EXAMINATION OF READING MOTIVATION LEVELS AND ASSOCIATED FACTORS IN DEAF AND HARD-OF-HEARING ADOLESCENTS

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ABSTRACT

EXAMINATION OF READING MOTIVATION LEVELS AND ASSOCIATED FACTORS IN DEAF AND HARD-OF-HEARING ADOLESCENTS

Sarah Carlton

The purpose of this study is to examine self-rated levels of reading motivation and reading activity among Deaf and Hard-of-Hearing (DHH) Adolescents and the relationship to overall Language Arts skills. This study is framed by social learning theory and self-determination theory. DHH Adolescents (n=38), between the ages of 11 and 17, with bilateral hearing loss, located in Southern California participated in the study. Data collection included administration of the Motivation for Reading Questionnaire (MRQ), Reading Activity Inventory (RAI) and a demographic survey. Phase 2 included a focus group of Phase 1 participants (n=5). Survey data was analyzed quantitatively for mean differences and correlations while subsequent focus group data was analyzed using axial coding. Significant correlations identified relationships between gender and three constructs on the MRQ: Curiosity, Recognition, and Social Reasons. Educational Placement was also significantly correlated to Importance of Reading. Themes identified in the focus group were motivation, impact of hearing loss, and beneficial strategies employed. This study extends the extant research supporting reading motivation as an essential component of adolescent literacy instruction, while filling a gap in the literature by analyzing reading motivation of DHH learners. Limitations include the small sample size, limited geographical region, and the use of California

state-testing scores as a general measure of Language Arts Skills. Opportunities for future research and implications of the study are discussed as well

DEDICATION

This dissertation is dedicated to my two sons, Noah and Finn. You are the inspiration behind every word, every late night, and every milestone achieved in the pursuit of this doctoral dissertation. Your unwavering love, patience, and understanding have been my guiding light and inspiration throughout this journey.

Noah, with your boundless curiosity and inquisitive mind, you remind me daily of the importance of asking questions, seeking knowledge, and embracing the beauty of discovery.

Finn, though you're still so small, your infectious laughter and endless energy infuse joy into even the most challenging of days, reminding me to approach each obstacle with resilience and optimism.

As I embark on this final chapter of my academic endeavor, I dedicate this dissertation to both of you. May it stand as a testament to the values of perseverance, dedication, and love that you have instilled in me. Know that every milestone reached and every accomplishment earned is a tribute to the boundless love and support you provide. As you go through life, always be willing to aim high and work hard to achieve the goals you set for yourselves, and know that you can overcome any obstacle you encounter.

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CHAPTER 1 INTRODUCTION

The World Federation of the Deaf reported that of the 72 million deaf people in the world, only 17% receive education while 80% are considered undereducated; where, on average, they attain a fourth grade reading level (World Federation of the Deaf, 2010). Despite advances in technology and an emphasis on early intervention services, low reading levels for this population has remained unchanged for decades. Practitioners in the field attribute these delays to limited vocabulary knowledge, limited background knowledge, an impaired auditory channel that does not allow them to hear the sounds of speech, and difficulties understanding abstract and inferential language (Harris & Terlektsi, 2010; Trussel & Easterbrooks, 2015; Webb et al., 2015; Yoshinaga-Itano, 2017). All of these factors play a significant part in the challenges Deaf and Hard-of Hearing (DHH) students face on a daily basis in the classroom.

Research supports the idea that in order to continually strengthen reading comprehension and build vocabulary knowledge, students need to read *more* (Harris & Terlektsi, 2010). The more a student reads, the more they are exposed to higher level vocabulary, grammar and syntax. Recent focus on motivation and engagement of readers highlights the concept that students who are motivated and engaged often show improvement in literacy skills. For students who struggle significantly with reading, especially Deaf and Hard-of-Hearing students, the increased level of challenge reading poses to these students could cause a downturn in reading motivation and self-efficacy beliefs (Povlakic, 2019). According to Povlakic, DHH students often find reading to be a significant challenge, and therefore are noted too often to have limited interest in reading outside the classroom, appear to lack motivation and have low self-efficacy (2019).

Unfortunately, at this time, there is very limited research that focuses on motivation, engagement and self-efficacy for this population of students.

Purpose of Study

The purpose of this study is to examine self-rated levels of reading motivation and reading activity among Deaf and Hard-of-Hearing (DHH) Adolescents and the relationship to overall Language Arts skills. Data gathered for this study will provide novel information in regards to reading motivation for a population of students that has not been previously studied.

Statement of the Problem

Literacy rates for Deaf and Hard-of Hearing (DHH) students have remained unchanged for more than 40 years, despite advances in technology, research and early intervention practices (Qi & Mitchell, 2012). The majority of reading research conducted with this population has focused on phonological awareness, early literacy practices and intervention, vocabulary, and comprehension. Though current research has provided information and insight into reading processes and literacy development for this population of students, DHH students still graduate high school with an average 4th grade reading level (Qi &Mitchell, 2012). DHH students are considered a low-incidence population in the educational arena, accounting for approximately only 1% of the student population in the United States. Because of these low numbers, Deaf individuals have become a marginalized group that does not often receive the same attention as other groups.

Having worked in multiple educational settings with students who have hearing impairments (birth through age 22), it has been my experience that most DHH adolescents lack motivation and self-esteem when it comes to reading. Observation and discussion with students have shown that they often feel reading is challenging; bringing little, if any, enjoyment. Reading is often perceived solely as a school-related task that needs to be completed for a grading purpose.

Research has proven that when formal reading instruction ends, students need to read more, both in quantity and complexity, in order to further their reading skills past what has been explicitly taught (Harris & Terlektsi, 2010). When reading is challenging and motivation and self-efficacy are lacking, reading *more* is unlikely to occur. Because DHH students find reading to be a challenging task, reading additional materials is not happening and it is significantly impacting their access to educational curriculum as they struggle to read and comprehend grade-level material across subject matter.

Educational Significance

Though student reading motivation has been researched to a greater extent, levels of motivation for Deaf and Hard-of-Hearing students has been minimal. Considering the concern with the lack of progress in terms of overall literacy rates for this population of students, looking outside the box to consider additional factors that may be impacting these students is crucial. Focusing on literacy attainment past direct instruction, through the lens of motivation, will offer professionals an area of focus not emphasized in the extant literature. This study will address students' self-rated levels of motivation for reading and the relationship to overall Language Arts development. Input gathered from

DHH Participants will allow for further analysis of thoughts and challenges that these students face on a daily basis, both in and out of the classroom environment.

Personal Interest

As a Deaf Educator with over 13 years of experience in the field, I have had the opportunity to work in different positions within the field. As a classroom teacher, Itinerant teacher, Auditory Verbal Therapy (AVT) provider, parent educator, and program specialist, I have interacted with many families and students in the local area. I have had the amazing opportunity to see young toddlers grow into graduating seniors and watch their educational journey unfold. One topic that always arises in IEP meetings, individual therapy sessions and parent education and support groups is literacy achievement. Parents are often disheartened and older students often disinterested. Reading is continually a challenge.

On a personal note, I consider myself an avid reader. I was raised in a home that valued and encouraged reading. No topic was off limits as I grew older and book discussions took place as copies of books were handed down from one reader to the next. Though we grew up in that same household, one of my sisters always struggled with reading in school and refused to read for pleasure. It was an extremely challenging task, she received very little enjoyment from the whole process, and she struggled in all core subjects across the school environment.

As a doctoral student, the concepts of engagement and motivation grabbed my attention as I considered them in both my personal and professional experiences. How does engagement and motivation impact a child's success? Do these affective domains

play a larger part in learning? I have seen DHH students, who as young children loved to read and were progressing with age-appropriate skills, plateau in their reading abilities and become disinterested and unmotivated.

As an individual with a profound unilateral hearing loss, I can often relate with the students that I work with. To a certain extent, I can understand their struggles. I can highlight concerns and challenges by sharing my own stories and experiences. Even with only a unilateral hearing loss, school was difficult and exhausting. My love and enjoyment of reading and getting lost in a good book often provided me an escape. I understand now, as a professional, that this was pivotal in developing my reading skills and growing my vocabulary. This is what I want for my students.

Research Questions

Quantitative Research Questions

Question 1: How do Deaf and Hard-of-Hearing adolescents' rate themselves on levels of motivation and self-efficacy using the Motivation for Reading Questionnaire (MRQ) and reading activity on the Reading Activity Inventory (RAI)?

Question 1A: To what extent are demographic characteristics (age, grade, gender, mode of communication, device use, educational placement) correlated to reading motivation levels and reading activity for Deaf and Hard-of Hearing Adolescents?

Question 2: What is the relationship between reading motivation levels on the MRQ and ELA SBAC testing scores of Deaf and Hard-of-Hearing Adolescents?

Qualitative Research Question

Question 3: What influences Deaf and Hard-of-Hearing Adolescent's sense of motivation and self-efficacy in regards to reading and Literacy activities?

Quantitative Research Hypotheses

Question 1 Hypothesis: Deaf students rate themselves average on the Motivation for Reading Questionnaire.

Question 1A Hypothesis: Demographic variables do not have a significant influence on levels of reading motivation and reading activity for DHH Adolescents.

Question 2 Hypothesis: There is no relationship between reading motivation levels on the MRQ, Reading activity on the RAI, and students overall Language arts test scores on the ELA SBAC.

Definition of Terms

Adolescent: the age of adolescence is commonly viewed as the ages of 10-19 which included both lower and upper secondary levels of education (World Health Organization, 2009b).

Affective domain: One of the three levels of Bloom's Taxonomy that highlights growth in feelings or emotional areas, such as values, motivations, enthusiasms, attitudes and beliefs about self (Bloom et al., 1956).

Challenge: willingness to take on difficult reading material (Baker & Wigfield, 1999)

Competition: the desire to outperform others in reading (Baker & Wigfield, 1999)

Compliance: reading to meet the expectations of others (Baker & Wigfield, 1999)

Curiosity: desire to read about a particular topic of interest (Baker & Wigfield, 1999)

Deaf and Hard-of-Hearing (DHH): A person who has a hearing loss greater than 25dB. Hearing loss may be mild, moderate, severe, or profound. It can affect one ear or both ears, and leads to difficulty in hearing conversational speech or loud sounds. Hard of hearing- refers to people with hearing loss ranging from mild to severe (25dB-90dB). Deaf- refers to people with a profound hearing loss of 90 dB loss or greater (World Health Organization, 2020).

Importance: subjective task value (Baker & Wigfield, 1999)

Intrinsic Motivation: the doing of an activity for its inherent satisfaction and enjoyment rather than for some separable consequence. Intrinsic motivation leads to high-quality learning and creativity (Ryan & Deci, 2000)

Involvement: enjoyment experienced from reading certain kinds of literary or informational texts (Baker & Wigfield, 1999)

Low-Incidence disability: a severe disabling condition with an expected incidence rate of less than one percent of the total statewide enrollment in kindergarten through grade 12, which include severe disabling conditions such as hearing impairments, vision impairments, and severe orthopedic impairments, or any combination thereof. (30 EC 56026.5).

*Motivation**:*** Guthrie and Wigfield (2000) defined motivation to read as "the cluster of personal goals, values, and beliefs with regard to topics, processes, and outcomes of reading that an individual possesses" (p. 404).

Recognition: the pleasure in receiving a tangible form of recognition for success (Baker & Wigfield, 1999)

Self-determination: free choice of one's own acts or states without external compulsion (Merriam Webster); Actions/choices driven by intrinsic factors in order to get psychological needs of autonomy, competence and relatedness met (Ryan &Deci, 2000).

Self-efficacy: Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1977, 1986, 1997).

Social Reasons for Reading: includes "the process of constructing and sharing the meanings gained from reading with friends and family (Baker & Wigfield, 1999)".

Work avoidance: the desire to avoid reading activities (Baker & Wigfield, 1999)

CHAPTER 2 REVIEW OF RELATED LITERATURE

Theoretical Framework

Social Learning Theory

Social Learning Theory identifies attention, retention, reproduction and motivation as the four necessary steps in learning. Specifically, levels of motivation and self-efficacy impact how a person approaches tasks, goals and challenges. Those with higher levels show deep interest in activities and have a strong sense of commitment. They also are more resilient when faced with challenges or setbacks. On the other hand, those with lower levels tend to avoid challenging tasks and have a negative attitude in terms of failures and challenges, often losing confidence and avoiding tasks (Bandura, 1977). Motivation and self-efficacy are areas that have not been studied in depth in relation to Deaf adolescents at this time. In my experience, these students find reading to be challenging and struggle to complete tasks. They often avoid these tasks due to lack of comprehension or fear of failure. In the school setting, these tasks are seen as requirements they "just need to get through" and do not bring any sense of enjoyment or interest.

Self-determination Theory

In line with Social Learning Theory, Self-determination Theory identifies three basic needs that includes competence, autonomy and relatedness, which greatly enhance or undermine motivation and well-being (Ryan & Deci, 2000.) Individuals need to feel successful at what they do, connected to others, and independent in the tasks at hand. Motivation is grouped into two categories; intrinsic (motivated by enjoyment and

personal achievement) and extrinsic (motivated by external reward or benefit). Deci, Lens and Vansteenkiste (2006) found that intrinsic motivation and goals produced deeper engagement in learning activities, higher levels of persistence and deeper understanding of material.

In combination, these theories guide the framework of this study. Addressing reading challenges of DHH students through an affective lens, focusing on motivation and self-efficacy, may shed some light on additional challenges and barriers they face, in addition to the known obstacles such as phonological awareness and vocabulary development. If intrinsic motivation is low, these students will be less engaged and committed. When faced with challenging tasks, they run the risk of developing negative attitudes towards reading and low self-efficacy.

Review of Extant Literature

Adolescent Development

Research in brain development has shown that adolescence is associated with increases in novelty and sensation seeking that often results in risk-taking behavior (Dahl, 2004; Spear, 2000), egocentrism, impulsivity, peer conformity and present orientation (Moshman, 2011). During this time, the brain's method of processing emotions transforms, typically with the onset of puberty (Yeager, 2017). Adolescence is a time marked by a changing brain, a changing body, and a need for independence.

Adolescent development needs to be analyzed through both a cognitive and behavioral lens. Brain research only gives us a part of the picture. "We cannot predict or understand how adolescents perceive, infer, think, feel, act, reason, or reflect by

examining their brains" (Moshman, 2011, p. 202). Behavioral research is necessary to obtain a full understanding of adolescent functioning. What researchers have found is that adolescents function similar to adults and that any individual differences beyond age 14 are not significantly related to age (2011). There are vast differences between a child's brain and an adolescent's brain, but not as much difference when compared to adults. Luna, Paulsen, Padmanabhan & Geier (2013) note that the brain is fairly stable in its structure throughout development and that prefrontal networks are established by adolescence, which supports the idea that adolescents can behave like adults. Adults of all ages show the same tendencies towards impulsivity, peer conformity, egocentrism for example; yet to varying degrees (Moshman, 2011)

Though they may be similar in development, experience and environment play a special role in developing more mature, complex, rational thinking associated with the adult brain. Cognitively rich and challenging environments (Moshman, 2011), rewarding or aversive stimuli and context demands (Luna et al., 2013) play an important role in the continued development. Luna et al notes that although an adolescent brain may engage in similar circuitry, brain activity and resulting behavior can be altered due to a heightened reward sensitivity linked to higher levels of dopamine during adolescence (2013). Further brain development requires active experiences, active engagement, and a challenging environment (Moshman, 2011; Yeager, 2017).

In addition, adolescence is a time of increased social concern. Adolescents pay more attention to social cues, seek status and respect amongst peers and adults and experience increased motivation for social learning (Yeager, 2017). Yeager, in his discussion of the need for social-emotional learning programs at the middle and high

school levels, also notes some of the psychological needs that arise in adolescence, including "the need to stand out, to fit in, to measure up, and to take hold" (2017, p.76).

Adolescent Literacy Instruction and Motivation

In line with this information in regards to overall adolescent development, researchers have shown that motivation and engagement should be incorporated into effective literacy programs. Effective adolescent literacy instruction includes many components such as explicit instruction, effective principles embedded into content, motivation and self-directed learning, diverse text, intensive writing, use of technology, and extended class time for literacy (Biancarosa & Snow, 2006). A highly effective program for adolescent learners should emphasize word study, fluency, vocabulary, comprehension, and motivation (Marchand-Martella, Martella, Modderman, Peterson & Pan, 2013). Though motivation is mentioned in the research, it is also important to note that among the skills needed, motivation is the only skill that cannot be explicitly taught. Rather, it must be fostered.

