewed and asked to describe a variety of aspects of the hard of hearing child’s school experiences and peer interactions. My involvement in the current research project commenced after all interviews had been conducted. From the study at large, many different research questions can be addressed. Throughout this thesis, I have focused on the Hearing Resource Teachers’ interviews and have taken their unique perspective when examining the nature of peer interactions (both at school and during extra-curricular times) between hard of hearing children and their hearing peers.
Background to the Problem

Little is known about the social experiences of hard of hearing children or the extent to which a hearing loss affects the psychological adjustment and social development of hard of hearing children. Previous studies (cited in Antia & Kreimeyer, 2002) that have investigated the peer interactions of individuals with hearing loss have generally grouped both deaf and hard of hearing children together, without distinguishing between the two groups. However, there are important functional distinctions between the two groups that have significant impact on interpersonal communication. A person who is hard of hearing is defined as "one whose hearing is disabled to an extent (usually 35-69dB ISO or greater) that makes difficult, but does not preclude, the understanding of speech through the ear alone, with or without the use of a hearing aid" (Moores, 1996, p. 11). On the other hand, a deaf person is defined as "one whose hearing is disabled to an extent (usually 70 dB ISO of greater) that precludes the understanding of speech through the ear alone, with or without a hearing aid" (Moores, p.11). Because of this distinction in speech understanding, hard of hearing children are typically expected to have minimal difficulty communicating with their hearing peers, whereas significant communication difficulties are expected with deaf children. Therefore, it is reasonable to investigate the nature of communication and social interactions of hard of hearing children as a separate, unified group.

Previous research has indicated that certain social skills are important for facilitating successful peer interactions (Gresham, 1982; La Greca & Mesibov, 1979). These social skills include greeting behaviours, extending and responding to invitations to join peer activities and conversation skills (e.g., asking questions, responding to questions,
maintaining conversations). Research conducted on young deaf and hard of hearing children suggests that this group of children lacks many of these skills. Furthermore, “children who lack the skills to engage their peers in social interaction may ultimately discourage further peer interaction and responses, resulting in low peer interaction rates for young children with hearing impairments” (Higginbotham & Baker, 1981; Vandell & George, 1981, as cited in Antia, Kreimeyer, & Eldredge, 1994, pg. 263). Without well developed social skills and behaviours, hard of hearing children have much difficulty making and maintaining friendships.

Research on the social interaction of hard of hearing children indicates that hard of hearing children who are educated in a mainstream setting alongside their hearing peers have difficulty making and maintaining friendships (Israelite, Ower, & Goldstein, 2002). Interactions among hard of hearing and hearing peers is critical to the development of social competence, including developing and maintaining friendships, negotiation skills, conflict management, social language, and other social communication skills important for socialization in the adult world (Antia & Kreimeyer, 2002). Communication difficulties between hard of hearing and hearing children can interfere with social interaction and subsequent development. Furthermore, this lack of social bond with peers may manifest in feelings of loneliness, rejection and social isolation (Israelite et al.) and cannot help but greatly affect the social-emotional well-being of hard of hearing children.

An overview of the research investigating social interactions between deaf and hard of hearing children and their hearing peers has identified that a child’s language ability has a great impact on his or her social interactions (Antia & Dittillo, 1998; Spencer, Koester, &
Meadow-Orlans, 1994). Antia and Kreimeyer (2002) reviewed the body of research concerning deaf and hard of hearing-hearing peer interactions and found that in many instances, deaf and hard of hearing children interact less frequently with their hearing peers, spend less time involved in these interactions, and spend briefer interactions with their hearing peers than do hearing children interacting with each other. Deaf and hard of hearing children with low language abilities have significantly fewer social interactions with their peers and thus, close relationships are not established (Antia & Kreimeyer, 1996). Lack of frequent and meaningful peer interactions can have long-reaching effects on the development of effective and appropriate communication and social skills.

Although there is a small but growing body of research on peer interactions between hard of hearing children and their hearing peers during early childhood and during adolescence, minimal attention has been paid to the social development of hard of hearing children during the elementary years. Thus, there is a gap in the research in terms of an in-depth description or understanding of the social experiences of elementary-aged hard of hearing children. It is well known in the literature that hearing children experience developmental changes in peer interactions over the elementary years; however, due to the paucity of research on hard of hearing children, it is impossible to confirm if this same pattern of development holds true of children who are hard of hearing.

Purpose of the Study and Research Questions

The purpose of the current study is to investigate peer interactions and relationships between hard of hearing children and their hearing peers. By looking at
interpersonal communication and relationships, I hope to uncover valuable insights into the social experiences of hard of hearing children and to identify areas of concern. Because so little research has been conducted on peer relationships involving hard of hearing children, and the present research represents a preliminary investigation on the topic, the decision was made to frame the research questions in as open-ended a format as possible. The research questions that guide this study are:

From the perspective of the Itinerant Hearing Resource Teacher, what is the nature of the social interactions between hard of hearing children and their hearing peers during the elementary school years? What factors tend to facilitate and what factors tend to hinder these social interactions?

Significance of the Study

The findings of this study have the potential for both theoretical and applied significance. Theoretically, it is hoped that the findings will add to our understanding about peer relationships between hard of hearing children and their hearing peers. In an applied sense, the findings may broaden our understanding of the impact that hearing loss has on developing and maintaining social relationships and may prove to be helpful for professionals working with hard of hearing children and their families. If we can identify critical issues that impact social skill development and interaction amongst these groups of peers, then we have made the first steps towards developing appropriate interventions for hard of hearing children in elementary schools.
CHAPTER II: LITERATURE REVIEW

Introduction

This chapter is a review of the literature, providing a framework for the current study, and includes definitions of deafness and demographic information about the frequency of hearing loss in the general population. Next, the typical developmental changes in socialization during childhood, with a focus on typical children during the elementary years, will be discussed. I will then focus on a review of the current literature on the socialization specific to hard of hearing children. Finally, the problem of social skills development of hard of hearing children during elementary school will be discussed.

PART I

Definitions

In order to discuss the impact that hearing loss has on social skills development and peer interaction, it is necessary to outline the nature of hearing loss and to provide an explanation of how hearing loss is defined, both audiologically and functionally.

Audiological Definitions of Hearing Loss

Hearing loss is measured in decibels (dB). According to Flexer (1999), “normal hearing” typically ranges from 0dB to 15dB loss; normally hearing individuals can detect speech even at soft conversational levels. “Hard of hearing” ranges from 16dB to 70dB loss; these individuals can usually receive at least some benefit from amplification with a hearing aid. “Severe” hearing loss ranges from 71-90dB loss and “profound deafness” is
a decibel loss of 91 or greater. People with severe and profound hearing losses typically receive little benefit from hearing aids. Table 1 illustrates how hearing loss is broken into specific categories ranging from normal hearing to profound hearing loss. For the purposes of this study, I will be focusing on hard of hearing individuals with a hearing loss ranging from mild to moderate/severe (26 dB to 70dB loss), where both ears are affected.

Table 1
RANGES OF HEARING LOSS MEASURED IN DECIBELS (dB)

<table>
<thead>
<tr>
<th>Normal Hearing</th>
<th>Minimal Loss</th>
<th>Mild Loss</th>
<th>Moderate Loss</th>
<th>Moderate to Severe Loss</th>
<th>Severe Loss</th>
<th>Profound Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 15</td>
<td>16 to 25</td>
<td>26 to 40</td>
<td>41 to 55</td>
<td>56 to 70</td>
<td>71 to 90</td>
<td>91 +</td>
</tr>
</tbody>
</table>

(Compiled from Flexer, 1999)

In general terms, hard of hearing individuals have the ability to use their residual hearing to process at least some auditory information. Often hearing aids are used to amplify sound and assist hearing ability. Moores (1996) defined a hard of hearing person as one “whose hearing is disabled to an extent (usually 35-69 dB) that makes it difficult, but does not preclude, the understanding of speech through the ear alone, with or without a hearing aid” (p. 11). Typically, hard of hearing individuals struggle to understand speech, especially in noisy surroundings. Even with the use of amplification technology such as hearing aids, hard of hearing people tend to have difficulty discriminating speech and may misunderstand or misinterpret auditory information.

To contrast our understanding of the hard of hearing experience, deaf individuals have very limited ability to effectively use any residual hearing in order to understand and make sense of auditory information. Moores (1996) defined a deaf person as “one whose hearing is disabled to an extent (usually 70dB or greater) that precludes the
understanding of speech through the ear alone, with or without the use of hearing aids” (p.11). Very often, deaf individuals rely on the use of sign language to communicate. However, with the influx of cochlear implant technology, some deaf individuals are able to gain a good deal of useful access to speech information. For this study, I will be focusing on the experiences of hard of hearing individuals and not addressing the experiences of persons who are deaf.

Functional Aspects of Hearing Loss

Another way to define the terms hard of hearing and deaf is to look at their respective functional definitions more closely. Functional definitions of hearing impairments are very useful to the understanding of how persons with a hearing loss typically function in their environment. The following descriptions of hearing losses are taken from Flexer (1999) and highlight functional behaviours when hearing aids are not used ("unaided").

An individual with a minimal hearing loss may have difficulty with faint or distant speech and may be unaware of subtle conversational cues, which could lead to misunderstandings and misinterpretations of behaviour. Even at this level of hearing loss, many hard of hearing children have trouble keeping up with fast-paced peer interactions, which could lead to difficulty with social skills development.

An individual with a mild hearing loss, especially a loss that is unaided, is likely to have much difficulty accurately decoding auditory information. It is not uncommon for these persons to miss from 25% to 40% of the speech information, depending on the level of background noise and the configuration of the hearing loss (Flexer, 1999). For
children, this can have great impact on learning as they may miss at least 50% of class discussions. This is especially true when voices are soft or faint. As well, social relationships and peer interactions also begin to suffer. Children may appear as though they are daydreaming or not paying attention, and they may start to lose the ability to selectively hear important information, especially when background noise is present. Hearing and listening become a major effort, and individuals with mild hearing losses are more easily fatigued than they would be otherwise.

An individual with a moderate hearing loss might be able to understand conversational speech at 1 to 1.5 meters away if the topic and vocabulary are known. However, without amplification at a 40 to 45dB loss, they may miss from 50% to 75% of speech information. With a 50dB loss, 80% to 100% of speech information might be missed. Children with a moderate hearing loss are likely to have delayed language understanding and trouble with syntax, a limited vocabulary, and imperfect speech production. Communication is often significantly affected and socialization with peers with normal hearing becomes increasingly difficult. A moderate hearing loss begins to have significant impact on the child's self esteem. At this level of hearing loss, hearing aids are usually essential.

An individual with a moderately severe hearing loss will likely have great difficulty understanding conversational speech. Without amplification, speech must be very loud to be understood. Even with a 55dB loss, people with moderately-severe hearing losses can miss up to 100% of speech information. Children have well-marked difficulty in school, including delayed language ability, reduced speech intelligibility and atonal (monotone) voice quality. Full-time use of hearing aids is essential. It is typical
for children with moderately severe hearing losses to have poor self-concept, and low social maturity and experience a sense of rejection from peers.

An individual with a severe hearing loss cannot hear conversational speech. With proper amplification they should be able to hear environmental sounds and detect speech. However, speech may not develop spontaneously and is likely to be severely delayed (especially if loss occurred before language developed). Children are isolated from their mainstream hearing peers because of their inability to effectively communicate. Therefore, they may prefer to interact with individuals of like hearing status. Peer relationships tend to be with others with severe hearing losses. They may affiliate more with the Deaf community (a cultural group who share positive attitudes towards deafness and members communicate with sign language).

Individuals with profound hearing losses may be unable to detect the speech signal but may be aware of the vibration of sound. They typically receive little to no benefit from amplification and their speech and language will not develop spontaneously. Profoundly deaf individuals tend to rely on a visual mode of communication (e.g., sign language, written language) and tend to prefer peers of like hearing status (other deaf children/adults) and association with the Deaf community. Profoundly deaf children may need special programs that will emphasize all areas of language development and academic skills.

