

AN ABSTRACT OF THE DISSERTATION OF

Julia A. Smith for the degree of Doctor of Philosophy in Human Development and Family Studies presented on September 24, 2004.

Title: “College Is a Challenge, But I’ve Got Dreams and I Know I Can Do It!”: Deaf Students in Mainstream Colleges

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Deaf students in mainstream colleges are withdrawing at an alarming rate. Approximately 70% of the 123,000 deaf students enrolled in 2,300 colleges across the United States will not persist until graduation. This qualitative study examined what factors in the academic and social environment are linked to deaf college students’ perceptions of academic and social success and satisfaction. An ecological perspective provided the theoretical lens for analysis.

Fourteen self-identified deaf students, recruited from four mainstream colleges, were interviewed. Participants were between the ages of 18 to 23, single, and not living with their family of origin. All students attended institutions of higher education that enrolled a small number of deaf students. Key questions focused on relationships with parents, family communication, personal characteristics, high school preparation for college, and current academic and social experiences in their college environments.

Participants described how their lives were shaped by early shared language with parents as well as current perceptions of closeness with family members. All participants attended mainstream high schools and shared how these experiences influenced their academic and social readiness for college. Results also illustrated how

students who are deaf navigate academically and socially in college environments where there are few deaf students. The students in the study possessed personal characteristics that are important indicators to success in college, such as self-determination and a strong sense of cultural identity. Clear and purposeful goals were also evident and contributed to students' success thus far. Although 13 participants preferred communication in sign language, all found ways to effectively interact with faculty and classmates who could not sign.

This study's findings included recommendations for practitioners who work with college students who are deaf. Suggestions included improvements to interpreter and notetaking services, in-service training for faculty who have not worked with deaf students in the classroom, enhanced accessibility to classroom and extracurricular activities, and general ideas to make the mainstream college environment more *deaf-friendly* and inclusive for deaf students.

“College Is a Challenge, But I’ve Got Dreams and I Know I Can Do It!”:
Deaf Students in Mainstream Colleges

by

Julia A. Smith

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my thesis to any reader upon request.

Julia A. Smith, Author

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DEDICATION

This dissertation is dedicated to my father, Merle I. Smith (6/20/16 – 9/27/01). My father taught me to not be afraid of hard work and to keep my eye on the finish line, even when others seem to be passing me by. I can still hear him calling out, “heel – toe!” during an elementary school walking race to keep me focused on the task. His advice has carried me through innumerable other tasks throughout the years. I will always be grateful for his guidance and his love.

“College Is a Challenge, But I’ve Got Dreams and I Know I Can Do It!”:

Deaf Students in Mainstream Colleges

CHAPTER 1: INTRODUCTION

Problem Statement

The retention of students in higher education is a major concern for students, parents, teachers, and college administrators. More than 40% of all college students leave without earning a degree. Of these, 75% drop out in the first two years of college (Tinto, 1987, 1993). These statistics are even more dire for students with hearing loss. There are approximately 468,000 deaf and hard of hearing students currently attending college in the United States (Schroedel, Watson, & Ashmore, 2003); however, estimates for postsecondary students who are deaf show that between two thirds and three quarters of those who begin their studies will never graduate (Myers & Taylor, 2000).

As colleges and colleges strive to embrace diversity and provide all students an opportunity to succeed, important questions are raised: Why are deaf students more likely to drop out than hearing students? What factors in the social and academic environment affect the adjustment process for students who are deaf? These questions are the focus of my study.

I begin by asking, what makes students in general either persist or withdraw from college? Researchers have found that persistence tends to be primarily a function of the quality of students’ adjustment to the academic and social settings of an institution (Astin, 1993; Braxton, Vesper, & Hossler, 1995; Tinto, 1993). These researchers also found that students come to a particular institution with a range of

background characteristics, as well as varying levels of commitment to acquiring a higher education. These characteristics include family of origin relationships, and academic, social, and emotional readiness. Background characteristics, along with commitment, shape how students will adjust to the institution's social and academic settings.

Although we have statistics on the retention and academic success of college students who are deaf, we know very little about the perspectives that deaf college students hold regarding their academic and social experiences in mainstream colleges with small deaf programs. Most research in this area has been conducted at postsecondary institutions that have supportive academic and social environments already in place for large populations of deaf students, such as the National Technical Institute of the Deaf, California State University, Northridge, and Gallaudet University. Because of the larger number of students at these institutions, they are better prepared to accommodate deaf students' social and academic needs than are colleges with a small number of deaf students (Foster, 1996). However, more than 2,300 postsecondary institutions in the United States serve students who are deaf or hard of hearing (Lewis, Farris, & Greene, 1994), and most of these institutions report fewer than 10 deaf students. Although researchers have provided some data on college students' experiences at larger *deaf-friendly* college settings, we know very little about the perception of social and academic success and satisfaction of deaf college students who attend colleges where the number of deaf students is substantially smaller.

Definitions

Before continuing, terminology that will be commonly used throughout my study must be defined. Because some terms found in this section are used differently in other contexts, it is important to define them as they are used in my study.

Deaf versus deaf: In keeping with current convention (Bienvenu & Colonomos, 1989; Lane, 1992; Padden & Humphries, 1988; Woodward, 1972), the uppercase *D* will be used when referring to this specific sociocultural group and the lowercase *d* for more general references. Although acknowledging the Deaf community's heterogeneity, the term is generally understood as referring to persons who predominately communicate in American Sign Language and demonstrate a sociocultural association with the American Deaf community (Padden & Humphries).

Hearing impaired: Presently, the culturally preferred terms used to describe individuals with hearing loss are *deaf* or *hard of hearing* (Lane, 1992). The term *hearing impaired* has lost favor because of its emphasis on the individual's "impairment." In contrast, deaf and hard of hearing are taken as assertive, unapologetic labels, leaving open the more important issue of one's broader capacities. As has been pointed out however, some people continue to consider themselves hearing impaired and some family members still use this phrase (Lane). It may also appear in older reference materials.

American Sign Language (ASL): American Sign Language (ASL) has been used in the United States as the language of choice for people who are Deaf since the early 1800s (Padden & Humphries, 1988). This language has its own unique grammar with all the linguistic components of established languages. Although the sentence structure

of ASL is independent from English, linguists have demonstrated that neither is more or less linguistically sophisticated than the other. Deaf people highly value ASL. It is considered to be an important component of the Deaf culture (Padden & Humphries).

Pidgin Signed English (PSE): The term *Pidgin Signed English* refers to a type of signing that results from the contact between English and ASL (Valli & Lucas, 2000). Pidgin Signed English, or PSE, is commonly used by people in the Deaf community when communicating with non-native signers. This communication style tends to follow English word order and includes English expressions and the mouthing of English words. It also includes ASL features such as nonmanual signals, body and eye gaze shifting, and the use of space.

Signed Exact English (SEE): The term *Signed Exact English* refers to a manually coded communication system invented and used by educators to attempt to teach deaf children the structure of English more readily. The SEE system borrows from the vocabulary of ASL, but alters many elements of ASL in order to mimic English syntactic characteristics. The syntax of ASL is very different from that of English and SEE.

Speechreading versus Lipreading: *Speechreading* is a term preferred over *lipreading* because it emphasizes that there are important information sources beyond lip movements that are used by deaf and hard of hearing people in recognizing the meaning of observed human speech, such as residual hearing, gestures, body language, facial cues, and numerous aspects of the communication situation and environment.

Fingerspelling: Fingerspelling refers to the use of a standard system of 26 handshapes to represent the letters of the English alphabet. Words are fingerspelled by making one handshape after another until each letter of the word has been presented.

Sign Language Interpreters: A sign language interpreter facilitates communication between deaf and hearing individuals or between an individual who is deaf and a hearing group. Students typically request interpreters from their college's Office of Services for Students with Disabilities office. Interpreters match their signing styles with deaf students' preferred modes of communication. The Registry of Interpreters for the Deaf certifies professional sign language interpreters. They earn certificates that verify different areas of linguistic competencies (e.g., English-ASL translation, English-Signed English translation), along with knowledge regarding professional roles and ethics.