Since the late 1990's, much research has focused on motivation, both intrinsic and extrinsic, focusing largely on nine components (interest, preference for challenge, involvement, self-efficacy, competition, recognition, grades, social interaction and work avoidance) that have been strongly associated with reading comprehension (Baker & Wigfield, 1999; Klauda & Guthrie, 2014; Lenters, 2006; Wigfield & Guthrie, 1997). Examining how motivational, cognitive and social aspects are integrated led to the engagement model of reading (Guthrie & Wigfield, 2000) that highlights the importance of motivational strategies in order to increase engagement, and in turn, influence reading outcomes.

When students struggle with reading, it is often difficult to motivate them to read for pleasure or leisure. Many researchers have addressed the need to change classroom practices in order to build and support student motivation, specifically with this age group (Klauda & Guthrie, 2014; Turner, 2014). Though multiple components of motivation are intrinsic, many students can lack these important aspects if not nurtured, especially in the classroom environment. Using Concept-Oriented Reading Instruction (CORI), Klauda & Guthrie (2014) focused on four motivational-engagement supports which teachers were to provide: Competence support, providing choice, emphasizing the importance of reading and arranging collaboration). When provided with these supports in a CORI framework, they were able to make deeper connections with informational text because it was relevant and they had more meaningful competence, therefore they were more engaged and motivated to tackle the task (Klauda & Guthrie, 2014). Text comprehension in the CORI framework coupled with the motivational-engagement supports, was higher than for those who received only traditional instruction and student's perceptions of the supports explained much of the variance between the two types of instruction. Along the same lines, Turner (2014) focused her work on four principles of motivation that included the idea that students are more likely to engage if teachers support them in their own perceptions of competence, autonomy, belongingness and meaningfulness of learning. In two separate studies, focused on turning theory into practice in the classroom, she worked with teachers to adapt their strategies in the classroom, while being supported through professional development and teacher learning communities, supporting the hypothesis that motivational instruction supports greater student engagement (Turner, 2014). After three years, teachers who provided the most Motivational Supports showed increased and

more engaged patterns of interaction through the third year (Turner, 2014). These findings concur with adolescent brain research that outlines the need for social learning, cognitively rich environments, social recognition, and self-efficacy in continued brain development of our adolescent learners.

Reading Challenges of Deaf Learners

Literacy skills of Deaf/Hard-of-Hearing individuals have been a significant concern for decades, with little improvements seen along the way despite early intervention and advanced technology. Often, research has focused on emergent literacy and skills such as grammar, vocabulary and phonology because it "is imperative to determine which skills are important for beginning deaf readers and which skills measured at the beginning of the reading process indicate the ease and skill with which deaf children will acquire the alphabetic principle and achieve comparatively fluent reading" (Kyle &Harris, 2010). Deaf and Hard-of-Hearing children have been shown to develop early literacy skills in the same way as their hearing peers, but often at a slower rate. Despite early literacy gains and similar levels with hearing peers for some Deaf children, reading trajectories start to diverge after the second year of instruction (Kyle & Harris, 2010) and the gap continues to widen as they age (Easterbrooks et al., 2008; Trezek, Wang, Woods, Gampp, & Paul, 2007).

When analyzing reading skills of Deaf children, challenges often arise in lack of phonological/phonemic awareness, background knowledge, limited language exposure, limited vocabulary, and overall reading comprehension. In addition, many assessments and interventions are not normed on this population which leaves specialists in the field

with limited resources. With concerns arising in all these areas, overall literacy skills for this population of students are often greatly impacted.

Phonological awareness (PA) is impacted greatly for a multitude of reasons. Deaf children, regardless of communication mode, do not have full access to the phonological code. There has been much debate about the importance of PA skills for this population with research being divided on the need for phonological awareness with DHH students. One argument is that DHH students use different linguistic and cognitive pathways when reading and often rely more on language abilities than phonological processing (Allen et al., 2009; Mayberry, del Guidice & Lieberman, 2011). On the other hand, research posits that, though reading development is often delayed for this population, it develops along the same trajectory and is dependent on phonological awareness, phonics, fluency and vocabulary skills (Webb, Lederberg, & Branum-Martin Connor, 2015). Analyzing the phonological awareness skills of DHH adolescents, Delage and Tuller (2007) found that more than half of the students with mild-moderate hearing loss continued to have difficulties with both phonology and grammar.

Vocabulary development is an area that has been studied in this population as well. This is an area of great debate and interest among providers in the field. Often, young children with hearing loss may not have access to speech and language for at least the first year of their life, or until they are fitted with appropriate amplification, therefore limiting the language exposure and receptive vocabulary during that time. Limited language, in conjunction with limited auditory access, puts these children at a disadvantage when formal decoding instruction begins in Kindergarten (Trezak & Mayer, 2019). Another concern is that Deaf students do not learn through incidental learning,

like their hearing peers. These students have difficulty with word learning, specifically retention (Walker & McGregor, 2013), lower word learning for novel words and lower receptive vocabulary (Pittman et al., 2005). Nelson and Crumpton (2015) analyzed results of the Test of Integrated Language and Literacy Skills (TILLS), comparing three groups: Typical Developing, Language Learning Disabled and Deaf. Results showed that fifty percent of the variance in reading skills can be explained by vocabulary. Though DHH student's profiles were more similar to the LLD group, major differences in the outcomes were noted in vocabulary awareness, phonemic awareness, following directions, story retelling, delayed story-retell, and social communication (2015). Limited vocabulary development impacts many areas of literacy. Coupled with decoding difficulties, many DHH students struggle with overall comprehension across educational settings.

Limited background knowledge also plays an important role in overall reading comprehension. Given delayed access to language, limited social experiences, lack of incidental learning and limited language partners when a student's primary mode of communication is American Sign language, DHH students often come to school with limited world knowledge and experiences that directly impact their understanding of a text (Alasim, 2020). Research on hearing students has shown that students with more extensive background knowledge are able to understand directions and new information and answer more difficult questions with greater ease than their peers with limited background knowledge (Taboada & Guthrie, 2006). Limited research has been conducted with Deaf students. Two studies conducted in 1997 linked DHH student's prior general knowledge and vocabulary knowledge as strong predictors of overall reading comprehension (Jackson et al., 1997; Garrison et al.,1997). In line with these findings,

Alasim (2020) recently found that DHH student's prior knowledge explained 44.3% of the variance in reading comprehension scores.

Considering they often have delays in the primary skills needed to become a good reader, Deaf students have shown limited academic achievement (Marshark et al., 2002) and lower levels of motivation for learning and self-efficacy (Stinson & Walter, 1997). Yet, Deaf children have the same learning potential and non-verbal intelligence as their hearing peers (Miller, 2004; Ogundiran & Olaosun, 2013). There is a breakdown that needs to be addressed in order to make any significant changes to Deaf Education and the outcomes for these students as they leave high school. Motivation and self-efficacy should be a focus; yet at this time limited research has explored this construct for this particular population.

Motivation of Deaf Learners

In the first, and one of the only studies to address motivation for this population, Parault and Williams (2010) aimed to examine the relationship between motivation, quantity of reading and text comprehension in Deaf students; with the hypothesis that these students would require higher levels of motivation since reading poses such a challenge (Parault & Williams, 2010). In order for students to increase vocabulary and reading comprehension, they must read more. They must be exposed to different types of text, different styles of writing and higher-level vocabulary in order to strengthen their skills after traditional reading instruction ends. This poses a challenge for students who struggle significantly with reading, and who find limited enjoyment or purpose in reading activities. In this initial study, Deaf college students (enrolled in college for anywhere from 2-5 years), reported higher levels of reading motivation across multiple dimensions,

including challenge, curiosity, efficacy, involvement, and intrinsic motivation; and also, on average were reading at a sixth grade reading level. Given that these students were enrolled in higher education and displayed higher (though still significantly delayed) reading levels than the average Deaf student, the authors did call for further research to be done in the area with younger students that may more accurately depict the true population of DHH adolescents (Parault & Williams, 2010). Unfortunately, since that time, it does not seem that much attention has been given to this population.

More recently, Povlakic (2019) did find a moderate correlation between DHH student's attitudes to reading/writing and studying to their overall school success, as well as a moderately strong correlation between the perceived possibilities of these activities, highlighting that DHH students felt they were often included in studying activities, but mostly never included in reading/writing activities. Students rated these activities (reading, writing, studying) as being high in what opportunities they could afford them, yet felt they were never really included or invited to be involved in them. This highlights the idea that DHH students perceive the importance of these skills, but are not always involved, do not always feel confident in their skills, and are lacking in motivation.

Povlakic highlights a very important aspect of deaf education in that DHH reading skills have been the focus of teachers and researchers for a long time, yet there have been no significant improvements and cites Marshark (2009), expressing the concept that reading challenges faced by this population are less about reading skills which is the reason for poor advancements over the last five decades (Povlakic, 2019). Interestingly, in their 2008 observational study, Donne and Zigmund analyzed time engaged in reading instruction and activities for DHH children across academic settings. Though not

specifically addressing student motivation and self-efficacy, their results shed light on where the breakdown may be occurring. They found that DHH students spend far less time than their hearing counterparts in reading activities (silent reading, reading aloud, and formal reading instruction) in grades 1-4. On average, with a mean of 103.1 minutes allocated time for reading instruction, DHH students only spent approximately 75% of that time focusing on reading activities. During that time, an average of 6.9 minutes daily was spent on reading aloud and only 5.3 minutes spent on silent reading. Looking at different educational settings, DHH students in the general education settings spent the most time engaged in actual reading. Students in the self-contained classes whose reading levels were at least 2 years below grade level, spent the least amount of time in formal reading instruction and activities. The students who have the most significant delays are not receiving the targeted instruction needed to make gains in reading. Experience in the field has shown that teachers are often not prepared to teach reading and modify reading curriculum to address the unique needs of this population. As the gap widens for these students, their motivation to read and confidence in their abilities as readers declines.

This emphasizes the need to look at other contributing factors for this population of students. As many DHH students, especially those learning spoken language versus signed language, are now being mainstreamed into general education classes and expected to keep up with pacing in those environments, it is vital to look at these same areas, such as motivation and engagement, for these students in addition to the research being done on their typical peers. Luckner and Sebald (2013) note that this population of students may require explicit instruction in developing their self-determination and self-efficacy when it comes to reading. It is not something that they will learn incidentally;

therefore, educators are called on to teach the strengths of their DHH students and to motivate them and encourage them to reach their potential.

The few studies addressing reading motivation for this population are highly variable spanning across early elementary to college level, with many limitations noted in these studies. Parault & Williams (2010) had a strong study focusing on DHH college students, who do not fit the average skill-level of DHH learners in general. A similar study with typical DHH adolescents would add greatly to the existing research on motivation and engagement for this population of learners. Given that we know DHH students continue to struggle with reading throughout their educational career and that most research has focused on early literacy, Adolescents are an age group that we need to analyze more closely. As researchers have called for more research in this area, and in light of the fact that outcomes have not improved in over five decades for DHH students, we need to look outside the box to determine why this is happening. Analyzing motivation for this population of students will address the gap in literature and give professionals insight into why these students lose motivation and self-determination as they age.

CHAPTER 3 METHODOLOGY

Research Design

This study will employ a sequential explanatory mixed methods design that focuses on the relationship between self-rated levels of reading motivation and overall Language Arts skills of Deaf Adolescents. A mixed methods design is an approach that allows the researcher to gather multiple types of data (quantitative and qualitative) in order to answer specific research questions that, when combined, provides a deeper understanding of the data than either method alone (Creswell, 2015). Phase 1 will allow for analysis of the quantitative data, while Phase 2 will give a voice to Deaf participants and further explore their views of reading and challenges they face.

A sequential explanatory design begins with the quantitative strand in the first phase. Utilizing data and trends from this phase, the researcher then implements the Qualitative Phase 2 in order to support and better understand the quantitative results. As Creswell (2015) notes, this design allows for explanation and understanding of *how* the quantitative findings occurred. Since reading motivation of DHH adolescents is an area that has not been researched in great depth, quantitative data will be collected first in order to gather data and examine relationships. As a Deaf Educator, I feel strongly that the second phase is imperative to explain and support the findings of the initial phase. Though Likert- scale surveys allow for statistical analysis, adding focus group information in Phase 2 will allow for deeper explanation and personal input to help explain the results. In addition, it is my strong professional opinion that we need to include Deaf participants in these conversations, as we use research results to plan and

implement programs designed to improve educational outcomes for this population of students.

Paradigm

This study is guided using Pragmatism Paradigm, allowing the researcher to answer the sought-after questions using the best methodologies needed to look at the big picture. Though the Phase 1 surveys, state testing scores and demographic information will supply much needed data that has not been researched to-date, the qualitative focus groups in Phase 2 will draw out the reasons and the *why's* for this population, who often are not given a voice. As Creswell notes, this paradigm provides an opportunity for "multiple methods, different worldviews, and different assumptions, as well as different forms of data collection and analysis in the mixed methods study" (Creswell, 2003, p.12).

Population and Sample

This study aims to identify reading motivation levels of Deaf and Hard-of-Hearing adolescents and analyze the relationship to overall reading and writing skills. According to the World Health Organization and the UN, the age of adolescence is commonly viewed as the ages of 10-19 which included both lower and upper secondary levels of education (World Health Organization, UN, 2009b). According to Gallaudet University's 2014 Annual *Survey of Deaf and Hard of Hearing Children & Youth* (2014), there are approximately 3,527 students that fall into the category of DHH adolescents, with 47% identified as female and 52% male. In addition, approximately 51% of the reported students are considered Hard-of-Hearing, while 27.5% are Deaf with a hearing loss greater than 90dB (Office of Research Support and Internal Affairs, 2014).

Gallaudet's Annual Survey is a national survey that collected information from educational programs related to demographics, hearing loss and educational programming on deaf and hard of hearing children and youth between 1968 and 2014. Due to limited resources, changing trends and new regulations, this survey was suspended after 2014 (Office of Research Support and Internal Affairs, 2014).

For this study, DHH Adolescents between the ages of 11 and 17 are being considered with regard to the above-mentioned organizations, as well as the structure of typical middle school and high school programs across the United States. Deaf and Hard-of-Hearing participants that meet age requirements and have a documented bilateral hearing loss within the mild to profound range are included in the population, regardless of primary mode of communication.

According to California's Legislative Analyst's Office (2016), approximately 14,000 DHH students are served in California each year; which equals 0.2 % of all California students and 1.9% of California students in Special Education services. The population of this study includes DHH Adolescents between the ages of 11 and 17 in Southern California.

Sample- Phase 1: Survey

For Phase 1 of this study, the sample includes DHH Adolescents served across seven neighboring school districts in Los Angeles County, California. Overall sample will include at least 40 participants, between the ages of 11 and 17, who have a bilateral hearing loss of greater than 25B. Participants will include both females and males and may use American Sign Language, Spoken English, or a combination of both as their

primary language. Participants will be obtained through convenience sampling based upon expressed interest and approval by the school districts involved, availability of students receiving DHH-related services and the geographic location.

Sample –Phase 2: Focus Groups

Once demographic and survey results have been collected and analyzed, focus groups will be created. Questions and discussion will be centered on themes and trends that emerged from Phase 1 and discussion of factors and challenges that may impact overall motivation and self-efficacy levels. Focus groups will consist of participants who completed Phase 1 and are willing to volunteer and share experiences and opinions regarding reading. Two focus groups will be conducted with 4-5 participants each, so that it can be managed more easily and to increase the likelihood of all participants sharing their thoughts. One focus group will consist of Participants who utilize ASL for communication. The other focus group will consist of Participants who utilize Spoken Language. This will allow all Participants to participate using their primary mode of communication to ensure access and comfort during discussions. Physical location will be a neutral place, with central access to participating districts, (unless held virtually due to Covid-19 Safer at Home requirements).

Data Collection and Analysis

This research proposal was shared with the eight Superintendents of the local school districts and verbal agreement from all districts was given. Formal letters of approval were collected from each Superintendent, expressing consent and understanding of research design, impact on students, data needed from the district pertaining to state-

testing scores and implications of the research. Upon agreement, Parents of all students within the participating school districts that fit the research requirements were contacted and a Parent Consent form was be sent. Upon return of Parent consent, Survey completion began. I contacted each Superintendent's office to obtain state-testing score sheets for each Participant. After Phase 1 data analysis, focus group questions and topics were formulated. A focus group was then conducted with volunteer Participants from Phase 1.