Functional Benefits with Amplification

It should be noted that the above audiological and functional definitions of hearing loss are based on unaided behavioural responses. It is likely that many hard of
hearing children in British Columbia’s public schools wear hearing aids (devices used in the ear to amplify sound, making it more audible) and/or use an FM or free-field system (assistive listening device that uses a radio frequency transmitter/receiver to amplify the speaker’s voice) to assist in their acquisition of auditory information. The benefit of such amplification equipment varies greatly between individuals. Factors such as degree of hearing loss, presence of other disabling conditions, age of onset and diagnosis of a hearing loss, configuration of hearing loss (which speech frequencies are affected), and developmental level of the child all influence the effectiveness of hearing aids and FM use (Carney & Moeller, 1998). However, some research has shown that the consistent use of hearing aids by children with educationally significant hearing losses (mild losses or greater) provides benefit in the learning of receptive and expressive language skills (Carney & Moeller). In addition, the use of FM systems in educational settings (either alone or in conjunction with hearing aids) has been shown to provide clear improvements in the understanding of speech information in noisy environments (Carney & Moeller; Flexer, 1999).

Demographic of Hearing Loss

According to the 2000-01 Regional and National Summary on Deafness (Gallaudet Research Institute, 2002), approximately 8.6% of the population in the United States has a hearing loss. Furthermore, “there are approximately 40 million school-aged children in the USA and at least 7 million of them have some degree of hearing impairment” (cited in Flexer, 1999, p. 18). Said another way, about 15% of school children are disabled by some degree of hearing loss and most of these hearing losses have significant impacts on
the children’s learning potential. In any given classroom, we can expect that at least two to three students will have a hearing loss affecting their academic and social performance. Unfortunately, the majority of these hearing losses go undiagnosed and unsupported. For the purposes of this study, I will be looking at elementary-aged children who have a medically diagnosed hearing loss and who receive additional support from a teacher of the deaf and hard of hearing.

The majority of hard of hearing children are educated in the regular classroom alongside their hearing peers. It is typical in British Columbia for hard of hearing children to receive additional support from an educational assistant and/or a teacher of the deaf and hard of hearing. However, this support is unlikely to be on a full-time basis. Generally speaking, hard of hearing children will see a teacher of the deaf and hard of hearing on a weekly basis; however, this support varies significantly among students and between school districts. In spite of this additional support, many children who are hard of hearing tend to have difficulty learning in the classroom setting and struggle both academically and with their social relationships.

School Setting

The educational placement of deaf and hard of hearing children can have significant impact on their academic performance and on their social-emotional development. It is for this reason that researchers explicitly identify the school setting where the study takes place. Educational placements of deaf and hard of hearing children fall under two main categories. First, deaf and hard of hearing children may be educated in segregated settings, which are schools or classrooms with peers of like hearing status. These settings
may include residential and day schools of the deaf, and self-contained classrooms/resource rooms within a local public school. Second, deaf and hard of hearing children may be educated in schools and classrooms alongside their hearing peers, which constitute integrated settings. These settings may include either fully mainstreamed (full-time in a regular classroom) or partially mainstreamed (combination of regular classroom and resource room) settings.

**Itinerant Hearing Resource Teacher**

The itinerant Hearing Resource Teacher (also known as the itinerant teacher of the deaf and hard of hearing) is a teacher of the deaf and hard of hearing who supports children with hearing losses who are being educated in the regular classroom, alongside hearing peers. Itinerant Hearing Resource Teachers have specialized training and experience in language, speech and social skill development and remediation, which are specific needs of deaf and hard of hearing children. Typically, these teachers have long-lasting and close relationships with the children and their families, as they often work with these children on an ongoing basis (year after year), and thus have a deep understanding of the challenges that deaf and hard of hearing children face, both as a group and individually.

Itinerant teachers provide both direct support to children with hearing losses, as well as consultative support to families and school personnel (Hyde & Power, 2003). Generally, itinerant Hearing Resource Teachers use a pullout model of educational support, where the child is removed from the classroom and provided direct instruction in a one-to-one environment. It is common for itinerant support to be provided on a weekly
basis, lasting between 30 and 90 minutes per session; however, this support varies significantly among students and between school districts.

Because of itinerant Hearing Resource Teachers' specialized skills in the language and social development of children with hearing losses, as well as their knowledge of the social context of hard of hearing children at home and at school, Hearing Resource Teachers are considered to be reliable and knowledgeable informants in the present study. Itinerant Hearing Resource Teachers provide one valuable perspective on the social development of hard of hearing children during the elementary school years.

PART II

Typical Social Development in Middle Childhood

Throughout the following section, for the purpose of consistency with terminology cited in psychological research, the elementary school years (Kindergarten through Grade 7) will be referred to as middle childhood (ages 6 through 11).

Middle childhood is a time of rapid social development. Numerous changes occur as children become more independent from their parents than they were previously and align themselves with their peers. It is typical for children in middle childhood to spend dramatically less time with their families and to prefer social relationships with friends (Berk, 1991). Developmental changes during middle childhood have the most noted impact on children's concept of self, emotional growth and moral reasoning, which, in turn, have significant influence on the nature of their social interactions. As
children mature, the dynamics of friendships and interactions between peers become important influences on their subsequent social-emotional adjustment (Berk, 1991).

During middle childhood, children begin to have a greater understanding of the concept of self. They are able to identify their own psychological traits, compare these traits to those of others and hypothesize about the causes of their strengths and weaknesses (Berk, 1991). These advances in self-reflection skills begin to shape the children’s self concept and self-esteem. As the children are able to see themselves in relation to others they are better able to understand the perspective of others (Berk, 1993). Perspective-taking has great impact on social relationships as the children are much more socially sensitive than they were previously and have the ability to anticipate another person’s point of view. This newly found skill helps children to make and maintain friendships and to get along with others.

Emotional development during middle childhood is spurred on by the children’s developing social self. As children’s interactions with their peers become consensual and reciprocal, so does their awareness of the thoughts and feelings of others. Furthermore, as children mature emotionally, they discover consistency in the opinions and behaviours of the people they know. Relationships become predictable and stable, which helps children to anticipate the viewpoints of others and leads to a further expansion in their ability to step into another person’s shoes. Good perspective takers are better at showing empathy and compassion and thus are better at social problem solving (thinking of effective ways to handle difficult situations) (Berk, 1993) and social communication and interaction. During middle childhood, children’s emotions become more complex and
are linked to increased feelings of personal responsibility, and, therefore, social relationships become more significant and valued.

The development of moral reasoning in middle childhood is greatly influenced by the children’s ability to take the perspective of others (Berk, 1993). As children are better able to appreciate the points of view of others, they begin to make judgements based on fairness, with special consideration to the deservedness and the needs of all individuals involved (Damon, as cited in Berk). These are marked differences as compared to the reasoning patterns of younger children, who view fairness in term of equality. Children in middle childhood are beginning to work out their ideas about morality and display a greater willingness to help and share with others. Thus, their social interactions and relationships become more complex and meaningful.

As indicated earlier, peer relationships and friendships become major catalysts for social-emotional development during middle childhood. Children’s concept of friendships becomes more complex and psychologically based (Berk, 1991). Friendships become not just a matter of engaging in the same activity but, rather, become a mutually agreed-upon relationship, where children’s likes for one another are based on personal qualities.

Friendships during middle childhood promote kindness and support of one another’s needs and desires. Trust between friends becomes a defining and highly valued trait. Violations of this trust (such as gossip, not helping when in need and broken promises) are viewed as serious breaches of friendships (Damon, as cited in Berk 1993; Selman, 1980, as cited in Berk). Through friendships, children learn the importance of emotional commitment and learn that close relationships can survive disagreements if both parties
are secure in their liking for one another (Berk, 1993). Close one-on-one relationships have significant impact on the children’s development of trust and interpersonal sensitivity.

Friendship and peer relationships between children during middle childhood are likely to be made up of children of the same age, sex, race and social class. However, demographics of schools and neighbourhoods greatly influence the children’s personal affiliations. It is common for girls to be exclusive in their friendships and to demand a greater closeness in their relationships than is seen between boys (Berk, 1991). Intimacy and faithfulness are more common amongst girls than boys; in part, this can be attributed to societal sex-role standards, which allow girls to be more open and expressive (Berk, 1993). Rough-and-tumble play is typical in middle childhood; however, it is more often seen among boys where they display play wrestling and hitting. Girls, on the other hand, tend to engage in more running and chasing (Berk, 1993). Generally speaking, children in middle childhood typically have only a few close friends and these friendships tend to remain fairly stable throughout childhood, lasting for several years.

Middle childhood is a time when children are beginning to desire belonging to a group of peers. Children’s peer groups and peer activities provide important contexts for social development. Through participation in peer activities, children learn many important social skills as the group provides them with a place to practice cooperation, leadership and followership. Through peer activities, children can experiment with the boundaries of social organization and learn how to effectively interact with others. School playgrounds and neighbourhoods provide frequent access to peer groups. In
addition, formal groups such as Boy Scouts, Girl Guides and team sports can also satisfy children’s desire for group belongingness.

PART III

Social Development of Deaf and Hard of Hearing Children

Peer interaction and socialization are critical to the development of friends during childhood\(^1\). Effective communication skills are major tools in enabling children to build relationships and to develop a social network of friends. However, in the case of children with a hearing loss, effective communication may be compromised and result in communication breakdowns and misunderstandings. The communication barriers associated with having a hearing loss have led researchers to investigate quantity and quality of peer interactions of children with hearing loss (Antia & Kreimeyer, 2002). A small body of research has looked at factors that influence peer interactions. It should be noted that much of the previous research on the peer interactions of deaf and hard of hearing children has focused on the children’s socialization during early childhood (preschool/kindergarten). Very limited research attention has been paid to the social experiences of deaf and hard of hearing children in older age groups. In order to give a comprehensive view of the nature of peer interactions, this research review highlights research findings on the socialization of deaf and hard of hearing children from early childhood through adolescence.

\(^1\) What is known in psychological literature as early childhood, middle childhood and adolescence are often referred to as preschool age, elementary school age, and high school age, respectively. These terms are used interchangeably in this thesis depending on the context.
During early childhood, children first learn the dynamics of social interactions with their peers. For many children, much of this socialization takes place in the classrooms of preschools and/or kindergartens. For deaf and hard of hearing children, classrooms take the form of either integrated settings, where deaf and hard of hearing children participate in activities alongside their hearing peers, or segregated settings, where deaf and hard of hearing children participate in activities with children of similar hearing status. The peer interactions of deaf and hard of hearing children have been examined in each of these classroom settings. The research in this area has uncovered communication difficulties in initiating interactions, maintaining interactions, using effective communication strategies, and language ability.

It is well documented in the literature (as cited below) that deaf and hard of hearing children have trouble initiating and maintaining social interactions with their peers. Several studies have investigated the nature of social interaction as it pertains to initiation of social contact. In these studies, researchers looked at the social interactions between deaf and hard of hearing children in interaction with children of like hearing status (other deaf and hard of hearing children) and with their hearing peers.

Communication Initiation

Vandell and George (1981) examined the interactions of 32 children (16 deaf and hard of hearing, 16 hearing), ages three to five years old. These children were enrolled in a partially integrated preschool, where deaf and hard of hearing children participated
alongside their hearing peers. Children were paired with a play partner in one of three groupings, hearing/hearing, deaf and hard of hearing/hearing, and deaf and hard of hearing/deaf and hard of hearing. Researchers found that all three groups interacted similarly and used similar initiation strategies (vocalizations, smiles, object related acts). However, hearing dyads spent the most amount of time interacting with each other and mixed dyads spent the least amount of time interacting. Further, deaf and hard of hearing children initiated significantly more interactions toward their peers (both deaf and hard of hearing and hearing) than did the hearing children; however, these initiations were more likely to be rejected by the partners than were the initiations made by hearing children. These research findings were also supported by work done by Levy-Shiff and Hoffman (1985), who found that initiation behaviour was similar for deaf and hard of hearing children, although the children with hearing losses were less likely than hearing children to have successful initiations. Duncan (1999) also found few differences in initiation frequencies or strategies between the two groups of chronological age-matched children; however, deaf and hard of hearing preschoolers were more likely to use non-linguistic communication and made fewer significant contributions to the interaction, whereas the hearing children took responsibility for maintaining the communication.

Arnold and Tremblay (1979) studied the interactions of six deaf and hard of hearing and six hearing children who were enrolled in an integrated preschool. The research findings indicated that deaf and hard of hearing children initiated interactions and received initiations from their hearing peers as frequently as the hearing children. Robert, Brown, and Rickards (1995) also found that deaf and hard of hearing and hearing children in an integrated preschool displayed similar rates of initiation, and that both
groups tended to be equally successful in initiating interactions. Play-related utterances
or actions were the most frequently used and the most successful for both groups;
however, deaf and hard of hearing children were more likely to use actions. In addition,
the deaf and hard of hearing children tended to use the “wait-and-hover” (child observes
and/or circles the play area with no interaction with others) method of initiation more
frequently than the hearing children. This strategy was unsuccessful for both deaf and
hard of hearing and hearing children alike.