Assistive Listening Devices: Some students who are deaf, and others who are hard of hearing, benefit from the use of assistive listening devices in the classroom. Assistive listening devices are relatively new technical devices that can be used by students for face-to-face and classroom communication. For the deaf student who has some speechreading and listening skills, assistive listening devices can supplement verbal learning. A variety of types of assistive listening devices can be used in the college classroom. These include radio microphone and infrared, and induction loop systems (Warick, Clark, Dancer, & Sinclair, 2003).

Notetakers: It is difficult for deaf students who are reliant on visual communication to take notes during a class lecture because they cannot simultaneously watch an interpreter and take notes. With the assistance of a notetaker, students can

focus their attention on the instructor or interpreter, and like other students, review the content of the class at a later time. Some students request trained notetakers from their Office of Services for Students with Disabilities. Other students ask to share the notes of a hearing classmate either by photocopying them or by using special no-carbon-required duplicating pads provided by their Disabled Student Services office.

Speech to Text: Some college students who are deaf or hard of hearing request real-time speech-to-text accommodations. These services provide students with a transcription of spoken words into text. Common types of speech-to-text services or Communication Access Realtime Translation include C-Print, TypeWell, and court reporter services. College students who are hard of hearing or deaf and cannot hear well enough to follow classroom discussions, but who have intelligible speech and good reading skills, can benefit from speech-to-text services (Stinson, Eisenberg, Horn, Larson, Levitt, & Suckless, 2003).

Residential Programs: Residential schools are usually state-run institutions with both day-student and dormitory options for large numbers of deaf children, preschool through high school. Both deaf and hearing teachers use a form of sign language for communication in the classrooms. Because of their size, these schools can offer a wide range of athletic and social activities, as well as numerous specialized support services (Allen & Karchmer, 1999; Mores, 1996). Students in residential settings are likely to have more profound hearing losses than those who attend mainstream programs (Schildroth & Hotto, 1994), and frequently have additional disabilities.

Mainstream Programs: There are two major types of elementary and secondary school mainstream programs. The first is a regional program with centralized services

for all deaf children in a given district at one designated school. These services might include self-contained classes, interpreters, and notetakers for mainstream classes and a resource room. The second type of mainstreaming is when students simply enroll in their local public schools with or without interpreters or itinerant services. Students in the latter category are more likely to have moderate to severe hearing losses (Schildroth & Hotto, 1994). In other words, they may have enough hearing to function successfully using oral language.

Theoretical Foundation

Many aspects of the college experience can influence the course of human development across the life span. My study focused on the academic, social, and emotional settings within which college students reside. These environments have been shown to shape students' academic and social experiences (Johnson, Staton, & Jorgensen-Earp, 1995). According to Bronfenbrenner (1977), the college environment and the student have a mutual effect upon each other. He defines this ecology of human development as:

the scientific study of the progressive, mutual accommodation, through the life span, between a growing human organism, and the changing immediate environments in which it lives, as this process is affected by relations obtaining within and between these immediate settings, as well as the larger social contexts, both formal and informal, in which the settings are embedded. (p. 514)

An ecological perspective (Bronfenbrenner, 1977, 1979, 1986) is useful when considering the experience of college students who are deaf. The students' relationships with others (i.e., family, friends, classmates, faculty, and administration), the immediate settings in which these relationships occur, and the larger context in which these

settings are embedded all affect the students' experiences and ultimate retention. I used an ecological perspective to analyze the significance of the environmental setting in mainstream colleges and its effect on college students who are deaf.

Purpose

Students who are deaf report leaving their postsecondary institutions for many reasons, some of them similar to the reasons reported by their hearing peers. These include being too far from home, having financial problems, or being unsure of goals (Danermark, 1998; Stinson, Scherer, & Walter, 1997). However, past research has shown that the most prominent reasons reported by deaf students include college preparedness issues, such as weak academic skills and inadequate emotional readiness (e.g., separation from family and friends), as well as poor adjustment to the academic and social settings in their colleges. Deaf students report problems communicating with faculty, inadequate support services, and limited opportunities for social interactions with peers (Foster & Elliot, 1986; Scherer & Walter, 1986).

An important goal of a college education is to obtain gainful employment. Historically, deaf people have been underemployed (Schroedel, 1976; Welsh & Walter, 1988), although research over the past 15 years has found that college educations have made more and better jobs accessible to deaf people (Schroedel & Geyer, 2000). Although the number of deaf students in postsecondary schools has increased over recent years (Myers & Taylor, 2000; Schroedel & Geyer), research has not kept up with the experiences of deaf students in mainstream colleges. Knowing and understanding their experiences can provide valuable information to a variety of professionals and programs that serve clients or students who are deaf, such as vocational rehabilitation

counselors, high school transition counselors, college and college faculty and staff, and career development, outreach, and support services programs. This information may ultimately serve to reduce the attrition rate of students who are deaf and subsequently increase gainful employment among this population. Further, analysis of trends among this population may help us understand attrition for other groups as well.

Research Questions

On the basis of findings from the existing literature, two general research questions are posed. First, how do students who are deaf describe their experience in a mainstream college? Second, what factors in the social and academic environment are linked to deaf college students' perceptions of academic and social success and satisfaction with life in a mainstream college? The first question allows the participants to comment on the overall college experiences they find the most salient, whereas the second question narrows the focus to the more specific area of the academic and social environment and how they relate to students' readiness for college, as well as feelings of academic and social success and satisfaction.

CHAPTER 2: LITERATURE REVIEW

This chapter begins with an examination of the ecological perspective to illustrate how it provides a basis for my study. Examples of settings specific to deaf college students are examined. A review of previous research follows, beginning with pertinent research on academic and social adjustment to college and its influence on retention for students in general. Because there is limited research on the experiences of deaf students in mainstream colleges, the literature of other minority college students in mainstream settings was examined. Specific literature related to students of color and students who are disabled is addressed. Next is a review of the literature particular to college students who are deaf. This is followed by issues that are unique to this population and includes family dynamics, communication, elementary and secondary education choices, and identity.

Theoretical Framework: An Ecological Perspective

An ecological perspective provided a useful frame for understanding deaf college students' experiences and is the foundation for my study. This perspective focuses on the interrelationships between people and their environments. The environment and the individual's behavior within that environment mutually shape the development of the person. In other words, to understand the overall influences of the environment on an individual, it is important to understand the context within which the individual currently is situated (Bronfenbrenner, 1979, 1986; Bronfenbrenner & Crouter, 1983). For my study, that environment is a mainstream college.

