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Factors Influencing Choice of Communication Sciences and Disorders Major for Students Who Are Culturally and Linguistically Diverse

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CHOICE OF CSD MAJOR CALD STUDENTS

Factors Influencing Choice of Communication Sciences and Disorders Major for Students Who
Are Culturally and Linguistically Diverse

Minnesota State University Moorhead

By

Joanna Reinders

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in
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Thesis Abstract

The purpose of this study was to explore the motivating factors that influenced undergraduate students from culturally and linguistically diverse (CALD) backgrounds in the West North Central division of the United States to major in communication sciences and disorders (CSD). This was a nonexperimental study that was conducted by sending a quantitative survey on Qualtrics to undergraduate CSD students in schools in the West North Central division of the United States as defined by the U.S. Census (Census Regions and Divisions of the United States, n.d). All states had respondents to the survey except Nebraska and among the responses, 16 students were from CALD backgrounds. The results indicated that CALD students from this region ranked employment factors as the highest influence in choosing the CSD major followed by personal factors and last educational factors.

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Chapter 1

Introduction

This study explored the motivation, perception, and attitudes of culturally and linguistically diverse (CALD) undergraduate students when choosing to major in Communication Science and Disorders (CSD). This study also analyzed first-generation CALD college students to compare their data with non-first generation CALD college students. This comparison may give insight into factors of influence that were unique to this subgroup.

It was essential to establish the definition of CALD. In addition to the subgroups defined in the U.S. Census, individuals who still identified as CALD due to their family's heritage and values due to acculturation should be considered CALD (Attrill, Lincoln, & McAllister, 2017). According to a study done in Australia by Attrill et al. in 2017, the researchers defined CALD as being born in a foreign country and speaking a "Language other than English at Home" (LOTEH). People who spoke a LOTEH included native English speakers, non-English speakers, as well as "non-native English speakers who speak English as an Additional Language (EAL)" (Attrill et al., 2017, p. 310). According to the American Community Survey of 2017 by the U.S. Census Bureau, 21.8% of the nation's population ages five and older speak a language other than English at home (U.S. Census Bureau, 2017a).

In addition, the 2017 American community survey data also categorized CALD into three different categories. They were those who spoke English less well, which included individuals who predominately spoke a language other than English at home (U.S. Census Bureau, 2017a). However, collecting data only on these narrow definitions may not replicate the experiences of individuals who perceive themselves as CALD or the nature of their acculturation. Acculturation

is when a group of people or an individual borrow or modify their traits from another culture in order to fit into that culture (“acculturation”, 2019).

According to Attrill et al. 2017, individuals who perceived themselves to be CALD did not possess clearly identifiable cultural characteristics such as those who were foreign-born. However, these individuals may have come from a generation of immigrants and were still connected with their cultural roots to the point that they still held their family’s heritage, values, and language. These individuals who perceived themselves as CALD could provide a diverse perspective on acculturation in communities (Schwartz, Unger, Zamboanga, & Szapocznik 2010). Acculturation helped with the understanding as to why people from the same cultural background and community could express different cultural values or languages. As a result, there was a need for a broader definition of CALD that included not only those who were classically identified as CALD but extended to include people who identified themselves to be culturally diverse based on their connections to their family’s background.

According to the American Speech-Language-Hearing Association (ASHA) member count from 2017, 8.0% of ASHA members were of a racial minority (ASHA, 2019). Compared with 27.6% who were minorities in the U.S. population according to the 2010 Census, this was a notable discrepancy. Also, 1.4% identified as having more than one race (compared with 2.9% of U.S. population), and 5.3% identified as having ethnic origins of Hispanic or Latino (compared with 16.3% of U.S. population) (ASHA, 2019). ASHA’s member demographic defined racial minorities based on the U.S. Census Bureau. The U.S. Census Bureau described race as a social group(s) that an individual self-identified. The U.S. Census divides race into White, Black, Asian, American Indian/Alaskan Native, Native Hawaiian, and Other Pacific Islander, or some other race as well as those who identified as having Hispanic or Latino ethnic origins (U.S.

Census Bureau, 2017d). Additionally, according to ASHA's communication sciences and disorders (CSD) education trend data from 2010-11 to 2017-18, the percentage of minorities enrolled in undergraduate CSD programs has been gradually on the rise from 2013-14 with 20.6% to 28.1% in the most recent academic year (ASHA, 2018a). However, the percentage of minorities enrolled in speech-language pathology (SLP) master's programs was only 19.1% compared to the 80.9% of enrollees that were White.

Similar studies in the past were completed for CALD students when choosing the CSD major. However, those studies were conducted with a small sample of participants, usually in less than four schools in the United States. Many who participated in these past studies were CALD students who were enrolled in schools in diverse areas of the United States. Also, both the United Kingdom and Australia completed several studies in the past that pertained to the CALD population. In these studies, as well, they chose participants from schools located in diverse regions of the country. The current study was differentiated in that the targeted participants were enrolled in CSD programs within the West North Central division, which is not an area that has as much diversity in the United States. This region was targeted because CALD students from this particular region may have brought forth life experiences that may have diversified the results already collected from past studies. These factors could be used in the future for recruitment efforts to the CSD major for this population. The research question for the present study was, "What are the factors that influence the choice of Communication Science and Disorders major for students who are culturally and linguistically diverse?"

Chapter 2

Literature Review

Definition of CALD

The purpose of this study aimed to investigate the factors that influenced CALD college students in the Midwest region to pursue the CSD major. This region has limited diversity compared to regions included in previous studies, for the purpose of this study, the definition for CALD could not be too narrow (Keshishian & McGarr, 2012; Keshishian & Weisheart, 2015; Stone & Pellowski, 2016). The CALD definition in the present study was any person who not only identified as CALD based on demographic classifications (White, Black, Asian, American Indian/Alaskan Native, Native Hawaiian, and Other Pacific Islander, or some other race; Hispanic or Latino Ethnicity) but extended to include people who identified themselves to be culturally diverse based on their connections to their family's background. For instance, they may have a family heritage originating from outside of the United States, even though they were born in the United States. Also, they may be considered white demographically; however, they may consider themselves as CALD based on factors of being a first-generation American born or having a parent who was non-native to the United States.

Overview of Disparity Between Profession and Population

According to the 2017 U.S. Census Bureau, approximately 27% of the U.S. population comprised of non-white persons (U.S. Census Bureau, 2017a). Within this population, 13.4% were born in another country (U.S. Census Bureau, 2017b). This statistic was the highest percentage of foreign-born persons in the United States since 1910, when immigrants comprised 14.7% of the American population (U.S. Census Bureau, 2011). This foreign-born population is projected to increase steadily to 17.14% by 2060 (U.S. Census Bureau, 2017c). This trend of

demographic changes created a need for helping professions such as Speech-Language Pathologists (SLPs) to explore why there were limited CALD graduate students in the CSD major. This consideration could help to advance the recruitment efforts to increase the diversity within the field (Hammer, 2011; Keshishian & McGarr, 2012; Keshishian & Wiseheart, 2015; Saenz, Wyatt, & Reinard, 1998; Stone & Pellowski, 2016).

Current data from the 2011-18 demographic surveys of undergraduate and graduate programs in communication sciences and disorders suggested that CALD students were enrolled at a relatively stable rate with an average of 22.8% within the prior 7-year period (ASHA, 2018a). However, according to the ASHA member count for 2018, only 8.2% of ASHA members were of a racial minority compared to the 27.6% of minorities reported in the 2010 U.S. Census (ASHA, 2019). These data may indicate that diverse students entered into the program; however, some due to some factors may not have completed the program to gain employment in the field. These statistics revealed a daunting demographic disparity between the number of minorities within the SLP field compared to the number of minorities in the U.S. population.

The U.S. Bureau of Labor Statistics (BLS) reported that the demand for SLPs is increasing at a rate of 18% by 2026, which is at a much faster average rate (Bureau of Labor Statistics, 2016). This demand is due to the baby boomer population, which is getting older and creating a higher demand for speech therapy services. There is a need for an additional 25,900 SLPs to join the workforce from 2016 to 2026 to meet this demand (Bureau of Labor Statistics, 2016).

To keep up with this demand, professions such as Audiology and Speech-Language Pathology must prepare students to become clinicians that are sensitive to the diverse needs of

their patients and the demographics of the clients (Pimentel, 2003). University programs should prepare students to work in increasingly diverse environments by attracting CALD students to the field (Pimentel, 2003). CALD students may possess skills that non-CALD students lack in multiculturalism and diversity, such as speaking more languages, having lived in various countries, or having had backgrounds that have added to their educational experience (Pimentel, 2003). These characteristics may help these individuals have a better understanding of the CALD differences in their clients and may help them to be a valuable resource to their colleagues, university, and future employers (Pimentel, 2003). Therefore, a university program needs to increase the number of CALD students entering the CSD program. Many programs can benefit from reviewing recruitment efforts that have been used by universities to attract these students in the past, as well as to focus on the factors that have had a direct influence on these students when choosing the CSD major (Brodsky & Cooke, 2000; Greenwood, Wright, and Bithell, 2006; Keshisian & McGarr, 2012; Keshisian & Wiseheart, 2015; Saenz et al., 1998; Stone & Pellowski, 2016).

Review of Previous Research

According to Keshishian and Wiseheart (2015), there was a large group of research exploring undergraduate college students' motives when selecting to major in CSD. Although there has been much research conducted in this area, most of the studies were conducted in Australia, New Zealand, and the United Kingdom (Keshisian & Wiseheart, 2015). Greenwood et al. (2006) surveyed 651 high school and college students from a range of ethnic groups who were close to selecting their degrees in U.K. schools to learn about their perceptions of speech and language therapy to compare each group to one another. The researchers supported the need for increased recruitment and awareness among minority ethnic populations. It was reported that

these minority individuals were less likely to know about this profession and speech and language therapy (Greenwood et al., 2006).

Another study in Australia focused on gathering cultural and linguistic background information from 854 undergraduate college students in courses within three universities through surveys (Attrill et al., 2017). This research supported the claim that CALD students possessed sociocultural knowledge and experience that non-CALD students lacked; therefore, these CALD students could help to promote cultural diversity learning opportunities for all students in their program. 32.1% of the participants reported being CALD, and a total of 40.6% of this group was identified as speaking a language in addition to English (Attrill et al., 2017). These studies provided information on CALD students and their experience/perception of the field of speech and language therapy that was insightful; however, it could not be generalized to the United States (Keshisian & Wiseheart, 2015).