Communication initiation was further investigated by Messenheimer-Young and
Kretschmer (1994), who examined the initiation strategies used by a five-year-old hard of
hearing child in an integrated preschool. The hard of hearing child used similar initiation
strategies as his hearing peers; however, the overall success rate for the initiations was
low; the hard of hearing child was successful at eliciting a positive response 17% of the
time and his hearing peers had success rates ranging from 15% to 74%. Initiation
strategies that were successful included nonverbal entry, extending an invitation, offering
an object or engaging in the same behaviour in which the other children were engaged.
Antia and Dittillo (1998) found that hard of hearing and deaf, along with hearing children
have similar patterns of initiation and responses with peers, although deaf and hard of
hearing children engaged in less linguistic interaction and less associative/cooperative
play than hearing children.

McKirdy and Blank (1982) looked at the success rate of initiation between 12 deaf
and hard of hearing children and their hearing peers. Children were aged four to six and
were paired to play with a preferred playmate of the same hearing status. The results of
this study indicated that deaf and hard of hearing children had about half the number of
initiations as their hearing peers. McKirdy and Blank also looked at the “summoning power” of the children’s initiations and found that the majority of the communication initiations made by the deaf children were “obliges” (explicit demand for a response), whereas the communication initiations made by the hearing children were “comments” and made no demand for a response. It seems as though obliges were a more effective strategy for deaf children to elicit a response, while comments were sufficient for hearing children to elicit a response. The findings further indicate that deaf children tend to rely on explicit demands in order to give a response.

Play Preferences

Levine and Antia (1997) also looked at social initiation and examined social and cognitive play patterns of 46 young deaf and hard of hearing children (ages three though six years), who were enrolled in 13 partly integrated programs. These researchers observed children interacting in groups of four to six (where two to three children were deaf or hard of hearing), during free play activities. They found that both deaf and hard of hearing children showed a preference for playing with children of similar hearing status. Minnett, Clark, and Wilson (1994) compared the social play and peer communication patterns of 30 deaf and hard of hearing children (15 children with moderate hearing loss using oral communication, 15 children with profound hearing loss using simultaneous communication [both speech and sign language together]) with those of 30 hearing children. All children were enrolled in an integrated preschool and were between the ages of three and five. Minnett et al. found the total amount of social play and communication directed toward peers was similar for both deaf and hard of hearing children and hearing children, and all the children tended to prefer to interact with a play
partner of similar hearing status. Similar findings have been reported in work done by Arnold and Tremblay (1979) and Spencer et al. (1994).

Language Ability

Language ability has been shown to influence peer interactions among deaf and hard of hearing children. Spencer et al. (1994) investigated the peer interactions of four deaf and hard of hearing three-year-olds (moderate to profound hearing losses) and four hearing children. Children were enrolled in an integrated daycare and all adults in the classroom used sign language. In addition, two deaf and hard of hearing children and two hearing children had Deaf parents and were fluent signers. The eight children were divided into three language groups based on language level (sign and spoken utterances). Researchers found that hearing status was not associated with frequency of interaction but, rather, language ability had a great influence on frequency of interaction. Children with high language ability (deaf, hard of hearing, and hearing children) engaged in peer communication significantly more than children with medium or low language ability. In addition, familiarity with peers increased social interactions in all groups.

A study by Lederberg (1991) looked the impact that the language ability has on play partner preferences, characteristics of play, and interactions with peers, in 29 deaf and hard of hearing preschoolers. Children were age three to five and were enrolled in a self-contained classroom in a public school. Children were divided into three language groups (high, medium, and low) based on their scores on two language assessments and were observed in one school year during outdoor play with their deaf and hard of hearing peers. The findings of the study indicated that children with high language ability
initiated significantly more interactions with their peers, showed a preference for interacting with children of similar language ability, and used significantly more linguistic communication with high language ability partners than with children in the medium or low language groups.

Mode of Communication

Mode of communication (oral/signing) has been shown to have an effect on social interaction. This is most evident between deaf and hard of hearing children and their hearing peers. Hulsing, Luetke-Stahlman, Frome-Loeb, Nelson, and Wegner (1995) investigated the peer interaction of three deaf and hard of hearing kindergarten children; one child used oral communication and two children used simultaneous communication (speech and sign together). Each child attended a regular kindergarten program with no other deaf or hard of hearing children. Findings indicate that the children who used simultaneous communication had fewer frequent interactions than their hearing peers, whereas the child who used oral communication had a similar frequency of interactions with her hearing peers. Bat-Chava and Deignan (2001) examined the oral language and social relationships of 25 deaf and hard of hearing children with cochlear implants (a device that is implanted into the cochlea to provide stimulation to the auditory nerve, thus facilitating the deaf individual’s perception of sound). Parents of 81% of the children reported that oral communication improved after implantation, and seemed to enhance the child’s relationship with his or her hearing peers by making them more willing and able to use oral language to interact. Parents reported that the children whose oral communication did not improve had difficulties in social relationships with hearing peers,
further suggesting that language ability has a significant impact on peer interaction and socialization. On the other hand, Minnett et al. (1994) reported that mode of communication did not seem to affect the social play, peer communication, or partner preference of 15 deaf and hard of hearing children who used either oral language or simultaneous communication.

Familiarity

Familiarity has been found to be an important factor that minimizes the effect that hearing status has on peer interactions. Lederberg, Ryan, and Robbins (1986) observed 14 deaf and hard of hearing children, ages of four and six who were engaged in dyadic play with peers. Researchers reported that deaf and hard of hearing children had more successful initiation with familiar than with unfamiliar hearing peers, and engaged in more physical communication and pretend play with familiar than with unfamiliar hearing peers. These research findings suggest that deaf and hard of hearing and hearing children who are familiar with one another are more inclined to use non-linguistic communication strategies to help facilitate interaction and overcome language and mode of communication barriers than deaf and hard of hearing children who are unfamiliar with each other.

Language Style

Along with language ability, language style (literal/non-literal) has also been shown to have an influence on the type and quality of social interactions. Brown, Prescott, Rickards, and Paterson (1999) examined and compared the pretend-play
utterances of four oral, profoundly deaf and four hearing children ages four to five, who were enrolled in an integrated kindergarten. Children were observed during pretend play and utterances were coded as 1) object-related, 2) role-related, or 3) activity-related. Researchers found that deaf and hard of hearing children used significantly more literal references (requesting or naming an object) and significantly more activity utterances (talking about current actions) than the hearing children. It appears as though the deaf and hard of hearing children tended to communicate more about literal and current topics than did their hearing peers. These findings have also been supported by work done by Selmi and Rueda (1998), who found that deaf and hard of hearing preschoolers tend to engage in communication about literal and familiar events. These findings are significant in that as children develop, pretend play becomes less concrete and increasingly more fantasy-based. To this end, deaf and hard of hearing children are put at a disadvantage when playing with hearing children in that their play styles may not match. In part, this mismatch in play styles may be attributed to delayed language ability and mode of communication (Antia & Kreimeyer, 2002).

Hearing Peers

Several studies have shown that the presence of hearing peers can have a positive influence on the social play and interpersonal communication of deaf and hard of hearing children. Esposito and Koorland (1989) compared the effects of the presence of deaf and hard of hearing and hearing peers on two deaf and hard of hearing children’s social play. The latter two children were aged three and five years and were enrolled in self-contained classrooms with only deaf and hard of hearing peers. In addition, these two children
attended a daycare centre each day, and they were the only children with hearing losses (or any special needs). Observations revealed that when playing with deaf and hard of hearing peers, the two children engaged in non-interactive parallel play for 33% - 56% of observed intervals and in associative play for 11% - 32% of the intervals. In contrast, in a daycare setting where only hearing peers were present, they engaged in non-interactive, parallel plays ranging from 7% - 25% of intervals and in associative play 35% - 60% intervals. Hence, deaf and hard of hearing peers tend to engage in non-interactive play; however, when in the presence of hearing peers, the children with hearing losses tend to engage in more interactive play. In addition, Levine and Antia (1997) found that group dramatic play occurred most frequently with groups of mixed hearing status (where at least two children were deaf and hard of hearing), suggesting that that the hearing children were able to model and organize dramatic play sessions. This finding also suggests that the deaf and hard of hearing children were better able to communicate with their peers in the presence of a familiar deaf and hard of hearing peer than when they were in the presence of unfamiliar peers.

Summary of Findings on Peer Interaction and Socialization During Early Childhood (Preschool/Kindergarten Age)

The research cited in the previous section indicates important aspects of the social interaction of deaf and hard of hearing children during early childhood. Common findings indicate that deaf and hard of hearing children interact less frequently with peers, and these interactions tend to be briefer than those of their hearing peers. Interestingly, hearing loss alone does not seem to influence peer interaction. Several studies have
found that deaf and hard of hearing and hearing children interact equally frequently with their peers. Language ability, on the other hand, has been shown to have significant influence on the frequency and duration of peer communication. As well, the lack of a shared mode of communication can influence interaction, although familiarity with peers seems to allow both deaf and hard of hearing and hearing children to overcome their communication barriers. However, both deaf and hard of hearing children and hearing children tend to prefer to interact with peers of similar hearing status. In instances where deaf and hard of hearing and hearing children are interacting, the presence of hearing peers positively influences the quality of the children’s play. It seems as though the hearing children acting as role models and organizing cooperative play activities encourages deaf and hard of hearing children to engage in higher levels of social play.

Initiation has also been found to have a significant effect on peer interactions. Research has shown that deaf and hard of hearing children are equally as interested in socialization with their peers as hearing children; however, findings differ with respect to initiation strategies and success rate. Some studies reported that deaf and hard of hearing and hearing children use similar initiation strategies, while others reported that deaf and hard of hearing children use more non-linguistic strategies to initiate interaction. Furthermore, some studies have reported that deaf and hard of hearing children have similar success rates as hearing children, yet other studies report lower success rates. Antia and Kreimeyer (2002) explained that despite the surface similarities in interactions, deaf and hard of hearing children’s frequent use of non-linguistic initiations tend to have less “summoning power” than the linguistic initiations used by hearing children, and
therefore, deaf and hard of hearing children tend to experience more unsuccessful interaction attempts than do their hearing peers when interacting with other hearing peers.

Limitations of the Research on Peer Interaction and Socialization During Early Childhood (Preschool/Kindergarten Age)

Despite best attempts of researchers, it is difficult to identify the factors that influence the quantity and quality of interaction in any one study. The body of research cited previously gives an overview of the most significant findings on the peer interaction of deaf and hard of hearing preschool-aged children. These studies differ in many aspects, including number children available and hearing status of the children (degree of hearing loss, from mild to profound), setting and learning situation, language or communication mode, as well as the data collection instrumentation and methods used. All of these factors have an impact on the research results and make it difficult to isolate factors that influence social interaction and social competence; therefore, the findings must always be interpreted with caution.

Peer Interaction and Socialization During Middle Childhood (Elementary School Age)

Middle childhood is a time of development when socialization and peer interaction become increasingly important to the development of social skills and social competence. However, in spite of the recognized importance of the peer relationship in the social-emotional development and adjustment of the child at this age, limited research has focused on the social experiences of deaf and hard of hearing children during middle
childhood. To build on the findings of the socialization of deaf and hard of hearing children during early childhood, researchers have continued to focus on quality and quantity of the peer interactions.

Antia (1982) examined the social interactions of 32 deaf and hard of hearing children and 84 hearing children, grades one through six, in partially mainstreamed settings. The mode of communication the deaf and hard of hearing students used was either oral or simultaneous communication (simultaneously using sign language and oral language). Children were observed in two different settings, the segregated class and the integrated class. Findings in the integrated setting reveal that the deaf and hard of hearing children used oral communication significantly less than the hearing children (52% of the time for deaf and hard of hearing children, as compared to 84% of the time for hearing children). However, in the segregated setting, deaf and hard of hearing children’s oral communication increased to 77% of the time. In contrast, the deaf and hard of hearing children used significantly more nonverbal communication than their hearing peers. The findings of this study also revealed that deaf and hard of hearing children tended to interact less frequently with peers and more frequently with teachers than did hearing children. Also, deaf and hard of hearing children interacted equally with their peers in both the regular classroom (with hearing and deaf and hard of hearing peers) and in the resource room (with other deaf and hard of hearing peers), indicating that hearing status alone did not influence peer interaction. Antia concluded that mode of communication did not seem to interfere with social interactions; physical proximity was important but not entirely sufficient in facilitating interactions between deaf and hard of hearing and hearing children.
McCauley, Bruininks, and Kennedy (1976) compared the social interaction of 14 deaf and hard of hearing and 14 hearing children, in grades one through four in an integrated setting. Deaf and hard of hearing children had hearing losses that ranged from moderate to profound. Observations revealed that the hearing children engaged in significantly more interactions and interacted with significantly more peers, as compared to their hard of hearing and deaf classmates. These findings are consistent with other previously cited research.