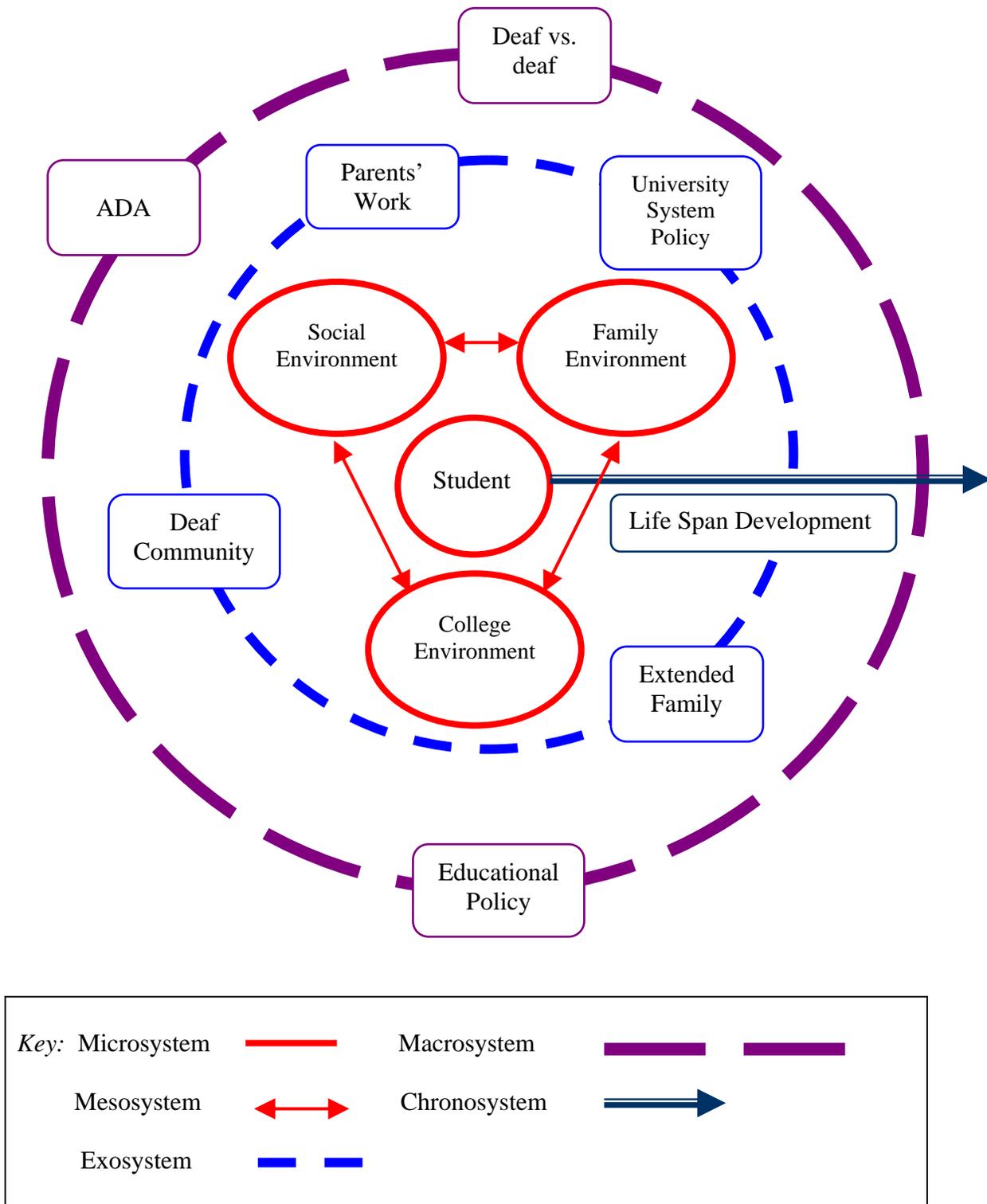
Bronfenbrenner (1979, 1986) proposed an applicable environmental and contextual theory regarding life span development that fits well with examination of college students who are deaf and their experiences within a mainstream college setting. This environment is examined by identifying interconnected structures or systems that Bronfenbrenner described as being nested within each other. Figure 1 graphically illustrates Bronfenbrenner's five nested systems: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem. This section provides an overview of all five systems.

The term microsystem refers to the relationship between the person and the environment in an immediate setting such as a home or a school. In this setting, the individual physically enters the environment and interacts with the people within that environment. Within each microsystem are important subsystems such as dyads within families and relationships with coworkers in the work setting (Bronfenbrenner, 1989). In my study, important microsystems included relationships deaf college students had with roommates within the dorm setting and relationships with faculty and classmates within the classroom setting.

Bronfenbrenner (1979) identified the second system as the mesosystem, which refers to interrelationships between the microsystems. This structure includes linkages between all the important microsystem environments in which the individual is situated. The more connections there are between microsystem settings, the more support there is for the developing individual. A mesosystem includes relationships among major settings, for example, family, school, and friendship groups. For example, a friend who knew a deaf student's family and then attended the same college as the deaf student

Figure I

An Ecological Model of Deaf College Students' Life



might be considered a mesosystem linkage between home, the dorm, and the academic world. College students are embedded in interacting mesosystems of academic, social, family, and work life. This level was important to this research because the degree to which the different linkages contained in this system conflicted with or complemented each other affected the student's ability to adapt to the present environment, that is, the mainstream college (Bronfenbrenner & Crouter, 1983).

The third system is called the exosystem. This system includes major social settings in which the person does not directly participate, but by which the person is nonetheless influenced. These might include the friends or work environments of the parents, or the state college system that governs the college the student attends. Extended family and the Deaf community are other examples of exosystems. However, the Deaf community may also be a microsystem setting if a deaf college student has direct connection with this community via family, classmates, or friends. Exosystem settings are important because they often have an influence on individuals by affecting those with whom they have direct contact.

The macrosystem encompasses the cultural or subcultural system, as well as beliefs and values that have been passed down for generations that can affect the other systems. Bronfenbrenner (1993) described this as including the historical influence of a particular time or place. The macrosystem in the life of a deaf student in a mainstream college includes larger cultural patterns such as the educational, economic, and political systems that shape students and their immediate and intermediate environments. The cultural identity of a deaf college student as Deaf versus deaf is a macrosystem. Another example is the Americans with Disability Act of 1990. The passage of this law brought

about an increase in the number of students who are deaf or who have disabilities attending mainstream colleges because it mandated that postsecondary institutions provide reasonable accommodations to these students with the objective of achieving equal accessibility (Thomas, 2000).

Finally, the chronosystem is the fifth system in Bronfenbrenner's (1986) ecological theory. This level involves the patterning of environmental events and transitions over the life span and across sociohistorical circumstances. This system is important to the study of college students who are deaf in mainstream colleges because it includes the type of transition these students make (e.g., normative vs. nonnormative), as well as the influence of the cumulative effects of developmental transitions these students experience over an extended period (Bronfenbrenner). Students are shaped in part by the era in which they attend college. This is comparable to a life course perspective in which patterns that affect the environmental stability and change in the development of people can be studied over time.

Consistent with Bronfenbrenner's theoretical framework, my study focused on the ecological niche of mainstream deaf college students. Although all levels affect this specific population, the focal point of analysis was the immediate settings or microsystems found in the mainstream college environment, and the intermediate setting or mesosystem linkages between the microsystem settings. These levels were most salient because my study was interested in the participants' perspectives on academic and social success and satisfaction. Bronfenbrenner's broad approach to socialization as a progressive "accommodation between the person and the surrounding

milieu” (p. 517) made his ecological framework, particularly the first two levels, appropriate for interpretive analysis of deaf college students in a mainstream setting.

The environments individual students’ experience within higher education provides a backdrop for understanding student retention. However, there are additional factors that must be considered when examining student persistence in college. These include students’ academic, social, and emotional adjustment to college life.

Persistence in College

Persistence in college has been a major concern for students, parents, teachers, and college administrators, and has been studied by researchers for several decades (Astin, 1993, 1999; Braxton, Vesper, & Hossler, 1995; Chickering, 1969; Foster, 1988; Gerdes & Mallinckrodt, 2001; Pantages & Creedon, 1978; Tinto, 1987, 1993). Graduation rates for students in general average 43% for two-year colleges (within three years of initial enrollment) and 50% for four-year colleges (within five years of initial enrollment) (Tinto, 1993). Individual students bring personal characteristics into their environments that affect their persistence in institutions of higher education. Two areas have been identified as having an important influence on college attrition: (a) academic adjustment and integration, which includes academic abilities, motivational factors, and effective interactions with faculty in and outside the classroom; and, (b) social and emotional adjustment and integration, which includes successful interpersonal relationships in the campus environment, feelings of self-worth, and issues pertaining to separation from family. These two areas are considered in relation to students in institutions of higher education in general.

Researchers have found that previous academic performance is a predictor of later academic success (Astin, 1993; Braxton et al., 1995; Fralick, 1993; Pascarella & Terenzini, 1991; Tinto, 1993, 1997; Tracey & Sedlacek, 1988). Institutions of higher education often rely on high performance standards to predict college academic performance. The two most commonly used predictive measures of college academic performance are high school grade point averages and standardized aptitude tests administered during high school or when students enter college.

Other early studies focused on academic ability as a predictor of retention and typically found that academic performance explained less than half of the variance in the decision of students to drop out (Pantages & Creedon, 1978). Of course the broader concept of academic adjustment involves more than simply a student's scholarly potential. Motivation to learn, taking action to meet academic demands, a clear sense of purpose, and general satisfaction with the academic environment are also important components of academic adjustment (Pascarella & Terenzini, 1991). Studies have shown that students who make relatively early decisions to identify clear, purposeful educational goals tend to persist as compared with those who delay academic planning (Braxton et al., 1995). Some studies have shown that commitment to completing a college degree and a strong attachment to a particular institution influenced a student's ability to persist in college as well (Astin, 1993, 1999).