Among studies done in the United States, many of these focused on understanding the factors that affected a CALD student's decision to pursue a particular career. These studies used the current undergraduate students as a valuable resource in determining these factors by surveying how and why they have decided on a field/major. According to Keshisian and McGarr (2012), undergraduate students within the major reported being motivated the most by intrinsic qualities of the CSD major. The results from the majority of studies revealed that the primary factor identified for a CALD student's decision to pursue a career in SLP was a desire to work in a helping profession (Brodsky & Cooke, 2000; Keshisian & McGarr, 2012; Keshisian & Weisheart, 2015; Stone & Pellowski, 2016). Most of these studies were conducted in regions of the United States, where the demographics were more diverse, for instance, the East Coast and West Coast regions. Therefore, the results from these studies may not be indicative of influences

on CALD students in regions of the United States that are less diverse such as the Midwest. These studies included two related studies conducted in a university located in the most diverse area of the United States, Queens, NY. The researchers conducted two studies within the CSD department. One analyzed the motivating factors of CALD undergraduate students choosing to major in CSD when compared to non-CALD undergraduate students when choosing to major in CSD (Keshisian & McGarr, 2012). The other study compared bilingual and monolingual students' perceptions of the CSD major. The results revealed that not only CALD students were motivated by being in a helping profession, but it seemed that non-CALD students also were highly influenced by this factor (Keshisian & Weisheart, 2015).

Another study by Stone and Pellowski (2016) analyzed the factors that affected the career choice of 474 undergraduate and graduate-level students within four universities in the East Coast region (Towson University, Loyola University of Maryland, Pennsylvania State University, and Richard Stockton College of New Jersey). The researchers wanted to find out if there was a correlation between participants who had been or were currently diagnosed with a communication disorder and career choice. The results from this research revealed that having a personal experience with a communication disorder or knowing someone with a communication disorder had a significant impact on career choice.

Only one study sampled students in programs in the Midwest. Brodsky and Cooke (2000) analyzed the influences in the decision-making process of 297 SLP and Audiology undergraduate, graduate students, and professionals from within five 'undefined' midwestern CSD programs when choosing careers in Speech-language Pathology or Audiology. The researchers also focused on factors of influences—personal, employment, and educational. The researchers broke the participants into four groups (SLP students (both undergraduate and

graduate), SLP professionals, Audiology students (both undergraduate and graduate), and Audiology professionals). They made comparisons among these four groups, with the main focus between the two disciplines (SLP and Audiology). Among all four participant groups, the highest-ranked area of influence was personal factors. Employment factors were ranked second highest and educational factors were ranked lowest. Also, participants from all four groups stated that choosing to enter into the CSD major was because they wanted to be in a helping profession. Concerning the factors, one difference was found. It was noted that SLP students and professionals rated courses emphasizing speech and language as notable influences for choosing careers and among audiology students and professionals, the hearing courses were the leading influencer for choosing their career. In summary, these studies have suggested that there is a need for more research to be conducted. They revealed the limited number of participants who have been sampled in each study from a narrow region of the United States.

Recruitment and Retention Efforts

As noted previously, ASHA reported a shortage of minority students within the CSD major (i.e., 22%) (ASHA, 2018a) and the low number of minorities in the 2017 ASHA member count (I.e., 8.2%) (ASHA, 2019). Therefore, university programs need to develop an effective recruitment and retention program for students with diverse backgrounds to match the minority count according to the U.S. Census (U.S. Census Bureau, 2017a). The shortage of minority students in higher education may be linked to high school graduation rates. In 2016-17, 89% of Whites, 91% of Asian/Pacific Islanders, 80% of Hispanics, 78% of Black, and 72% of American Indian/Alaskan Native were high school graduates (U.S. Department of Education, 2019b). Of these groups, 53% of Whites, 6.5% of Asian/Pacific Islander, 19.6% of Hispanic, 13.1% of Black, and 0.7% of American Indian/Alaskan Native were enrolled in undergraduate degree-

granting postsecondary institutions in 2017 (U.S. Department of Education, 2018). Also, in 2016 the percentage of minority students who graduated with a bachelor's degree was 63.2% of Whites, 7.3% of Asian/Pacific Islander, 12.4% of Hispanic, 10.2% of Black, and 0.5% of American Indian/Alaskan Native (U.S. Department of Education, 2019a). These statistics illustrated the lack of trained minority professionals.

The goal of all graduate programs should be to provide their students with a way to become competent clinicians regardless of their background. However, such a goal cannot be reached if these programs cannot foster and give recognition to cultural and linguistic diversity (Pimentel, 2003). Graduate programs should endeavor to acclimate to the social changes by finding a way to support their CALD students and to prepare all students for the multicultural environment they will be servicing (Hammer, 2011; Pimentel, 2003).

ASHA has recognized the need to help mentor its minority students and has created a program called the Minority Student Leadership Program (MSLP) whose ultimate goals are:

- 1) To recruit and retain racial/ethnic minorities that have been historically underrepresented in audiology and Speech-Language Pathology.
- 2) To provide focused educational programming and activities to build and enhance leadership skills.
- 3) To provide an understanding of how the associations work.
- 4) To provide an opportunity for program participants to interact with leaders in the professions of audiology, Speech-Language Pathology, and speech, language, and hearing sciences. (ASHA, n.d.-b)

ASHA's view is that more minority students will be able to receive aid to overcome cultural barriers and to be able to move forward in their careers through this program (ASHA, n.d.-b).

Saenz et al. (1998) also recognized that for minority students to be recruited and to increase retention, faculty in the university need to increase their awareness of the needs and expectations of minority students. The study had 199 undergraduate and graduate students who were taking CSD classes at California State University Fullerton (CSUF) complete a survey conveying factors that influenced their academic success (Saenz et al., 1998). The researchers compared 51 minority students' results against 148 European American students' results. The results were shared with the faculty who used these reports to modify the CSD program. As a result of this study, three areas were improved. One was to increase the faculty member's regard towards the bilingual skills and life experiences possessed by minority students. Second, it prompted the department to raise concerns about diversity during faculty meetings, which had impacted formal program policies being put in place. Lastly, it promoted faculty members to work together with other colleagues and faculty members to develop a means to better advise and mentor minority students. As a result of these efforts, CSUF has experienced a steady increase in their enrollment of minority students and also, the European American students have benefited from the mentoring and multicultural emphasis added to their program (Saenz et al., 1998). While this study was somewhat dated, the results appeared pertinent to the topic at hand.

Bellon-Harn and Weinbaum (2017) described a pilot recruitment program implemented at Lamar University from 2014-2016 to attract community college students from racial or ethnic minority groups. The primary purpose of this recruitment effort was to increase awareness by partnering with regional community colleges and increasing personal contact by giving presentations at community colleges. As a result of this recruitment program, Lamar University experienced enrollment of 15 targeted students in the first year 2014-15 and an enrollment of 14 targeted students in their second year 2015-16. In summary, these researchers showed the

importance of increasing awareness through personal contact as an effective means in increasing the number of racial and ethnic minorities to the SLP field. In addition, the researchers concluded that without effective recruitment within the higher education program, there was no way to address the demographic disparities that existed within the field (Bellon-Harn & Weinbaum, 2017).

Reason for Recruitment of CALD Students

Saenz et al. (1998) stated that the delivery of services to bilingual populations might be negatively affected by the lack of trained minority professionals. According to ASHA, in order to be qualified to be a bilingual service provider, one must be proficient in his or her own language as well as in the targeted language with native or near-native levels in areas of vocabulary, meaning, pronunciation, grammar, and uses (ASHA, n.d.-a). In 2018, of the 191,904 members of ASHA, only 12,242 (6%) indicated that they met the ASHA definition of a bilingual service provider (ASHA, 2018b). Of the 6% of bilingual service providers, 11,259 were ASHA-certified SLPs, and 7,871 (64%) were Spanish-language service providers. The requirements to become a bilingual service provider and the limited number of SLPs who qualified as bilingual service providers make it difficult to serve minority clients who have limited-English-proficiency (LEP) and especially those who speak a second language other than Spanish.

According to Sung (2014), SLPs who do not speak the language of their clients encounter considerable difficulties when adjusting services and meeting the counseling needs of their minority clients, which resulted in dissatisfaction and undesirable outcomes. Many patients who have limited English proficiency (LEP) encounter language barriers in health care settings, which can lead to not getting the adequate help they need (Wilson, Chen, Grumbach, Wang, & Fernandez, 2005). Also, when seeking specialized services such as Speech-Language Pathology,

which targets communication problems, having adequate communication between clinicians and clients plays a crucial role in achieving a successful outcome (Sung, 2014). However, patients who have LEP in addition to a speech and language disorder will experience a lack in their interactions with their clinician due to the language disparity (Sung, 2014). According to Jacobs et al. (2001), when patients can communicate in their own language, treatment compliance and the understanding of their disease is improved; therefore, a language barrier can be the leading cause of failure of services. Although the standard solution is to employ interpreter services to meet the needs of LEP patients, many health care organizations are not able to provide adequate services due to financial burdens and time constraints (Jacobs et al., 2001). Many of the interpreter services are replaced by family members, friends, and other patients who are untrained and possibly non-fluent in the language, which has resulted in negative clinical consequences (Jacobs et al., 2001). Another barrier in using an interpreter is that many interpreters are not familiar enough with the field of SLP and the vocabulary used; this may result in miscommunication in directions in assessments or treatments, which can lead to poorer outcomes and patient dissatisfaction (Sung, 2014). Therefore, it is of great importance to have culturally competent clinicians to optimize the quality of services and outcomes that minority patients receive.

Purpose of this Study

As implied by the research that has taken place in the past twenty years, there is an identified need for more diversity in the field of Speech-Language Pathology. ASHA has also acknowledged the importance of diversity by publishing several articles in ASHA journals that are focused on diverse populations over the years (Hammer, 2011). However, there is still a need for more research in this area. Hammer, the editor of the American Journal of Speech-Language

Pathology, noted that in approximately 20 years, it is projected that the majority of children attending U.S. schools, as well as the adult population, will come from culturally diverse backgrounds (Hammer, 2011). These demographic changes faced by the United States, demand more studies that “focus on understanding various cultural groups’ views and beliefs about specific communication disorders and services provided by SLPs” (Hammer, 2011, p. 71). She continued by stating that progress in providing SLPs with adequate research that addresses the needs of diverse clients is still growing at a slow rate and that more emphasis on evidence-based practices is needed in various populations and groups (Hammer, 2011). Even today, most of the intervention practices performed by SLPs are based primarily on cultural beliefs and practices of the White, middle-class population (Hammer, 2011). This disparity is because most of the research has been based on this population. Some of the previous research limitations have been due to a lack of in-depth understanding of the beliefs, practices, communicative interactions, and behaviors of different cultural groups (Hammer, 2011). Other studies have stated limitations due to their findings being based on a small and uncommonly diverse sample, which made it hard to extrapolate these findings to other institutions (Keshishian & McGarr, 2012; Keshishian & Weisheart, 2015).