Israelite et al. (2002) explored the identity construction of seven adolescents who attended special classes for the hard of hearing for part or all of their elementary years. These classes combined specialized instruction in segregated classes with partial mainstreaming, and, thus, the hard of hearing children had contact with both other hard of hearing children and with hearing children. Students were asked to reflect on their elementary school experiences, including relationships with peers. Typical responses included unforgettable memories of loneliness and isolation, especially while in regular education classes (mainstream settings). According to most of the subjects, misunderstanding, discrimination and stereotyping about hearing loss were the main contributors to their stress and isolation. Subjects noted being described as “lonely outcasts” and growing up without many friends. To this end, most of the subjects refrained from becoming involved in school activities. When subjects were asked to comment on making friends with their hearing peers they indicated difficulty “cracking the code” and figuring out the “unknown rules” for communication. This study points to the importance of the classroom environment in supporting and facilitating peer interaction and that many hard of hearing children may be experiencing social isolation.
and feelings of loneliness. It should be noted that this research, to date, is one of the very few studies that has focused on the social experiences of hard of hearing children during middle childhood and adolescence.

Summary of the Research on Peer Interaction and Socialization During Middle Childhood (Elementary School Age)

Many of the findings from the research on the social experiences of deaf and hard of hearing children during middle childhood are consistent with the findings of research conducted on deaf and hard of hearing children during early childhood. Common findings indicate that classroom setting (segregated/mainstream) has little influence on the rate of social interaction, as deaf and hard of hearing and hearing children interact with their peers equally as frequently with their hearing peers. Deaf and hard of hearing children during middle childhood have been found to use less verbal and more nonverbal communication than their hearing peers, and also tend to interact less frequently with their peers and more frequently with teachers. In addition, hearing children have been cited as engaging in significantly more interactions than deaf and hard of hearing children and these interaction are with a greater number of peers. Israelite et al. (2002) recounted the lived experiences of hard of hearing youths and cited feelings of isolation and loneliness as common experiences.
Limitations of the Research on Peer Interaction and Socialization During Middle Childhood (Elementary School Age)

Due to the paucity of research conducted on deaf and hard of hearing children during middle childhood, it is difficult to establish important trends in the social development of this group of children. The relatively small number of subjects in each study limits the research discussed above. Even though valuable insights can be observed, results must be not generalized to deaf and hard of hearing children at large. This is especially significant as there is very limited research completed in the area of peer interactions of deaf and hard of hearing children in the middle elementary years, making it impossible to determine the consistency of findings with other bodies of research. As with any study, many factors influence research findings; therefore, results must always be interpreted with caution. The lack of literature in this area calls to the need for continued research on the social development of deaf and hard of hearing children, in particular during middle childhood.

Peer Interaction and Socialization During Adolescence (High School Age)

Studies of peer interaction and socialization of deaf and hard of hearing children during adolescence further contribute to our understanding of the development of social skills and social competence. During adolescence, friends become the focal point for most children. Peer relationships contribute to the development of appropriate social skills and are the driving force that shapes how children will interact and relate to others throughout their lifespan. As indicated in the research previously discussed, deaf and
hard of hearing children have much difficulty making and maintaining friendships. This is even more evident during the adolescent years, when youth are forming relationships with their peers that, to a large extent, have an overriding impact on their overall school experiences.

It has been established in the literature that deaf and hard of hearing adolescents experience social difficulty in a mainstream educational setting (Foster, 1988; Mertens, 1989). In a retrospective study looking at the social experience of 15 deaf college students as they reflected back on their experiences in a mainstreamed high school, Foster reported that experiences in social interaction often included descriptions of loneliness, rejection and social isolation. The students who reported having a satisfying social life often participated in sports or other social activities. Similarly, Mertens found that deaf mainstreamed students reported a lack of close relationships with hearing peers and feelings of loneliness. In contrast, both Foster and Mertens reported that residential school experiences seemed to increase social confidence, and subjects reported positive feelings about their social interactions and successful social connections with their peers. Positive feelings in a mainstreamed setting were associated with the availability of support services (itinerant teacher, interpreter), ability to voice and lip read, signing and fingerspelling by peers, parental involvement, deaf awareness on the part of the teachers, as well as participation in extracurricular activities. It seems as though having peers of like hearing status has a positive influence on social interaction and subsequent social development of adolescents with hearing losses. This is in direct contrast to findings cited concerning younger age groups, where hearing status seems not to play such an influential role. In addition, the type of educational placement and the characteristics of
the setting play important roles in the facilitation and socialization of deaf and hard of hearing adolescents.

Stinson and Whitmire (1992) collected data on the preferred mode of communication and social participation of 64 deaf and hard of hearing adolescents attending a summer camp. Findings reveal that those who preferred oral communication reported more frequent interactions with hearing peers than with deaf and hard of hearing peers. Conversely, those who preferred sign communication reported more frequent interactions with deaf and hard of hearing peers. Stinson and Kluwin (1996) looked at the social activity, speech ability and signing skills of 451 deaf and hard of hearing students in 15 public school programs for deaf children. They found that students who rated themselves as having low signing ability interacted with and had more rewarding relationships with hearing classmates. Those who rated themselves as having high signing ability tended to interact mostly with peers with like hearing status.

Stinson and Whitmire (2000) outlined the nature of personal and social development of adolescents who are deaf and hard of hearing. Peer relationships are discussed, and key findings that influence both the quantity and quality of peer interactions are summarized. Communication barriers created by hearing loss were cited as both dramatically and subtly impacting deaf and hard of hearing adolescents’ social development. “The communication barriers created by their hearing loss result in complex implications of interpersonal dynamics, personal growth and academic engagement” (p. 58). Further, significant friendships are more likely to develop when communication is smooth. Both formal and informal peer interactions were discussed, “formal” being structured cooperative activities and “informal” being social chatting
during breaks. Informal settings tend to foster friendships, as interactions occurring there tended to be frequent and extend over prolonged periods of time. “Students develop friendships and social groups based on common interest, values and behaviour, all of which are shared through casual conversations. “Grapevines,” whispers in class, and yelling in the hallway are all examples of the kinds of conversations that characterize adolescents’ peer interactions” (p. 62). Unfortunately, due to difficulty communicating, many deaf and hard of hearing youth miss out on important socialization and social learning.

Summary of the Research on Peer Interaction and Socialization During Adolescence (High School Age)

The findings from the research on the socialization and peer interactions of deaf and hard of hearing adolescents further expand our understanding of the social development of children with hearing losses. School placement has been found to influence the type and quality of friendships that adolescents with a hearing loss experience. Mainstream settings are associated with decreased positive social experiences for deaf and hard of hearing youth, whereas residential schools have been cited as correlated with positive effect on socialization. As well, mode of communication has been found to impact social interaction. Oral deaf and hard of hearing adolescents tend to have more frequent interactions with their hearing peers than signing deaf adolescents, whereas signing deaf and hard of hearing adolescents tend to have more frequent interactions with their deaf and hard of hearing peers than oral deaf adolescents. Communication barriers created by hearing loss have been found to have significant
influence on the social interaction and subsequent social competence of deaf and hard of hearing adolescents. It appears that deaf and hard of hearing children of all ages are socially disadvantaged by their hearing losses and struggle to make and maintain meaningful and rewarding friendships with their hearing peers.

Limitations of the Research on Peer Interaction and Socialization During Adolescence (High School Age)

The body of research on the social experiences and social development of deaf and hard of hearing adolescents' points to the scarcity of work that has examined this age group. Similar to research looking at the socialization of deaf and hard of hearing children during middle childhood, the period of adolescence has been largely overlooked. Although the research discussed previously provides some insights into the lived experience of deaf and hard of hearing adolescents, it is difficult to identify atypical trends in child development. In addition, it should be noted that much of the research available for this age group is by no means current. This is significant, as policies and best teaching practices evolve over time, having an impact on the demographics of educational settings and consequent educational experiences.

Research Questions

The purpose of the current study is to investigate peer interactions and social relationships between hard of hearing children and their hearing peers during middle childhood (also referred to as the elementary school years). The available research on the
topic of peer interaction of deaf and hard of hearing children points to a need for additional investigation of the social experiences during the elementary school years.

The majority of the previous studies cited throughout this chapter group deaf and hard of hearing children together in the same sample without distinguishing between the two groups. This is particularly important because the factors that influence socialization of these two groups differ. Generally speaking, hard of hearing children use oral language to communicate, whereas many deaf children tend to use a combination of oral and sign language together or sign language alone. In addition to language mode, it is expected that the English language ability of hard of hearing children will be more advanced than that of deaf children, as the former group of children has greater access to auditory input, which leads to more developed oral language skills. Further, there is the common perception (sometimes a misperception) that hearing aids provide the hard of hearing child with normal hearing, and, thus the expectation is that they would have little difficulty interacting and socializing with others. By contrast, deaf children are expected to have difficulty communicating, particularly with hearing peers. For these reasons, it is important to investigate hard of hearing children as a distinct and separate sample, apart from deaf children.

In addition to the confounds of sample configuration and demographics, little research has focused on the social development of children during middle childhood. It is well known in psychological research that children experience developmental changes in peer interactions during middle childhood. However, there has been a dearth of research on hard of hearing children in this age range, making it impossible to determine if the same patterns apply to their social development.
The current study investigates the following questions:

From the perspective of the itinerant Hearing Resource Teacher, what is the nature of the social interactions between hard of hearing children and their hearing peers during the elementary school years? What factors tend to facilitate and what factors tend to hinder these social interactions?
CHAPTER III: METHOD

Introduction

The purpose of this exploratory research study was to investigate the social interaction of hard of hearing children during the elementary school years (ages 6 through age 11/Kindergarten through Grade7), who are educated alongside their hearing peers in mainstream settings. Through my work as an itinerant Hearing Resource Teacher, I have witnessed hard of hearing children having difficulty making friends and maintaining friendships. This is especially evident in children during middle childhood. Previous research has largely overlooked this age group; thus, it is difficult to formulate appropriate research-based practice to address the social development of these hard of hearing children.

This study is based on research data previously obtained by Janet Jamieson and her research team. The current project is taken from a larger study that looked at both academic and social-emotional issues surrounding hard of hearing children in a mainstream setting, and included interviews with parents, classroom teachers, educational assistants, and Hearing Resource Teachers. The current study looked at the Hearing Resource Teachers' perspective on the social development of hard of hearing children during middle childhood. Data were collected using semi-structured interviews, and results were analyzed using a constant-comparative method and thematic analysis, and then identified patterns and themes were discussed.
Problem Statement

As stated in Chapter 2, peer interaction and socialization are among the most important components of child development and greatly shape a child’s behaviour, self-concept, attitudes and subsequent interpersonal relationships throughout adulthood. However, in spite of the recognized importance of peer relationship in the social-emotional development and adjustment of the child, very little is known about the nature of peer relationships between hard of hearing children and their hearing peers.

Furthermore, the elementary school years (ages 6 to 11 /Kindergarten to Grade 7) are a time of rapid social development, when children become more independent from their parents and begin to associate more with their peers; however, virtually nothing is known about the social experience of hard of hearing children during this developmental stage. Previous research (as cited in Antia & Kreimeyer, 2002) has indicated that children with hearing losses have great difficulty making friends and maintaining friendships and thus, during the elementary school years, when friends are becoming a major focus in the lives of children, it is expected that having a hearing loss cannot help but have a long-lasting impact on a hard of hearing child’s ability to establish and sustain friendships.

In addition, the vast majority of previous studies looking at the social development and peer interactions of children with hearing losses have generally grouped both deaf and hard of hearing children together, without distinguishing between the two groups. However, as stated previously, there are important functional differences between individuals who are deaf and those who are hard of hearing, and these differences have a significant impact on interpersonal communication. Furthermore,
previous research on the social development of children with hearing losses has primarily focused on children during early childhood, with minimal attention paid to the social development of hard of hearing children during the elementary school years.