Phase 1: Quantitative Data Collection

Survey. Survey packets were provided to each participant upon signature of the parent consent form. Participants were given and read an introduction letter that explains the study, the Motivation for Reading Questionnaire (MRQ), the Reading Activity Inventory (RAI) and a short demographic questionnaire. Time was allotted during the school day for students to complete the Motivation for Reading Questionnaire, Reading Activity Inventory and demographic questionnaire. This session was scheduled during time currently allotted with their DHH Specialist in order to minimize educational impact.

California State Testing Scores. Smarter Balanced Assessment score reports were gathered from each district Superintendent's office. Only Language Arts scores were utilized for the present study. Most recent testing results were used for the purposes of this study. Overall Language Arts scores, as well as four sub-scores, known as claims, were input into IBM SPSS Version 25. The four Claims categories include Reading, Writing, Listening and Research/Inquiry. State testing report sheets were locked in the researcher's file cabinet.

Phase 1: Quantitative Data Instruments

Motivation for Reading Questionnaire (MRQ). The Motivation for Reading Questionnaire-MRQ (Wigfield et al., 1996) was completed by all participants in Phase1. The MRQ measures 11 dimensions of reading motivation: challenge, competition, compliance, curiosity, efficacy, importance, involvement, recognition, social reasons, work avoidance and intrinsic. MRQ responses are measured on a four-point Likert scale, ranging from "1-very different from me" to "4- a lot like me". Given the range of participant language levels and modes of communication used, the MRQ, which is geared towards late elementary and middle school aged children was determined appropriate. Language used in the questionnaire is readable for DHH students. The questionnaires were read or signed to a participant. Participants circled the appropriate response on the scale. Scores were then analyzed from all 11 dimensions on the MRQ, with particular analysis on the overall score and efficacy dimension. I was interested in analyzing student responses to the efficacy-related questions, in particular, to see if their beliefs and attitudes are a strong predictor of their overall motivation.

Reading Activity Inventory (RAI). The Reading Activity Inventory (Guthrie, McGough, & Wigfield, 1994), was used to understand Participants reading activity for both home and school environments. The RAI focuses on three areas of personal reading, school reading and social activities. Administration takes 10-20 minutes, includes 26 questions, and students may complete independently or have an adult read the questions aloud and explain terminology if needed

The RAI is a Likert-scale questionnaire. *Social Activities* questions are rated from 1-4 with minimum and maximum scores of 0-20. *School Reading* questions are coded to

determine if what the student is reading is consistent with what is being taught in class. Scores can range from 0-9. *Reading for Personal Interest* discusses books read in the last week for enjoyment. Questions include information regarding frequency and title of text. Scores in this category range from 0-30.

Demographic Questionnaire. In addition to the two questionnaires above, Participants were asked to complete a short demographic questionnaire which includes information pertaining to age, grade level, gender, current school program, primary mode of communication, level of hearing loss and type of amplification used. Demographic information was input into IBM SPSS Version 25 software on a password protected computer. Hard copies of the Demographic Questionnaire are stored in a locked file cabinet.

Smarter Balanced Assessment Consortium (SBAC) Results. The Smarter Balanced summative assessments are California's comprehensive, grade-level assessments taken in the late Spring to measure progress toward college and career readiness. Assessments are aligned to the California Common Core State Standards (CCSS). Students in grades three through eight and grade eleven are assessed in Language Arts and Mathematics within a set testing window. Each test is comprised of two parts that include a computer-adaptive test and a performance task.

Computer Adaptive Testing (CAT) is a customized approach to testing where the computer adjusts the difficulty of questions based on student responses. If the student chooses an incorrect answer, the next question will be easier. If the student answers correctly, the questions progressively become more challenging. Benefits of computer

adaptive testing claim that is individualized to each student to efficiently and accurately identify which skills students have mastered (smarterbalanced.org).

In the Performance Task, students demonstrate critical thinking skills within a real-world problem. Multiple sources of information are presented in relation to one topic. Students must answer one to two research questions relating to the materials. Secondly, students must construct an essay that follows guidelines for a Narrative, Opinion/Argument, or Informational/Explanatory writing. This part of the assessment is not computer-adaptive. Along with a numerical score ranging from approximately 2000 to 3000, student results are given an Achievement Level Descriptor that includes Standard Exceeded (4), Standard Met (3), Standard Nearly Met (2), and Standard Not Met (1). Language Arts scores include an Overall Score and four Area (Claim) Descriptors which include *reading, writing, listening* and *research/inquiry.* These Claim Descriptors are categorized as Above Standard, Near Standard or Below Standard for each of these four areas. *Reading* includes the student's ability to understand literary and non-fiction texts. *Writing* is the ability to produce clear and purposeful writing. *Listening* is the student's ability to demonstrate effective communication skills. The *Research/ Inquiry* descriptor assesses a student's ability to investigate, analyze and present information.

Analysis of Quantitative Data

All responses from the SBAC scores, MRQ and RAI ratings, and demographic data were input into IBM SPSS Version 25. Descriptive statistics were calculated to obtain mean, frequencies and standard deviations. To answer the three quantitative research questions, bivariate correlational analysis will be conducted. Correlation

research addresses questions about the relationship between two or more continuous variables (Gorard, 2017). Pearson's correlation coefficient will be calculated to determine the associations between variables, as well as the strength of those associations. Two fundamental characteristics can be determined from the correlation coefficient: direction of correlation and strength/magnitude (Urdan, 2017). This allows researchers to explore correlation, rather than causation between variables. Data gathered can help researchers to use information from one variable to predict scores on a second variable (2017).

This study will examine motivational factors and reading activity in relation to overall Language Arts skills. In addition, the relationship between designated demographic variables and the eleven dimensions of reading motivation will be calculated. These results will help determine if there is a relationship between DHH students motivation levels and overall Language arts skills, accounting for demographic variables included.

Phase 2: Qualitative Data Collection and Analysis

Focus Groups. With its origins in the 1930s, focus group interviewing allowed for a more non-directive approach, shifting emphasis away from the interviewer and onto the participants, in order to gather large amounts of rich, varied data around a topic of interest. Group interaction, in a nurturing, safe environment, allows for a group discussion that may trigger thoughts and conversations that may not have emerged in a traditional, individual interview (Lichtman, 2013). Often, those that voluntarily participate in focus groups may be outspoken and articulate; which may pose challenges to ensure that those who may be from a marginalized group, may be less confident, or may face communication challenges are given the opportunity to express their thoughts.

Two primary questions guide the formation of focus groups: can the group mix best answer the research questions and will the experience be safe for participants? (Gibbs, 2017). Given my experience in the field of Deaf Education, as well as my own hearing loss, being a member of the marginalized group may be beneficial in establishing trust and gathering information and thoughts from less confident participants.

Two separate focus groups will be audio and video recorded upon consent. Video recording is preferable, especially given that participants may use Sign Language and facial expressions and body language are important parts of the language, conveying meaning and intensity. A semi-structured focus group will be implemented. A list of questions/topics will guide the conversation as we begin, but may be modified, allowing the group to lead the way. Questions related to opinions on reading, reading activity level, and strengths/challenges will be discussed based on data analysis from Phase 1. The primary purpose of these focus group sessions is exploratory in nature. The emphasis is to give a voice to participants that often go unheard and explore their thoughts and opinions on the trends found from the qualitative data.

Upon completion, focus group data will be transcribed line-by-line and will be reviewed by a disinterested peer reviewer to ensure accuracy. Transcripts will be coded using axial coding. Participants will be allowed to choose two books of interest as a reward for participation.

Field Notes. During the focus group sessions, I will take field notes that describe the participants, locations, conversations and body language. After participants leave, I will include my own reflections, ideas, and thoughts that emerged during the discussions

(Bogden & Biklen, 2007). Field notes will be used in conjunction with transcripts and video recording to support emerging themes.

Analysis of Qualitative Data

Focus group analysis will include a summary of the most important themes, noteworthy quotes, and any unexpected findings (Breen, 2006). Analysis will follow Krueger's (1994) framework analysis which follows five stages of analysis for focus groups. The five key stages include familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation. This framework allows for a thematic approach, capturing themes related to both the research questions and the participant narratives. Once data is collected, including transcription, field notes and observations, analysis begins.

The following 5 stages (Krueger, 1994) will be conducted in order to ensure deep, rich analysis.

Stage 1: Familiarization- includes listening to and reading transcripts of the focus group sessions to allow the researcher to get a sense of the whole session before breaking it down; allowing major themes to start to form.

Stage 2: Identifying a thematic framework- noting short phrases and concepts in the margins of the text to develop categories.

Stage 3: Indexing- This stage includes highlighting/pulling quotes out and making comparisons.

Stage 4: Charting- rearranging quotes from the original text and aligning them with the new thematic content. Data reduction is an important aspect of both Stage 3 and 4.

Stage 5: Mapping and Interpretation-. This stage includes making sense of individual quotes, relationship between the quotes and links between the data as a whole. Krueger (1994) also provides criteria as a framework for interpreting coded data: words, context, internal consistency, frequency and extensiveness of comments, specificity of comments, intensity of comments, and big ideas.

Weighted axial coding will be utilized to assign emerging themes a reference number, as well as assign a weight to the data depending on extensiveness and intensity (Breen, 2006). Once all data has been coded, frequency of themes will be calculated. Though frequency of a concept is important, Krueger & Casey (2015) also suggests giving thought to the following concepts, in addition to solely how many times a concept was mentioned, when coding data:

Extensiveness: number of different people who mentioned the concept

Intensity: amount of passion/force behind comments

Specificity: how much detail provided

Internal Consistency: Did participants remain consistent in their views?

These concepts will be taken into consideration when assigning weight to comments and quotes within the defined categories.

Ethical Considerations and Limitations

Instruments utilized in this study are established measures that have been used repeatedly and are considered valid and reliable. Though not normed on the Deaf population, information gathered should be considered appropriate given the text complexity and accommodations utilized during this study. The researcher has been in the field of Deaf education for 15 years, has the appropriate credentials and has worked in multiple educational programs for DHH students with experience with students from birth to age 22.

Limitations to this study are due in part to the low-incidence of hearing loss. Within research pertaining to the DHH population, a common cited limitation is most often the small sample size. Though the initial goal was to obtain a larger sample from across the United States, my primary purpose to explore the relationship between reading motivation and skill level led me to accept a smaller sample size due to limitations of testing results available across the United States. In order to ensure consistency and accuracy, all Participants were from the same geographical location and received the same summative state-tests.

In addition, Deaf Education is a rather small field and volunteers for the focus group may likely be familiar with the researcher. Though this may be useful in drawing out more truthful answers and obtaining more engagement during the focus groups since there is already an established relationship, Participants will be made aware of the reasons for the study, informed of confidentiality and the right to withdraw at any time without penalty. This should reduce concern about researcher familiarity.

Table 1

Data Collection and Data Analysis

Research Question	Data Collection/Sources	Data Analysis
Question 1: How do Deaf and Hard-of-Hearing adolescents' rate themselves on levels of motivation and self-efficacy using the Motivation for Reading Questionnaire (MRQ)and reading activity on the Reading Activity Inventory (RAI)?	Motivation for Reading Questionnaire Reading Activity Inventory	Descriptive statistics Bivariate Correlational analysis
Question 1A: To what extent are demographic characteristics (age, grade, gender, mode of communication, educational placement) correlated to reading motivation levels and reading activity for Deaf and Hard-of Hearing Adolescents?	Demographic Questionnaire	Descriptive statistics Bivariate Correlational analysis
Question 2: What is the relationship between reading motivation levels on the MRQ and ELA SBAC testing scores of Deaf and Hard-of-Hearing Adolescents?	Motivation for Reading Questionnaire ELA SBAC Scores	Bivariate Correlational analysis
Question 3: What influences Deaf and Hard-of-Hearing Adolescent's sense of motivation and self-efficacy in regards to reading and Literacy activities?	Focus group sessions with Audio and video recording Focus group transcripts Field notes	Transcription Krueger's (1994) Framework Analysis Weighted axial coding

CHAPTER 4 RESULTS

The purpose of this study was to examine self-rated levels of reading motivation and reading activity among Deaf and Hard-of-Hearing (DHH) Adolescents and the relationship to overall Language Arts skills. Past research with typical hearing students has focused both on intrinsic and extrinsic motivation as a factor in overall reading success; yet there is very limited research that examines motivation for this population of students. On average, DHH students have shown limited academic achievement and are often delayed in primary skills needed to be a strong reader (Marshark et al., 2002) despite having the same learning potential and non-verbal intelligence as their typical hearing peers (Miller, 2004; Ogundiran & Olaosun, 2013). In addition, they have lower levels of motivation for learning and self-efficacy overall (Stinson & Walter, 1997). This study examines motivation as a significant factor that may influence the reading development of DHH students.

For the purpose of this study, the Motivation to Read Questionnaire (MRQ) and the Reading Activity Inventory were used to obtain students' self-rated level of reading motivation and levels of reading activity. The Motivation for Reading Questionnaire-MRQ (Wigfield et al., 1996) measures 11 dimensions of reading motivation: challenge, competition, compliance, curiosity, efficacy, importance, involvement, recognition, social reasons, work avoidance, and intrinsic. The MRQ, which is geared towards late elementary and middle school aged children was determined appropriate, given the language levels and mode of communication used by the population of students in the study. The Reading Activity Inventory (RAI), was used to understand Participants reading activity for both home and school environments (Guthrie, McGough, & Wigfield,

1994). Both surveys were Likert-scale questionnaires. Directions and examples were read aloud with the participants to check for understanding. DHH teachers and Interpreters were available throughout the sessions to answer questions as needed. Thirty-eight students (n=38) participated in the quantitative Phase 1 of this study.

Data Cleaning

The researcher completed the following steps to ensure data was accurate; as a necessary process to eliminate any potential problems with reliability and validity (Salkind, 2012). Since surveys were administered by the researcher and additional DHH teachers, the researcher reviewed each set of surveys for any missing data or errors, such as two responses circled for one question. All MRQ's, RAI, and demographic questionnaires were visually inspected by the researcher and verified that there were no missing data points and no errors. Data was input into SPSS by the researcher and verified by a second, independent person to ensure accuracy, given the high number of data points entered for each participant. Each participant was assigned a number and conferred with 100% agreement that their data matched.

Demographic Survey Results

In addition to the two surveys, Participants completed an eight-question demographic form that captured gender, age, grade, primary language, level of hearing loss, amplification device used, and educational placement. All students were between the ages of 11 and 17 and were in grades 6-12 at the time of survey completion. Students identified as either male (n=20), female (n=17) or non-binary (n=1). The majority of the students used Spoken Language as their primary mode of communication (n=34). Three students (n=3) utilize both ASL and Spoken Language, while one student (n=1) solely

uses ASL as their primary mode of communication. In regards to hearing loss, all students have bilateral hearing loss that range from mild to profound: mild (n=2), mild-moderate (n=4), moderate (n=13), moderate-severe (n=6), severe (n=5), and profound (n=8). Of the thirty-eight participants, 21 use hearing aids, 8 have Cochlear implants, 4 use Bone-anchored hearing aids (BAHAs), and 5 reported to utilize no hearing amplification. Participant's primary educational placement was the general education setting (n=27). Seven students were in the general education but required academic support through the resource program and 4 students were in an ASL DHH program. No students reported placement in a spoken language DHH program.

Using SPSS, bivariate correlation was run on demographic variables. No significant correlations were found between the variables with one exception: educational placement and primary language $r(36)=.88$, $p< .01$. Educational placement is considered the type of program the student was in at the time of survey completion, which included general education, general education with resource support services, Oral DHH program, and ASL DHH program. Of the 38 participants, four utilized sign language as their primary mode of communication. Of those, three students were in an ASL DHH program for their educational setting.

Quantitative Survey Results

This study, examining self-rated reading motivation and engagement levels of DHH adolescents, was guided by the following quantitative research questions:

Question 1: How do Deaf and Hard-of-Hearing adolescents' rate themselves on levels of motivation and self-efficacy using the Motivation for Reading Questionnaire (MRQ) and reading activity on the Reading Activity Inventory (RAI)?