Gerdes and Mallinckrodt (2001), as well as others, found that students overestimated their ability to adjust academically and underestimated their ability to make a personal or emotional adjustment. Although academic adjustment has historically been understood as the key predictor of college attrition, other factors such

as social and emotional integration have been identified that affect students' ability to persist in higher education (Astin, 1993,1999; Gerdes & Mallinckrodt; Youn, 1992). Important elements of social adjustment include being able to become integrated into the social life of college, forming a support network, and negotiating new social freedoms. Difficulties in emotional adjustment, manifested as feelings of homesickness and loneliness, are commonly reported crises during the freshman year (Tinto, 1993). The microsystem level of developing students' relationships is a critical component of the social adjustment to college. However, the mesosystem, that is, the interrelationships between the microsystems, is equally important to the development of social support networks for the student (Braxton et al., 1995). The connections between, and relationships that carry across, various college environments may effect students' abilities to persist and complete their higher education goals.

During the transition to college, students commonly question their relationships, their direction in life, and their self-worth (Chickering, 1969). Personal or emotional problems may appear during this stage when students wrestle with questions about identity as they separate from their parents. Separation and individuation are crucial developmental tasks faced during late adolescence that can affect adjustment to college (Tinto, 1993). Family of origin relationship issues may affect the student's ability to adjust to the college experience (Youn, 1992).

Expectations formed before enrollment in college may be important predictors of attrition as well. Enthusiastic idealism, termed the *freshman myth*, is often followed by disenchantment when these high expectations are not met (Braxton et al., 1995). Students who have unrealistically high expectations of what college will be like tend to

drop out of school in higher numbers than do those who do not show such discrepancy between expected and actual experience (Tinto, 1993). Expectations of ability to adjust to college are correlated with later reports of actual adjustments in life (Astin, 1993, 1999; Braunstein & McGrath, 1997).

Researchers have found that personal integration into the social fabric of campus life plays a role at least as important as academic factors in student retention (Astin, 1993, 1999; Gerdes & Mallinckrodt, 2001; Youn, 1992). For instance, Astin (1999) found that environmental influences, such as adequate support services and the opportunity to have social interaction with peers, affected students' development and the amount of physical and psychological energy that students devoted to college. His findings suggested that factors contributing to persistence also imply increased involvement, whereas factors contributing to departure from college imply limited involvement in the college experience. All students must deal with these factors. However, students with diverse backgrounds (e. g., cultural or ethnic minority students, or students who have disabilities) have additional struggles to overcome if they are to persist in college.

Academic, Social, and Emotional Adjustment of Diverse College Students

The relationship between students and the college environment is seen as both reciprocal and dynamic (Bronfenbrenner, 1979, 1986; Dey & Hurtado, 1995). Tinto (1987, 1993, 1997) found that students were more likely to stay in college if the commitment and goal of college completion was reinforced by positive postsecondary experiences. This included the college helping the student feel integrated within the institution. Negative postsecondary experiences tended to distance students from the

social and academic communities of the institution and increased the likelihood that students left the institution and higher education altogether. Many students struggle to adjust to the academic and social environments of college. However, students from minority groups have additional hurdles to overcome.

Students of Color

Growing numbers of students of color are enrolling in college (Ginter & Glauser, 1997; MacKay & Kuh, 1994) and most attend predominately White institutions (Ginter & Glauser; Nettles, 1988). At the same time, graduation rates for students of color at mostly White institutions have not increased in keeping with growing enrollments (Wilson, 1994). For example, Steele (1992) reported that more than two thirds of African Americans left predominately White campuses before graduation compared with less than 45% of White students (Tinto, 1987, 1993). Watson and Kuh (1996) found that adjusting to the social and academic environments seemed to be central to the success of many students of color who attended predominately White institutions. They reported that the quality of students' relationship with peers, faculty, and administrators tended to be almost as important to the student's achievement as individual effort.

McWhiter (1997) conducted research on loneliness in ethnic minority college students. His findings pointed out that intimate, one-on-one relationships, were important for successful social and emotional adjustment to college. Finding close relationships may be difficult however, because only a small percentage of college students are students of color (Wycoff, 1997). In other words, in predominately White

colleges, there are fewer opportunities for ethnic minority students to establish intimate relationships with culturally similar others.

Eimers and Pike (1997) examined similarities and differences between minority and nonminority adjustment to college. These authors reported three important findings from their study: (a) students of color had significantly lower levels of academic ability at entrance and subsequent achievement than nonminority students; (b) external encouragement such as support from parents was also lower than among White students; and, (c) minority students had lower levels of academic and social integration, and institutional commitment than nonminority students. Eimers and Pike concluded that understanding adjustment differences between these two groups of students “can help campus administrators to develop retention programs that better reflect the unique and similar needs of minority and nonminority students” (p. 95).

The academic and social environments of students of color shape their integration and adjustment to college life. Whereas Eimers and Pike (1997) focused on students from diverse cultural and ethnic backgrounds, their findings coincided with results of research focused on retention and persistence of other minority students; that is, those who have a disability (Stodden & Dowrick, 2000; Thomas, 2000; Yuen & Shaughnessy, 2001).

Students With Disabilities

There are currently more students with disabilities in higher education than there ever have been (HEATH Resource Center, 1998). The HEATH Resource Center indicated that 9% of all incoming freshman in 1998 reported having a disability. This increase may be the result of informed choice on the part of disabled people. Only

modest effort was made to accommodate college students with disabilities in the 1970s and the 1980s. The passage of American with Disabilities Act in 1990, however, has contributed to students becoming increasingly more aware of their rights to accommodation while enrolled in higher education (Thomas, 2000).

Nonetheless, students with disabilities are still considered *at risk*, and college retention for this group of students has been an important consideration for college administrators (Yuen & Shaughnessy, 2001). Research strongly suggests that improved access to postsecondary education positively coincides with retention for this population. The fact remains, however, that many students with disabilities do not attend postsecondary institutions, nor once admitted, persist through graduation (Yuen & Shaughnessy). College readiness seems to be a key factor. Students with disabilities tend to enter postsecondary institutions poorly prepared and many need significant remedial work before they can take college-level courses (Seon & King, 1997).

Feelings of integration within the college environment also influenced the likelihood of persistence for this minority group. Loneliness was a common problem among many college students, and, along with a lack of social support and a sense of belonging, it was identified as a particular concern for many students from diverse groups (McWhirter, 1997). As with students of color, students with disabilities who lack close relationships may struggle with social and emotional integration into the college environment (Wycoff, 1997).

Issues such as self-esteem, self-determination, and acceptance by others affected students' experiences of loneliness and assimilation at their institution of choice (Blake & Rust, 2002). Some college students with disabilities exhibited poor self-esteem as

well as poor emotional adjustment (Blake & Rust, 2002; Saracoglu Minden, & Wilchesky; 1989) Further, students with disabilities faced discrimination and bias from students in the general population (Saracoglu et al.; Toombs, 1994). Researchers (Blake & Rust; Kelly & Sedlacek, 1994) found that college students with disabilities did not perceive themselves differently from students in the general student population. They also found that on measures of self-esteem and self-efficacy. students from the general population rated their peers with disabilities as being lower in extraversion and in emotional stability compared to other peers. Experiences of poor self-esteem or lack of acceptance by others can influence the experience of integration for students with disabilities.

An in-depth qualitative study of college students with disabilities by Lehmann, Davies, and Laurin (2000) resulted in four emergent themes: (a) students felt a lack of understanding and acceptance concerning disabilities in general on the part of fellow students, staff, faculty, and the general public; (b) students reported a lack of adequate services to assist them in tackling academic and nonacademic responsibilities; (c) there was a consensus that financial resources were insufficient, as well as knowledge regarding how to acquire resources to live a more self-sufficient life; and, (d) students stated that they had a lack of self-advocacy skills and training needed to live independently.

These findings support Tinto's (1987, 1993, 1997) assertion that positive postsecondary experiences in students' microsystem and mesosystem settings (e.g., parental involvement and support; relationships with family, friends, and school; as well as students' feelings of academic, social, and emotional adjustment) significantly

effected students' commitment to stay in college. Students who are deaf are often included in discussion regarding college students with disabilities. However, students who are deaf have their own unique struggles and challenges regarding their experiences in postsecondary education

Deaf Issues

Researchers (Schroedel et al., 2003) estimated that during the year 2000, 468,000 deaf or hard of hearing students were attending the nation's postsecondary institutions (also see Watson & Schroedel, 2000). More specifically, 345,000 were hard of hearing, 115,000 were deafened after the age of 18, and 8,000 were deafened before the age of 18. Once these students arrive at college, most do not stay. On average, only about 30% of deaf students entering colleges across the country persisted to graduation (NTID, 1997; Rawlings, Karchmer, & DeCaro, 1988; Walter, 1989; Walter & DeCaro, 1986). Even at institutions that are considered *deaf friendly* because of the high number of deaf students in attendance, students continue to experience retention problems. At the National Technical Institute for the Deaf for example, 50% of all entering students withdrew prior to graduation and almost 30% left prior to starting their second year of study (Average rates from 1991 - 1996, NTID Annual Report, 1997).