Research Question

From the perspective of the itinerant Hearing Resource Teacher, what is the nature of the social interactions between hard of hearing children and their hearing peers during the elementary school years? What factors tend to facilitate and what factors tend to hinder these social interactions?

Research Design

This qualitative study used a multiple-case design and a thematic content analysis design. Data were collected using semi-structured interviews and were analyzed using a constant-comparative method of content analysis (Berg, 1995). Findings were described in term of identified patterns and themes across the group.

Researcher’s Lens

The investigator conducting this study has the benefit of being a Hearing Resource Teacher, providing great insight and first-hand experience that mirrors and/or complements the experiences of the Hearing Resource Teachers in the study. The primary researcher is hearing, has been a Hearing Research Teacher for the past four
years, and her caseload demographics closely resemble those of the Teacher Participants in this study. With these factors in mind, it should be recognized that this 'insider' position brings with it the potential for researcher bias. In order to address this issue as much as possible, every effort was made to let the data reveal the findings. As a way of identifying areas of potential bias, a journal of the researcher’s ideas, thoughts and insights was kept during the analysis and interpretation phases of the study. It should be noted that the use of a journal proved to be most helpful with the interpretation of data and had limited influence on controlling for researcher bias.

Teacher Participants

Recruitment Procedures

A formal request was submitted to the University of British Columbia Clinical Research Ethics Board for approval. Following approval notification, the North Vancouver School District was approached requesting their participation in the research project at large. For the current study the three Hearing Resource Teachers in the North Vancouver School District were invited to take part in separate one-hour interviews. It should be noted that, the North Vancouver School District was chosen, in part, because of the long-established Hearing Resource team, as they have been a cohesive, stable group for over 25 years. This is significant, in that the Hearing Resource Teachers have long-standing relationships with the hard of hearing children and their families and, thus, know the students well.
Description of Participants

Itinerant Hearing Resource Teachers are certified teachers who have additional specialized training in language, speech and social skill development and remediation, which are specific to needs of deaf and hard of hearing children. Typically, these teachers have long-lasting and close relationships with the children and their families, as they often work with these children on an ongoing basis (year after year), and thus have a deep understanding of the challenges that deaf and hard of hearing children face. With this in mind, itinerant Hearing Resource Teachers were deemed to be a highly appropriate group to provide valuable insight into the socialization of their hard of hearing students.

It should be noted that the children themselves were not contacted, as this is a preliminary study and the topic of research was felt by the parents to be a sensitive issue with their children. Accordingly, at parent request, the children were not questioned directly and every effort was made to collect the data without their knowledge.

Three itinerant Hearing Resource Teachers from the North Vancouver School District (the entire Hearing Resource team) were interviewed and asked to comment on the socialization and peer interactions of the hard of hearing elementary students in the study. It should be noted that all Hearing Resource Teachers in the North Vancouver School District work with their students using an itinerant-pullout model of educational support, as opposed to segregated resource room support. In addition, this group of Hearing Resource Teachers are all certified by the Canadian Association of Educators of the Deaf and Hard of Hearing as having the highest level of educational standards, formal training and relevant experience (see www.cdli.ca/CAEDHH for detailed list of standards). The strength in this group of Hearing Resource Teachers helps reduce the
likelihood that findings could be attributed to factors such as disruption due to changes in staff or untrained support teachers.

Data Collection

The three Hearing Resource Teachers in the North Vancouver School District were interviewed using a semi-structured interview design. Informed consent was obtained before the interviews commenced and each interview required approximately one hour to complete. Interview questions (see Appendix) were developed based on findings of previous literature that looked at the factors that influence peer interaction and socialization of hard of hearing children and were verified for practical relevance by professionals in the field (Teachers of the Deaf and Hard of Hearing). During the interview, the itinerant Hearing Resource Teachers were asked a series of questions about 10 students whom they supported on a regular basis. These 10 students were selected based on the criteria described below in the ‘Student Sample’ section.

Interviews were audiotaped, then transcribed verbatim by a professional transcriber, and then verified for accuracy and consistency by the research supervisor. Audiotaped interviews, hardcopies of the interview transcription, and computer files are kept in a locked cabinet under the care of the research supervisor.

Student Sample

Due to the sensitive nature of the research topic and the fact that it was a preliminary study, the children themselves were not contacted and did not know that they
were part of a research study. Pseudonyms were given to protect the children’s identity.

The students in the sample were nominated by their Hearing Resource Teachers and must have met all of the following criteria:

- Grades K-7
- No other educationally significant disabling conditions
- Oral communication (not deaf, not using sign language; as this study focused on the social interaction of hard of hearing children who use oral language to communicate)
- No current emotional upset (such as parental separation/recent divorce)
- Child and family have a high level of English language proficiency.

Students who met the criteria and whose parents consented to participate were included in the discussion during the Hearing Resource Teacher’s interview. In total, 10 hard of hearing elementary aged students (6 girls/4 boys) from Kindergarten to Grade 6 were discussed (see chapter IV, Table 2 for a detailed description of each student), and all had parents with normal hearing.

Data Analysis and Reporting

Interview transcripts were analyzed using a constant-comparative method, looking both within and between cases for categories, patterns and themes.

Interview transcripts were examined three times:

1) First Read: Interviews were read in their entirety for an overview of content.

2) Second Read: Interviews were read to capture relevant demographic information (including etiology of hearing loss, any additional concerns, hearing loss specifics, amplification specifics). In addition, categories concerning social interactions were identified with a specific focus on factors that hindered or facilitated social interaction. Categories were added with successive interviews
until the no further categories were identified. The identified categories are as follows:

a. Communication - involving oral language in the transmission of auditory information (including times of breakdown, repair strategies, and times of success).

b. Friendships - meaningful interpersonal interactions (including with peers and with other hard of hearing individuals)

c. Personality Traits - personal qualities or characteristics (such as resiliency, good sense of humour, etc.)

d. Self-Perception - view about themselves (such as self acceptance, self confidence, etc.)

e. Family Influence - the extent to which family influences social interaction

3) Third Read: Each interview was re-read with the focus of validating the categories and identifying instances that fit into each category. To assist in organizing the interview data, a table was set up for each interview and the above categories and sub-categories were highlighted.

After the content of each interview had been reviewed and detailed on the categorized tables, the tables were analyzed for reoccurring themes and patterns, as well as any idiosyncratic behaviour. In order to strengthen the validity of the findings, the research supervisor re-read sections of the interviews, examined categories, and discussed emergent themes and patterns with the principal researcher. Identified patterns and themes were illustrated with direct quotes from the interview transcripts as this step provided depth of meaning.

Trustworthiness

In qualitative research, as in all research, findings must be able to be evaluated for trustworthiness. When using a case study design, there are various ways in which
researchers can verify the quality and reliability of conclusions drawn, including triangulation, member check (for credibility, transferability and validity) and peer review (Miles & Huberman, 1994).

Triangulation

Triangulation is a technique used in qualitative research as a way of increasing the validity of the research findings. One way triangulation may be achieved is by using multiple investigators, using multiple sources of data or using multiple methods to confirm findings. For the current study, triangulation was established by using multiple Hearing Resource Teachers as participants, and by their views being compared and contrasted in terms of research categories, themes and conclusions. In addition, triangulation was further achieved by having the research supervisor included in the analysis process, including rereading interviews, examining identified categories, and discussing patterns and themes.

Member Check Procedures

1) Credibility

The credibility of the study reflects the extent to which the findings make sense and whether the results accurately reflect the participants’ views and ideas. This was achieved by crosschecking the findings with the three Hearing Resource Teachers involved in this study. The Hearing Resource Teachers were asked to review the emergent categories, patterns and themes for accuracy.
2) Transferability

Transferability in qualitative research means the extent to which the findings apply to other subject or contexts (Miles & Huberman, 1994). With a multiple-case study design, transferability is difficult to establish, as each case is identified as its own distinct data source and variables may differ widely, making it difficult to generalize to other groups. However, this being said, for the current study, limited transferability was achieved by the Teacher Participants and the primary researcher confirming findings as consistent with their own experiences.

3) Validity

In addition, member check was used to confirm the validity of this study. Validity in qualitative research can be described as the extent to which findings are plausible, confirmable and have meaning outside the research project (Miles & Huberman, 1994). To determine the practical validity of this study, three questions were asked. 1) Does the study have implications for future practice? 2) Does the study uncover relevant issues pertaining to the socialization of hard of hearing children? 3) Can these issues be used as a basis for the development of interventions? This validity was achieved by the three Hearing Resource Teacher participants confirming the results, and commenting on the findings as being consistent with their professional experience.

Peer Review Procedures

The research supervisor for this thesis served as the peer reviewer, as she is an expert in the field of hearing loss in children, and has confirmed that the findings are both credible and trustworthy. As part of the peer review, the research supervisor was asked
to review the following two questions about the informative validity of this study. 1) Does the study address the identified gaps in the literature and add valuable information and perspective to the literature base? 2) Does the study add to our understanding of the nature of the social development of hard of hearing children? Informative validity was confirmed in that this was an exploratory study and indeed provided a meaningful contribution to the research literature.
CHAPTER IV: RESULTS

Introduction

Social interaction and peer relationships are among the most important aspects of child development. However, due to communication difficulties, hard of hearing children often experience difficulties making and maintaining friendships. This is particularly evident during the elementary school years (middle childhood), when peer relationships have an increasing influence on the social development of the child. Itinerant Hearing Resource Teachers typically work very closely with hard of hearing children who are educated in mainstream settings alongside their hearing peers and, thus have a deep understanding of the challenges that hearing loss creates. Therefore, Hearing Resource Teachers are well suited to provide valuable insights into the social worlds of hard of hearing children. The following findings, gleaned from the perspective of the Hearing Resource Teachers who participated in the present study, shed light on the nature of interactions between hard of hearing children and their peers during the elementary school years. In general, the findings respond to the following questions: (1) What are the areas of concern in terms of the social development hard of hearing elementary aged children, and (2) How is successful peer interaction and socialization between hard of hearing students and their hearing peers manifested?

Demographics

The following table outlines the demographic profiles of the students discussed during the interview with the Hearing Resource Teachers.
Table 2
Demographic Characteristics of Hard of Hearing Student Sample (pseudonyms are given)

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>Hearing Loss</th>
<th>Etiology of Hearing Loss</th>
<th>Additional Concerns</th>
<th>Amplification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie</td>
<td>Kindergarten</td>
<td>• Bilateral (hearing losing both ears) • Severe • Sensorineural</td>
<td>• Premature</td>
<td>• Speech difficulties • Phonemic awareness</td>
<td>• Hearing aid: Since age 3 • FM system • Accepts use</td>
</tr>
<tr>
<td>Beth</td>
<td>Grade 1</td>
<td>• Should be in Grade 2 • Bilateral • Moderate • Sensorineural</td>
<td>• Not Stated</td>
<td>• English Second Language (ESL) • Speech difficulties • Difficulty acquiring early reading skills</td>
<td>• Hearing aid (In the Ear style) • FM system (does not use consistently) • Difficulty accepting use</td>
</tr>
<tr>
<td>Bill</td>
<td>Grade 2</td>
<td>• Audiogram states severe to profound • HRT states mostly profound • Does not accept hearing loss</td>
<td>• Not Stated</td>
<td>• Behavioural issues</td>
<td>• Hearing aid • FM system • Difficulty accepting use</td>
</tr>
<tr>
<td>Tammy</td>
<td>Grade 3</td>
<td>• Bilateral, • Moderate to Severe • Conductive</td>
<td>• Goldenhar Syndrome</td>
<td>• Articulation • Previous feeding tube (very small and frail) • Facial malformations</td>
<td>• 1 Hearing aid • FM system: Since grade 2 • Accepts use</td>
</tr>
<tr>
<td>Mike</td>
<td>Grade 3</td>
<td>• Bilateral • Profound high frequency (after 1500 to 2000 Hz)</td>
<td>• Chemotherapy (age 3)</td>
<td>• Speech difficulties at beginning but now age appropriate</td>
<td>• Hearing aid: Since age 3 • FM system: Since age 3 • Accepts use</td>
</tr>
<tr>
<td>Sandra</td>
<td>Grade 4</td>
<td>• Bilateral • Severe (high frequency) • Conductive</td>
<td>• Possible syndrome</td>
<td>• Slight learning disability • Scotiosis • Speech delay</td>
<td>• 2 Hearing aids: Since K • FM system: Since K • Accepts use</td>
</tr>
<tr>
<td>Michelle</td>
<td>Grade 5</td>
<td>• Left Ear: profound • Right Ear: fluctuating • Progressive</td>
<td>• Possible syndrome</td>
<td>• Auditory processing difficulty • Needs visual support • Memory issues</td>
<td>• No Hearing aid • FM system (classroom speaker) • Does not accept hearing loss or amplification</td>
</tr>
<tr>
<td>Evan</td>
<td>Grade 6</td>
<td>• Bilateral • Reverse sloping • Mild to Moderate-Severe • Sensorineural</td>
<td>• Diagnosed grade 3 (just before moving to Canada)</td>
<td>• English Second Language (ESL) • Speech Delay • Articulation difficulties • Strong accent</td>
<td>• 2 Hearing aids • FM system • Wears at school • Difficulty accepting use</td>
</tr>
<tr>
<td>Naomi</td>
<td>Grade 6</td>
<td>• Right Ear: profound • Left Ear: mild to moderately severe • Progressive</td>
<td>• Chemotherapy</td>
<td>• Gifted • Depression • Vision • Speech difficulties • Cleft palate</td>
<td>• Hearing aid • FM system (does not use consistently) • Accepts use</td>
</tr>
<tr>
<td>Don</td>
<td>Grade 6</td>
<td>• Right Ear: mild to moderate • Left Ear: severe</td>
<td>• Diagnosis age 3</td>
<td>• Written language • Spoken language (Both as a result of hearing loss)</td>
<td>• Hearing aid: Since age 3 • FM system: Since Grade 1 • Accepts use</td>
</tr>
</tbody>
</table>
The current study looked at the social development of hard of hearing children, who were enrolled in mainstreamed elementary classrooms. A qualitative design was used and interview data were analyzed for patterns and themes. The pages that follow will outline findings of the two predominant recurring themes: (1) Communication, including communication breakdowns, repair strategies and successful communication and (2) Friendship patterns, including general patterns, developmental trends, gender differences, personality connection, family involvement, and social interactions with hard of hearing individuals. It should be noted that not all children exhibited all characteristics in all categories; however, definite patterns and themes emerged.