Question 1A: To what extent are demographic characteristics (age, grade, gender, mode of communication, device use, educational placement) correlated to reading motivation levels and reading activity for Deaf and Hard-of Hearing Adolescents?

Question 2: What is the relationship between reading motivation levels on the MRQ and ELA SBAC testing scores of Deaf and Hard-of-Hearing Adolescents?

Participants (n=38) completed both the Motivation to Read Questionnaire and the Reading Activity Inventory to examine factors influencing their motivation for reading and reading activity outside of the school setting.

Analysis of Motivation to Read Questionnaire (MRQ)

Descriptive statistics were calculated for the 11 dimensions of reading motivation: challenge, competition, compliance, curiosity, efficacy, importance, aesthetic enjoyment, recognition, social reasons, work avoidance and reading for grades. Table 2 displays the ranges, means, standard deviations and skewness for each dimension measured by the MRQ.

Table 2

*Descriptive Statistics of Motivation for Reading Questionnaire dimension*s

	M	SD	Range	Skewness
Challenge	2.5	.93	3	.15
Compliance	2.71	.69	2.40	-.26
Competition	2.24	.77	3	.24
Curiosity	2.56	.89	2.80	-.21
Efficacy	2.58	.81	2.67	.03
Importance	2.71	.90	3	-.15
Aesthetic Enjoyment	2.71	.86	3	-.35
Recognition	2.26	.73	3	.04
Social Reasons	1.89	.66	2.67	.78
Work Avoidance	2.33	.67	2.75	.53
Reading for Grades	2.68	.85	3	-.07

Bivariate correlation was also run to analyze possible correlations between demographic variables and the eleven dimensions measured by the MRQ. Positive, low relationships were found between gender and the Curiosity, $r(36) = .33$, $p < .05$; Recognition, ($r(36) = .39$, $p < .05$; and Social $r(36) = .48$, $p < .01$ dimensions. There was also a positive, low correlation between educational placement and Importance of

Reading, $r(36) = .33$, $p < .05$. There were no other significant correlations between the demographic variables and the eleven dimensions outlined on the MRQ.

Individual items on the MRQ were explored further. Bivariate correlation was run on each individual item and demographic variables. Twelve items showed significant correlations with gender (I like when questions in the book make me think; If a teacher discusses something interesting I might read more about it; I visit the library often with my family; I enjoy reading books about people in different countries; I learn more from reading than most students in the class; I often read to my brother or sister; My friends and I like to trade things to read; Grades are a good way to see how well you are doing in reading; I like to help my friends with their schoolwork in reading; I like to get compliments for my reading; I talk to my friends about what I am reading; and I am happy when someone recognizes my reading). Three items were statistically significant with the level of hearing loss (I like mysteries: My friends sometimes tell me I am a good reader: and I always do my reading work exactly as the teacher wants it). Four items were statistically significant with the type of hearing device (I am willing to work hard to read better than my friends; I talk to my friends about what I am reading; I always do my work exactly as the teacher wants it; and My parents ask me about my reading grade). Placement showed significant correlations between the following two items: I am a good reader and I sometimes read to my parents. No significant correlations were found between age, grade, or primary language and any of the MRQ items.

Reading Activity Inventory (RAI) Analysis

For the purposes of this study, the researcher focused on the *Reading for Personal Interest* component of the Reading Activity Inventory, which discusses books read in the

last week for enjoyment. Questions include information regarding frequency and title of text. Scores in this category range from 0-30. Descriptive statistics were calculated for the 10 questions, as well as the Total Score. The minimum Total Score is 10 with a maximum score of 30. Table 3 displays the ranges, means, standard deviations, and skewness for each question and total score of the RAI: Reading for Personal Interest section.

Table 3

Descriptive Statistics of Reading Activity Inventory (RAI)

	M	SD	Range	Skewness
Mystery/Adventure Last week	1.29	.46	1	.97
Mystery/Adventure Frequency	1.84	.79	3	.64
Sports Last Week	1.08	.27	1	3.25
Sports Frequency	1.21	.47	2	2.25
Science Last Week	1.11	.31	1	2.68
Science Frequency	1.32	.62	2	1.84
Comic/ Magazine Last Week	1.37	.49	1	.57
Comic/Magazine Frequency	1.82	.95	3	.59
Other Last Week	1.34	.48	1	.69
Other Frequency	1.79	.87	3	.95

Total Score	13.95	2.85	10	.34

Bivariate correlation was calculated for demographic variables, the total score and each individual question. There was a significant, negative low correlation between the Total Score and level of hearing loss ($r = -.34$, $p < .05$). There was also a significant positive correlation between the demographic variables "Primary Language" and "Placement" and Questions 3 (reading a sports book last week) and Question 4 (the frequency of reading sports books overall) and a low, negative relationship between Level of hearing loss and Question 9 (reading any other book last week).

Positive, moderate relationships were calculated between the Total RAI score and the reading of Mystery/Adventure, Comics, and "Other" types of books (see Table 4). No statistically significant relationships were found for Sports or Science. As part of the RAI survey, participants were asked to include information about the books that they read within the last week in each area. In the category of Mystery/Adventure, Participants listed *The Outsiders, Monday's Not Coming, Ballad of Never After, Freak the Mighty, Diary of a Wimpy Kid, Haunting Adeline, Because of Winn Dixie, and the Girl in the Lake* as books they had read in the last week. Manga, Anime, and Superhero comics were popular including titles such as *Demon Slayer, Operation True Love, Oshinoko, Dia de Los Muertos, Bungo Stray Dogs, Spiderman, and Batman*. Coming of age, biographies, romance, and perseverance were themes represented in the "Other" category with titles such as *Percy Jackson, Walking Dead, Diary of an Oxygen Thief, One Piece, Nana, !4 Ways to Die, Every Last Word, American Moonshot, The Selection Series, Frida Kahlo: An Illustrated Life, Martin Luther King, and The Lightning Thief.* It is important to note

that many of the titles listed in "Other" could have been included in Adventure or Comics as well.

Table 4

Correlations Between RAI Total Score and Mystery/Adventure, Comics and Other

	Mystery/Adventure	Comics	Other
Total Score	.69**	.52**	.59**

** Correlation is significant at the 0.01 level

Analysis of Smarter Balanced Assessment (SBAC)

The Smarter Balanced Assessment summative assessments are California's comprehensive, grade-level assessments taken in the late Spring to measure progress toward college and career readiness. Assessments are aligned to the California Common Core State Standards (CCSS). Students in grades three through eight and grade eleven are assessed in Language Arts and Mathematics within a set testing window. The most recent scores were obtained through the Special Education Department from each Participant's home school district. All participants' ELA scores ranged from a 1 (Standard Not Met) to 4 (Standard Exceeded). Not all grade levels had scores broken down into the 4 Claim areas (reading, writing, speaking, and research/inquiry). Due to incomplete data, these scores were not included as part of the study. Descriptive statistics for the SBAC scores are included in Table 5.

Table 5

Descriptive Statistics for Smarter Balanced Assessments

	M	SD	Range	Skewness
SBAC score	2.16	1.08	3	.49

Bivariate correlation was run to analyze relationships between demographic variables and the overall SBAC scores. Low, negative correlations between SBAC scores and Primary Language, $r(36) = -.36$, $p <. .01$ and Educational Placement, $r(36) = -.50$, $p < .05$ were noted. All Participants in the ASL classroom setting all received scores of 1 on the SBAC testing. Of these four students, three documented both ASL and Spoken Language as their primary mode of communication. The four students solely utilize ASL to communicate.

Qualitative Data Analysis

The second phase of the sequential Explanatory Design involved the qualitative data collection through a focus group with five DHH adolescents who had participated in Phase one. The purpose of the qualitative data is to further explain the quantitative findings and answer the research question: What influences Deaf and Hard-of-Hearing Adolescent's sense of motivation and self-efficacy in regards to reading and Literacy activities? In addition, the researcher's goal was to give a voice to Deaf adolescents to better understand their experiences, including strengths and challenges they face. Eleven open-ended questions were prepared to guide the focus group based on quantitative data results and allowed the participants to elaborate. See Appendix I for a list of questions. As students discussed their answers to the questions, additional topics developed (i.e., use of

audiobooks and how hearing loss impacts access in the classroom), in which the researcher was able to elaborate.

The focus group was held in a neutral public location, centrally located to the students' homes. The focus group session was recorded using Zoom with captioning enabled, as approved by the Institutional Review Board of St. John's University. This allowed the researcher to review body language and facial expressions, as well as create a transcript of what was said. In addition, a second audio recording, for back-up purposes, was recorded using the researchers iPhone with the Otter.ai mobile app. Throughout, and immediately after the session, the researcher documented field notes that captured important concepts regarding setting, participant demeanor, level of responsiveness, and body language. The next step was to reconcile the two auto-transcriptions from Zoom and Otter. At that point, the researcher listened to the audio recording twice and edited the transcription as necessary. Krueger's (1994) 5-step analysis including (1) familiarization, (2) identifying a thematic framework, (3) indexing, (4) charting, and (5) mapping/interpretation was utilized to ensure deep, rich analysis. First, the researcher familiarized herself by listening to the audio recordings and reading the final transcripts twice to get a sense for the overall session and started to note themes and keywords that emerged. Short phrases and concepts were then identified. Comparisons and connections were then highlighted. During the charting stage, specific quotes were highlighted and grouped according to theme. Data reduction was done at this time; minimizing any excess quotes and information. In stage 5, relationships were examined and quotes were linked to data as a whole.

Throughout this process. extensiveness, intensity, specificity and internal consistency (Krueger & Casey, 2015) were analyzed as each of the codes emerged. Open coding was initially established given the extensiveness of the comments and how often they were mentioned. The concept of *interest a*nd *motivation* were used extensively through the session. Intensity was also noted through comments and researcher's field notes. Speaker 6 was much less participatory than others, and often answered with the bare minimum response. When assigning a weight to each of the codes, answers such as "depends" or "no, not really" were assigned lower weights given that the responses were very limited and did not provide a significant amount of detail or passion. On the other hand, the other 4 participants were very participatory and expanded on their answers with great intensity and specificity. Finally, when analyzing overall consistency, it was found that all participants were consistent in their remarks. There was no evidence of participants changing their answer depending on what others said. For example, Student 5, who enjoyed reading outside of school, also said she considered herself a struggling reader. Her remarks throughout the session were very much in line with her self-portrayal of her interests and skills. She was the participant that gave examples of what she liked to read, strategies she used for better comprehension and vocabulary development, and how her hearing loss impacted her. She was also very open and honest about her feelings of teacher-directed lessons, less choices in middle/high school, and her feelings about sharing what she has read with friends because it may seem "boring or uncool".

Field Notes

Five students were present during the focus group including three female and two male participants. There was a participant present from each grade level from 8th to 12th

grade. All students are in the general education setting, with one student also receiving academic support. Three students (speakers 3, 5, and 6) all started their educational journey in a Listening and Spoken Language DHH program and were eventually mainstreamed into the general education setting. Participants had time beforehand to meet and get to know each other. Formal introductions were made when the session started. As participants were entering, the researcher did share that there were books available for them to choose from as a thank you gift for their participation. Three students immediately went to the table and began choosing their books. The other two sat down and waited for the session to start. Conversation ensued regarding the books that included which ones they had previously read, what the books were about and which ones they were going to choose.

All participants with the exception of Speaker 6 contributed equally and answered all questions willingly, often providing additional information. Speaker 6 needed more encouragement and direct attention to answer the questions, but did answer willingly when called upon. His answers were often shorter in length and did not go as in-depth as other participants. Initially, Speaker 2 was hesitant and kept checking his phone. He answered all questions on his own accord and elaborated on all his answers. He often made facial expressions that either affirmed or disagreed with others. When topics that were of interest to him were discussed, he was much more animated and forthcoming with his answers. Speakers 4 and 5 were very talkative and thoughtful about their responses. Speaker 4 appeared very nervous at first but had quite extensive information to share. She was very supportive of others and interested in their opinions. She had difficulty expressing herself in order to get her true thoughts out but did persevere until

she finished her thought. Speaker 3 was very open and honest about her challenges, despite being the one in the group that self-identified as having more academic challenges.

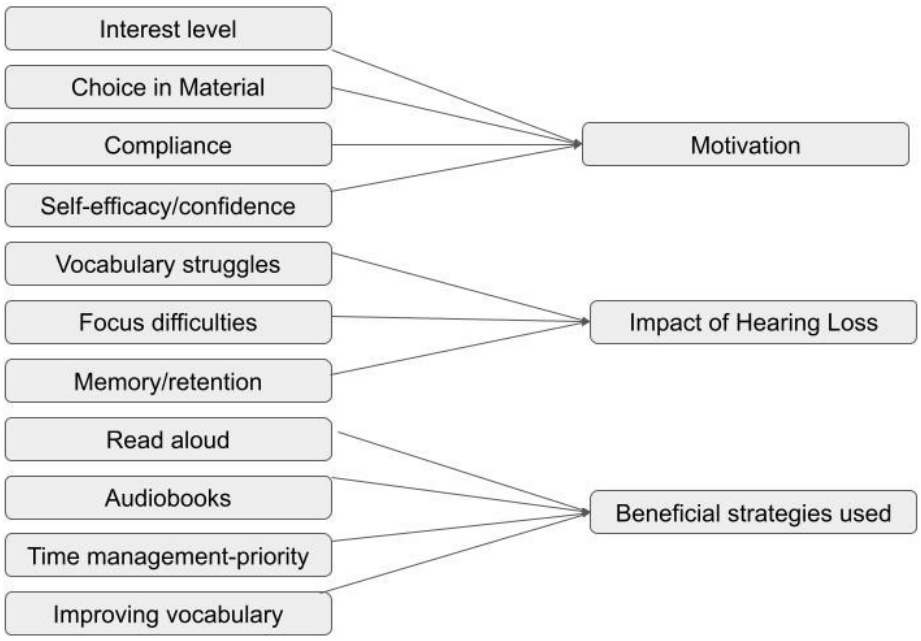
Throughout the session, it was noted that body language and conversation became more open and casual. Many of the participants appeared to be nervous, but as the conversation grew, participants were much more eager to share and started interacting more with each other, often commenting on and adding information based upon what others said. Connections were made throughout the session.

Focus Group Analysis

Once content was reviewed by the researcher, open codes were created as the initial starting point, where the large data set is chunked into smaller units and assigned a descriptor or code (Straus & Corbin, 1998, Onwuegbuzie et al., 2009). Open codes created from the Participant responses included interest level, motivation, struggles/challenges, vocabulary development, reading aloud, time management/priority, strategies for memory/retention, choice in reading material, types of reading material, self-efficacy, confidence and reading as a social construct. Specific quotes were gathered for each theme mentioned. From these open codes, axial coding was completed to further refine the emerging themes from the initial stage which helps identify relationships between open codes and major core codes for which there is strong supporting evidence (Strauss, 198, p. 109). See Table below regarding emergence of core themes from the initial open coding stage. Open codes were merged to create larger, more salient themes. The following themes were extrapolated from the identified open code: motivation, impact of hearing loss, and beneficial strategies.

Table 6

Open coding - Axial coding



Motivation. The primary core theme that emerged from the focus group was motivation. Motivation was identified from four areas of the focus group discussion that included choice, interest level, compliance, and self-efficacy/confidence. Participants echoed each other's sentiments that their interest level in the reading material played a significant impact in their overall motivation and willingness to read. All but one participant (Speaker 6) shared that they liked/loved to read, but often "struggled to find the motivation to read". Speakers 4 and 5 noted that their interest depended on the topic and Speaker 2 noted that motivation wasn't there "if it was a bad book or someone is forcing you". All participants were able to share the types of material that they are interested in reading. All participants, whether verbally or nonverbally, agree that

textbooks and articles are challenging. Reading in other subject areas in school is difficult, and participants shared that their English classes provided the most interesting reading activities. Speaker 5 highlighted the importance of interest in the material when she stated “the prime book that we read this semester was like some book I wasn’t interested in. It was confusing and hard for me to picture in my head.”