This section begins with literature specific to deaf college students. Next, familial considerations are addressed including the effect of diagnosis of the deaf child on the child's family, as well as the effect of communication and education choices made early in the deaf child's life. The deaf person's sense of social identity also is examined in relation to college retention. To appreciate the experience of a deaf student

in a mainstream college, it is important to understand all these variables and how they shape the individual and the individual's environment.

Deaf College Students

The U.S. Census Bureau reported that 15.1 million students are attending over 5,000 colleges and colleges in the nation (2001). However, proportionally fewer deaf students pursued higher education than their hearing peers. Walter (1992) found that merely 16% of deaf students exiting high school enter postsecondary education, compared to 28% of their hearing peers. There are 123,000 students who are deaf, under the age of 35, who attend colleges across the United States. This is significantly higher than the statistics from a national survey conducted 10 years ago (U.S. Department of Education, 1993). Although students who are deaf are entering institutions of postsecondary education in higher numbers than ever, retention rates have continued to be a concern.

In recent years, studies have examined higher education attrition and persistence rates for students who are deaf (Myers & Taylor, 2000; Stinson, Scherer, & Walter, 1997). One researcher in particular, Susan Foster (Brown & Foster, 1991; Elliott, Foster, & Stinson, 2002; Foster, 1988, 1998; Foster & DeCaro, 1991; Foster, Long, & Snell, 1999; Foster & Walter, 1992), has dedicated almost two decades to understanding the mainstreamed deaf college student. However the majority of her research has been with students who attend the National Technical Institute for the Deaf, which is housed at Rochester Institute of Technology. There are approximately 1,100 deaf students in attendance at this institution.

There is limited research regarding deaf students who attend mainstream postsecondary institutions with a significantly smaller number of deaf students. What are their experiences? And what factors relate to their persistence or withdrawal from college? Data collected in the early 1990s (Rawlings, Karchmer, DeCaro, & Allen, 1991) examined 112 programs that serve deaf students. This study found that two-year institutions with programs for supporting deaf students admitted on average 12 to 14 new students each year, and graduated, on average, only 3 students each year, a withdrawal rate of about 75%. This same pattern was repeated at four-year colleges. These institutions admitted, on average, 4 freshmen each year and graduated only 1 student.

An earlier study by Foster and Elliot (1986) found that lack of effective communication resulted in academic difficulties and consequently student withdrawal. They concluded that even when interpreters were assigned to the classroom and additional support systems were in place, deaf students complained that teachers moved through the class lecture too quickly and seemed to treat deaf students as if they could hear. Students often left class feeling confused about the lecture and unsure of assignments. A later study by Franklin (1988) suggested that four factors had a significant relationship with persistence or withdrawal of deaf students. The students who stayed in school were generally those who (a) had better oral communication skills, (b) attended high schools that provided minimum support, (c) experienced some kind of precollege preparation, and, (d) declared a major during the first year of college.

English (1993) reported similar findings when she evaluated a model of persistence using deaf students who attended mainstream postsecondary institutions.

She found that students who reported greater interaction with faculty did better academically. English also found that those students with higher grades expressed intent to remain at college until graduation.

These studies point to the importance of the immediate and intermediate environments of the deaf college student. Relationships with classmates, faculty, and other college staff have been shown to make a significant impact on students' retention in postsecondary education. Although the number of deaf students who attend postsecondary institutions across the country has increased (Lewes et al., 1994; Ries, 1994; Schrodel et al., 2003), few follow-up studies have examined the experience of mainstream college students who attend postsecondary institutions with few deaf students.

One area of concern for deaf students in mainstream colleges is accommodations. The past decade has brought about new federal laws, such as the Rehabilitation Act of 1973 (P.L. 94-142) and the Americans with Disabilities Act (ADA) in 1990, that shape the experience of deaf students and may account for the increase in college attendance. These federal laws brought postsecondary education access and accommodation rights to the forefront of the disabled community (Thomas, 2000). Although these laws do not require the admission, retention, or graduation of students because they are disabled, they do require nondiscrimination and reasonable accommodation, and the opportunity for qualified students to succeed or fail in college.

What does it take to qualify as a student with a disability? Anyone who has a physical (e.g., paraplegic or deaf) or mental (e.g., depression or anxiety disorder) impairment that substantially limits one or more major life activities (e.g., hearing,

seeing, learning) has a disability. In regard to postsecondary education, a qualified student with a disability is one who is able to meet a program's admission, academic, and technical standards either with or without accommodation (Thomas, 2000).

The Americans with Disabilities Act states that if college students are able to establish that they are disabled and qualified, colleges have a responsibility to explore alternative and reasonable accommodations that would allow the student to participate in the college's program on a nondiscriminatory basis. For college students who are deaf, the Americans with Disabilities Act helps to ensure accessibility for these students with support services such as interpreters, assistive listening devices, notetakers, and tutors.

In reality, however, the presence of support services does not necessarily equate to *equal* accommodations. Foster, Long, and Snell (1999) provided four examples of how support services may not be able to meet all the needs of college students who are deaf. They first examined deaf students who used a sign language interpreter experience, what is called *lag time*, or interpreter processing time, when receiving information. An interpreter normally finishes signing what has been said 5 to 10 seconds after the instructor has stopped speaking. This delay subtly excluded deaf students from full participation. By the time a student has received the full message and desires to participate, the instructor may have already identified and called on another student or changed the topic thereby making timely interaction difficult. In addition, deaf students who relied on speechreading also experienced challenges. Instructors often unconsciously interfered with students' line of sight to their speech when they

turned to write on the board, held papers too close to their faces, focused down on a computer, or paced while lecturing.

Another example occurred in laboratory or *high tech* courses where instructors lectured while manipulating equipment and performing tasks. Deaf students had to choose among watching the interpreter, the instructor, or the demonstration. Catching all of the presentation was impossible. Even students who depended primarily upon their residual hearing lost information in this type of setting because of interference from noisy equipment such as air conditioning. And finally, deaf students also often missed important casual information. They were rarely included in the informal exchanges that occurred between hearing peers about instructor expectations, study tips, and unspoken rules for class behavior and organization (Foster et al., 1999). These examples are important to keep in mind when considering accommodation issues for students who are deaf in mainstream colleges.

Deaf students face many challenges in mainstream postsecondary institutions. Accessibility to classroom lectures and discussions, as well as study groups and extracurricular activities, are important factors to consider regarding academic, social, and emotional integration for this group of college students. Although the passage of Individuals with Disabilities Education Act and the Americans with Disabilities Act have increased the responsibility of mainstream colleges to practice nondiscrimination and to provide reasonable accommodation to students who are deaf, there continues to be concern regarding deaf students' persistence in higher education. The retention rate of these students remains alarmingly low.

Familial Considerations

The past two decades have provided research related to the importance of using an ecological perspective to understand the development and life of a person who is deaf (Harvey, 1989; Roush & McWilliam, 1994). To appreciate the unique ecological system of college students who are deaf, it is important to provide family background information that is typical of deaf students' experiences. Approximately 1 in 1,000 people is born with, or will acquire before the age of 18 years, a hearing loss severe enough to affect educational opportunities and ability to obtain and hold a job appropriate to that person's potential (Danermark, Antoson, & Lundstrom, 2001). Of the children who are deaf, approximately 90 to 95% are born to hearing parents (Mitchell & Karchmer, 2002). Most of these parents have never thought about, nor had any exposure to, deafness. The birth of a child who is deaf is unexpected and unfamiliar for most families. The lack of experience and knowledge regarding hearing loss, as well as the often confusing and conflicting process of diagnosis, can result in feelings of inadequacy for many parents (Schlesinger, 1987).