This study focused on similar subject pools as previous studies such as surveying CALD undergraduate students who are in the CSD program. The study differs from previously reported studies in that it will targeting an entire region (i.e., the Midwest) rather than a few university programs. The Midwest is an area of the United States where a limited amount of research has been done concerning diversity and multicultural implications in Speech-Language Pathology. The present study will utilize some of the same quantitative measures used in previous studies that quantify the factors related to decisions that influenced the choice of major and career

(Brodsky & Cooke, 2000). Moreover, this study will answer the question, “What are the factors that influence the choice of Communication Science and Disorders major for students who are culturally and linguistically diverse?”

Chapter 3

Method

Purpose of the Study

This study was designed to explore the experiences of undergraduate students who are culturally and linguistically diverse (CALD) from the West North Central Division of the United States when choosing to major in communication sciences and disorders (CSD).

Note: This study utilized data from a larger endeavor from which the primary investigator and other SLHS committee members planned to collect data for several related studies. The primary investigator recruited participants from undergraduate CSD programs for declared majors and post-baccalaureate students in the West North Central division of the United States. All participants have completed a quantitative survey. The collected demographic data allowed for the analysis of subgroups within the participants. The current study focused on one of the subgroups of interest: participants who identified as Culturally and Linguistically Diverse. This study was approved by the university Institutional Review Board on May 23, 2019.

Quantitative Survey

Type of research design: Survey design. This study used a quantitative survey design. The quantitative design used a non-experimental design that was completed through an online survey. Surveys were used to “describe trends in a population or describe the relationship among variables or to compare groups” (Creswell, 2015 p. 406). The advantage of using a survey for the current quantitative research design was due to how dispersed the participants were geographically. This method allowed access to reach all the participants in an economical manner. In addition, using the survey research design allowed a cross-sectional analysis of the numeric data collected from the study to describe trends about the attitudes, opinions, beliefs,

and practices CALD undergraduate students had towards the CSD major. The data collected from this type of study was compared with the results collected from similar research studies done in the past (Creswell, 2015).

Participant characteristics. To maintain a reasonable sample size, a survey was sent to all the undergraduate CSD schools located in the West North Central division of the United States as defined by the U.S. Census Bureau (Census Regions and Divisions of the United States, n.d.). These regions consisted of seven states: North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa, and Minnesota. The participants for this study were undergraduate Communication Science and Disorders students who were culturally and linguistically diverse (CALD).

To identify the participants as CALD in this study, there needed to be demographic considerations (i.e., White, Black, Asian, Hispanic). However, as indicated in the operational definition of CALD for this study, it also included those individuals who perceived themselves as CALD but were not as clearly defined by the standard demographic identifiers. The reason for doing this was to make sure that the research could reach a broader range of CALD experiences in order to render more meaningful data.

Another group of CALD experiences the researcher wished to capture was the experiences of those who came from other majors. These were individuals who were taking leveling courses in the major such as Post-baccalaureate students. In order to reach these students, the cover letter instructed the chairperson to extend the survey to all those who were taking leveling coursework but already had a Bachelor's in a related field. The rationale for including post-bacc students was to capture this additional group of students preparing to apply to graduate school in Speech-Language Pathology.

In order to identify CALD students for this research, each participant was asked to answer a series of questions about his/her cultural and linguistic diversity. Demographic information was collected to determine if a student met the inclusion criteria.

Exclusion/inclusion criteria. The most important aspect of the inclusion criterion for this research was to identify CALD participants. This criterion was determined by the demographic section of the survey. The inclusion criteria for operationally defining the 'Midwest' was based on the students who attended school in the West North Central States, according to the U.S. Census Bureau (Census Regions and Divisions of the United States, n.d.).

One exclusion criterion for this survey was the collection of data from international students. Although these students met the CALD criteria, the focus of this study was to determine the trending factors that affected the experiences of a typical CALD student living in the United States. Including the international student's experiences would have distorted the results of the study so they were excluded from the study.

Recruitment. An electronic email was sent to the chairperson of each of the CSD programs within the West North Central division. The chairperson was asked to forward the email to all current undergraduate majors and post-baccalaureate students. The email requested each chairperson to reply with an email that he/she had forwarded the email to the CSD students. The email contained a link to fill out the quantitative survey through Qualtrics. The email also included an invitation that included the survey's general nature, the researchers' identity, how the data would be used, and the average time it would take to complete the survey. This survey consisted of demographic information, responding to questions based on a 5-point Likert scale, and one open-ended question.

A follow-up email was sent to the chairpersons who did not respond to the initial email. This email reminded them to send the survey link to all the prospective undergraduate and post-baccalaureate students in the major, and reply once they had done so. In addition, since review of the responses demonstrated no participants from the state of Nebraska, a personalized email to the chairpersons in that region was sent to encourage participation.

All of the universities were identified on ASHA's website via the EdFind function, which provided information about CSD undergraduate and graduate programs throughout the United States. There were 28 institutions listed when conducting a search for Undergraduate B.A. or B.S. degrees in all areas in the West North Central division of the United States as defined by the U.S. Census Bureau (Census Regions and Divisions of the United States, n.d.). These schools consisted of programs that either provided a Bachelor of Science degree or a Bachelor of Arts degree in CSD.

Research tool. The survey was created using Qualtrics, a web-based survey tool used to create the survey. This tool provided 85 types of questions and templates to choose from and also helped collate the respondent's data and presented them in charts, graphs, and tables ("Research guides: Qualtrics: what is Qualtrics?", 2015).

Informed consent was included within the survey, and participation in the survey indicated each student's consent. Also, the informed consent was attached to the emails sent to each chairperson for review.

The survey consisted of five forced answer questions and one open-ended questions. These questions were modifications from three previous studies.

- 1) (Brodsky & Cooke, 2000)
- 2) (Saenz, Wyatt, & Reinard, 1998)

3) (Stone & Pellowski, 2016)

The survey questions are included in Appendix B.

Data collection. Data was collected through an online questionnaire via Qualtrics. Qualtrics is an online survey tool used by researchers to carry out sophisticated academic research. Qualtrics provides the researchers with access to data generated from a large number of participants promptly. Qualtrics offers built-in intelligence that helps analyze questions in real-time and provides personalized survey design recommendations to boost response rates and obtain better quality data. Qualtrics also has a cross-tabulation feature that allows the researcher to identify patterns and trends in the data. This cross-tabulation analysis is used in quantitative research to analyze survey results to determine relationships and interactions between two variables. This feature presents each aspect on a table and collates the responses into subgroups. For this research, this feature may be used to collate the subgroup who identify themselves as CALD in order to identify trends in their responses (Cross Tabulation Analysis Tool, n.d.).

Data analysis. After data was collected, the data from the questionnaire was grouped in order to find trends. For instance, the close-ended questions were presented in percentages and means; the open-ended data were tabulated according to similar responses. The data was presented in descending order based on the frequency of the response from most to least.

In addition to the data collected for all CALD participants, a subgroup of first-generation CALD college students was analyzed. The responses to close-ended and open-ended questions were tabulated to compare the data with the CALD college students.

To provide an accurate interpretation of the data, the responses needed to be organized in a meaningful way:

- 1) Develop a table for percent of responses to the survey
- 2) Descriptive analysis of responses to identify trends
 - Calculate and present a table of descriptive stats (mean and variance) for each question on the instrument
 - Analyze data to develop a demographic profile of the sample (analyze questions about personal factors)
 - Analyze data to provide answers to descriptive questions in the study
(Creswell, 2015, p. 402)

Validity and reliability. To maintain the survey's integrity, settings were customized to prevent search engines from finding the survey. Qualtrics, by default had this function set up on their survey protection settings (Survey Protection, 2019). Another method was to make sure that no one could take the survey multiple times. Therefore, the survey protection settings on Qualtrics were customized to prevent this. Qualtrics did this by enabling "the prevent ballot box stuffing" option. This option placed a cookie on the participant's browser that only allowed the survey to be submitted once. The next time the participant tried to click the link to the survey, Qualtrics would see this cookie and not permit them to take the survey. The limitations to this option were that participants could bypass this by clearing their browser cookies, switching to a different web browser, or using a different device. In order to avoid this, a unique survey link would have to be sent to each participant by invitation only, which would require an email list of all the participants from each university (Survey Protection, 2019).

Chapter 4

Results

Introduction

The purpose of conducting the survey was to determine the factors which influenced undergraduate students when choosing to major in CSD in the Midwest. This study focused on gaining responses from students who came from CALD backgrounds to determine if there were common factors that influenced them to choose CSD as a major. The data analyzed for this study was part of a more extensive study that involved all undergraduate students from universities in the Midwest region who were enrolled as undergraduate students in the CSD major. There were 163 total participants, which included the smaller number of participants analyzed in the present study who were persons from CALD backgrounds.

Demographics

Twenty undergraduate students from CALD backgrounds participated in the survey (19 females, 1 male). The average age of these students was between 20-24 years old. Among all the CALD participants, four persons began but did not fully complete the survey. Also, of the CALD participants who completed the entire survey, 100% indicated the United States as their birthplace.

One inconsistency found in the results were some students who came from racial minorities such as minority backgrounds (American Indian or Alaskan Native, Asian, Black or African American, Hispanic or Latino or Spanish Origin of any race, Native Hawaiian or Other Pacific Islander) responded to the survey question indicating they did not consider themselves to be CALD. However, the original intention of this research was to determine the factors that influenced students choosing their major who came from diverse backgrounds to explore reasons

for the disparity between the nation's demographic population compared to the speech-language pathology professionals who come from minority backgrounds. Therefore, having responses from various backgrounds, such as students who identified their race as African American, Asian, Hispanic, or two or more races, were considered valuable for this research. Therefore, to accurately define the influencing factors, there was a need to include the results gathered from groups of participants who came from minority backgrounds as well even though they indicated they did not consider themselves CALD. The results from the demographics of the CALD students are shown in Table 1.

Table 1
Demographic Information

CALD Participants						
<u>Student Code</u>	<u>Demographic</u>	<u>Mother Birthplace</u>	<u>Father Birthplace</u>	<u>Languages Spoken</u>	<u>First-Generation College Student</u>	
A	Asian	Southeast Asia	Southeast Asia	English/Vietnamese	Yes	
B	Asian	Southeast Asia	Southeast Asia	English	Yes	
C	Asian	Southeast Asia	Southeast Asia	English/Vietnamese	Yes	
D	Asian	South Asia	South Asia	Cantonese	No	
E	Asian	Southeast Asia	East Asia	English	No	
F	Asian	NR	NR	NR	No	
G	Black or African American	NR	NR	NR	No	
H	Black or African American	NR	NR	NR	No	
I	Two or more races (unspecified)	NR	NR	NR	Yes	
J	Two or more races (White and African American)	NR	NR	NR	No	
K	White	Eastern Europe	Eastern Europe	Bosnian (Croatian /Serbian)/English	Yes	
L	White	United States	United States	English	No	
M	White	Born in the U.S./dual citizen in Italy and the U.S.	United States	English/some Italian and Spanish	No	
N	White	United States	United States	English	No	
O	White	United States	United States	English/Spanish	No	
P	White	NR	United States	English/Spanish (70%)	No	
Q	Hispanic or Latino or Spanish Origin of any race	NR	NR	NR	Yes	
R	Two or more races (not specified)	NR	NR	NR	No	
S	Two or more races: (White and Hispanic)	NR	NR	NR	No	
T	White	NR	NR	NR	No	

CALD participants. Among the 20 participants who met the criterion of a CALD student for the purposes of this study, only 11 considered themselves to come from CALD backgrounds. Of the participants who considered themselves to be CALD, 4 had both parents born in the United States, 6 had both parents born outside of the United States, and one listed a single parent's birthplace being the United States. Of all the CALD participants captured in this survey, 30% indicated they spoke a language in addition to English.