Communication

Effective communication is an important precursor to effective peer interaction and socialization. Previous research indicated that communication is an area of difficulty for hard of hearing children, and, therefore, the following specific questions were asked: (1) When does communication breakdown occur? (2) How is communication repair achieved? (3) When is communication most successful? Findings are presented in order of significance in term of their influence on social interaction research and practice.

Breakdowns of Communication

As stated earlier, having a hearing loss often interferes with communication, leading to misunderstandings and communication breakdowns. Across all ages (Kindergarten through Grade 6), communication breakdowns were reported to occur most often during times of increased background noise and distractions. In particular, the
following were reported as the most problematic: during large group settings or group activities, in the gym [reverberation: the amount of echo in the room, (Flexor, 1999)], when there is a greater distance from the sound source (teacher/peer), when the teacher has his/her back to the class, during unstructured activities, when conversations are quick, and when amplification equipment is not used properly. Noisy environments were cited in each case, and they had great impact on the children’s ability to understand auditory information. The following comments indicate the impact of noisy environments: About Debbie (Kindergarten) “...there is a lot of noise in that room, I would say that’s affected her. She somehow misses out on things.”; about Mike (Grade 3) “...he’s really affected by background noise, in unstructured situations, it’s hard for him, the reverberation around him confuses him”, and about Don (Grade 6):

...he’s really affected by background noise...there are times that the teacher is quite doubtful that Don has understood what is going on and there’s also the problem with the FM being turned on or off because of the background noise....I think this year’s been more of a challenge for him because of being in a split class and being with a group of kids that are pretty rambunctious.

Repair Strategies

As a way of filling in gaps in understanding, hard of hearing children often use communication repair strategies when communication breakdown occurs. The findings indicate that the type of strategies that the hard of hearing children employed appear to be developmentally linked. Younger children (Kindergarten to Grade 3) were reported as using strategies such as repetitions, waiting until the teacher notices that they missed
information, playing along so as to not be left out (pretending to understand), watching for visual cues, and lip reading as their primary ways to repair communication.

Comments about Beth (Grade 1/2) illustrate her typical repair behaviours: “...she would wait until you discovered she didn’t understand, she would sit there and do absolutely nothing and then wait until somebody came and figured it out that she was having a problem.” At approximately Grade 3/Grade 4, a developmental shift toward more effective communication strategies was noted. At this age group, the children were beginning to be more proactive by asking questions for clarification, and asking for help when needed. Comments about Mike (Grade 3) show how repair strategies were more self-directed: “He’ll ask for help. He’s got no qualms about seeking what he doesn’t know” and comments about Sandra (Grade 4) indicate an awareness of responsibility for her learning:

...she is getting better at putting her hand up and asking questions, or she has a signal for her SEA [Special Education Assistant] who works in the classroom, and she will turn and give her SEA a definite look ‘I didn’t get that’ and that person will take note of that and pull her aside afterwards and go over a few things...

This trend continued through Grade 6, as children were cited as becoming increasingly more comfortable with self-advocacy, using visual support, sitting near the teacher, and asking for clarification and help from peers and teachers. Don (Grade 6) was described as being very comfortable with self-advocacy and taking on responsibility for his own learning, “…he’s not afraid to ask questions or to seek out help from his peers. He’s very self-reliant.”
Successful Communication

Communication across all grades (Kindergarten to Grade 6) was cited as being most successful when the listening environment was quiet, such as in small group settings and one-on-one situations. Comments about Debbie (Kindergarten) indicate the importance of a quiet listening environment for her: “Definitely when it’s quiet, if there’s a lot of noise around her, she needs a lot of repetition. She needs to lip read, using the microphone [FM system] is the best way to communicate with Debbie. Those are the best situations.” Structured activities were cited as being beneficial for effective communication, including teacher-directed lessons and circle time. In addition, lip reading and the use of amplification equipment (i.e., FM systems, which amplify the speaker’s voice) were reported as supporting effective communication. Comments about Sandra (Grade 4) illustrate situations that are advantageous for effective communication: “It [communication] would be easiest with adults, with the teacher, directly, in a small group, very small group, when it’s more directly structured.” and comments about Mike (Grade 3) indicate the benefit of using amplification in the classroom: “…I would say that in most classroom situations, he’s able to function quite well with his FM system.” Again, with Naomi (Grade 6) quiet listening environments and structured lessons were noted as promoting ease of communication and understanding: “When she’s in small group(s), in a structured situation and the teacher is directing the activity. When in a large group and there’s a lot of noise, she does very poorly.” There were no distinct developmental trends identified, as all children in the study were reported to benefit from similar listening environments and supports.
Friendship Patterns

Friendships and peer interactions during the elementary school years take the shape of significant relationships in the lives of most children. Previous research on the socialization of hard of hearing children during middle childhood has indicated that having a hearing loss negatively affects the development of meaningful friendships (e.g., Israelite et al., 2002).

The findings of the current study further add to our understanding of the social development of hard of hearing children during the elementary school years. In general, findings indicate that the hard of hearing children experienced some difficulty making and maintaining friendships. In most cases (nine out of ten children), friendships were apparent (either during school time or after school time), but these friendships tended not to be numerous, and several socially related issues were noted. For those children who were having some degree of social problems, the most frequently cited difficulties included: 1) Fitting into a peer group, as shown by comments about Evan (Grade 6): "...He’s with a group of boys who are all on the fringe is terms of friendships...he runs around with some kids at lunchtime but doesn’t play any constructive games with kids.” and 2) Poor social interaction skills and strategies, as shown by comments about Beth (Grade 1/2):

...[there are] issues around friendships and establishing friendships and keeping them,[there are] issues around her dominance over friendships and her manipulation to control things, so she knows what’s happening. And it happens in the classroom and on the playground... She’s trying hard [to make friends], I
would say right at this moment, she doesn’t, in fact; she’s alienated some of her friends. There’s some issues going on with her friendships. And so she’s actually trying hard to compensate and she doesn’t know how to win them over so she’s actually going about it the wrong way and she’s actually trying to manipulate them or threaten them that if they don’t do something, they won’t be good friends, so we’re really working hard on her language, social interaction, language around friendships, so I would say at this point, no she doesn’t have any close friends.

Comments about Bill (Grade 2) are also indicative of poor social skills:

...He doesn’t have the social skills and graces to be able to always fit in...he has a couple of close friends and unfortunately, sometimes, he will bully or pick on somebody in the class, particularly who he feels is dumber that he is, in his words. And so the [that] way he kind of sets himself in the pecking order in the classroom...

3) On-and-off friendships, as illustrated by comments about Sandra (Grade 4):

She has [friends], this year, one particular close friend in the classroom. Others have come and gone, you know, come into focus and then faded out. This class that she’s in is unfortunately very cliquey and they already have a very strong idea of who’s in and who’s out and Sandra’s someone on the fringe...but I would say she’s not so isolated that she doesn’t have kids to play with, she definitely does, however, there are definite social problems....

Most had experienced some teasing; comments like the following about Tammy (Grade 3) were common: “...she seems quite troubled by her interactions with some other kids, but she’s learning to ignore that sort of nasty remarks....”
Developmental Trends

Friendship patterns of hard of hearing children in this study indicate a strong developmental component. In general, the making and maintaining of friends appeared to follow typical social development patterns. This included a distancing from parents and a move toward peers for social interaction, as the children progressed through the elementary years. Specifically, nine of the ten hard of hearing children discussed had at least a few close friends, and these close friendships lasted over time, often spanning several years. Comments about the following students help illustrate the friendship patterns across the elementary school years.

Bill (Grade 2):

He has a couple of kids that he hangs out with more than others. He is very much right in there; he’s like a boy-boy. He sees himself as a very capable kid and wants to be right in there.

Michelle (Grade 5): “She does [have close friends], one of her friends is since Grade 1, probably her closest friend. There’s a small circle of friends that she has that she does hang out with that are close, [they] have grown up together.”

Don (Grade 6), “Yes, [he has] lots [of friends]. I would say lots. Don’s always been popular and has no problem with friendships.”

Gender Differences

Even as early as kindergarten, findings of the current study indicate gender differences in friendship patterns. Specifically, the girls had fewer close friends as
compared to boys. The following comments about Tammy and Naomi indicate the pattern for girls. Tammy (Grade 3), “yes [she has close friends], I wouldn’t say a large group…they seem to change from time to time but she has one particular friend that she’s close with….,” and Naomi (Grade 6), “…there’s a couple of girls that she would call her close friends…."

Girls seemed to be socially satisfied with only one or two friends, whereas boys’ friendships generally took place as part of a group. When asked “Does he/she have close friends in the class?” the Hearing Resource Teachers’ responded about Bill (Grade 2), “He has a couple of kids that he hangs around with more than others”; about Mike (Grade 3), “Definitely lots. And he’s athletic and involved in activities outside of school, [he] participates freely and is a very confident little boy”; and about Don (Grade 6), “Yes lots. I would say lots. Don’s always popular and has no trouble with friendships. He is athletic and soars in track and both in school and out of school.” This trend was apparent across all grade levels and with all children in the study.

Personality Connection

Findings indicate that acceptance of hearing loss and personality traits have impacts on the development of subsequent friendships. In particular, children who had a positive attitude about their hearing loss and amplification equipment also displayed positive personality traits, such as having a cheerful disposition, strong spirit, good sense of humor, sense of self pride and development of adaptive coping skills. These children were also cited as having successful friendships and limited difficulty interacting with
peers. The following quotations help illustrate the interplay between these factors:

Debbie (Kindergarten):

...she is quite a delight....She was aided at the age of three, just after her third birthday, I believe three and a half, and so she’s had speech therapy and hearing aids for her preschool years, so coming into kindergarten, she was already adjusted to the use of hearing aids and we got an FM system, fortunately a micro-link, right at the beginning of the school year...and so she’s used this micro-link all year, very well, and it’s not a big deal to her...she has done much better than I thought she would do.... she seems to adapt well....I’m not concerned about her socially right now. She seems to be quite connected to the other kids and well liked.

Mike (Grade 3):

I just think he’s a great kid, he’s really wonderful and his natural inquisitiveness and sense of wanting to do well will take him a long ways. He’s very accepting of who he is and he’s accepted his hearing loss and he’s very good at owning his hearing loss and his hearing equipment, he takes very good care of it...[he has] lots [of close friends]. If I could name them all....

Sandra (Grade 4):

...I think Sandra’s overall resilience and cheerfulness in so many different situations has taken her a mile. She’s such an endearing child that she’s overcome so much, she came in with a definite reading problem, she was delayed in speech and language, but she has come so far and it’s because of her tenacity,
her willingness to stick to it and really work hard and feel proud of her[s]elf, that she’s come a long way, so I think she will do well.