Communication. All parents are expected to make important decisions regarding child rearing. However, parents of deaf children must also choose communication approaches as well as education programs and placements for their children. Lack of knowledge and experience can create parental dependence on medical and educational professionals, with hearing parents looking to these professionals for answers. Of course, there are conflicting beliefs and biases among professionals regarding the best route to take with children who are deaf, and these often add to the confusion parents experience.

The most dramatic concern for families and their deaf children's relationships is communication. Positive parent-child interactions and parent-adolescent relationships are contingent upon effective communication. Early studies (Evans, 1975; Rainer, Altshuler, & Kallman, 1969) found few parents knew sign language or shared a common language with their deaf children. Later studies (Meyers & Bartee, 1992; Moore, 1991) found that the sign language skills of parents, as reported by their offspring, had improved. Moore suggested this was because more children remaining in the home and attend mainstream programs rather than residential schools.

Although deaf children are visual learners and many use American Sign Language in the schools to communicate with teachers and peers, the number of hearing parents who are able to sign with their deaf children is difficult to estimate. For instance, the recent Regional and National Summary from the Gallaudet Research Institute (2003) found that 28.3% of family members signed regularly with their deaf child. However, Danermark et al. (2001) found that only 10% of hearing parents were able to use sign language with their deaf children. Regardless of sign language skills, researchers (Greenberg, Calderon, & Kusche, 1984; Luetke-Stahlman & Luckner 1991; Swisher, 1992) found that deaf children's achievement in school, sense of worth, and independence were all dependent on early communication effectiveness between deaf children and their hearing parents. Others (Jamieson, 1995; Spencer, Bodner-Johnson, & Gutfeund, 1992) studied these same variables with deaf children who had deaf parents and hearing parents who had hearing children, and found that common or shared language beginning at an early age positively affected the children's social and emotional development.

Education. Another level of the ecological system of an individual who is deaf is the educational system. Today there are two main types of education placement for a child who is deaf. The state residential school, or separate school, for the deaf is an educational setting specifically set up for students who are deaf. The students and staff typically use American Sign Language and many teachers, administrators, and school personnel are deaf themselves. There is usually one residential school per state in the United States and many children live at the school during the week and go home on the weekends or holidays. Historically, most deaf children were sent to state residential schools for their education. However, the passage of the Education of All Handicapped Children's Act of 1975 (P.L. 94-142), reauthorized as Individuals with Disabilities Education Act in 1990, shifted elementary and secondary education for deaf students away from residential programs and into mainstream settings. Children with hearing loss receive services in an array of education settings that range from self-contained residential schools to day schools, segregated classes in general education buildings, resource rooms, and full-time general education classes.

Today, approximately 20% of deaf students attend residential schools (Schildroth & Hotto, 1996). The majority of the students attend general education classes for at least part of the day with special services such as sign language or oral interpreters, speech and language therapy, tutorial services, and consultation services provided by a teacher licensed in the area of deaf education (Moores, 2001). Whereas research has shown that deaf students often received a more rigorous academic education in mainstream settings (Spencer, Erting, & Marschark, 2000), studies have

also found that the social, emotional, and cultural needs of young people who are deaf often suffered in these settings (Davis, Elfenbein, Schum, & Bundler, 1986).

Deaf Identity

Social Identity Theory (Tajfel, 1982) has been used to examine how members of minority groups achieve social identity. Tajfel posited that members of minority groups achieved positive social identity by (a) attempting to gain access to the mainstream through individual mobility, or (b) working with other group members to bring about social change. Studies (Bat-Chava, 2000; Glickman, 1996; Melick, 1998; Overstreet, 1999) have discerned three identities associated with deaf individuals. These include culturally hearing identity, culturally deaf identity, and bicultural identity. Bat-Chava hypothesized that deaf people with different identities have different family and school histories. The degree to which deaf children are exposed to other deaf children and adults in family and school settings is likely to have an effect on the identity they will develop as an adult.

Bat-Chava (2000) found that people with culturally deaf identities believed signing was very important and clear speech was not. These people also considered themselves a part of the Deaf community. Those with culturally hearing identities believed that proficiency in sign language was not important whereas articulate speech was very important. They often felt negative toward Deaf people and did not feel a part of the Deaf community. People with bicultural identities believed that both sign language and speech were important. This group identified with, and had positive attitudes toward a variety of deaf and hearing people.

Although people's identity may remain static throughout their lives, most often it changes as the person develops. Emerton (1996) suggested most young deaf people today are bicultural as a consequence of exposure to both the Deaf and hearing communities. This cultural identity may have an important effect on students' integration and adjustment to predominately hearing colleges.

Summary

Numerous variables influence students' retention in higher education. As Tinto's (1987, 1988) theory of student and institutional interaction suggested, students bring their family background, skills and attributes, and prior schooling into the postsecondary environment. Once in college, multiple environments affect students' sense of belonging and success. Bronfenbrenner's (1979, 1986) ecological perspective provided a template to examine the layers of environment that shape the academic, social, and emotional adjustment experiences of students. Although there is substantial literature that examined majority students' experiences in college, little is known about minority groups, such as those from diverse ethnic or cultural backgrounds or those who are disabled. These students experience challenges in integration at mainstream colleges. The attrition rate of students from diverse groups is higher than that of the majority.

Students who are deaf are a diverse group that faces unique challenges in mainstream colleges. Few studies examine the experience of these students. Although we have statistics on the number of deaf students who complete their postsecondary goals and graduate from college, there is little research regarding what factors affect the persistence or attrition of these students. Lack of research on what makes deaf college

students successful points to the need for in-depth interviews to aid in understanding the students' perspective of the mainstream college environment and its influence on their lives. Clearly, understanding the experiences of mainstream college students who are deaf can make a useful contribution to the literature.

CHAPTER 3: METHODOLOGY

The intent of my study was to gain more understanding of how college students who are deaf explain their perceptions of academic and social success and satisfaction in a mainstream postsecondary setting. Because of the dearth of literature in this field, a qualitative design was appropriate for this exploratory study. Qualitative methods have been used as a viable approach to research with college students who are deaf (Foster, 1996; Mertens, 1998; Sheridan, 1996). This methodology allows researchers to fully examine questions about the development and adjustment of nontraditional groups (Manning, 1992). Utilizing this approach allowed the uniqueness of each deaf participant to emerge while identifying themes common to groups of college students who are deaf in the contexts of their mainstream college environments. One of the benefits found in using this approach with a diverse group such as college students who are deaf, was that it required ongoing self-examination and reflection on the realities, values, and worldviews of the researcher as well as the participants (Mertens).

Researcher Disclosure

It is important when using qualitative research methods to acknowledge personal biases that might exist and that could affect the trustworthiness of the research findings (Berg, 2001). Although I am hearing, I have had an intimate relationship with the Deaf culture for 30 years. Not only have I worked in the field of deafness throughout my adult life, but I have also been married 25 years to a man who is Deaf.

Professionally, I have worked with deaf and hard of hearing individuals and families in a variety of educational and counseling settings. I was a mental health

counselor in the Deaf community for 23 years. In addition, I have worked directly with postsecondary undergraduate students who are deaf or who have a disability as director of the Office of Services for Students with Disabilities and as a counselor in the college counseling center. I am currently working as a professor in the graduate Rehabilitation Counseling: Deafness program at Western Oregon College.

My husband and I raised two hearing children in a bicultural and bilingual home environment. We participated in both hearing and Deaf culture activities and events, and both children were able to communicate in sign language before they could speak. This experience was unique in the community where we lived. It provided a multitude of opportunities to educate the schools and community businesses about deafness and disability rights, as well as to discuss diversity and oppression with our children and their friends and their friends' families.

My personal and professional life experiences have taught me to value diversity and participatory relationships. I deeply respect the diversity within the deaf population. My personal and professional background has provided me with the ability to listen deeply and carefully to the stories of college students who are deaf. In addition, I used reflexive journaling and debriefing with peers who are deaf and hearing to help me cautiously monitor any biases and overidentification that arose as I interpreted the narrative stories of the students.

Sample Selection Criteria

Individual deaf students enrolled in a mainstream college were the subjects for my study. Students were selected to be similar in a number of areas. They were (a) between the ages of 18 to 23, (b) single and not living with their family of origin, (c)

self-identified as deaf, (d) receiving services through their colleges' Disability Student Services offices, and (e) full-time students.