Connected to the overall interest level was the concept of choice in what to read. All participants agreed that there was more choice in elementary “when you go to the library and then choose whatever book you want”. There is less choice in middle and high school when “the selection of books is really limited” (S4). Experiences varied in the level of choice participants felt they have had in their classes. Speaker 5 shared a positive example where the class was focused on True Crime for the semester. The teacher had a list of 12 books that students could choose from rather than just one book assigned to the whole class. Other Participants noted that they had never had an experience like that. Speaker 2, who is a Senior, shared that his English teacher now doesn’t really limit them on the literature that they read and he doesn’t feel limited because he tends to read at libraries often to focus on material that he is interested in. Speaker 6 felt he had a little bit of freedom in class, but ‘just doesn’t feel the urge to go get a book and read.”

Discussion regarding less choice in material led to the next category of compliance. All female participants noted that they always complete their school assignments, whether they were interested or not. Speaker 3 and 4 shared similar thoughts that they wouldn't be upset about assignments and would do what they needed to in order to get it done. Speaker 5 noted that they needed to do the readings because

there were multiple types of assignments (such as chapter quizzes and writing assignments) that required reading of the text. Both male participants noted that they typically do not do required reading or assignments if they are not interested in the book. Speaker 2 was very open and honest, though hesitant to admit it at first, when he shared that "I'm gonna be honest with you miss. If it's a book I don't like I'm not gonna do it" He also shared that he hates when teachers force him to read things he has no interest in, but will also get all assignments done early when he is very interested in the material; "like all the *Catcher in the Rye* assignments I got done early!" Participants did show some initial signs of nervousness and hesitancy (nervous laughter, wide eyes, biting lips) when discussing going against a teacher's directions, but opened-up as they heard the others share some of the same feelings.

This hesitancy was also seen with the next category of self-efficacy and confidence. When asked if they felt they were a strong or struggling reader, the first one to speak up was Speaker 3 who characterized herself as a struggling reader due to "not knowing how to pronounce some words" and limited vocabulary. For the rest of the Participants, it was a challenge for them to openly admit how they felt. All other participants shared that they were strong readers because they were interested in much higher-level topics, had higher vocabularies which helped in understanding but also decoding novel words, picking up concepts quickly, and making time to read outside of school for more practice. Even as they shared their reasoning, Participants noted "they just don't want to sound arrogant". Once that statement was made, and they all mutually agreed with verbal acknowledgements and exaggerated nodding of the heads, the conversation opened up and they were much more willing to share the ideas noted above.

Most Participants also commented that they didn't see reading as a social activity; it was more of a private thing they did on their own and wouldn't necessarily talk with others about what they are reading. Admitting their strengths was difficult and the idea of sharing those skills seemed to cause some discomfort.

Impacts of Hearing Loss. Although the researcher's questions did not necessarily focus on the Participant's hearing loss, they were aware that they all had some level of hearing loss and brought up the connections within the conversation. Researcher's field notes captured that Speaker 4 was very vocal, often willing to answer questions first, listening intently to other's responses and then adding to the conversation further. She was often very supportive and shared ideas or sources with the other Participants. She was the first to address the hearing loss component, by asking if she could discuss how her hearing loss impacts her even though it was "more personal". Participants drifted away from the context of reading for a brief tangent to share their level of hearing loss and what amplification devices they used. This researcher allowed for this digression for multiple reasons: this was a chance for students, who are not typically educated with other peers with hearing loss to make personal and social connections and it allowed the researcher to formulate additional questions and expand on participant views of how their hearing loss impacts them in the school environment.

Reading was specifically addressed as being more difficult especially as students are required to read aloud and follow along in the classroom setting, across all subject matter. Speaker 5 openly shared that she "can't focus and I like, lose track if I can't hear something and I,like, get stuck". Speaker 4 noted that school"is a really loud environment" and "I think recently I have been struggling more… I have to focus more

on putting my attention on other people to hear". All participants agreed, with nods of the head, that it makes it more difficult to focus and keep track of what is happening. Speaker 2 also added that he feels 'his hearing loss makes me forget a lot more…and when you don't pick things up (through hearing) then you tend to forget things a lot more often. Speaker 3 noted that low voices or mumbling impacts her ability to hear information in the classroom and not knowing the vocabulary impacts her understanding.

Strategies Used to Strengthen Reading Abilities. Focus group participants are all general education students; with one student receiving resource support services for Language Arts. The majority of the students acknowledged that they were strong readers and like to read, especially when they have choice and are interested in the topics. Participant 3 noted that she feels she is a struggling reader but still acknowledges that she likes to read. Five of six participants read outside of school for their own pleasure; with one not reading outside of school assignments at all. All students also scored at grade level on the California statewide testing. Though they are high-functioning students, they still have struggles especially in light of their diagnosed hearing losses. As a group of high achieving Deaf adolescents, they were asked to share what has helped them over the years to become a better reader.

Vocabulary development is often found as an area of weakness for DHH students. As seen in this focus group, the Participant that struggled the most acknowledged multiple times that limited vocabulary impacted her greatly. Three of the students also acknowledged that they have exceptionally high vocabularies and they consider that to be why they are such strong readers. Speaker 3 shared that programs or websites, like Membean, that focus on vocabulary development have helped them in the past to

strengthen their overall vocabulary. They all agreed that vocabulary was especially important in developing strong reading skills.

Speaker 4 also added that “literally, it's just reading more that’s going to help you to learn more words… and just like reading stuff that you don’t know about. Because that’s honestly just gonna help you more in my opinion”. Speaker 5 supported this thought by sharing that she sets aside a time each day, such as fifteen minutes, to read anything, because the more you read the better you become. Multiple participants also shared that they struggle with time management, so making reading a priority and setting aside time to read is important, whether it is at home or in the library.

Another strategy noted by Speakers 1-5 is that they do read aloud, even at this age. None of the participants still read aloud with their parents, with them all agreeing that reading aloud with their family members stopped in elementary school. Yet, for comprehension purposes they all agreed that reading, or re-reading a section of the text allows them to comprehend material better if they were struggling. Reading aloud “helps me focus better like if I am distracted (S4)” and “when I am confused, like I will say it slowly out loud to understand what they are saying (S3)”. It was agreed that reading part of text aloud helps with comprehension and focus when they have moments of struggle. Speaker 2 also shared that he has a reading partner at the library. After some clarification, it was explained that he has a reading partner (friend) who he goes to the library with that he will read out loud to. The partner does not typically read aloud to him, but he does it to help the partner.

Interestingly, as the conversation switched to reading aloud, the idea of audiobooks was mentioned. This is an interesting topic; as all the students have hearing

loss, the researcher was interested to hear their thoughts, especially as audiobooks and podcasts are becoming more popular. Children with hearing loss experience significant increases in perceived effort and use of cognitive resources needed to encode and retrieve information to be able to process the speech signal when listening in noise versus quiet and when processing information in degraded listening conditions (Brannstrom, et al, 2022). Often during instruction and assessment with students who are hearing impaired and use spoken language as their primary mode of communication, use of live-voice is considered best practice, since listening through a degraded sound source (i.e., computer) can be more taxing and difficult to perceive. Students in the focus group shared that they listen to audiobooks as a strategy to help them, as well as, for enjoyment purposes.

As a beneficial strategy, participants noted that "sometimes when I am reading, I feel like it is just in my eyes. It's just like reading the words and not going through to like my brain. And then when I listen to it, or someone, like an audiobook, I can, like, kind of imagine it better (S3)". It was also shared that the pace of audiobooks is sometimes better than that of themselves or their peers reading in class. Participants shared ways that they can connect the audiobooks through Bluetooth to stream the book straight to their amplification device, allowing for a clearer signal. Other students noted that they haven't personally tried an audiobook, but that they have been exposed to them in their classes and as they thought about it, they shared that they "actually liked it better (S2)". One participant (S4) was in disagreement with the majority as she "just couldn't focus. I think I like to look at the words better, So I can actually, like, focus on that and not, like, just have an audiobook playing in the background while I am doing something else". Similar to reading aloud being used as a strategy to help focus and comprehend passages when

they get stuck, audiobooks seem to be a preferred comprehension tool for most of the participants.

Summary

The intent of this study was to analyze factors associated with reading engagement and motivation of Deaf and hard-of- Hearing adolescents and to hear directly from the students in regards to challenges they face and factors that influence their reading. In this chapter both the quantitative and qualitative findings were explained to answer the following research questions:

Question 1: How do Deaf and Hard-of-Hearing adolescents' rate themselves on levels of motivation and self-efficacy using the Motivation for Reading Questionnaire (MRQ) and reading activity on the Reading Activity Inventory (RAI)?

Question 1A: To what extent are demographic characteristics (age, grade, gender, mode of communication, device use, educational placement) correlated to reading motivation levels and reading activity for Deaf and Hard-of Hearing Adolescents?

Question 2: What is the relationship between reading motivation levels on the MRQ and ELA SBAC testing scores of Deaf and Hard-of-Hearing Adolescents?

Question 3: What influences Deaf and Hard-of-Hearing Adolescent's sense of motivation and self-efficacy in regards to reading and Literacy activities

Though no major significance was found across student's overall self-rated levels on the MRQ, significant relationships were found between student's educational placement and primary language. Analysis of demographic factors displayed significant correlation between gender and the MRQ dimensions of Curiosity, Recognition, and

Social. Interest in comics, mystery/adventure, and other books was significantly higher than science and sports. In addition, participant's SBAC scores showed significant correlation between educational placement and primary language as well. Povlakic (2019) noted that DHH students who find reading to be challenging, often lack reading motivation, have lower self-efficacy and engage in limited reading outside of the classroom. This is in alignment with what the researcher and her colleagues see on a continuous basis in the school settings. Many of the students struggle with assignments, do not enjoy reading and do not like to share their thoughts on books. Though there were only a few significant relationships found through the survey data, it is important to note the impact gender, language and educational placement may have on DHH student's levels of motivation and self-efficacy.

Interestingly, information gathered from the qualitative focus group provided information to further explain participant's thoughts on motivation, interest, choice, impact of hearing loss and beneficial strategies. In this session, students did disclose struggles with finding the motivation to read and did show hesitancy when discussing their skills and abilities. Even though they were aware that they were strong readers and had high reading abilities, such as high vocabulary and strong decoding skills, they were quite hesitant to openly discuss it. Focus group data seems to be in more alignment with past research and researcher experience, than what was seen on the quantitative data. Further discussion of salient results and findings from both qualitative and quantitative data will be analyzed further in the next chapter.

CHAPTER 5 DISCUSSION

Deaf and Hard-of-Hearing students are shown to have an average reading level of third grade. Research has focused on reading skills, such as vocabulary and phonological awareness for this population, yet limited research has focused on the effective domain. Motivation and engagement have been studied in-depth for other populations of students, but has been minimal for DHH students. It is important to look into what happens after formal reading instruction ends and students are expected to further their progress by immersing themselves in reading on their own accord. When reading presents a challenge, it is difficult for students to read more and explore additional types of texts and genres. The current study aimed to obtain initial data that focused on how DHH adolescents rated themselves in terms of motivation, determine possible relationships between reading abilities and motivation levels, and finally, to give a voice to these participants by including their own thoughts and feelings to further explain the quantitative data.

Evaluating the Relevance of Quantitative Findings

The initial step in this study was to gain a sense of how DHH students rate themselves on reading motivation, self-efficacy and engagement through the use of the MRQ and RAI surveys. Means calculated for each of the 11 dimensions on the MRQ ranged from 1.89-2.71. Social reasons were rated the lowest overall; with compliance, importance of reading and aesthetic enjoyment being the highest. Though none of these areas showed significant differences from each other over. All averages ranged between "a little different from me" and a "little like me" on the survey. Individual statements on the MRQ related to the Social Dimension (visiting the library; reading aloud; trading with

friends; and reading to parents) were scored much lower than the others. This was also evidenced within the focus group. Participants elaborated that they do not trade books with friends. The majority of the students would read aloud as a strategy to help them refocus or comprehend a difficult section of text; but not necessarily for social purposes. During the focus group one student shared that he does read aloud to a reading partner at the library and that he typically will read aloud to his partner. Upon clarification, this is more of a support to the other student than a social activity. Unbeknownst to the student, his reading with his partner, may be contributing to his overall abilities, as well as supporting his partner. In their 2017 study, Kim and colleagues included social interactions as part of their Strategic Adolescent Reading Intervention (STARI) program, focusing on partner-assisted fluency, partner reading, and reciprocal teaching of strategies to foster engagement. Many adolescent reading programs do not encompass all skills, mostly focusing on comprehension. A multicomponent program for this age group that focuses on opportunities to strengthen word reading and fluency within activities geared to build interest and motivation showed significant increase in overall reading skills (Kim et al., 2017). Working with a partner in a more relaxed, engaging environment may be supporting this DHH student's overall reading growth more than he realizes. Speaker 5 noted that "it depends on the type of person you are. Certain people don't like to read, and like when you talk about it, it makes them feel bored or something". Peer influences increase in adolescence (Giedd, 2012) and adolescents pay more attention to social cues, seek status and respect amongst peers and adults and experience increased motivation for social learning (Yeager, 2017). All students in the focus group were hesitant to assert that reading was social; with most of them explaining that it was their own hobby or

something that they did privately. One student did share that he would talk with friends about cool things that happened in comic books. DHH students may not view reading as a "cool" activity and may possibly be self-conscious about how their peers see them, especially if their peer group are not avid readers.

When analyzing relationships between the 11 motivational dimensions on the MRQ with the demographic variables, Curiosity, Social reasons and Recognition were all significantly correlated for gender. Upon further review, boys tend to be less curious, less likely to see reading as a social activity, and do not seek recognition. Pitcher and colleagues (2007), using a revised version of the Motivation to Read Profile, found that in grades 6-12, girls' value of reading increased while boys decreased. Though boys admitted to reading, many did not see themselves as readers. They also found that girls scored higher on motivational constructs such as efficacy, importance, and social motivation, than did their male counterparts. In this study there was no statistically significant relationship between efficacy and importance for gender, but reading as a social event was highlighted in both the quantitative and qualitative data.

Recognition was also significantly lower for males than females. Recognition is defined as "the gratification in receiving a tangible form of recognition for reading success (Wigfield & Guthrie, 1995)". Items on the MRQ such as receiving compliments and visual recognition scored lower. Curiosity was also significantly lower for males. Items in this category (if the teacher discusses something interesting, I might read more about it; I read to learn new information about topics that interest me; I read about my hobbies to learn more about them, and I like to read about new things) calls attention to the need to stimulate curiosity in adolescent boys. Focus group data highlighted this as

well. Female participants noted that “it’s good to read things even if you don’t like them”, it is “good to expand your horizons”, and to try to make the best of it because you can always learn something new. Males were less likely to comply if uninterested in a topic or to take recommendations from teachers or peers.

In addition, a statistically significant correlation was seen between educational placement and Importance of Reading. Students in an ASL DHH program see less importance of reading (M=2) as did their counterparts in a general education setting (M=2.74). Phase 1 participants who utilized sign language were limited and there were no Phase 2 focus group participants from this demographic to further elaborate on this concept. Further exploration is warranted to determine if types of educational placement have a greater impact on student’s beliefs about the importance of reading. Students in the ASL DHH program also showed a significant relationship between the following two items: I am a good reader and I sometimes read to my parents. Students in the ASL class had a lower average in their responses to *I am a good reader* (M=2) than their general education counterparts (M=2.61) which may indicate efficacy as a construct to research more thoroughly. Interestingly, these participants also had a higher average (M=3) than their peers in the general education setting (M=1.89) when it comes to reading to their parents. This is interesting to the researcher for multiple reasons. Language barriers are often a cause for concern between hearing parents and their children who utilize ASL, especially if the parents do not learn sign language along with their child. Is reading a common activity shared between parents and their Deaf children because written English is their common language?

In terms of reading engagement, results from the RAI show that the DHH students surveyed do read books for their own enjoyment outside of school. Areas of interest were significantly correlated for Mystery/Adventure, Comics and "Other" types of books. It is important to note that of students surveyed, it was the same students that read across multiple categories. Of those surveyed 29% read Mysteries/Adventure, 37% read comics, and 32% read "other" types. Sports (.01%) and Science (.1%) books were limited. As part of the RAI, participants provided additional information about the title, author, and/or theme of the books they had read in the past week. Upon reviewing the books listed in "other" it is important to note that many of those titles could have been included in either the mystery/adventure or comics categories. Students may not have known how to accurately depict the correct genre. Given this information, statistics may present differently if categories were adjusted to accurately capture what was read. Comics, anime, and graphic novels were popular among this population of students. Coming of age, biographies, romance, and perseverance were themes noted in the "other" category. Choice of material to read was discussed more in-depth in the focus group and highlighted the need for interest and personal choice to establish reading as an act of enjoyment, both in and outside of the classroom environment. Focus group participants, with the exception of one, noted that they read outside of school and commented that "it is my hobby" and that when they think of reading, "I think of learning something new". Further discussion of choice will be highlighted in the next section.