In contrast, children who had difficulty accepting their hearing loss and amplification equipment also tended to display negative personality traits, including dominating, controlling and manipulative behaviours. In addition, these children were cited as using ineffective social strategies and subsequently displayed difficulty in their interpersonal interactions. Comments about Beth (Grade 1/2) clearly show this connection:

She’s having big concerns socially in the classroom. Major behavioural issues that peaked at different points through the year and are peaking again right now. Issues around friendships and establishing friendships and keeping them, issues around her dominance over friendships and her manipulation to control things, so she knows what’s happening. And it happens in the classroom and on the playground….she has an FM available to her this year but she hasn’t used it consistently.

Family Involvement

Interestingly, the degree of family involvement was found to be strongly associated with both acceptance of hearing loss and personality traits, and appeared to have great influence on the hard of hearing children’s social interactions and development. Children of parents who were involved in their child’s social worlds by facilitating social activities outside of school had a more positive self perception, had a greater acceptance of their hearing loss, and were likely to experience greater success
with making and maintaining friendships, as compared to hard of hearing children whose parents who were not actively involved in their child’s after school activities. Successful activities for younger children focused around at home play-dates, as illustrated by comments about Debbie (Kindergarten):

...she talks about who she is going to play with after school and who’s coming over to her house and that she’s gone to so and so’s house. I think her mother, who stays at home, is very involved in her after school social life....

Successful activities for older children (about Grade 3 and above) tended to focus around belonging to structured groups such as Brownies or team sports, as well as socialization with extended family. The following quotes illustrate parents’ involvement as the children moved into the intermediate elementary school years.

Tammy (Grade 3):

...her mother has made every effort to invite kids over and make social situations happen outside of school, she’s very involved in skiing and Brownies and soccer and gymnastics, so she has and through her church, so they have quite a large group of friends outside of school and I think that’s all supporting Tammy’s self esteem. She really seems to be quite intact at the moment in terms of the way she perceives herself.

Don (Grade 6), “I think a lot of Don’s success has been from his family’s encouragement of his developing a lot of outside activities....”

In addition, all of these children were cited as having better self-advocacy skills and an overall greater sense of self worth than children who did not participate in extracurricular activities.
Social Interactions with Hard of Hearing

The findings reveal limited social interaction between the hard of hearing children in the current study and other hard of hearing individuals. With noted exceptions, seven out of ten children in the current study interacted with other hard of hearing people only during semi-annual social gatherings (organized by the Hearing Resource Teachers). The remaining three children in this study had some degree of regular contact with other hard of hearing individuals, including a sports coach, a Grandfather, and a classmate. Interestingly, these three children were also stated as accepting their hearing loss and amplification equipment, having family involvement in their after school social lives, and having successful social interactions with their hearing peers.
CHAPTER V: DISCUSSION

Introduction

The purpose of this study was to take an exploratory look at the social interactions between elementary aged, hard of hearing children and their hearing peers. The perspective of the Hearing Resource Teachers was taken, as they work very closely with the hard of hearing children, their families, and their school personnel, and thus have an in-depth understanding of, and insights into, the challenges hard of hearing children face socially. This chapter outlines the major findings of the study, puts forward the unexpected findings, explores the limitations of the study, as well as discusses the implications for practice and future research.

Major Findings

Finding 1: Communication

Communication difficulties have been cited in previous research as having an impact on the hard of hearing child's ability to successfully make and maintain friendships (Antia & Kreimeyer, 2002). Although such a statement cannot be made about the current study directly (as this study did not aim to investigate communication difficulties specifically), communication difficulties were found. All hard of hearing children in this study showed some degree of hearing loss-related trouble with communication. Specifically, all children in the current study had difficulty understanding auditory information in noisy environments, such as, in the gym, in large groups, and when background noise was present. Even though this likely holds true for
all children, having a hearing loss further impacts the child’s ability to effectively make sense of auditory input. These findings are consistent with previous research that looked at the effects of background noise on speech perception and understanding (e.g., Crandell & Smaldino, 2000).

The communication barriers stated above also have ramifications for effective socialization interactions of hard of hearing children. As indicated, noisy and distracting environments greatly interfere with the hard of hearing child’s ability to understand auditory information, leading to difficulty making and maintaining friendships. This is even more significant if we look at classrooms and playgrounds as typical surroundings for peers to interact. Classrooms are generally noisy and filled with distractions, and although the use of an FM system helps to overcome the effect of background noise, it only facilitates communication and understanding between the speaker (generally the teacher) and the hard of hearing child. With this in mind, it is unlikely that hard of hearing children are able to fully understand the quiet child voices of their peers, especially when additional amplification of an FM system is not used. On the playground, communication is further compromised by poor acoustics and limited small group face-to-face interactions. Furthermore, meaningful peer interactions are not limited to times of play, as there is much instructional and non-instructional peer interaction during classroom times. It is reasonable to assume that during these times, noise levels in the classroom are high, making communication even more challenging for hard of hearing children. In addition, communication is likely to break down and hard of hearing children are likely to miss out on important interactions with their peers.
When communication breakdowns occurred the hard of hearing children used different repair strategies, and these strategies of choice appeared to change over the course of development. For example, younger children tended to use less overt ways of filling in the gaps in understanding, such as playing along (as if they understood), watching for visual cues and lip reading. A shift in repair strategies was observed among the older children. About Grade 3, the children began to be more proactive and ask questions and seek help when needed. This trend was observed through Grade 6 where children were seen as being good self-advocates and not afraid of seeking out additional help and support as needed. In part, this developmental trend could be a result of learning compensation strategies, where younger children are beginning to understand how to compensate for communication breakdowns, and older children are better able to anticipate difficult situations and thus be proactive about ensuring that effective communication takes place. This finding is consistent with previous research that indicated repair strategies are developmentally connected (Brinton, Fujiki, Frome-Loeb, & Winkler, 1986).

The effectiveness of the communication repair strategies is likely to influence the success of peer interaction and socialization. When less effective repair strategies are used, such as using visual cues and lip-reading, hard of hearing children are required to fill the gaps on their own, and therefore, are likely to experience misunderstandings when socializing with their peers. By contrast, when more effective repair strategies are used, such as asking questions and asking for information to be repeated, hard of hearing children facilitate opportunities for misunderstandings to be clarified, and, thus communication with peers is likely to be more successful.
Successful communication was noted as more often occurring in quiet environments, for example, one-on-one settings, small groups, and when the teacher was directing a lesson. It stands to reason that quiet listening settings help to facilitate auditory understanding in that background noise is controlled; however the importance of this cannot be understated when looking at the educational setting of hard of hearing children. This finding further supports previous research that indicates that hard of hearing children learn most effectively in environments where background noise is controlled (Flexer, 1999). In part, the effects of background noise can be minimized with the use of an FM system, as the FM system amplifies the speaker’s voice, and promotes greater auditory understanding in noisy environments. It should be noted that FM systems were reported as being beneficial for successful communication of the hard of hearing children in the current study. Interestingly, FM systems have been found to facilitate hearing and listening in all children, those with normal hearing and those with hearing losses (Flexer). In terms of peer interaction and socialization, FM systems are likely to be beneficial, as they help facilitate auditory understanding. However, because FM systems also pose limitations (such as awkwardness passing the transmitter microphone from speaker to speaker), they are not likely to be used in social situations.

Finding 2: Friendship Patterns

As reported in the results section, difficulties with making and maintaining friendships were cited, most notably, fitting into peer groups, poor social interaction strategies, and on-and-off friendships. These findings were consistent with previous research (such as Israelite et al., 2002). Interestingly, however, nine of the ten children in
this study were reported as having some successful social interactions and meaningful friendship. Generally, the female children tended to have one or two close friends, and the male children tended to have one or two close friends, as well as frequent involvement with group activities. Although this finding appears to be consistent with typical friendship patterns during childhood in general (Berk, 1991), it is contrary to the findings of previous research conducted that looked at the elementary school experiences of hard of hearing children. Previously, studies have indicated that hard of hearing children experience much difficulty with social interactions, and feelings of loneliness and isolation were cited as common experiences (Israelite et al.; Stinson & Whitmire, 1992). Although social difficulties were found among the children in the current study, so too, were meaningful friendships. The noted difference between this finding of the current study and those of previous studies may be explained in part by the difference in research methodology and choice of participants. Specifically, the current study looked at the Hearing Resource Teachers' perspective and, therefore, the data obtained reflect their views about the social development of hard of hearing children. Previous studies took a retrospective perspective (i.e., Israelite et al.) and/or observational approach (i.e., Antia, 1982). In the retrospective studies, hard of hearing adolescents or adults were asked to reflect back on their social experiences during childhood, and in observational studies, the researcher took a snapshot view of social interaction by observing socializing during specific times, such as free play with peers. The differences in the method chosen are likely to be reflected in the research findings as each uncovers different aspects of the social experiences of hard of hearing individuals.
Finding 3: Developmental Trends and Gender Differences

Both developmental trends and gender differences were found in the social interactions of the hard of hearing children in the current study. The results reflect typical middle childhood, developmental patterns. As stated previously, middle childhood is a time of rapid social change, and friends are increasingly important to the social lives of most children. The children in this study were reported to see peers as important for social interaction, and these friendships often endured year after year. In addition, gender difference were noted, as girls in this study were cited as having one or two close friends, whereas boys had both one-on-one interactions and group play. Again, these noted findings are reflective of typical child development, where girls tend to prefer small, intimate social interaction, and boys are more likely to be involved in group or team interactions. These results further our understanding of child development in general, and indicate that hard of hearing children during middle childhood tend to follow the same developmental patterns and trends as are seen in the general population of children (Berk, 1991).

Finding 4: Personality Connection

Personality traits were found to be associated both negatively and positively with self-perception, acceptance of hearing loss, and social interaction. Children who were cited as having positive personality characteristics were reported as having accepted their hearing loss and use of amplification equipment, and had fewer difficulties in their social interactions with peers than children who were reported as having negative personality
characteristics. Although this connection between personality, self-perception and social interactions does not indicate a cause-and-effect relationship, it does indicate a correlation between variables and traits. It stands to reason that an overall positive sense of self facilitates self-acceptance and encourages positive personality characteristics, which in turn helps promote successful social encounters. In addition, successful interactions appear to encourage subsequent social interaction, and therefore, these children create more opportunities to practice and hone their social skills, thereby learning effective social strategies, as compared to children who had social difficulties.

Finding 5: Family Involvement

In addition to personality traits and self-acceptance, family involvement was also found to be positively associated with successful peer interactions. Specifically, increased family involvement in the planning and facilitating of extracurricular activities for their hard of hearing child was shown to have great impact on the child’s subsequent social development. Children whose parents were cited as organizing and encouraging out-of-school social activities appeared to experience limited difficulty with making and maintaining friendships. Interestingly, these children also had been reported as having positive personality traits, positive self-perceptions, and an overall positive acceptance of themselves. Conversely, those children whose families were not reported as being actively involved in their child’s social world had negative personality traits, trouble accepting their hearing loss, and difficulties with their social interactions. Family influence appears to be greatly connected with the development of social skills in hard of hearing children. In part, this finding indicates that after school social interactions
provide the hard of hearing child with further opportunities to practice social skills and continue to learn effective social strategies. Acceptance of hearing loss by both the child and family further promotes overall successful socialization. This finding is consistent with research conducted on hearing children, high-risk and special needs children, and deaf and hard of hearing children (who attended early intervention programs that provide support to families of special needs children from birth to school age), which all indicated that parental involvement greatly influences their child’s overall success, including language development, early reading skills, and social-emotional development (Calderon, 2000). In closing, family influence has a great impact on the entire development of the child, and this cannot be over emphasized.

Finding 6: Social Interactions with Hard of Hearing

Having regular contact with other individuals with hearing losses appears to have a positive effect on the social-emotional development of hard of hearing children. Although only three out of ten children in the current study experienced regular interactions with others who are hard of hearing, the findings are compelling. Specifically, the noted three children were cited as having an overall well-rounded understanding of their hearing loss (such as acceptance of the hearing loss and amplification equipment), having greater family involvement in their social interaction and were seen as having successful interactions with peers. It is difficult to draw conclusions based on only three accounts; however, this finding is consistent with widely established benefits of encouraging interactions between deaf and hard of hearing
children and adult role models (e.g. Luckner, 1989; Marschark, 1997; Stewart & Kluwin, 2001).