Past studies support the criteria selected for my study. Traditional-age college students were chosen for my study because nontraditional students have been shown to experience less stress and more satisfaction regarding their academic experiences in college (Myers & Mobley, 2004). In addition, social networking and academic integration is different for college students who are married versus those who are single (Van Meter & Agronow, 1992). It has also been found that both social and academic experiences are reported to be different for students who live on campus or in a house or apartment versus those who live at home with their family of origin (Lundgren & Schwab, 1999).

Because my study focused on deaf college students, the students had to identify themselves as deaf versus hard of hearing or hearing impaired. Individuals who identify as hard of hearing or hearing impaired often identify first as being hearing and second as having a hearing loss (Bat-Chava, 2000). Although deaf and hard of hearing students are often considered together for studies, hard of hearing college students face challenges that are quite different than those of students who are deaf. In addition, the students selected for my study received support services from their colleges' Office of Services for Students with Disabilities. Those services included interpreters, notetakers, assistive listening devices, and speech to text services.

Recruitment

Deafness is considered a low incidence disability (Allen, 1994). Therefore I was aware that finding participants who met the selection criteria would be challenging.

Because of the cohesiveness and size of the deaf college student population, I implemented purposive sampling methods. Recruitment effort was limited to the Pacific Northwest. Four institutions of higher education, both public and private, were identified. Two institutions were considered large (with an enrollment between 18,000 to 23,000) and two were considered small (with an enrollment between 1,000 to 6,000). The large colleges had a total of 5 students who met the selection criteria and the small colleges had a total of 13. Nine students were enrolled in one small institution. This college is unique because it offers both graduate and undergraduate programs that focus on careers in working with the deaf population. A number of hearing students at this college have either taken American Sign Language classes or are enrolled in one of the degree programs that require sign language skills. There are approximately 30 undergraduate and graduate deaf students attend this college. In total, 18 students enrolled in the four colleges met my recruitment criteria; 14 participated in my study.

The recruitment of students occurred in two ways. First, I made direct phone contact with the coordinator of each college's Office of Services for Students with Disabilities. I explained the study and asked if these key informants knew of appropriate students. A letter of introduction, included in Appendix A, and a flyer, found in Appendix B, was sent to the contact person at the Office of Services for Students with Disabilities and placed in the identified students' boxes. At my encouragement, coordinators followed up with phone calls or e-mails to talk directly with the students and invite them to participate in the study. Five students from the two larger colleges contacted me via e-mail to set up interview times. After meeting with these students, it was found that 1 student did not meet the selection criteria.

I also attended a Deaf Club event at one college and gave a short presentation explaining the study I was conducting. Introductory letters and flyers were handed out and club members were invited to ask questions. Several students commented that seeing me communicate in American Sign Language was a factor in their desire to participate. Eleven students from this group asked to be considered for the study. However, it was found that 2 students did not meet the inclusion criteria.

A hearing student who had heard that I was recruiting subjects for my study referred a deaf college student who was a friend. This participant attended a small private college and was the only deaf student enrolled in his institution.

Reciprocity is an important consideration in qualitative research. I was awarded funding by the Faculty Development Committee from my place of employment, Western Oregon College, and was able to provide all participants with a \$25.00 gift certificate to their college bookstore for taking part in my study.

The Sample

Coordinators of each college's Office of Services for Students with Disabilities identified a total of 18 students as meeting the criteria outlined by the study. Seventeen students (94%) indicated their interest in participating, and after discussing the necessary criteria, 14 students joined this study. The 3 students not included did not meet the outlined criteria in three different ways: (a) one was older than age 23, (b) one identified herself as hard of hearing rather than deaf, and (c) one had a long term, live-in partner and two small children. Although their data were not included in this current study, these three students each completed a two hour, videotaped interview with the researcher.

The participants' ages ranged from 18 to 23 with an average of 21 years and 64% of the participants were women ($n = 9$). Thirty percent ($n = 4$) of the students were from diverse ethnic and cultural backgrounds, including African-American, Asian-American, East Indian-American, and Hispanic. Two students came from families where English was not spoken in the home.

Thirteen students (93%) indicated that they preferred to communicate in sign language. However, 9 of the participants (64%) had parents who currently only communicated in spoken language. Almost 60% ($n = 8$) had parents who began communicating in sign language with participants at the time they were diagnosed as deaf, but only about 36% ($n = 5$) had family members who currently used sign language to communicate. Whereas the percent of parents who signed at the time their child was diagnosed as deaf far exceeded the 10% to 28% reported in previous research (Danermark et al., 2001; Gallaudet Research Institute, 2003), the percentage of parents who currently sign is closer to those statistics. Of the 93% who preferred to communicate in sign language, 8 of the students (57%) noted that they preferred to communicate in American Sign Language or Pidgin Signed English with those who could sign and use speech and speechreading skills with those who could not. Five participants (36%) preferred to communicate in American Sign Language or Pidgin Signed English only, and 1 student in the study only communicated with spoken English and speechreading.

All of the students attended mainstream high schools. One student graduated from a residential school for the deaf, but had transferred from a mainstream school during her junior year of high school. Participants' high school GPAs were quite high

with a range from 2.6 to 3.93, and an average of 3.58. These students continued to maintain overall strong GPAs in college with a range from 2.32 to 3.69. The average college GPA for the participants was 2.90, which is just slightly lower than the 2.95 GPA average for all undergraduate students at the four colleges. The interviews were conducted early in the winter term. Four (29%) of the 14 participants were freshmen and had only completed one term of college. One (9%) student was a sophomore, 6 (43%) were juniors, and 3 (21%) were seniors. Five (36%) students had transferred from other institutions of higher education and 3 (21%) of these had been to more than two colleges prior to being interviewed.

All of the students had clearly defined career goals and most had declared academic majors. When asked about their college majors and career goals, the 4 freshmen were quick to respond with their plans. However, with further probing, they all stated that their aspirations could change as they receive more exposure to options in college. Career goals included such professions as teacher, counselor, athletic recruiter, museum curator, video game designer, physician, and city planner. Table 1 summarizes the important characteristics of the participants in my study.

Procedures

Three types of data were collected for this qualitative study. First, a semistructured interview protocol, attached in Appendix C, developed from the research questions framed the conversations of the students. Additional probes, which were unique to each student's story, were used when appropriate. Second, field notes were taken immediately after each interview. Interviews were transcribed verbatim. Third,

Table 1

Description of Participants

Name (pseudonym)	Parents		Age	Preferred	HS	College	Transfer
	Sign Post	Diagnosis		Gender	Comm.	GPA	
Becca	Yes ^a	Female	18	PSE ^b /S ^c	3.90	3.00	No
Clara	Yes ^a	Female	18	ASL ^d /S	3.20	2.70	No
Daphne	Yes ^a	Female	20	ASL	2.60	3.00	Yes
Haley	Yes ^a	Female	21	ASL	3.75	3.00	Yes
Jorge	Yes ^a	Male	18	ASL	3.70	2.74	No
Denise	Yes	Female	21	ASL/S	3.75	3.20	No
Geoff	Yes	Male	21	PSE/S	3.78	3.05	No
Lakisha	Yes	Female	22	ASL/S	3.60	2.32	No
Brad	No	Male	23	PSE/S	3.20	3.00	Yes
Fran	No	Female	19	ASL/PSE	3.93	3.69	No
Gary	No	Male	20	ASL/S	3.50	2.54	Yes
Kevin	No	Male	21	ASL/S	3.70	3.00	Yes
Rene	No	Female	22	ASL/S	3.86	3.00	No
Hillary	No	Female	18	S/SR ^e	3.33	2.53	No

Note. ^aParents continue to sign with their deaf child. ^bPSE = Pidgin Signed English. ^cS = Speech. ^dASL = American Sign Language. ^eSR = Speechreading.

the students were asked to complete a participant profile in order to gain participant characteristics, such as name, age, gender, communication preference, and education background. This form can be found in Appendix D. All information gathered comprised the data used in this qualitative study.