The second research question focused on the relationship between reading motivation levels on the MRQ and ELA SBAC testing scores of Deaf and Hard-of-Hearing Adolescents. This was a first-step in gathering information to analyze correlation

between motivation and overall reading abilities. Given the researcher's limitations of not being able to assess the participants as part of the study, most recent statewide testing scores were the only form of consistent, accessible data at this time. Due to testing hiatus from Covid-19 school closures, and the fact that not all high school grade levels are assessed, results should be interpreted with caution, since the most recent scores on file were used. Further testing that is administered with fidelity across all participants would provide more in-depth, and generalizable results. For this study, overall testing scores of 1-4 were reported to analyze whether students were meeting standards; with 1 being *not met* and 4 being *exceeded standard*. 66% of the participants scored a 1 or 2, indicating below grade level standard; while 34% scored at or above grade level. This data highlights the fact that the majority of the students, even though participating in the general education setting with their typical-hearing peers, are not meeting grade level expectations in Language Arts. Interestingly, three of the five focus group participants scored 4's on the SBAC while the other two participants received scores of 2. SBAC data, levels of reading activity, and information from the focus group session align for these students. These students consider themselves strong readers, all noted that they read outside of school for enjoyment, and utilize natural, beneficial strategies when they are challenged or have difficulty with focus. This does align with previous research that posits that the higher value placed on reading activities, the more reading that will occur therefore leading to higher level reading skills (Becker et al, 2010), especially after formal reading instruction ends.

As mentioned previously, statistically significant relationships were noted between educational placement and primary language and overall SBAC scores. All

students who were in the ASL DHH program and utilized sign language scored a level 1 on their SBAC testing. These students are not meeting grade level standards. Their placement in a specialized day class for students with hearing impairments typically signifies that they have academic needs beyond what can be met in the general education classroom. Students in both types of specialized DHH programs, oral and sign, often have more academic and speech/language concerns than their peers in the general education setting. Motivation and efficacy should be explored in more depth for these students.

Summary of Qualitative Findings

The purpose of the qualitative Phase 2 of this study was to give a voice to DHH students who often go unheard. Especially as more of these students are being educated in general education classrooms, where one may be the only student with a hearing loss, it is easy to get lost in the crowd. As many educators do not have training or knowledge about working with students with hearing loss, the unique needs that come with their hearing impairment can be overlooked. The intent of gathering the qualitative data through a focus group was to answer research questions 3: What influences Deaf and Hard-of-Hearing Adolescent's sense of motivation and self-efficacy in regards to reading and Literacy activities?

Overall, through the use of Krueger's 5 steps (1994) to analyze a focus group, three major themes were identified: motivation, impact of hearing loss, and beneficial strategies. Participants openly shared about their struggles in school due to their hearing impairment; yet, as high performing students, all shared strategies that they use when they get stuck while reading or lose focus. A large part of the focus group discussion

focused on the concept of motivation that was driven by interest in what is being read and choice in what materials to read.

Impact of Hearing Loss

During the focus group, Speaker 5 brought up the fact that all the students in the group had hearing loss. It was also shared that the researcher herself had hearing loss. When the group was asked if there were any specific challenges they faced, Speaker 5 shared that her hearing loss impacts her greatly in school; not just for reading assignments, but in many areas of her day. Other participants were hesitant to add additional information at first, but as she expanded her thoughts, the other participants started to verbally and nonverbal agree. Most participants ended up sharing how their hearing loss impacts them. Many of the examples they gave, such as when the class is expected to read aloud and keeping track of what is being read and what others are saying, can be directly related to literacy activities. Speaker 4 also noted that she has to put forth so much more energy and attention in order to hear other people, which can take a toll. Listening fatigue for DHH students is significant. Research has shown that hearing impaired listeners struggle with speech perception demands compared to their typical hearing peers, especially when listening in adverse conditions; and that keeping up with these demands can increase cognitive load, resulting in expended effort which can cause increased levels of distress and fatigue (Hagerman, 1984; Hopkins et al., 2005; McCoy et al. 2005, Ohlenforst et al. 2017). Especially as more students with hearing loss are being educated with typically hearing peers in the general education setting, DHH teachers and General Education teachers need to be aware of how much more effort it takes for these students to process and retain the information presented, especially when presented with

the adverse listening conditions of a typical middle/high school classroom. Accommodations are imperative to ensure access for these students.

Beneficial Strategies

It was powerful to hear focus group participants share strategies they use to help them with reading and literacy activities. Strategies noted were the use of computerized vocabulary programs to strengthen understanding, reading aloud to process through challenges when comprehension is more difficult or attention/focus is lost, prioritizing reading by setting aside a time each day to read, and using audiobooks. It is important to highlight the fact that all the ideas shared are strategies that these students use at home/outside of the school. These participants were intrinsically motivated to employ strategies in their daily lives to strengthen their skills. This study is based on the theoretical framework of Bandura's *Social learning Theory*, as well as Ryan and Deci's *Social Learning Theory*. Both theories address motivation and self-efficacy. Those with higher levels of motivation and self-efficacy are often more resilient, show deeper interest in activities and have a strong sense of commitment (Bandura, 1977). Ryan and Deci (2000) highlight three basic needs of competence, autonomy and relatedness to feel successful at any given task and stress the importance of intrinsic motivation in producing deeper engagement in learning activities. The students in the focus group encompassed the self-efficacy, commitment and intrinsic motivation described by this past research. Their responses showed an overall enjoyment for reading activities, an intrinsic motivation to strengthen their skills, and commitment to activities. This is also displayed in their overall achievement, as students who are meeting grade level expectations as evidenced on their statewide test scores. This leads the researcher to

question which set of attributes comes first? Are these naturally gifted students who have high academic marks and have therefore developed a strong sense of self-efficacy and resiliency, or have self-efficacy and intrinsic motivation been fostered from early on evidenced by their ability to persevere through challenging tasks, such as reading?

Motivation Driven by Choice and Interest

Motivation was a hot topic within focus group discussion. Though these students displayed intrinsic motivation when discussing strategies they use to strengthen their skills, they did discuss the idea that it is sometimes a "struggle with motivation to read" especially in school. Lack of interest in books chosen by the teacher and the different types of reading materials (articles, textbooks) was noted. Students had different opinions about what they were interested in reading and why. Speaker 2, for example, likes to read articles in class, "especially if they are about political stuff"; while Speaker 5 does not like annotating in the columns and analyzing the articles. She would much rather read a fiction book for the story than have to dissect an article. In the RAI survey, many books listed by participants were biographies. Most students in the focus group reported fiction books as their preference. Interest is in the eye of the beholder, and this should be taken into consideration as teacher's plan their lessons. Multiple options could benefit students in order to elicit more interest.

Interestingly, Speaker 2, who was vocal about not doing assignments and not participating if he wasn't interested, became very passionate about reading *Catcher in the Rye*. He shared multiple times throughout the session how he loved that book and finished assignments early because he really connected to the book. Towards the end of the focus group, he interrupted to add that he wanted to share his intentions of writing his

own novel. When asked what motivated him to make that decision, he noted that it was after reading *Catcher in the Rye*. He then realized that to be a writer, he needed to read more in order to see different styles author's use in their writing. Again, this highlights the importance of interest in activities as well as finding your individual motivation.

Another struggle that surfaced was the concept of choice in what to read. Participants who have had more freedom in their school-related readings, displayed an overall sense of achievement and acceptance of required tasks. Those that felt choice was limited, were noted to be more reluctant to comply with assignments and do what was required in class. Participants shared that they "don't like when it's a bad book and someone is forcing you". The general consensus was that there was more choice in elementary school, especially when you went to the library and could choose whatever you wanted. "There is less choice in middle school" and high school…the selection of books is limited". Research suggests that when students feel they have a choice in their instructional activities it may increase their sense of autonomy and give them a sense of perceived control that increases motivation (Flowerday, Schraw, & Stevens, 2004). Biancarosa & Snow (2006) highlighted the fact that choice of what to read, often utilized during a structured silent reading time, often ends in the primary grades. How does that impact our adolescent students? Focus group participants expressed their dislike of reading classic books like the *Odyssey* that they find boring, and confusing to follow. Participant 4 loves reading Percy Jackson stories and shared that she can relate and follow along with more ease, but still learned about the Odyssey. Having a choice of what to read, even if the topic is chosen by the teacher, garners more interest from students. Ivey and Johnston (2011) found that when teachers move toward higher student

engagement by allowing them to self-select readings, it creates a deeper sense of identity, more engagement and a sense of agency; in addition to higher test scores.

Significance of the Study

The purpose of this study was to explore DHH adolescent's self-rated levels of reading motivation and engagement and associated factors that contribute to a student's overall motivation to read. In addition, possible relationships were determined using the student's most recent statewide testing (SBAC) scores. To strengthen the analysis, a qualitative focus group was employed to further explore student's thoughts on reading and motivation. Though reading motivation has been researched to great extent, it has not yet been studied with this population of students. This study addresses a gap in the literature that analyzes reading achievement for this marginalized population through an affective lens, focusing on motivation and self-efficacy. Regardless of a DHH student's mode of communication or use of amplification devices, research needs to expand outside of the box to determine what additional factors may be impacting these students.

Limitations

In developing the parameters of this study, certain delimitations were included. All participants were required to have bilateral hearing loss. Thresholds (mild-profound), did not matter for this study, but all participants had hearing loss in both ears. Unilateral hearing loss was excluded from the study, given the fact that these individuals have access to speech and language with their typical-hearing ear and may not have as many significant reading challenges as their peers with bilateral hearing loss. In addition, the primary disability of all participants must have been hearing impairment/deafness.

Students with comorbidities or additional diagnoses were not involved in the study due to the inability to determine if results were related solely to hearing loss, or if other cognitive factors impacted their results. Given the researcher's workplace connection to the Special Education Local Plan Area (SELPA), all possible participants were pulled from students enrolled in the seven participating districts, upon district consent. No participants outside the SELPA were included.

The current study contains several limitations. Given the low-incidence nature of hearing loss, many studies encompassing Deaf participants typically employ a low number of participants overall. This study was able to gather information from 38 participants as a starting point, but the small sample size limits the statistical power of the study. In addition, all participants were located in the same geographical location of Southern California, comprising seven school districts within a 10-mile span of each other.

The range of students that participated did include a variety of students from different ability levels and educational placements; though access to students who utilize ASL was limited and of the possible students who fit those criteria, there were only four who completed surveys. Of those four, none volunteered for Phase 2 of the study. Phase 2 was voluntary and of the initial 15 students that participated in Phase 1, only five students actually participated in the focus group. Initially, the researcher planned to hold two separate focus groups to obtain input from more students, yet only one was completed due to interest and attendance of the participants. In reviewing information obtained in Phase 1 from these students, they were all found to be higher performing students participating in general education classrooms and who were at grade-level according to

their state testing results. Though these students were very thoughtful in their answers and provided important information to the researcher, having focus group participants that represented a wider variety of student experiences would have been beneficial.

Participating school districts supplied student's most recent SBAC scores, but it was found that not all districts report the same information. Initially, the overall ELA score, as well as the 4 Claims (reading, writing, spelling, and research/inquiry), were to be included. Upon further analysis, only the Overall score was reported at different grade levels and data was not further broken down into the Claim areas. The only score that was captured for this study was the overall ELA score. Though this is an initial step in determining correlation between motivation and reading ability, further detailed analysis would have provided additional data points and a deeper understanding of the correlation between ability levels and motivation.

Implications of this Study

The initial goals of this study were to obtain a beginning baseline of DHH student's reading motivation levels and reading activity outside of school; and to hear from student's themselves what motivates, challenges and benefits them when it comes to furthering their reading skills as they enter the period of adolescence. Findings of this study have many implications for the field of Deaf Education. While recruiting participants, it was the researcher's aim to include students with all levels of bilateral hearing loss, from multiple types of educational programming and who utilized any combination of spoken language or sign language. The goal was to get a beginning picture of the population as a whole, rather than just focusing on specific subsets.

Quantitative results did show significant relationships for gender and language across a few dimensions on the MRQ. Research has shown that, in general, boys often score lower on numerous constructs, such as efficacy, importance, social motivation, and intrinsic value (Baker & Wigfield, 1999; Gambrell et al., 1996; Durik, Vida & Eccles, 2006). Given that boys in this study did rate themselves lower on the dimensions of Curiosity, Recognition and Social Reasons, it is imperative to address the importance of intervention for male DHH adolescents who are at significant risk in terms of overall reading achievement and motivation. In addition, even though significant relationships were not found in these areas on the survey data, male participants in the focus group did express more comments that addressed non-compliance to assignments and less overall motivation to read.

Furthermore, relationships found between language and educational placement and Importance of Reading were noted, showing that students who utilize sign language and are placed in the ASL DHH program rate reading as much less important than their DHH peers in the general education setting, and who use spoken language to communicate. "English is neither a visual language nor a language that can be acquired naturally by deaf children in preparation for formal reading instruction and access to the school curriculum (LaSasso & Crain, 2015)". Given that over 90% of children with hearing loss are born to hearing parents, these children are often at a disadvantage by not having access to a language system (ASL) until formal schooling starts (2015). In addition, that language system may not be able to carry over into the home setting of parents choose to not learn sign language with their children. This puts these students at even greater significant risk of falling behind. Out of the possible participants available,

only four students who utilized ASL participated in the studies; and none of them chose to participate in the focus group. In addition, all four participants scored low on their statewide testing, indicating far below grade level competency. The researcher questioned: Why did so few participate? Why were none of these students willing to participate in a focus group to share their thoughts? Why such a discrepancy of scores? In order to answer these questions, research does need to focus on this subgroup of students to analyze concerns specific to this group.

Highlighted by the focus group information, the concepts of *choice* and *interest* were also an area that participants were passionate about. Focus group participants shared that they struggle when books/assignments are "boring" and they find it difficult to find the motivation to read, even for the higher performing students. Less choice and freedom in reading material as they transition out of elementary school has had a significant impact. Those participants that did share examples of having more choice in reading assignments, such as a choice of 12 books that fit the assigned theme, were more willing and eager to comply and participate. One of the most poignant realizations for the researcher was just how much interest can affect intrinsic motivation; characterized by Speaker 2's enjoyment and interest in *Catcher in the Rye*. Enjoyment, compliance, and attitude increased as he read this book. This book also sparked a goal for him to want to write his own novel and take the initiative towards that goal by reading more. This confirms that, as teachers, we need to be willing to adapt teaching practices in order to engage these students who are often at a higher disadvantage due to their hearing impairment and language access.

Recommendations for Future Research

The present study investigated reading motivation levels of DHH adolescents and explored strengths and challenges that these students face in regards to reading development and motivation. Although the quantitative data did not reveal many significant relationships, there were a few areas that are worth more exploration. Gender, primary language and educational placement were found to have significant relationships with a few of the MRQ dimensions. The Curiosity, Recognition, and Social dimensions were significantly correlated to gender and there was also a positive, low correlation between educational placement and Importance of Reading. In order to improve the generalizability of these results, further research in these areas, and with a larger sample size and multiple locations of data collection is needed.

Educational Placement and Primary Language were highly correlated due to the fact that all participants who utilize ASL were in school environments/classrooms where they are educated with other Deaf students who utilize sign language. In addition, there were only four participants who use sign language from the sample population. A DHH classroom setting is not the only option for students utilizing ASL, as many students are educated in the general education setting with the use of interpreters. In addition, there were no participants that were educated in an oral DHH class. Ensuring additional representation from these two groups would allow for a deeper analysis of the population as a collective whole.

Another consideration for future research is to explore DHH student's overall reading abilities and if there is any significant correlation between their motivation levels. Of the participants in the focus group, vocabulary, retention of information read, and

decoding of words were discussed as challenges they faced in regards to their hearing loss. Being able to assess students with a more thorough assessment battery would allow for more intensive analysis than what the state testing scores provided in the current study.