Another factor considered for this population of students was the number of participants who considered themselves to come from CALD backgrounds and identified themselves as being white. These participants consisted of 55% of the participants who considered themselves to come from CALD backgrounds. Among these participants, 67% of them had some European background in that either their parents were born in a country other than the United States or they spoke a language other than English. However, there were still 33% who identified themselves as being CALD regardless of having the common factors that were consistent with typical CALD participants. This indicated that there were factors other than demographics, language spoken, and birthplace that determined if someone would consider herself or himself to be CALD.

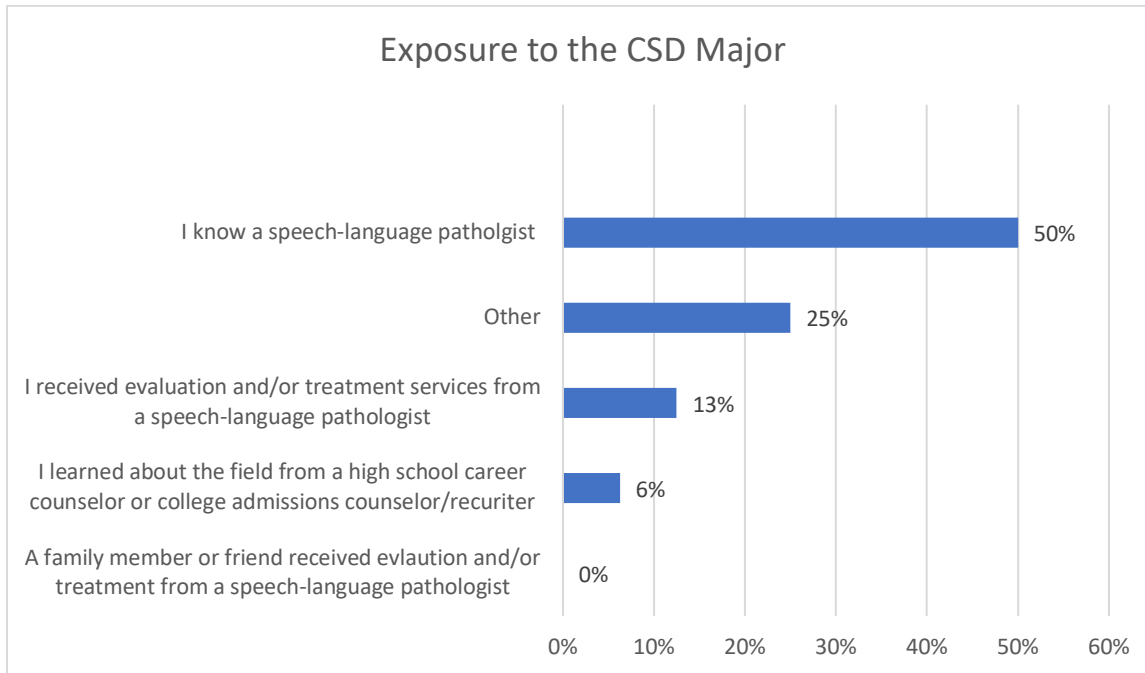
Lastly, one of the factors that may have additionally impacted students was whether or not they were also first-generation college students. Among the CALD participants, 30% of them reported that they were first-generation college students. Therefore, the results from these participants were analyzed as a subgroup in addition to the 20 participants as a whole.

Analysis of all CALD participants

Introduction to CSD major. The CALD participants were asked to indicate how they learned about the CSD major. Among the 16 CALD participants who completed this section of the survey, the results are shown in Figure 1.

Figure 1

Exposure to the CSD major



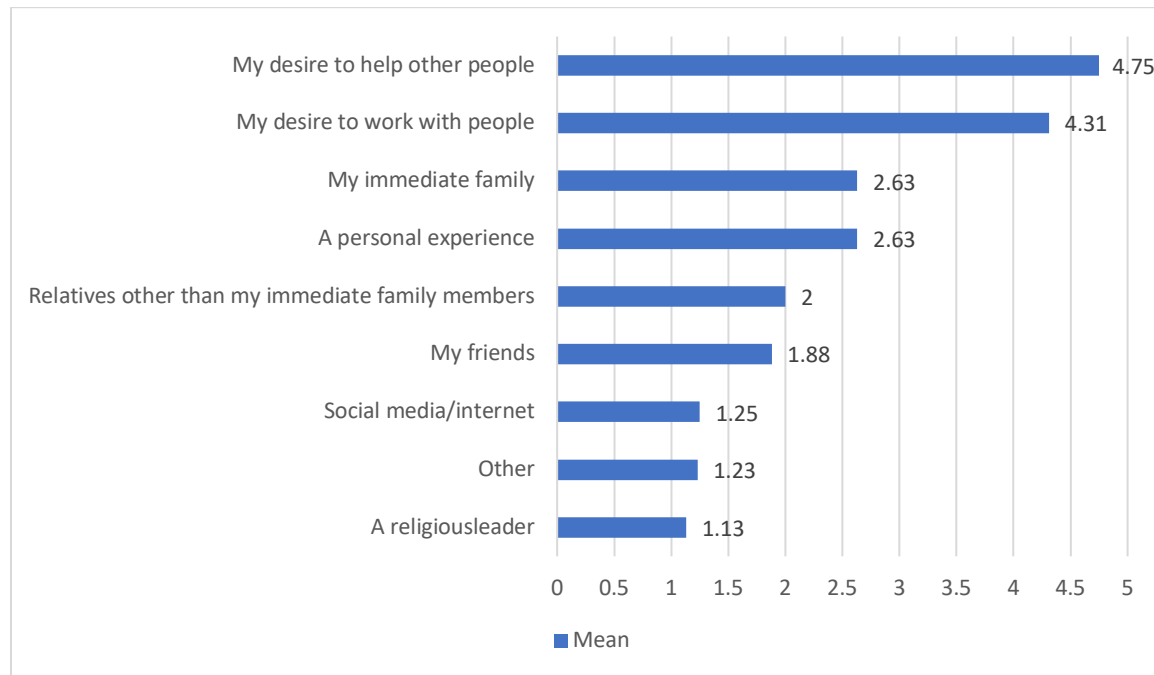
Additional methods of exposure to CSD major. Of the seven CALD participants who stated other reasons to first learning about the major, two of the comments revealed knowing a speech-language pathologist as the reason for choosing the CSD major. Since these comments corresponded to one of the provided choices (I know a Speech-Language Pathologist), those two responses were added to that category in the figure above. The five remaining participants who chose other reasons as being how they were introduced to the major had various responses. One of the participants stated an interest in research in audiology and speech-language pathology. Two of the participants knew someone who was in the CSD major. A participant commented that she had volunteered with physical and occupational therapists and thus had been exposed to what a speech-language pathologist does. And lastly, a participant worked as a CNA and went to speech-language therapy appointments with her patient.

Factors influencing choice of major. Three areas of influence (personal, employment, and educational) were surveyed to understand undergraduate students' choice of major in CSD. The results for how participants rated each factor determined which factor influenced individuals the most, which contributed the highest to the undergraduate student's choice to major in CSD. The main survey items focused on three areas: personal (8 items), educational (12 items) and employment (7 items) related factors that students rated using a 5-point Likert scale, in which 5 was rated as the most influence, 3 was rated as somewhat influence, and 1 was rated as no influence. The data presented for the three factors below correspond only to the answers provided by the 16 CALD participants who had completed the survey.

Personal factors. Overall, the highest mean rating for personal factors for choosing the CSD major was the desire to help people (M=4.75, SD 0.56) followed by a desire to work with people (M=4.31, SD 1.04). See Figure 2.

Figure 2

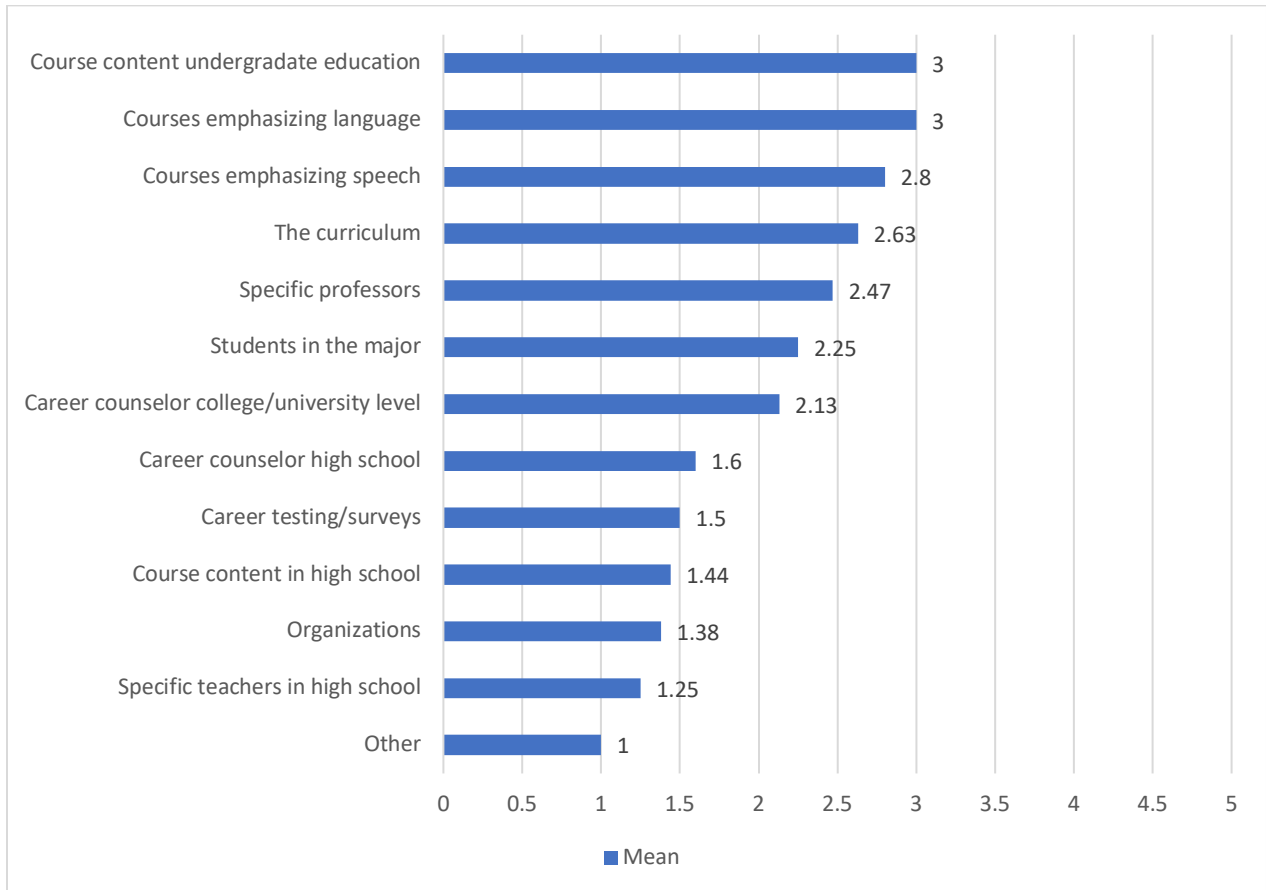
Personal Factors of Influence



Although one of the CALD participants had indicated ‘other’ as a moderate influence, there was no additional text to indicate what the other personal factor was that influenced the participant to choose the CSD major. The remaining CALD participants indicated either that there was no ‘other’ influence or left the question unanswered.