Unexpected Findings

Hearing Resource Teacher’s Role

The role the Hearing Resource Teacher plays in the education of mainstreamed hard of hearing children cannot be understated. An unexpected finding of the current study was the extent of the Hearing Resource Teachers’ comprehensive understanding of the students they supported, which was evident throughout each interview. The Hearing Resource Teachers’ in-depth knowledge encompassed not only aspects of hearing loss in general, but also included a detailed understanding of the use and maintenance of amplification equipment, effective academic support specific to hearing loss (including curricular remediation and accommodations, and language and speech development), and a deep understanding of the social-emotional development and well-being of the hard of hearing children. In addition, the Hearing Resource Teachers worked not only with the hard of hearing children directly, but also worked closely with their families and school personnel ensuring that an effective support program was in place. Further, the Hearing Resource Teachers’ support was consistent from year to year, as they tended to work with the same children, families and schools from one school year to the next, and thus have built deep relationships of trust with the entire support network for the hard of hearing children.

The well-rounded, in-depth knowledge across time and across development displayed by these Hearing Resource Teachers further supports the rationale for choosing this group as the participants in this study. These Hearing Resource Teachers provided
very detailed accounts of their students’ experiences, and all revealed unquestionable professional expertise and insights about and commitment to their students. With this evidence in mind, it is reasonable to conclude that Hearing Resource Teachers are an invaluable resource to the hard of hearing children, to the families, and to the schools they support. Furthermore, this finding puts Hearing Resource Teachers in the spotlight for further research, as it shows that they make considerable contributions to the academic and social development of hard of hearing children they support. Up until the current study, research involving Hearing Resource Teachers tended to focus on aspects of their workday (such as the number of contact hours, travel time, job satisfaction, etc.), whereas this study delved into their expertise about social and emotional development of hard of hearing students.

Friendship Patterns

Based on evidence cited from previous research, it was expected that the hard of hearing children in the current study would not only experience difficulty making and maintaining friendships, but they would also have very few successful interactions with peers, leading to an absence of close friendships. The findings of this study reveal that although social problems were noted, most of the elementary-aged, hard of hearing children had meaningful friendships, and these friendships tended to endure over time. This is a new finding in the research literature and is not consistent with findings reported in previous research. Previously, research in the area of peer interaction and socialization of hard of hearing children indicated that hard of hearing children have much difficulty making and maintaining friendships (Antia & Kreimeyer, 2002), and they were cited as
having negative social experiences during their elementary school years (Israelite et al., 2002). The current study paints a different picture and indicates that hard of hearing children in elementary schools may very well experience some degree of successful peer interaction and socialization with hearing peers. This finding is consistent with my own experience in the field, as most of the hard of hearing children I work with have at least some positive social interactions with peers, and many have close friendships.

Limitations

Even though the findings of this study are compelling, there are several limitations that should be noted. First, the number of children reported on and from which conclusions were drawn was very limited. The evidence was drawn from only 10 hard of hearing children, Kindergarten to Grade 6, and all children were from the same school district. Therefore, this pool of children is not a representative group of hard of hearing elementary school-aged children. Further, when conclusions are drawn from a limited number of children, validity issues may arise, as the evidence is not broad enough to thoroughly identify possible outliers and anomalies. However, the researcher deemed this small number of child subjects acceptable, as this was a descriptive, exploratory study, looking for patterns of development, and areas of success and concerns. Nevertheless, the findings should be viewed with caution and further research in this area with a larger sample is encouraged.

The second area of limitation involves the criteria used for student selection. Specifically, the criteria outlined in Chapter III specify that the students selected for review must have no other disabling disabilities and that they should have English as
their first language. Although these criteria were largely followed, there were noted instances where the students included did not meet the above-stated points. The discrepancies can be explained by the study design, in that the Hearing Resource Teachers themselves identified the students to be included in the sample, and further deemed any departures from the criteria listed for inclusion in the study as not interfering with the child's social development.

The third area of limitation indicates that, even though the Hearing Resource Teacher's perspective provides valuable insight, it represents only one point of view about the social experiences of hard of hearing children. It is possible that findings would differ if the children's voices were included in the study. Due to the sensitive nature of the topic (social-emotional development) and the fact that parents were uncomfortable with their children being interviewed, it is reasonable that the children themselves were not approached. However, findings must be kept in perspective, and viewed as being through the particular lens of the Hearing Resource Teacher's perspective. Perhaps this difference in perspective helps to explain the discrepancies found between findings cited in retrospective studies and those cited in the current study. Specifically, in retrospective studies, feelings of isolation and loneliness were common, whereas in the current study, the vast majority of children were seen being socially successful and engaged in meaningful friendships in some ways.

The fourth area of limitation is that the primary researcher was not involved in the data collection process. My involvement commenced after all interviews had been conducted and therefore I have a third hand connection to the experiences recounted by the three Hearing Resource Teachers. Although interview transcripts are valuable
sources of data, without my direct involvement, it is possible that the interpretations made may lack important components transmitted through non-verbal communication (such as body language, tone of the conversation, etc.). In order to address this limitation, the three Hearing Resource Teachers were asked to review the results and findings for consistency with their own professional experiences.

Finally, it should be mentioned that the primary researcher in this study is also a Hearing Resource Teacher and has interpreted the data and findings from that perspective. Although this vantage point can provide depth of understanding and insight into the social development of hard of hearing children, it also poses a concern of researcher bias. Therefore, findings of this study should be viewed with the researcher’s stance in mind.

Implications for Practice

Hearing Resource Teacher Support

The findings of this study have implications for Hearing Resource Teachers who work in mainstreamed elementary school settings. In particular, the current study reveals that Hearing Resource Teachers have comprehensive knowledge of the impact that hearing loss creates. In addition, Hearing Resource Teachers were shown to have an integral part to play in the support of hard of hearing children and cannot be effectively replaced by other professionals. Unfortunately, in the current educational climate, where the availability of qualified Hearing Resource Teachers is limited, districts are often faced with difficulty finding qualified personnel and look to other school professionals (such as Speech Language Pathologists or Resource Teachers) to support hard of hearing
children. The findings of this study provide evidence that the value of Hearing Resource Teachers' support should not be understated or overlooked.

Family-Centred Approach

The results of this study have implications for the area of family-centred support. As discussed previously, hard of hearing children whose families facilitate social experiences outside of school tended to show greater success making and maintaining friendships, as compared to those hard of hard children whose families did not facilitate social interaction with peers. Hearing Resource Teachers are in a prime position to support families in fostering the social-emotional development of their hard of hearing child, as they work very closely with both the child and school. Hearing Resource Teachers need to further incorporate parents in the planning of social goals and encourage parents to be active in the social lives of their children. In addition, Hearing Resource Teachers are well suited to advise parents on ways to foster socialization for the hard of hearing child, including social skill development, and ways of providing developmentally appropriate social opportunities. For example, arranging play dates for younger children and enrolling in structured activities for older children. This finding is consistent with earlier findings on the immediate and long-term value of a family-centred approach in early intervention (Dunst, Trivette, & Deal, 1988).

Teacher Preparation

The findings of this study have implications for professional preparation programs in the education of the deaf and hard of hearing. There is little doubt that future Hearing
Resource Teachers would benefit from instruction based on the key findings of this study. Specifically, teacher preparation programs should ensure that the following areas are incorporated into core curriculum: 1) a focus on a family-centred approach as this approach has great influence on the social-emotional development of hard of hearing children; 2) a focus on classroom acoustics, as optimal listening conditions help facilitate auditory understanding in hard of hearing students; 3) a focus on acceptance of hearing loss by both the students and their families as acceptance appears to have significant effect on the child’s subsequent social-emotional development and 4) a focus on the Hearing Resource Teacher’s acquisition of an in-depth knowledge of hearing loss and its far-reaching implications, as these teachers will be required to wear many different hats, including advocate, consultant, counsellor, facilitator, teacher, and equipment technician.

Implications for Future Research

A major contribution of the current study was to reveal patterns of behaviour and development for further study in at least five different areas. First, the impact that family involvement plays in encouraging pro-social behaviour in elementary aged hard of hearing children is compelling. Future researchers should focus on the effectiveness of a family-centred approach in social development of hard of hearing children.

Second, an unexpected finding of this study is the value of the Hearing Resource Teacher’s perspective. As indicated throughout this chapter, Hearing Resource Teachers play an important role in the education of hard of hearing children in mainstreamed elementary schools, and the knowledge and skills of these teachers cannot be
overemphasized. However, despite the recognized importance of the Hearing Resource Teachers, their perspective has been largely overlooked in the literature. Future research would gain valuable insights by further investigations involving Hearing Resource Teachers.

Third, the Hearing Resource Teacher’s expertise (as indicated above) supports following the hard of hearing child through their development. It should be noted that the itinerant service model of following the same children throughout their school years (year-after-year) used in the North Vancouver School District is not necessarily used in all school districts. For example, in some districts, Hearing Resource Teachers change students each school year, while in others Hearing Resource Teachers may divide their student caseload in such a way that they support either elementary or high-schools, and do not necessarily see the same students though development. With this in mind, future research is needed in order to determine whether or not the Kindergarten to Grade 12 support model used by the North Vancouver Hearing Resource Teachers provides hard of hearing students with advantages.

Fourth, the friendship patterns that were uncovered indicate another area of further research. Previous research indicated that hard of hearing children in mainstreamed educational settings experience limited success with making and maintaining friendships (Israelite et al., 2002). However, the findings on friendship patterns of the current study paint a different picture, as most children experience some success with making and maintaining friends. This discrepancy in the literature indicates friendship patterns as an area for further investigation.
Lastly, the support that hard of hearing role models play in the overall social-emotional development of hard of hearing children is another area of further study. The current study indicated a positive relationship between acceptance of hearing loss by three hard of hearing children and regular contact with other individuals with hearing losses. Although this finding is not overwhelming, as only three out of ten children displayed this connection, there is a need for further investigation in order to identify a clear trend.

Conclusions

In closing, the Hearing Resource Teacher’s unique perspective has helped shed light on the social experiences of elementary aged, hard of hearing children who are educated in regular classrooms alongside their hearing peers. The findings add to our understanding about peer relationships between hard of hearing children and their hearing peers, as well as provide valuable insight into factors that hinder and factors that facilitate peer interaction and socialization. It is hoped that the suggested interventions highlighted in this study lead to effective social skill support for the hard of hearing children in our classrooms.
REFERENCES


disabled children: Selecting skills and implementing training. *Journal of Clinical
Child Psychology, 8*, 234-241.


children: The effects of partner hearing status and familiarity. *Developmental
Psychology, 22*, 691-700.

Levine, L. M., & Antia, S. D. (1997). The effects of partner hearing status on social and

normally hearing preschoolers. *British Journal of Educational Psychology, 55*,
111-118.

development of hearing impaired persons. *Journal of Humanistic Education and
Development. 28*(1), 35-44.

McCauley, R. W., Bruininks, R.H., &Kennedy, P. (1976). Behavioral interaction of
hearing impaired children in regular classrooms. *Journal of Special Education, 10*,
277-284.


APPENDIX: INTERVIEW QUESTIONS FOR HEARING RESOURCE TEACHERS

1. How long have you worked with John? What support services do you provide to John?

2. How would you describe John’s (substitute name of the child) hearing loss?

3. Do you think that John’s hearing loss has had an impact upon him? If so, in what ways?

4. In particular, do you feel that his hearing loss has had an impact upon:
   a. His academic abilities? If so, in what way(s)?
   b. His academic achievement? If so, in what way(s)?
   c. His classroom behaviour? If so, in what way(s)?
   d. His personality? If so, in what way(s)?
   e. His friendships or social interactions with classmates? If so, in what way(s)?

5. Do you think the other children in the class are aware that John has a hearing loss? If not, why not? If so, how have they become aware of it, and what do you think is their understanding of John’s hearing loss?

6. Does John have close friends in the class or at school? If not, why do you believe this is so? If yes, approximately how many close friends do you think he has?

7. Does John ever appear not to understand you, his classroom teacher or others because of his hearing loss? If yes, could you describe a situation in which this occurred in the classroom? What typically occurs in such a situation? What strategies does John use to repair the communication breakdown?

8. When does communication in the classroom appear to be easiest for John? When does it appear most problematic?

9. To the best of your knowledge, does John interact with other hard of hearing people, either children or adults? If so, in what context(s) and approximately how frequently does he interact with them?

10. Is there anything you’d like to add that I haven’t already asked?