Conclusion

Findings in this present study, grounded in social learning theory (Bandura, 1977) and self-determination theory (Deci and Ryan, 1985), add to the extant literature by applying these theories to Deaf Adolescents. Reading motivation has not been studied in this population at this time; yet given the never-changing struggles of this marginalized group in regards to reading achievement, a look outside the box is needed to determine how to change the trajectory for these students. The intent is to provide beginning data and spark a greater conversation about what is needed to ensure higher motivation levels and enjoyment of reading, to then produce greater overall reading abilities. As formal reading instruction ends in the early elementary years, we need to capture interest from these students to foster an enjoyment of reading, both in and out of the classroom. Though the population as a whole is impacted, future research should also pay close attention to males and students who utilize sign language, as they may be more at risk for losing motivation and willingness to further their skills.

APPENDIX A IRB APPROVAL LETTER

Federal Wide Assurance: FWA00009066

Jan 11, 2023 11:16:49 AM EST

PI: Sarah Carlton

CO-PI: Evan Ortlieb

The School of Education, Education Specialties

Re: Expedited Review - Initial - **IRB-FY2022-276** *Examination of Reading Motivation Levels and Associated Factors in Deaf and Hard-of-Hearing Adolescents*

Dear Sarah Carlton:

The St John's University Institutional Review Board has rendered the decision below for *Examination of Reading Motivation Levels and Associated Factors in Deaf and Hard-of-Hearing Adolescents*. The approval is effective from January 11, 2023 through January 10, 2024.

Decision: Approved

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Sincerely,

Raymond DiGiuseppe, PhD, ABPP

Chair, Institutional Review Board

Professor of Psychology

APPENDIX B DISTRICT APPROVAL LETTER

The School of Education
St. John's University
800 Utopia Parkway
Queens, New York 11439

December 12, 2022

Sarah Carlton
Doctoral Candidate

Dear _____,

This letter serves as a formal request for Sarah Carlton, Doctoral Candidate in the Literacy and Reading program at St. John's University, to conduct research in the _____ District as part of the Deaf/Hard-of-Hearing (DHH) Department within the Whittier Area

Cooperative Special Education Program. The study titled Examination of Reading Motivation Levels and Associated Factors in Deaf and Hard-of-Hearing Adolescents" entails surveying Deaf and Hard-of-Hearing (DHH) adolescents about their reading motivation levels and reading activity. DHH Literacy rates have remained unchanged despite many advances in the field. Reading Motivation is an area of research that has gained significant ground recently as many professionals look to affective domains when examining Literacy development. This area has not been a focus to-date within the field

of Deaf Education and there is a significant gap in the literature for this population of students.

The intent of this study is to gather novel data that will shed light on reading motivation for this low-incidence population and provide insight to the affective dimensions of reading in

order to strengthen the literacy outcomes for our local population of students, as well as the Deaf community at large.

DHH students between 11 and 17, upon parental consent, will complete two surveys and a demographic questionnaire. California state-testing results from the California Assessment of Student Performance and Progress (CAASPP) will be collected from the District Office. In addition, students may be involved in voluntary focus group sessions, following survey completion. The study will have limited interference with daily school instruction and will be conducted within specialized service time already allotted with DHH Specialists to minimize impact. There are no anticipated risks to Participants. All participant and District names will be given a Pseudonym. Data gathered will be stored in a locked file-cabinet and on a password-protected computer.

Thank you for your continued interest and support. Please sign the form below allowing this research to be conducted within your District. I look forward to sharing results with you.

Sincerely,

Sarah Carlton, MS.Ed, LSLS Cert. AV.Ed
Doctoral Candidate

I, _____, Superintendent of the _____ District, give Sarah Carlton, Researcher and St. John's University Doctoral Candidate, permission to conduct the study "Examination of Reading Motivation Levels and Associated Factors in Deaf and Hard-of-Hearing Adolescents". This includes permission to contact parents, secure Student's SBAC testing scores from the district office, conduct surveys with Students, and conduct follow-up focus groups.

_____ _____

(Signature) *(Date)*

APPENDIX C PARENTAL CONSENT FORM

Parental Consent Form

Dear Parents,

Your child has been invited to take part in a research study to learn more about reading motivation and the overall Language Arts skills of Deaf/Hard-of-Hearing (DHH) adolescents. This study will be conducted by Sarah Carlton, Department of Education Specialties and Counseling, St. John's University, as part of her doctoral dissertation work. Her faculty sponsor is Dr. Ortlieb, Department of Education Specialties and Counseling.

If you are in agreement with your child participating in Phase 1 of this study, they will be asked to do the following: complete a survey to help the researcher understand self-rated levels of reading motivation, complete a reading activity inventory and complete a short demographic questionnaire. The survey answers will be recorded in writing by the students themselves. Participation in the surveys would be approximately 30-40 minutes and will be completed during the school day in their allotted service time with their DHH teacher. The most recent California State Testing (SBAC) results in Language Arts will also be provided to the researcher by your child's school district at this time.

If interested, those who participated in Phase 1, may volunteer to participate in Phase 2 which will include one focus group session where students will be asked further questions in regards to strength, challenges and supports needed in reading that were identified from initial survey data. If your child participates in this phase, the approximated time frame would be one hour. These sessions would be audio and video recorded.

Federal regulations require that all subjects be informed of the availability of medical treatment or financial compensation in the event of physical injury resulting from participation in the research. St. John's University cannot provide either medical treatment or financial compensation for any physical injury resulting from your participation in this research project. Inquiries regarding this policy may be made to the principal investigator or, alternatively, the Human Subjects Review Board (718-990-1440). There are no foreseeable medical concerns or risks associated with this study.

Participants will receive no monetary benefits. Those Participants that volunteer for Focus Groups sessions will be allowed to choose one book as a thank you for volunteering.

This research may help the investigator understand DHH student's overall levels of reading motivation and how it impacts their overall skill level in reading and Literacy. Results of this

study may help strengthen future academic programs and develop interventions to support struggling readers. You and/or your Child may be familiar with and/or have worked with the Researcher in the past.

Participation in this study is voluntary. Your child may refuse to participate or withdraw at any time without penalty. For Focus groups and surveys, they have the right to skip or not answer any questions that they prefer not to answer. Nonparticipation or withdrawal will not affect grades or academic standing, and information will not be shared with staff that works with them on a daily basis. Though this research may inform future programming for DHH Students, it does not influence current services, placement or academic standing.

Confidentiality of your child's records will be strictly maintained by removing names and any identifiers will be replaced with a number. Consent forms will be stored in a separate location from the survey documentation and will be stored in a locked file. Student responses will be kept confidential with the following exception: the researcher is required by law to report to the appropriate authorities, suspicion of harm to yourself, to children, or to others.

If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact Sarah Carlton, sarah.carlton18@my.stjohns.edu, St. John's University 8000 Utopia Parkway, Queens NY, 11439 or the faculty sponsor, Dr. Evan Ortlieb, at ortliebe@stjohns.edu, St. John's University, Sullivan Hall 4th Floor, 8000 Utopia Parkway, Queens NY, 11439.

For questions about your rights as a research participant, you may contact the University's Institutional Review Board, St. John's University, Dr. Raymond DiGiuseppe, Chair digiuser@stjohns.edu 718-990-1955 or Marie Nitopi, IRB Coordinator, nitopim@stjohns.edu 718-990-1440.

Agreement to Participate

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- You believe you understand the research study and the potential benefits and risks that are involved.

Statement of Consent

I have carefully read and/or I have had the terms used in this consent form and their significance explained to me. By signing below, I give permission for my child to participate in this project. You will be given a copy of this signed and dated consent form to keep.

Please check the appropriate selections:

____ My Child can participate in Phase 1 (surveys/questionnaires)

_____My Child can and is willing to participate in Phase 2 (Focus Group session)

_____I agree to audio/video recording of Focus group session

_____I understand SBAC test scores will be shared with the researcher

For contact purposes:

My primary mode of communication is: ____ English ___Spanish _____ASL _____Other

Please contact me by: _____Phone (Voice) _____ Phone (Relay) ____Email _____Text

Name of Participant (please print) _____

Signature of Parent _____Date _____

Signature of Investigator _____Date _____

APPENDIX D STUDENT CONSENT FORM

Student Consent Form

Dear Student,

You are invited to take part in a research study to learn more about reading motivation and the overall Language Arts skills as a student with a diagnosed hearing loss. This study will be conducted by Sarah Carlton, Department of Education Specialties and Counseling, St. John's University, as part of her doctoral dissertation work. Her faculty sponsor is Dr. Ortlieb, Department of Education Specialties and Counseling.

If you agree to participate in Phase 1 of this study, you will be asked to do the following:
1. Complete a survey to help the researcher understand self-rated levels of reading motivation,
2. Complete a reading activity inventory and complete a short demographic questionnaire.

You will complete the survey answers by yourself, with the help of your DHH Teacher as needed during your already scheduled service time. Participation in the surveys would be approximately 30-40 minutes and will be completed during the school day.

The most recent California State Testing (SBAC) results in Language Arts will also be provided to the researcher by your school district at this time.

If interested, you may volunteer to participate in Phase 2 which will include one focus group session where you and a small group of students will be asked further questions in regards to strength, challenges and supports needed in reading that were identified from initial survey data. If you participate in this phase, the approximated time frame would be one hour. These sessions would be

audio and video recorded. You will be able to choose one book when finished with the focus group session as a small "thank you".

Federal laws require that all participants be informed of the availability of medical treatment or financial compensation in the event of physical injury resulting from participation in the research. St. John's University cannot provide either medical treatment or financial compensation for any physical injury resulting from your participation in this research project. Inquiries regarding this policy may be made to the principal investigator or, alternatively, the Human Subjects Review Board (718-990-1440). There are no foreseeable medical concerns or risks associated with this study.

Participants will receive no monetary benefits. Those Participants that volunteer for Focus Groups sessions will be allowed to choose one book as a thank you for volunteering.

This research may help the investigator understand DHH students overall levels of reading motivation and how it impacts their overall skill level in reading and Literacy. Results of this study may help strengthen academic programs and develop interventions to support struggling readers. Your information will be kept confidential at all times. All names and identifiers will be removed and replaced with a number. Consent forms will be stored in a separate location from the survey documentation and will be stored in a locked file. Student responses will be kept confidential with the following exception: the researcher is required by law to report to the appropriate authorities, suspicion of harm to yourself, to children, or to others.

Participation in this study is voluntary. You may refuse to participate or withdraw at any time without penalty. For Focus groups and surveys, you have the right to skip or not answer any questions that you prefer not to answer. Nonparticipation or withdrawal will not affect grades or academic standing, and information will not be shared with staff that works with you on a daily basis.

If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact Sarah Carlton, sarah.carlton18@my.stjohns.edu, St. John's University 8000 Utopia Parkway, Queens NY, 11439 or the faculty sponsor, Dr. Evan Ortlieb, at ortliebe@stjohns.edu, St. John's University, Sullivan Hall 4th Floor, 8000 Utopia Parkway, Queens NY, 11439.

For questions about your rights as a research participant, you may contact the
University's Institutional Review Board, St. John's University, Dr. Raymond
DiGiuseppe, Chair 718-990-1955 digiuser@stjohns.edu or Marie Nitopi, IRB Coordinator, 718-990-1440 nitopim@stjohns.edu

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Agreement to Participate

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- You believe you understand the research study and the potential benefits and risks that are involved.

Statement of Consent

I have carefully read and/or I have had this form and their significance explained to me. By signing below, I agree to participate in this project. You will be given a copy of this signed and dated consent form to keep.

Please check the appropriate selections:
____ I agree to participate in Phase 1 (surveys/questionnaires)
____ I would like to participate in Phase 2 (Focus Group session)
____ I agree to audio/video recording of Focus group session
____ I understand SBAC test scores will be shared with the researcher

Name of Participant (please print) _____

Signature of Participant _____ Date _____
Signature of Investigator _____Date_____

APPENDIX E MOTIVATION FOR READING QUESTIONNAIRE (MRQ)

The Motivation for Reading Questionnaire (MRQ - R)

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth or their reading. Journal of educational psychology, 89(3), 420.
53 Items 11 Dimensions

Reading Efficacy (three items)
I know that I will do well in reading next year
I am a good reader
I learn more from reading than most students in the class

Challenge (five items)
I like hard, challenging books
If the project is interesting, I can read difficult material
I like it when the questions in books make me think
I usually learn difficult things by reading
If a book is interesting I don't care how hard it is to read

Curiosity (six items)
If the teacher discusses something interesting I might read more about it
I have favorite subjects that I like to read about
I read to learn new information about topics that interest me
I read about my hobbies to learn more about them
I like to read about new things
I enjoy reading books about people in different countries

Reading Involvement (six items)
I read stories about fantasy and make believe
I like mysteries
I make pictures in my mind when I read
I feel like I make friends with people in good books
I read a lot of adventure stories
I enjoy a long, involved story or fiction book

Importance (two items)
It is very important to me to be a good reader
In comparison to other activities I do, it is very important to me to be a good reader

Recognition (five items)
I like having the teacher say I read well

My friends sometimes tell me I am a good reader
I like to get compliments for my reading
I am happy when someone recognizes my reading
My parents often tell me what a good job I am doing in reading

Grades (four items)
Grades are a good way to see how well you are doing in reading
I look forward to finding out my reading grade
I read to improve my grades
My parents ask me about my reading grade

Social (seven items)
I visit the library often with my family
I often read to my brother or my sister
My friends and I like to trade things to read
I sometimes read to my parents
I talk to my friends about what I am reading
I like to help my friends with their schoolwork in reading
I like to tell my family about what I am reading

Competition (six items)
I try to get more answers right than my friends
I like being the best at reading
I like to finish my reading before other students
I like being the only one who knows an answer in something we read
It is important for me to see my name on a list of good readers
I am willing to work hard to read better than my friends

Compliance (five items)
I do as little schoolwork as possible in reading
I read because I have to
I always do my reading work exactly as the teacher wants it
Finishing every reading assignment is very important to me
I always try to finish my reading on time

Reading Work Avoidance (four items)
I don't like vocabulary questions
Complicated stories are no fun to read
I don't like reading something when the words are too difficult
I don't like it when there are too many people in the story

4-point Likert Scale (1= very different from me to 4= a lot like me

APPENDIX F READING ACTIVITY INVENTORY (RAI)

The Reading Activity Inventory (RAI)

The RAI (Guthrie, McGough, & Wigfield, 1994) is a measure of the breadth and frequency of students' reading. Questions on the RAI ask students whether they read during the last week different kinds of reading material both in and out of school (e.g., different kinds of books, newspapers, comics, as well as books in general). If the child says he or she read a given kind of book in the last week, he or she then is asked to give its title. The child then is asked to indicate how often he or she reads that kind of book, responding on a 1 to 4 scale from almost never to almost every day.

The RAI was administered directly after the MRQ, by the same administrators. A shortened version was used in this study, asking children about the following kinds of reading materials: comics, magazines, newspapers, books, mystery books, sports books, adventure books, and nature books. The children were told that they were going to answer some questions about what they read and how often they read for fun. They did one practice question, and then completed the RAI. It took children 5 to 10 minutes to complete the RAI. To gauge the breadth of children's book reading for fun, we created a composite scale of the five items asking about book reading (books, mystery books, sports books, adventure books, and nature books). Although there is no traditional reliability for this measure, the fall and spring administrations of the measure correlated .54 ($p < .001$), suggesting a substantial level of stability in the measure.

To see the entire journal article: (can be downloaded from the CORI Web site)

Wigfield, A., & Guthrie, J. T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. Journal of Educational Psychology, 89, 420-432.

Name: _____ Date: _____

READING ACTIVITY INVENTORY

Directions: We are interested in knowing about your reading activities and in finding out how much you read different kinds of books. You will circle the answers to some of the questions, and write the answers to the others.

Practice Question

1. Do you have a first name? (Circle only one)
No..... 1
Yes..... 2
If yes, write your first name.

First name: _____

2. How often do you tell another person your first name? (Circle only one)
Almost never..... 1
About once a month..... 2
About once a week..... 3
Almost every day..... 4

Questions About Reading For Your Own Enjoyment

Directions: In this section, think about books that you read for your own interest that are not assigned for school or homework.