Educational factors. The mean rating for educational related factors mainly ranged from no influence to somewhat influenced. The variance between the means for the top seven items differed by less than 1. The top two educational factors that influenced the choice of the CSD major were the course content taught in undergraduate education and the courses that emphasized language ($M=3$, $SD 1.37$). Concerning other educational factors that might have influenced the choice of the CSD major, all of the CALD participants had indicated either that there was no influence (11 participants) or did not make a response to the question (5 participants). Therefore, no additional comments were written. See Figure 3.

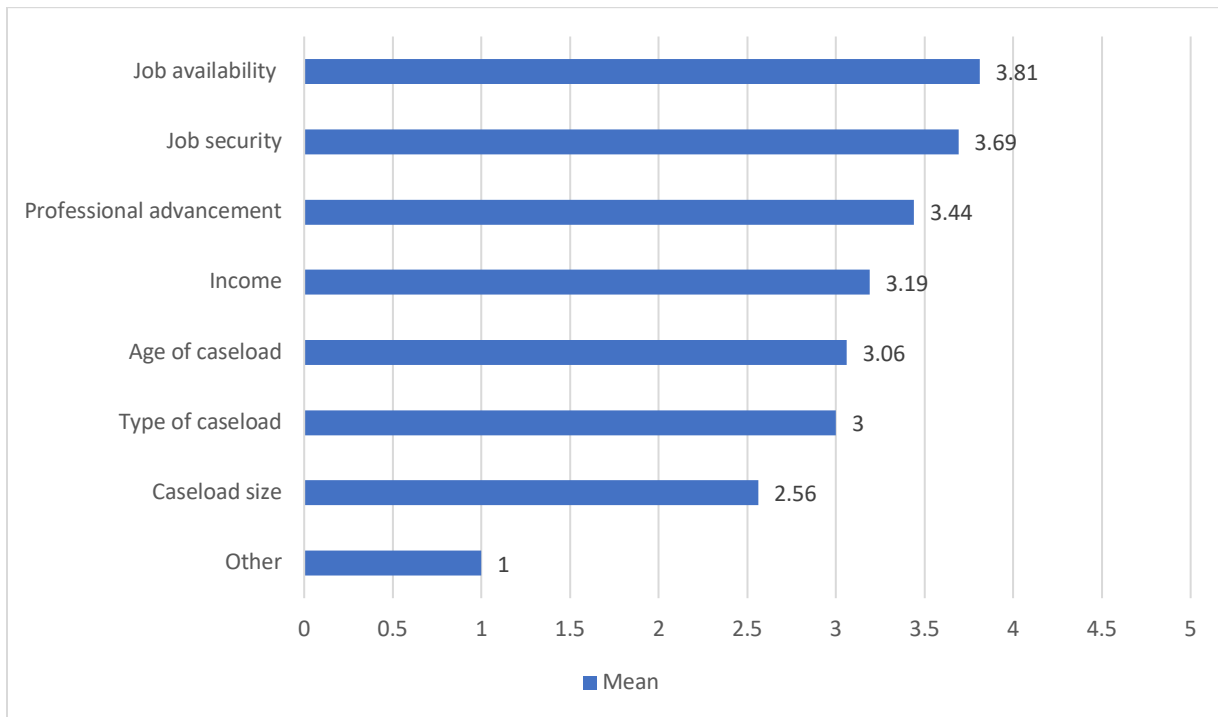
Figure 3
Educational Factors of Influence



Employment factors. Overall, the mean rating for all employment factors fell in the range of ‘somewhat influential.’ The employment factor that had the highest influence in the choice of the CSD major was job availability ($M=3.81$, $SD 1.01$), followed by job security ($M=3.69$, $SD 1.26$). Similar to the factors above, there were no additional comments made for the choice of ‘Other’ because all of the CSD participants either chose that this question had no influence (10 participants) on their choice of the CSD major or did not give a response to this question (6 participants). See Figure 4.

Figure 4

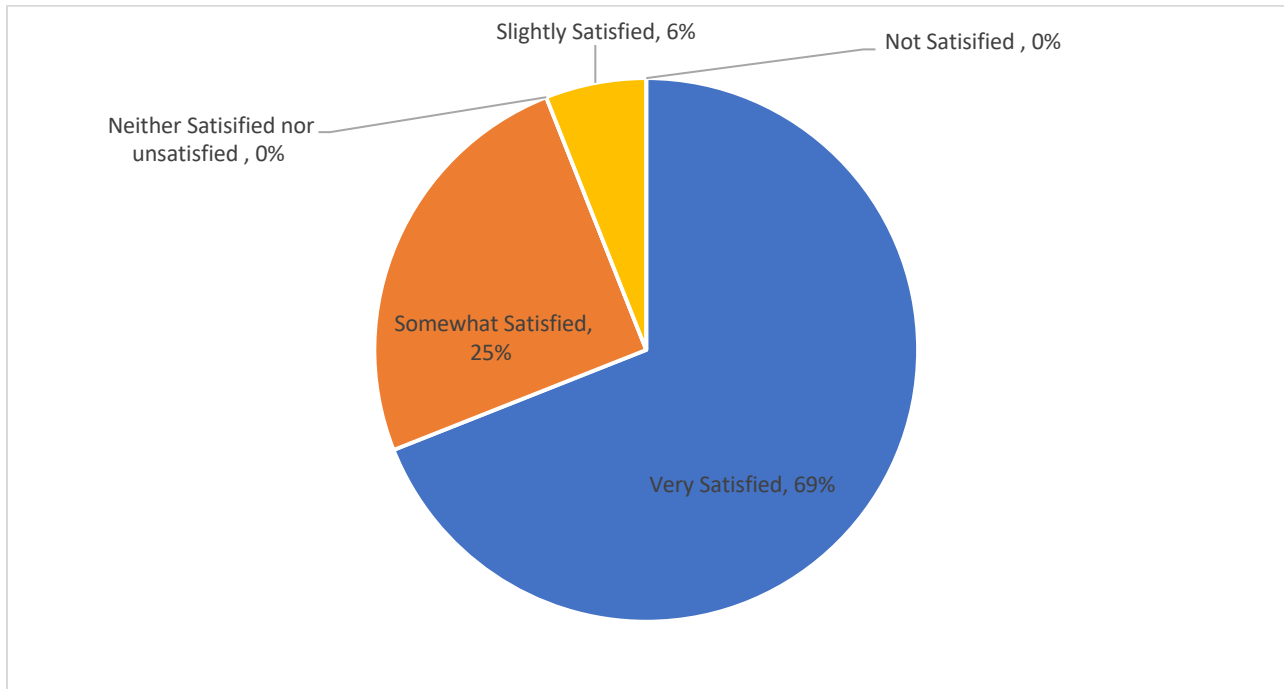
Employment Factors of Influence

**Analysis of Satisfaction with CSD Major**

In order to determine students' feeling of satisfaction with their choice of the CSD major, each participant was asked how satisfied they were with their choice of the CSD major. The students rated this question using a 5-point Likert scale, in which 5 was rated as very satisfied, 4 was rated as somewhat satisfied, 3 was rated as neither satisfied nor unsatisfied, 2 was rated as slightly satisfied, and 1 was rated as not satisfied. Of the CALD participants who completed the survey, 11 out of 16 were very satisfied with choice of the CSD major, four were somewhat satisfied, and one was slightly satisfied. None of the CALD participants were neutral (neither satisfied nor unsatisfied) and none were not satisfied with the choice of CSD major. The data presented for the satisfaction ratings provided by the 16 CALD participants who had completed the survey are in the Figure below. See Figure 5.

Figure 5

Satisfaction with CSD Major

**Analysis of First-Generation CALD Participants**

Of the CALD participants who completed the survey, 5 out of the 16 reported to be first-generation college students, as shown in Table 1. According to the U.S. Department of Education, a first-generation student is defined as anyone whose parents' highest level of education was high school or less (U.S. Department of Education, 1998). All of these five individuals had one or both parents whose birthplace was outside of the United States. Also, three of these individuals reported that they speak a language other than English fluently. Participants A, B, C, I, and K identified as a first-generation college student, and the demographics were summarized above in Table 1.

Personal factors. The highest mean rating for personal factors for choosing the CSD major in first-generation college students was the desire to help people ($M=5$, $SD 0$) followed by

a desire to work with people ($M=4.40$, $SD 0.49$). This was similar to the results of the CALD participants as a whole. See Table 2.

Educational factors. The top two educational factors that influenced choice of the CSD major for CALD first-generation college students were the courses that emphasized language ($M=3.8$, $SD 0.75$) and the course content taught in undergraduate education ($M=3.4$, $SD 1.36$). In relation to the CALD participants' mean results, the first-generation college CALD students regarded courses emphasizing language as higher than course content in undergraduate education as the education factor that influenced them in choosing the CSD major. See Table 2.

Employment factors. The employment factor that had the highest influence in choice of the CSD major for first-generation CALD college students was job security ($M=3.8$, $SD 0.98$) followed by job availability ($M=3.60$, $SD 1.02$). This was the opposite of the CALD participant's results, which had job availability as the highest-rated factor and job security as the second highest-rated factor in choosing the CSD major. See Table 2.

Table 2
CALD First-Generation College Student Comparison

<u>Factors of Influence Mean Values</u>				
	<u>CALD</u> <u>Mean</u>	<u>CALD</u> <u>SD</u>	<u>First-Gen</u> <u>CALD Mean</u>	<u>First-Gen</u> <u>CALD SD</u>
<u>Personal Factors</u>				
My desire to help other people	4.75	0.56	5.00	0.00
My desire to work with people	4.31	1.04	4.40	0.49
My immediate family	2.63	1.45	3.20	1.47
A personal experience	2.63	1.69	3.40	1.62
Relatives other than my immediate family members	2.00	1.41	1.80	1.17
My friends	1.88	1.27	1.60	0.80
Social media/internet	1.25	0.56	1.40	0.80
Other	1.23	0.80	1.40	1.36
A religious leader	1.13	0.48	1.40	0.80
<u>Educational Factors of Influence</u>				
Course content undergraduate education	3.00	1.37	3.40	1.36
Courses emphasizing language	3.00	1.37	3.80	0.75
Courses emphasizing speech	2.80	1.28	3.20	0.40
The curriculum	2.63	1.41	2.80	0.98
Specific professors	2.47	1.59	1.80	1.17
Students in the major	2.25	1.35	2.00	0.89
Career counselor college/university level	2.13	1.49	2.40	1.50
Career counselor high school	1.60	1.20	1.80	1.66
Career testing/surveys	1.50	1.00	1.40	0.49
Course content in high school	1.44	1.00	1.20	0.40
Organizations	1.38	0.86	1.60	0.80
Specific teachers in high school	1.25	0.56	1.20	0.40
Other	1.00	0.00	0.80	0.00
<u>Employment Factors of Influence</u>				
Job availability	3.81	1.01	3.60	1.02
Job security	3.69	1.26	3.80	0.98
Professional advancement	3.44	1.54	2.80	1.60
Income	3.19	1.51	3.20	1.33
Age of caseload	3.06	1.56	2.80	1.33
Type of caseload	3.00	1.46	2.80	1.47
Caseload size	2.56	1.32	2.40	1.20
Other	1.00	0.00	0.80	0.00

Satisfaction with choice of CSD major. Amongst the five first-generation CALD college student participants four reported being very satisfied with their choice of the CSD major and 1 reported being slightly satisfied with the major. This means that the first-generation CALD college students represented over one-third (36%) of the CALD participants' who were very satisfied with their choice of major.

Analysis of Open-ended Comments

Of the CALD participants who completed the survey, 15 out of the 16 provided feedback to the open-ended question, which asked, "What factors have influenced your choice of Communication Sciences and Disorders (CSD) as a major?" Of the 15 who responded, 5 were first-generation college students. The comments had a total of 56 factors listed as influencers to the participants' choice of the CSD major. The majority of the participants had an average of 4 different factors listed in their responses and many of the comments made correlated to the three categories participants rated within the survey. There were also factors stated in the comments that were common among several CALD participants. However, these factors were not those that were provided as choices within the survey but could have fallen into one of the three categories.

Out of the total of 56 ideas (32 CALD students/22 First-generation CALD students) the responses regarding factors that influenced choice of the CSD major were summarized below.

Personal factors (24 comments). This question yielded comments from 18 CALD participants and 6 first generation CALD participants.

My friends (2 CALD). "Friend introduced me into the major"

My immediate family (2 CALD). "My family got me hooked on this major and profession." "My sister was in college studying CSD when I was graduating high school."

My desire to help other people (5 CALD/2 first-generation CALD). “I am able to help people which is why I chose this major” “I want to live every day helping someone in need.”

A personal experience with a communication disorder, either through a friend/relative or a disorder I may have (3 CALD/2 first-generation CALD).

Social media/the internet (1 CALD). “...as I researched more, I became more interested.”

Other comments related to personal factors.

A desire to make a difference (2 CALD/1 first-generation CALD).

An opportunity to shadow/observe an SLP at work (3 CALD).

Growing up bilingual (1 first-generation CALD).

Educational factors (12 comments). This question yielded comments from 8 CALD participants and 4 first-generation CALD participants.

Course content in undergraduate education (3 CALD). “And the courses have been interesting too.”

The curriculum (1 CALD/1 first-generation CALD). “After taking a couple classes my interest grew.” “Found speech therapy interesting.”

Courses emphasizing speech (1 first-generation CALD).

Courses emphasizing language (2 first-generation CALD).

Students in the major (3 CALD). “Had a friend who was in the major introduced me to the major.” “A friend who majored in CSD tell me how great it is.”

Other comments related to educational factors. The related requirements of the curriculum (1 CALD). “Not having to take a higher math (Calculus) or higher science (Organic chemistry)”

Employment factors (20 comments). This question yielded comments from 8 CALD participants and 12 first-generation CALD participants.

Income (1 first-generation CALD). “A well-paying job.”

Job availability (1 first-generation CALD). “A lot of employment opportunities.”

Job security (1 first-generation CALD). “Speech therapy will always be around.”

Type of caseload (2 CALD/3 first-generation CALD). “Interested in helping diagnose and rehabilitate others with hearing loss.” “Get opportunity to work with kids.” “Wanted a career involving cleft lip/palates.”

Age of caseload (1 CALD/1 first-generation CALD). “Work with any age ranging from toddlers to the elderly.” “I wanted to work with both pediatrics and geriatrics.”

Other comments related to employment factors. Ability to work in various settings (1 CALD/1 first-generation CALD). “You can work in different clinical settings whether it be through private practice, a hospital, or even a school.” “The field has so much variety of where you can work.”

A desire to work in a teaching profession (1 CALD /1 first-generation CALD).

A desire to work in medical field (2 CALD /2 first-generation CALD).

A desire to work in something clinical (1 CALD).

Schedule (1 first-generation CALD). “flexible hours based on your schedule.”

Chapter 5

Discussion

The ability to answer the research question was limited. There were only sixteen CALD students who completed the survey and fifteen responded to the open-ended question. Therefore, it was difficult to use the results from the present study to determine the motivating factors CALD students in the Midwest region had when choosing the CSD major. However, this research study was able to provide some insight into factors that influenced the participants to make a comparison to past research that has been conducted with CALD populations. Also, the study was expanded to explore the experience of CALD students who were also first-generation college students. This allowed for a preliminary study of an important subgroup of CALD students. Although many studies have been completed in the past regarding first-generation college students, in a preliminary search of the literature, none have targeted first-generation CALD students in the CSD major.

Clarification of Inclusion Criteria for Determining if CALD

The original operational definition was that CALD individuals could be persons regardless of racial/ethnic backgrounds, who had ancestry that was non-native to the United States. Therefore, CALD participants in this study who demographically stated themselves as being white but were still considered CALD based on being of European descent were included in the CALD category. When the demographics for participants was reviewed, it was evident that five students from groups identified by the U. S. census as diverse such as African American, Asian, or two or more races responded ‘no’ to the item “Do you consider yourself culturally or linguistically diverse.” The decision was made to include these students’ results since they met the operational definition of the study.

Analysis of Quantitative Data for the Full Sample of CALD Participants

Initial Exposure to Major. The results from this study stated that the most common way CALD participants were introduced to the CSD major was by knowing an SLP. This statement consisted of half of the responses made by the CALD participants. This was also found to be true in past research (Stone & Pellowski, 2016). The second most common introduction to the CSD major was other comments which consisted of comments stating that they knew someone who majored in CSD and having had experience with some professionals related to the field. These results showed that a large number of participants in this study were able to gain firsthand experiences with this profession through direct persons who were either in these professions or those pursuing the profession. These results can be used for future recruitment efforts as the study performed by Stone and Pellowski (2016) showed that those who were directly exposed to the profession were positively affected by this exposure when considering a career path.

Factors of Influence. When looking at the factors of influence, the researcher divided the factors into three main groups of influences (personal, educational, and employment). Within each group, there were the highest-rated factors based on the mean. The higher the rating indicated that the participants were impacted more strongly by that particular factor. As a whole, the group of influences that were rated the highest was employment factors (M 2.97), followed by personal factors (M 2.78) and then educational factors (M 2.03), which were rated the least. This was contrary to a previous study in which SLP students had rated personal factors the highest, followed by employment (Brodsky & Cooke, 2000). However, in both studies, educational factors were rated as least important among the influences for choosing the CSD major.

Personal factors. Among all of the factors, the three highest-ranking influences were "my desire to help other people" (M 4.75), "My desire to work with people" (M 4.31) and job availability (M 3.81). The desire to be in a helping profession was also found to be true in previous studies (Keshishian & McGarr, 2012; Keshishian & Wiseheart, 2015) which stated that CALD students who majored in CSD did so because they had a personal desire and passion for helping others. Keshishian and McGarr (2012) noted that when it came to a desire to help others, this quality "cuts across cultures and that this desire has no cultural boundaries (p. 181)."

Educational factors. The results in this area showed that overall, educational factors was ranked the least important factor among all the influencers with an overall mean of 2.03. Factors that had a rating lower than the overall mean were career counselor high school (M1.6), career testing/surveys (M1.50), course content in high school (M1.44), organizations (M1.38), and specific teachers in high school (M1.25).

Employment factors. The results for the employment factor in the present study showed the two subfactors that had the highest mean was job availability (M 3.81) and job security (M 3.69). Although the means were close in value, it showed that in this study, the employment factors might have motivated students slightly more than personal factors amongst participants from this region. Therefore, there were indications that the CALD students in the Midwest region were influenced highly by employment factors such as job availability and job security when considering career paths.

Analysis of Open-ended Responses

When analyzing the main ideas from all of the responses, many of the responses made directly correlated with factors of influences found in the employment, personal or educational factors within the survey. Since these ideas fell into the factors found in the survey that were

given Likert scale ratings, these open-ended responses could be used to show correlations and discrepancies within the survey responses.

The majority of comments had personal factors (24 comments) embedded within their response followed by employment factors (20 comments), and then educational factors (12 comments). This was true in a previous study (Brodsky & Cooke, 2000) which showed the items rated most highly by students were a desire to help others, personal experience with communication disorders, and type of caseload. The three most common ideas observed in the open-ended comments in the current study were a desire to help other people (7 comments), a personal experience (5 comments), and interest in a particular type of caseload (5 comments). Some ideas common to the CALD group as a whole were comments related to a desire to work in a medical field (4 comments), having an opportunity to shadow an SLP (3 comments), having an interest in the course content (3 comments), knowing students in the major (3 comments), and having a desire to make a difference (3 comments).

It should be noted that the open-ended question was purposely placed at the beginning of the survey so that participants would not be influenced by the factors rated on closed-ended items within the survey to provide a more natural response. Therefore, it could be that students did not consider all the different employment factors that had impacted their decisions when typing the responses to the open-ended questions. It may also have indicated that personal factors were the easiest factors to identify and comment on, but employment factors though being equally important, were not usually factors that individuals would comment on right away because of the perceptions related to this topic.

Discrepancies in the Responses

One discrepancy in participant responses found in this study was between the ideas generated from open-ended responses compared to ratings given within the factors of influences for the survey. Since these factors were given a scaled rating in the survey, it was easy to track which items of influence based on the rank order. However, when comparing the data against the open-ended responses, employment factors were rated higher than personal factors within the survey, but ideas based on personal factors were seen more frequently than employment factors within the open-ended responses.