1. Did you read a story book like a mystery or an adventure last week for your own interest? (Circle only one)

No..... 1
Yes..... 2

If yes, write in the title, author, or the specific topic that you read about.
Book title: _____
Author: _____
Topic: _____

2. How often do you read a story book like a mystery or an adventure for your own interest? (Circle only one)
Almost never..... 1
About once a month..... 2
About once a week..... 3
Almost every day..... 4

3. Did you read a sports book last week for your own interest? (Circle only one.)
No..... 1
Yes..... 2

If yes, write in the title, author, or the specific topic that you read about.
Book title: _____
Author: _____
Topic: _____

4. How often do you read sports books for your own interest? (Circle only one.)
Almost never..... 1
About once a month..... 2
About once a week..... 3
Almost every day..... 4

5. Did you read a science book last week for your own interest? (Circle only one.)
No..... 1
Yes..... 2

If yes, write in the title, author, or the specific topic that you read about.
Book title: _____
Author: _____
Topic: _____

6. How often do you read a science book for your own interest? (Circle only one.)
Almost never..... 1

About once a month..... 2
About once a week..... 3
Almost every day..... 4
7. Did you read a comic book or magazine last week for your own interest?
(Circle only one.)

No..... 1
Yes..... 2

If yes, write in the title, author, or the specific topic that you read about.
Book title: _____
Author: _____
Topic: _____

8. How often do you read comic books and magazines for your own interest? (Circle only one)
Almost never..... 1
About once a month..... 2
About once a week..... 3
Almost every day..... 4

9. Did you read any other kind of book last week for your own interest that was
not mentioned? (Circle only one)
No..... 1
Yes..... 2

If yes, write in the title, author, or the specific topic that you read about.
Book title: _____
Author: _____
Topic: _____

10. How often do you read this kind of book? (Circle only one)
Almost never..... 1
About once a month..... 2
About once a week..... 3
Almost every day..... 4

APPENDIX G DEMOGRAPHIC SURVEY

Reading Motivation of DHH Adolescents

Demographic Survey

Name: _____

Gender: _____ Male _____ Female _____ Non-binary

Age: _____

Grade: _____

Primary Mode of Communication: _____ Spoken English _____ ASL _____Both

Hearing Loss: _____Mild _____ Moderate _____Severe _____Profound

Amplification Used: _____ None _____Hearing Aids

_____ Cochlear Implant _____BAHA

School Placement: _____General Education

_____ General Education with Resource Support

_____ Oral DHH Class

_____ ASL DHH Class

APPENDIX H GUIDED INTERVIEW QUESTIONS

Guided Interview Questions

1. What comes to mind when you think of reading?

2. Do you enjoy reading? Why or why not?

3. Do you consider yourself a strong reader or a struggling reader?

4. In school, how do you feel about reading assignments?

4a. Are you given a choice of what to read?

4b. Do you enjoy assigned readings?

5. What about outside of school? Do you read for fun?

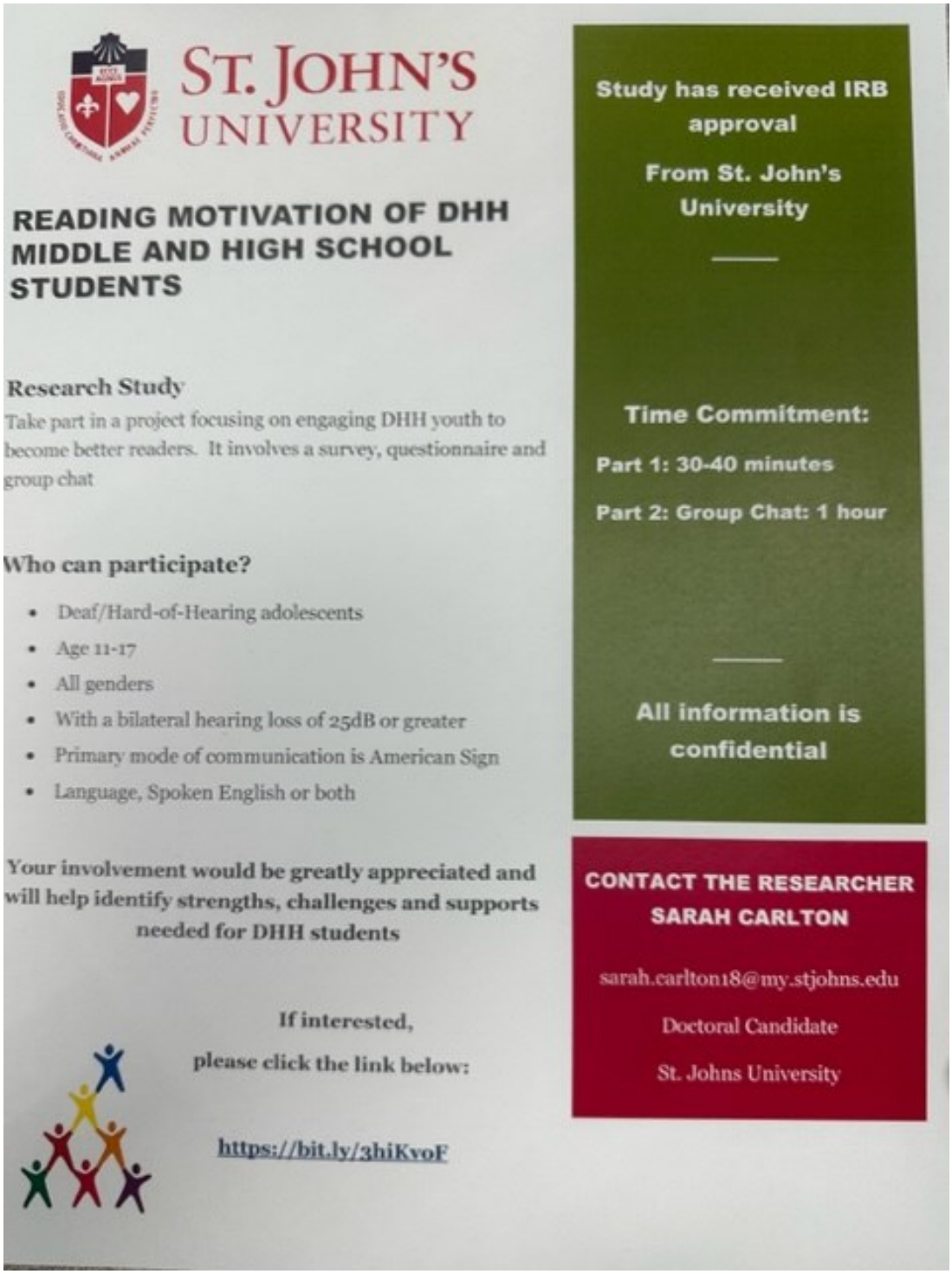
5a. If so, what do you read?
5b. If not, why?

6. If you could wave a magic wand and change one thing about reading in school , what would
you change?

7. What are some challenges you have faced with reading at school? Class assignments? In other
classes?

8. What has helped you over the years to become a better reader? To make it more enjoyable?

APPENDIX I RECRUITMENT FLYER



REFERENCES

Allington, R., McCuiston, K., & Billen, M. (2015). What research says about text complexity and learning to read. *The Reading Teacher, 68*(7), 491-501.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relationships to reading activity and reading achievement. *Reading Research Quarterly*, 34 (4), 452-477.

Bandura, A. J. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). Self-Efficacy: The exercise of control. New York, NY: W. H. Freeman.

Becker, M., McElvany, N. & Kortenbruck, M. (2010). Intrinsic and extrinsic reading motivation as predictors of reading literacy: A longitudinal study. *Journal of Educational Psychology*, 102, 773-785. 10.1037/a0020084.

Biancarosa, G., & Snow, C. (2006). Reading next: A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York. Washington DC: *Alliance for Excellent Education.* http://www.all4ed.org/publications/ReadingNext/index.html

Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals*. New York: Longmans, Green.

Bogdan, R., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Pearson Allyn & Bacon.

Bozack, A. (2011). Reading between the lines: motives, beliefs, and achievement in adolescent boys. *The High School Journal*, *94*(2), 58–76. http://www.jstor.org/stable/41236866

Brännström,K. Jonas, Lyberg-Åhlander, V. & Sahlén, B. (2022). Perceived listening effort in children with hearing loss: listening to a dysphonic voice in quiet and in noise, *Logopedics Phoniatrics Vocology*, *47*(1), 1-9, DOI: 10.1080/14015439.2020.1794030

Breen, R. (2006). A practical guide to focus-group research. *Journal of Geography in Higher Education*, *30*(3), 463-475. DOI: 10.1080/03098260600927575

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE.

Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Thousand Oaks, California: SAGE.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs And the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.

Durik, A. M., Vida, M., & Eccles, J. S. (2006). Task values and ability beliefs as predictors of high school literacy choices: A developmental analysis. *Journal of Educational Psychology,* 98, 382-393. https://doi.org/10.1037/0022-0663.98.2.382

Flowerday, T., Schraw, G., & Stevens, J. (2004). The Role of Choice and Interest in Reader Engagement. *The Journal of Experimental Education*, *72*(2), 93–114. http://www.jstor.org/stable/20157361

Gambrell, L. B., Palmer, B. M., Codling, R. M., & Mazzoni, S. A. (1996). Assessing motivation to read. *The Reading Teacher*, *49*(7), 518–533.

Gibbs, A. (2012). Focus groups and group interviews. In J. Arthur, M. Waring, R. Coe, & L. V. Hedges (Eds.), *Research methods and methodologies in education* (pp. 186–192). London: SAGE Publications Ltd.

Giedd, J. N. (2012). The digital revolution and adolescent brain evolution. *Journal of Adolescent Health*, 51, 101–105.

Guthrie, J & Davis, M. (2003). Motivating struggling readers in middle school through an engagement model of classroom practice. *Reading & Writing Quarterly*, 19, 59-85. 10.1080/10573560308203.

Guthrie, J.T., McGough, K., & Wigfield, A. (1994). Measuring reading activity: An inventory (Instructional Resource No. 4). Athens, GA: National Reading Research Center.

Hagerman B. (1984). Some aspects of methodology in speech audiometry. *Scandinavian audiology. Supplementum*, *21*, 1–25.

Harris, M., & Terlektsi, E. (2011); Reading and spelling abilities of deaf adolescents with cochlear implants and hearing aids. *The Journal of Deaf Studies and Deaf Education*, 16(1)1, 24–34, https://doi.org/10.1093/deafed/enq031

Hopkins K., Moore Brian C. J., Stone Michael A. (2005) Effects of moderate cochlear hearing loss on the ability to benefit from temporal fine structure information in speech. *J Acoust Soc Am,* 123, 1140–1153.

Ivey, G., & Johnston, P. H. (2013). Engagement with young adult literature: Outcomes and processes. *Reading Research Quarterly*, *48*(3), 255–275. http://www.jstor.org/stable/43497622

Khenissi, M., Bouzid, Y., Essalmi, F., & Jemni, M. (2015). A learning game for deaf learners. IEEE International Conference on Advanced Learning Technologies, Hualien, Taiwan. 10.1109/ICALT.2015.98.

Kim, J. S., Hemphill, L., Troyer, M., Thomson, J. M., Jones, S. M., LaRusso, M. D., & Donovan, S. (2017). Engaging struggling adolescent readers to improve reading skills. *Reading Research Quarterly*, *52*(3), 357–382. http://www.jstor.org/stable/26622571

Klauda, S. & Guthrie, J. (2014). Comparing relations of motivation, engagement, and achievement among struggling and advanced adolescent readers. *Reading and Writing*. 28 (2). 10.1007/s11145-014-9523-2.

Krueger, R. A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: SAGE.

Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: SAGE

LaSasso, C. J., & Crain, K. L. (2015). Reading for deaf and hearing readers: qualitatively and/or quantitatively similar or different? A nature versus nurture issue. *American Annals of the Deaf*, *159*(5), 447–467. http://www.jstor.org/stable/26235027

Lenters, K. (2006). Resistance, struggle, and the adolescent reader. *Journal of Adolescent & Adult Literacy, 50*(2), 136-146.

Lichtman, M. (2013). *Qualitative research in education: A user's guide*. Los Angeles: SAGE Publications.

Marschark, Marc & Lang, Harry & Albertini, John. (2006). *Educating Deaf Students: From Research to Practice*. 10.1093/oso/9780195310702.001.0001.

McCoy, S. L., Tun, P. A., Cox, L. C., Colangelo, M., Stewart, R. A., & Wingfield, A. (2005). Hearing loss and perceptual effort: downstream effects on older adults' memory for speech. *The Quarterly Journal of Experimental Psychology. A Human experimental psychology*, 58(1), 22–33. https://doi.org/10.1080/02724980443000151

Miller, P. (2004a). Processing of written words by individuals with prelingual deafness. J*ournal of Speech, Language, and Hearing Research*, 47, 979–989

Ogundiran, O., & Olaosun, A.O. (2013). Comparison of academic achievement between students with congenital and acquired deafness in a nigerian college. *Journal of Education and Practice, 4*, 42-47.

Ohlenforst, B., Zekveld, A. A., Lunner, T., Wendt, D., Naylor, G., Wang, Y., Versfeld, N. J., & Kramer, S. E. (2017). Impact of stimulus-related factors and hearing impairment on listening effort as indicated by pupil dilation. *Hearing Research*, *351*, 68–79. https://doi.org/10.1016/j.heares.2017.05.012

Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2009). A qualitative framework for collecting and analyzing data in focus group research. *International Journal of Qualitative Methods*, *8*(3), 1-21.

Parault, S. & Williams, H. (2009). Reading motivation, reading amount, and text comprehension in deaf and hearing Adults. *Journal of Deaf Studies and Deaf Education*. 15. 120-35. 10.1093/deafed/enp031.

Pitcher, S. M., Albright, L. K., DeLaney, C.J., Walker, N., Seunarinesingh, K., Mogge, S., Dunston, P. J. (2007). Assessing adolescents' motivation to read. *Journal of Adolescent & Adult Literacy*, 50(5), 378-398.

Povlakić-Hadžiefendić, M. (2019). Attitudes and motivation of deaf and hard of hearing students for studying. *Specijalna Edukacija i Rehabilitacija*, 18, 85-102. 10.5937/specedreh18-19135.

Qi, S., & Mitchell, R. E. (2012). Large-scale academic achievement testing of deaf and hard-of-hearing students: past, present, and future. *Journal of Deaf Studies and Deaf Education*, *17*(1), 1–18. https://doi.org/10.1093/deafed/enr028

Salkind, N. J. (2012). *Exploring research.* New York, NY: Pearson.

Stinson, M; Walter, G. (1997) Improving retention for deaf and hard of hearing students: what the research tells us. *Journal of the American Deafness and Rehabilitation Association*, *30*(4), 14-23

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Procedures and techniques for developing grounded theory.* Newbury Park, CA: Sage Publications Inc.

Trussell, J.W, & Easterbrooks, S. (2015) Effects of morphographic instruction on the morphographic analysis skills of deaf and hard-of-hearing students. *The Journal of Deaf Studies and Deaf Education*, *20*(3)1, 229-241, https://doi.org/10.1093/deafed/env019

Turner, J. (2014). Theory-based interventions with middle-school teachers to support student motivation and engagement. *Advances in Motivation and Achievement*, 18, 341-378. 10.1108/S0749-742320140000018009.

Urdan, T. (2016). *Statistics in plain English* (4th ed.). NY: *Faculty Book Gallery*.

Webb. M, Lederberg, A., Branum-Martin,L., McDonald Connor, C. (2015). Evaluating the structure of early english literacy skills in deaf and hard-of-hearing children, *The Journal of Deaf Studies and Deaf Education*, *20*(4)1, 343–355, https://doi.org/10.1093/deafed/env024

Wigfield, A., & Guthrie, J. T. (1995). *Dimensions of children's motivations for reading: An initial study* (Research Report No. 34). Retrieved from http://files.eric.ed.gov/fulltext/ED384010.pdf

Wigfield, A. & Guthrie, J.T. (1997). Relations of children's motivation for reading to the amount and breadth of their reading. *Journal of Educational Psychology*, 89, 420-432.

World Federation of the Deaf (WFD), http://www.wfdeaf.org/. 2010

Yeager, David. (2017). Social-emotional learning programs for adolescents. *The Future of Children*, 27, 73-94, 10.1353/foc.2017.0004. 73-94

Yoshinaga-Itano, C., Sedey, A., & Wiggin, M. (2017). Early hearing detection and vocabulary of children with hearing loss. *Pediatrics*, 40(2)

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