Another discrepancy was noticed when comparing comments made by individuals with the ratings they gave to the pertaining factors within the survey. One participant stated in the open-ended response that they had a friend majoring in CSD who told her how great the major was. However, the participant rated personal factors (students in the major) using the Likert scale, as having no influence when choosing to major in CSD. Another individual commented having a personal experience with cleft lip/palate and therefore wanting to work with this particular case type in the future. However, in the survey under employment factors, this individual indicated no influence related to the type of caseload. One individual stated in her comment that her choice for the CSD major was due to seeing a friend's brother receiving speech therapy for autism. However, in the survey related to personal factors, the individual rated no influence related to a personal experience with communication disorder through a friend. Likewise, there was a discrepancy in the survey about the first encounter with the major and the Likert scale survey. One individual stated that she first learned about the major through a high school guidance counselor. However, when rating factors of influence in the major, she stated that having a career/guidance counselor in high school as being a slight influence.

These results could indicate that while an introduction to the major could have led to exposure to the major, it may not mean that it was the most influential factor to motivate the individual to choose the CSD major. Also, while factors stated in open-ended responses had highlighted some areas of influence the individual may have had in choosing the CSD major, the same factors within the survey may be defined differently depending on how the questions were perceived in the survey by each participant. This could be because there were no definitions or examples provided to define each factor better.

Analysis of First-Generation CALD College Students

When viewing First-generation CALD college students separately, the study revealed that this group had very similar factors of influence compared to the CALD students as a whole; however, they had differences in areas such as how they rated different factors of influence. Also, there was a greater difference in the mean between factors of influence, showing that the first-generation CALD college students rated certain items much higher than CALD students as a whole.

First introduced to CSD major. According to the results, knowing an SLP was the most common way CALD students were introduced to the major. Sixty-four percent of the CALD students rated that knowing a speech-language pathologist was the most common reason they were introduced to the major. In like manner, but at a lower frequency, forty percent of first-generation CALD college students reported being introduced to the major by knowing an SLP.

Factors of Influence. The overall factors of influences for first-generation CALD college students followed a similar trend compared with CALD students as a whole in that employment factors ranked the highest (M 2.78) followed by personal factors (M2.51) and then by educational factors (M 2.12). When compared to CALD as a whole, first-generation CALD

college students had a higher mean in two of the three factors. Personal factors yielded an overall mean of M 2.51 compared to as a whole (M 2.41) and educational factors yielded an overall mean of M 2.12 compared to as a whole (M 2.03). This may indicate that first-generation CALD college students had perceived a higher impact in these two factors when viewed distinctly and may have contributed more to the overall mean score for these two areas.

Personal factors. Within the personal factors, first-generation CALD college students had ‘immediate family’ ranked lower than ‘a personal experience’ compared to the mean rankings of CALD as a whole. Also, the top four factors for first-generation CALD college students were ranked higher (mean range from 3.20 to 5.00) than the preceding factors (mean <1.80). This may indicate that among the personal factors the top four factors (my desire to help other people, my desire to work with people, a personal experience, and my immediate family) were highly motivating for this group of participants.

Educational factors. In the educational area, there were more differences in how first-generation CALD college students rated different factors. Compared to the CALD mean ratings as a whole, the highest-ranked factor was ‘course emphasizing language’ (M 3.8). Also, compared to CALD students as a whole, ‘career counselor college/university level’ (M 2.4) and ‘students in the major’ (M 2.0) ranked higher than ‘specific professors’ (M1.8). Last, ‘organizations’ ranked higher (M 1.6) than ‘career testing/surveys’ (M 1.4) and ‘course content in high school’ (M 1.2) in comparison to the mean rating. Also, the top three highest-ranked factors (M 3.8, 3.4 and 3.2) had a considerably higher mean than the CALD mean (M 3.0). Similarly, the factors that had a rating lower than the overall mean were career counselor high school (M1.8), career testing/surveys (M1.4), course content in high school (M1.2), organizations (M1.6), specific teachers in high school (M1.2), but with an addition of specific

professors (M1.8). These results indicated that courses emphasizing speech and language as well as course content in undergraduate education were higher motivators for these participants.

Employment factors. When comparing ratings in this area, first-generation CALD college students rated job security (M 3.8), job availability (M 3.6) and income (3.2) as the highest motivators whereas job availability (M 3.81), job security (M 3.69), professional advancement (M 3.44) were the top motivators for CALD as a whole. This may indicate that among first-generation CALD college students, income was a higher motivator than professional advancement.

Satisfaction with choice of CSD major. Amongst the five first-generation CALD college student, four out of five reported to be very satisfied with their choice of the CSD major. This result conveyed that the majority (80%) of the first-generation students were very satisfied as opposed to CALD college students as a whole (69%). This result also revealed that the first-generation CALD college students represented over one-third (36%) of the CALD participants' who stated that they were very satisfied with their choice of major.

Only one CALD participants' rating was unique to the rest of the respondents in the whole CALD group. This was a first-generation CALD college student who stated that she felt slightly satisfied with her choice of the CSD major. When reviewing this participant's survey, the factors that were unique for this individual was she had commented on being introduced to the program by a high school counselor yet rated the impacts of this factor as a slight influence in her choosing to major in CSD. Also, when observing her survey ratings, the majority of the factors in all three categories were given a low rating of no influence.

Analysis of Open-ended responses. Like many of the common responses made by the CALD participants as a whole. Comments from the first-generation CALD college students also

stated a desire to help people. Two unique responses came from first-generation CALD college students. One stated having a bilingual background and another comment was influenced by many of the employment factors, such as income, job availability, and job security when choosing to major in CSD.

Ideas that were unique to first-generation CALD college students were related to personal factors such as growing up bilingual, statements related to employment factors such as income, job availability, job security, and how flexible the schedule was within the profession. When looking at CALD college students who were non-first-generation college students, the unique factors were ideas related to education factors such as not having to have a heavy math or science requirement in the curriculum, course emphasizing speech, having an interest in courses in undergraduate education. Non-first-generation CALD students also had unique ideas related to personal factors such as an opportunity to shadow an SLP at work, researching about the major via the internet, having immediate family support, having friends in the major and ideas related to employment factors such as a desire to work in clinical settings. All of these findings indicated that traditional CALD college students were influenced more by personal factors than first-generation CALD college students. Also, educational and employment factors had equal influence amongst traditional CALD college students. However, among the first-generation CALD college students, employment had a more significant influence and educational factors had the least influence when choosing to major in CSD.

Of the ideas that pertained to personal factors, six ideas came from first-generation CALD college students and eighteen ideas came from traditional CALD college students. When analyzing ideas related to educational factors, four ideas came from first-generation college students and eight ideas came from traditional CALD college students. Lastly, when looking at

ideas related to employment factors, twelve ideas came from first-generation CALD college students and eight came from traditional CALD college students. This correlated with CALD's mean (M2.97) for employment factors being higher than the CALD mean (M2.78) as a whole.

Previous studies that have focused on this subgroup have mainly looked at the academic experience and performance of first-generation college students to make a comparison to students whose parents had a college degree. According to Dennis, Phinney, and Chuateco (2005), the minority comprised of first-generation college students were less likely to pursue higher education, such as a graduate program when compared with students whose parents had completed college degrees. This was important to our study as undergraduate students such as those participating in this survey will need to complete a graduate program which is the terminal degree needed in order to practice in the field of Speech-Language-Pathology, and a clinical doctorate degree is the terminal degree to practice in the field of Audiology. Therefore, it was necessary to investigate factors related to first-generation CALD choosing to pursue a major that involves higher education. Doing so will give insight into the particular barriers limiting this subgroup when choosing majors to help future recruitment efforts. Similarly, noted in Blackwell's and Pinder's (2014) research, which stated that first-generation college students had more of a disadvantage when choosing higher education because attending college was not expected from their parents compared to third-generation college students. Therefore, behaviors that led first-generation minority college students to pursue higher education were influences related to personal factors and environmental factors (Blackwell & Pinder, 2005). Also, in the Dennis et al. (2005) study, minority first-generation college students were motivated "to attend college based on personal interest, intellectual curiosity, and the desire to attain a rewarding career" (p. 233). This was also the focus of the present study, where first-generation CALD

college students were given factors of personal and environmental to rate as to better understand motives for choosing a major which would require them to obtain a graduate degree to have a professional career.

Practical Applications

This present study mainly focused on the motivating factors that led undergraduate CALD students into this major to understand the perception CALD students had towards the CSD major and the SLP profession. This was done to give insight into a larger issue, the lack of minority SLPs within the profession so that the gap between demographic population and service professionals can be narrowed. By focusing on motivating factors (personal, educational, and employment), this present study can be used to inform future recruitment efforts by schools in the Midwest region. By using personal factors that can help facilitate more awareness such as giving students more first-hand exposures to shadow an SLP during their high school years or giving a job fair to attract students who seek to be in a “helping profession”.

Since personal factors had the highest-ranking influencers amongst all the categories, it is crucial to focus on the highest influencers, which were a desire to help people and a desire to work with people. Both the present results as well as previous studies have indicated that the majority of undergraduate students major in CSD due to these two highest-ranking factors. Therefore, CSD programs should use this information to promote the CSD programs by offering recruitment materials that would clearly describe the profession as a helping profession and one that works with a variety of people.

Employment factors was the highly rated category amongst the CALD participants. Therefore, it would be beneficial for recruiters of the CSD programs to emphasize the statistics that would support the claims of job availability and job security within this field.

Although educational factors were ranked the lowest among the three categories, it was hard to determine by the survey results alone if the ratings were low because the factors were less influential or if counselors and teachers of the particular schools that the participants attended were not promoting CSD as a major. To understand this phenomenon, the research would either need to be extended to interview the participants of the study or the CSD programs would need to initiate contact with the different schools whether high schools, colleges, or universities to see if their teachers or counselors are promoting the CSD majors to their students.

The students' feeling of satisfaction towards their final choice of the CSD major can be useful to analyze as potential for retention of students within the CSD program to enter into Master's programs. The present research showed that of the CALD participants, over a half were very satisfied with their major, however one-third (36%) stated they were somewhat satisfied with their choice of the CSD major. These results may be an opportunity for future research to investigate in more depth to see if there is a correlation between students' satisfaction and how they rated each category of factors of influence. Future research could also analyze if satisfaction with the CSD major was significantly impacted by how they were exposed to the major or other information that were gathered within the survey.

Limitations of the Study

Although the present study investigated factors related to the cultural/ethnic backgrounds of a student with his/her parent's background, there were limited findings due to the lack of respondents and some students who did not consider themselves to be CALD when the researcher's operational definition classified them as such. These participants were demographically defined to be of CALD backgrounds, but due to reasons unknown chose not to

be considered as CALD. Therefore, this subset of participants did not respond to questions that there were related to languages spoken and parent's demographic backgrounds.

Other researchers have chosen to focus on CALD students within the CSD major and collect data on their experience and limitations during their time in the program rather than focus primarily on the factors that influenced choice of the CSD major (Saenz, Wyatt, & Reinard, 1998). If this aspect had been included in the present study, it would have provided additional information concerning factors related to the retention rate of students of this particular population.

The original intention of asking the open-ended question in this study was to bring out some of the unique facilitators and barriers that CALD students faced when choosing to major in CSD. The open-ended questions did not yield a robust response. Some responses had only one sentence and many were written with very general information. There could have been a different method in the way the open-ended question was asked to help yield more information. Maybe it could have included some examples of barriers and facilitators to help define what type of experiences were expected from the participants to share. If there was a follow-up question that could have been done or if future studies could be qualitative and include interviews with individuals in addition to a survey this would have provided more information about the issues of the barriers and facilitators students experienced which could help inform recruitment and retention practices used by universities.

One of the most discouraging factors to this study was that there were no responses from a state in which several CSD programs were located. This might have been due to miscommunication or a lack of passing the survey on to students within the department on the part of the chairperson. Since the study was supposed to identify the trend in choice of major for

the entire Midwest region, it was optimal for all of the states to have some respondents.

However, Nebraska yielded zero participants even after two recruiting emails were sent to the department chairs. This left the study incomplete and therefore made it hard to see the full picture from a regional perspective.

Another potential limitation was that the participants were primarily female. According to the ASHA member count, there were 3.7% SLPs who were male and as a whole, male ASHA constituents have declined over the years with 4.6% by the end of 2018 (I.e., 4.9% in 2014, 4.8% in 2015, 4.7% in 2016-17) (ASHA, 2019). Therefore, when reviewing ASHA's member count, there were only 3.7% of SLPs who were male, so the proportion of male participants in the current study (6%) was fairly comparable.

Another drawback to the present study was that among all the respondents who completed the survey, only a few fell within the CALD category since the responses came from an area that had limited diversity as well as few CALD students among its universities. Also, because these findings were from a nonexperimental design, it was not possible to generalize to other CALD students in this region. Of all the participants who completed the survey, only 11% fit into the definition of CALD college students compared with the U.S. Census data, which stated that non-white persons consisted of 27% of the whole U.S. population (U.S. Census, 2017a). The percentage of participants (11%) was closer to ASHA's member count in which only 8.2% of ASHA members are of a racial minority (ASHA, 2019). However, the present study only recruited from a particular region instead of the whole United States. It consisted of seven Midwest States: North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa, and Minnesota, which combined have a mean of 17.9% non-white persons (Race and Ethnicity in the Midwest (Region), (n.d.)). Therefore, based upon these findings, the recruited participants were still low

compared to any of the groups mentioned above. It is unclear if this reflected that the percentage of CALD students was indeed that low in the Midwest, or if the recruitment procedures failed to gain an adequate response from potential participants.

Suggestions for Further Research

As mentioned above, the participant response in this study was lower than had hoped for, therefore, future recruitment could be made more successful if participants were obtained from an existing organization consisting mainly of CALD individuals, such as the different multicultural constituency groups (MCCGs) that are related and allied organizations to ASHA. Another suggestion would be if the research targeted a larger area, such as a larger amount of CSD programs across the United States. However, this present study distinguished itself from others in that it explored a region of the country where there was limited diversity compared to the majority of previous studies which focused on regions of higher diversity (Keshishian & McGarr, 2012; Keshishian & Wiseheart, 2015; Saenz et al., 1998; Stone & Pellowski, 2015).

If the focus would be on regions of less diversity suggestions could be made to further study CALD students in these regions. For instance, future researchers could target CALD CSD students from regions of limited diversity and compare them to CALD CSD students in regions with diversity to see how they compare or contrast in factors. Future researchers could also examine if CALD students were first-generation, second-generation or third-generation immigrants to investigate factors related to retention and recruitment. This could provide insight into how these factors can impact CALD students when choosing their career path. Another suggestion for future research stems from results of students whom the researchers included in the inclusion criteria of CALD who did not consider themselves CALD. This phenomenon reveals an interesting point that the term CALD varies not only from the viewpoint of society,

but also from the viewpoint of individuals themselves. This could be the topic of future research exploring the factors that influence a person to consider themselves CALD.

The current design used was similar to the majority of the previous studies that have focused on quantitative designs in which participants' results were gathered from a completed survey. If future research chose to use a qualitative design such as all open-ended questions or recorded interviews, this would allow researchers to observe new findings that could help in recruitment or retention of this particular population that would not have been apparent in previous studies.

Conclusion

This study brought together perspectives of sixteen CALD students from CSD programs in the Midwest region. Overall, the main way the CSD major was introduced to the CALD population was having known an SLP. This was true in both first-generation CALD students as well as a whole. For the open-ended question, the comments that yielded the most response was having a desire to be in a helping profession and related to their personal experience. Within the survey, the main factors of motivation that resulted from this study showed that factors related to helping others and working with others being the main personal factor that had a significant influence amongst CALD individuals when choosing to major in CSD. Other findings were that amongst the CALD first-generation college students, the majority of these individuals were motivated more by employment factors such as job security, job availability, and income. In conclusion, the participants' results held many commonalities with previous studies which were gathered from demographically diverse regions of the United States. This may indicate that the factors related to choosing to major in CSD were less affected by the environments lived in but

by the intrinsic motivations such as personal experiences, thoughts, and feelings held by people who choose to pursue the CSD major.

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Appendix A: Informed Consent

To whom it may concern,

You are invited to participate in a study of factors influencing the choice of communication sciences and disorders (CSD) as a major. I hope to learn about factors influencing undergraduate student's choice of the CSD major in order to understand how factors may differ across students for a variety of aspects. You were selected as a possible participant in this study because you are currently enrolled in the CSD major in the upper Midwest region of the United States.

If you decide to participate, [please click on the arrow at the bottom of this page](#). Your completion of this survey is implied consent. The survey is designed to explore the motivating factors that influence undergraduates from various backgrounds to major in CSD. It will take approximately 10 minutes to complete the survey. No benefits accrue to you for answering the survey, but your responses will be used to help understand students' perspectives and may promote diversity in the field in the future. Any discomfort or inconvenience to you derives only from the amount of time taken to complete the survey.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will not be disclosed. Your decision whether or not to participate will not affect your future relationships with the Minnesota State University, Moorhead. If you decide to participate, you are free to discontinue participation at any time.

Please feel free to ask questions regarding this study. If you have additional questions, you may contact Nancy Paul, Ph.D., M.S./CCC-SLP, Speech Language and Hearing Sciences, paulnan@mnstate.edu, and 218-477-4642. Any questions about your rights may be directed to Dr. Lisa I. Karch, Chair of the MSUM Institutional Review Board at 218-477-2699 or by e-mail at: irb@mnstate.edu.

Thank you for your time.

Sincerely,

Joanna Reinders Speech-Language Pathology Graduate Student
Minnesota State University, Moorhead
Reindersjo@mnstate.edu

Appendix B: Survey

1. Gender

- Male
- Female
- Other (Textbox provided)

2. Age

- Under 20
- 20-24
- 25-30
- 30+

3. Are you a first-generation college student? (your parents, grandparents did not attend college)

- Yes
- No

4. Year in school

- Freshman
- Sophomore
- Junior
- Senior
- Post-Baccalaureate (taking leveling/post bacc courses in the major after completing a related degree)
- Other (Textbox provided)

5. Which state is your university located in?

- Iowa
 - Kansas
 - Minnesota
 - Missouri
 - Nebraska
 - North Dakota
 - South Dakota
6. Do you have a documented disability?
- Yes
 - No
7. Do you utilize university services such as Accessibility or Disability Services?
- Yes
 - No
8. Indicate racial/ethnic background:
- American Indian or Alaskan Native
 - Asian
 - Black or African American
 - Hispanic or Latino or Spanish Origin of any race
 - Native Hawaiian or Other Pacific Islander
 - White
 - Two or more races: (Textbox provided)
9. What factors have influenced your choice of Communication Science and Disorders as a major? We are interested in as many ideas as you would like to share.

(Textbox provided)

10. Do you consider yourself to come from a culturally and linguistically diverse (CALD) background?

Yes

No

11. Are you an international student?

Yes

No

12. What is your birthplace?

United States

Canada

Central Europe

The Caribbean

South America

Eastern Europe

East Asia

Central America

Middle East

South Asia

Southeast Asia

Other (Textbox provided)

13. Birthplace of Mother

United States

- Canada
- Central Europe
- The Caribbean
- South America
- Eastern Europe
- East Asia
- Central America
- Middle East
- South Asia
- Southeast Asia
- Other (Textbox provided)

14. Birthplace of Father

- United States
- Canada
- Central Europe
- The Caribbean
- South America
- Eastern Europe
- East Asia
- Central America
- Middle East
- South Asia
- Southeast Asia

Other (Textbox provided)

15. Which language(s) do you speak fluently?

(Textbox provided)

16. How did you first learn about the communication sciences and disorders major? (Choose one)

I received evaluation and/or treatment services from a speech-language pathologist?

A family member or friend received evaluation and/or treatment from a speech-language pathologist.

I learned about the field from a high school career counselor or college admissions counselor/recruiter.

I know a speech-language pathologist.

Other (Textbox provided)

17. How have personal factors influenced your decision in choosing to major in communication science and disorders?

(rank each item on a 5-point scale: 0 = no influence, 1 = slight influence, 2 = somewhat influence 3 = moderate influence 4 = most influence)

Personal factors

My friends

My immediate family

Relatives other than my immediate family members

My desire to work with people

My desire to help other people

- A personal experience with a communication disorder, either through a friend/relative or a disorder I may have
- A religious leader
- Social media/the internet
- Other: (Textbox provided)

18. How have educational factors influenced your decision in choosing to major in communication science and disorders?

(rank each item on a 5-point scale: 0 = no influence, 1 = slight influence, 2 = somewhat influence 3 = moderate influence 4 = most influence)

Educational factors

- Course content in high school
- Specific teachers in high school
- Course content in undergraduate education
- Specific professors
- Career guidance counselor/advisor in high school
- Career guidance counselor/advisor at the college/university level
- Career guidance testing/surveys
- Organizations such as the National Student Speech-Language-Hearing Association
- The curriculum (requirements, amount of education required)
- Courses emphasizing speech
- Courses emphasizing language
- Students in the major

Other: (Textbox provided)

19. How have employment factors positively influenced your decision in choosing to major in communication science and disorders?

(rank each item on a 5-point scale: 0 = no influence, 1 = slight influence, 2 = somewhat influence 3 = moderate influence 4 = most influence)

Employment factors

Income

Job availability

Job security

Diversity of professional advancement

Type of caseload

Caseload size

Age of caseload

Other: (Textbox provided)

20. How satisfied are you with your choice of communication science and disorders as your major?

I am not satisfied

I am slightly satisfied

I am neither satisfied nor unsatisfied

I am somewhat satisfied

I am very satisfied