Interview Procedures

Interviews took place in a private room or office at each participant's respective college. The coordinators of the Office of Services for Students with Disabilities arranged the locations. Interviews lasted approximately two hours. As stated above, a semistructured, open-ended interview protocol was used. Before the interviews began, each participant was asked to read and sign the required IRB form, as found in Appendix E, and complete a short participant profile questionnaire. The language used for the interviews depended on the interviewee's communication preference. The majority of interviews were conducted in American Sign Language, however 1 participant requested oral communication, and used speech and speechreading skills.

All interviews were videotaped. As suggested by Lofland and Lofland (1995), immediately after each interview, field notes were recorded, which included pertinent observations and information regarding the tone and comfort level of the interview as well as other insights I had. A verbatim transcription of each tape was made soon after the interview. I translated the interviews conducted in American Sign Language into spoken English on an audiotape to help with the ease of the verbatim transcription. Because American Sign Language is not my native language, a qualified Deaf language consultant who is Deaf and an ASL native, reviewed 20% of randomly presented passages on each transcription to ensure my interpretation was accurate. He could find

no instances of inaccurate translation. Also, a faculty member, who is hearing, works extensively in deaf studies, and is familiar with the voiced inflections of people who are deaf, reviewed the transcriptions of the one participant who used speech and speechreading during the interview process. That transcription was also found to be accurate.

Interview Content

Participants were asked a number of questions that focused on their academic, social, and emotional adjustment and integration into mainstream colleges. Other categories covered during the interview included family of origin relationships and how participants identify themselves in regard to their hearing loss. Participants reflected on their perceptions of academic, social, and emotional readiness for college and how they defined their success and satisfaction at their current college. The intent of the interview questions was to gather data that considered how students who are deaf describe their experience in a mainstream college and what factors in the environment were linked to their perceptions of academic and social success and satisfaction with life in a mainstream college.

Confidentiality

It was important for me to ensure confidentiality to the participants in my study. Informed consent forms, which can be reviewed in Appendix E, were approved by the IRB and the forms were clearly explained at the beginning of each interview with the college students who are deaf. These forms made clear the rights of the participants and the responsibilities of the researcher, as well as the risks and benefits of participating in the study.

It was explained that records of participation in my study are kept confidential to the extent permitted by law. However, federal government regulatory agencies and the IRB may inspect and copy records pertaining to this research. Participants were informed that the results of the study are reported in such a way that informants will not be identified. All audio and videotapes are stored in a locked file in the student researcher's office at Western Oregon College. A codebook, listing names and contact information for participants, is kept locked in a separate location. The participants were also informed that all tapes would be destroyed after 5 years from the completion of the study.

Data Analysis

Data analysis began immediately after the completion of the interviews. Data included the participant profile form, interview transcripts, and field notes taken after the interviews. Once the interviews and field notes were transcribed, they were reviewed repeatedly to thoroughly familiarize myself with the content of the data. The basic method I used for the analysis was analytic induction, using a grounded theory approach (Strauss & Corbin, 1990). This involved several steps as suggested by Berg (2001). First, codes were inductively identified in the data and attached to the transcribed documents. These codes can be found in Appendix F. As is usual in qualitative study, I did not use all the coded segments for analysis. Rather I focused on those most relevant to the research questions. After rigorous review, these codes were transformed into categorical themes or labels. It was important to keep in mind the original intent of my study, which was to describe deaf, mainstream college students' perceptions of their academic and social success and satisfaction. Berg reminded the

researcher to “ask the data a specific and consistent set of questions” (p. 251). My questions included the following: What are the social and academic experiences of deaf students in mainstream colleges? What factors in the social and academic environment affect the adjustment process for students who are deaf?

The next step included reviewing these codes to identify “similar phrases, patterns, relationships, and commonalities or disparities” (Berg, 2001, p. 240). The purpose was to identify meaningful patterns and processes within the data. I continued to review and code the data until the document was saturated with repetitive codes. This indicated to me that adequate coding had occurred.

I then incorporated the theoretical lens of an ecological perspective, keeping in mind previous research literature, to consider the patterns identified. I followed Berg’s (2001) suggestion to interrupt the coding to jot down ideas that are related to the theoretical frame of the study as well as the reviewed literature. From this, I was able to begin to make some basic generalizations regarding the experiences shared by the participants.

A substantial amount of transcribed data was collected. To help manage the large volume of data generated by the interviews and field notes, I used the winMAX (1998) program. This computerized software program was developed specifically for qualitative analysis and allowed me to code and retrieve more easily large amounts of data produced by the interviews.

Participants’ statements were used throughout the results sections to substantiate my findings. Participants’ quotes were picked on the basis of clarity from amongst

similar quotes. Although clarity was important, I also made sure that each student's voice was represented at least once in the dissertation.

CHAPTER 4:
“THERE ARE A WHOLE NEW SET OF RULES TO LEARN”:
STUDENTS’ PERCEPTIONS OF ACADEMIC SUCCESS AND SATISFACTION

Researchers have contributed to our understanding of student’s perceptions of academic success and satisfaction (Astin, 1993; Braxton et al., 1995; Pantages & Creedon, 1978; Pascarella & Terenzini, 1991; Tinto, 1987, 1993). For example, Tinto’s research pointed to the importance of *pre-entry* attributes such as students’ skills and abilities, as well as prior schooling to understand students’ academic success. Once at college, interaction with faculty and classmates also had a significant effect on students’ experiences of academic success and satisfaction (Astin, 1993; English, 1993). These person-environment interactions led to varying levels of academic integration and belonging, and contributed to decisions to persist in or depart from college (Renn & Arnold, 2003; Tinto).

The human development ecology of Urie Bronfenbrenner (1977, 1979, 1989, 1993, 1995) offered a framework for understanding the interaction between deaf college students and their academic environment in mainstream colleges. According to his ecology paradigm, Bronfenbrenner (1989) believed “there is always an interplay between the psychological characteristics of the person and of a specific environment; the one cannot be defined without reference to the other” (p. 225). Understanding what students who are deaf bring with them as they enter a mainstream college environment is one of the goals of this chapter. Microsystems that allowed the interplay of the deaf student and the academic environment were found in the participants’ classrooms, via interactions with faculty and classmates. Mesosystems are made up of linkages that take

place between two or more settings in which deaf students interact. The academic settings described in this chapter included students' high schools, Offices of Services for Students with Disabilities, and classrooms.

Using this theoretical lens, the following broad themes organize this chapter: (a) academic abilities, (b) education and career goals, and (c) interaction with faculty and classmates.

Academic Abilities

It is well known that previous academic performance is a predictor of later academic success (Pascarella & Terenzini, 1991; Tinto, 1993, 1997; Tracy & Sedlacek, 1988). Most colleges rely on high school grade point averages and standardized test scores when considering admission to college. The majority of the participants in my study reported easily getting into the colleges of their choice because of high GPAs. Students self-reported their high school grade point averages on a participant profile form at the beginning of the interviews. This form can be found in Appendix D. Participant scores ranged from 2.6 to 3.93 with the average being 3.58. Although GPA can be one indicator of success in college, it is necessary to consider more than just quantitative measures to predict a student's academic success in college. This section reviews participants' reflections on their high school academic preparation for college, their process for choosing a college, and their experience of transitioning into college.

High School Preparation

Academic and social adjustment to college is related to students' readiness (Astin, 1993; Braxton et al., 1995; Pascarella & Terenzini, 1991; Tinto, 1993; Tracy & Sedlacek; 1988). High schools are now mandated by law to plan for the transition of

students who are deaf (Thomas, 2000). Participants in my study were asked how well they thought their high school prepared them academically for college. All the students attended mainstream elementary and high schools, although one participant transferred from a mainstream high school to attend a residential school for the deaf during her junior and senior years in high school. Twelve of the 14 participants (86%) felt their mainstream high school had academically prepared them for college and most enrolled in high school advanced college preparation classes. Students talked about being *hard workers* in high school and learning important study skills to prepare for the transition to college.

Rene, a senior at a large college, was satisfied with the preparation for college she received from her high school. “During my [mainstream] high school experience it felt like they really encouraged me with my English, science and math skills, all of those [classes] that were going to help me get into college.” Other students felt that both their English and math skills were not quite up to par. One freshman felt his high school had not prepared him well enough in regard to writing and math. “I wish my English was better. My grammar isn’t that good and I am really inept in math. Really no good! And here in college they expect me to take math. I don’t feel ready for that!”

Relationships with significant others in high school influenced the participants’ feelings of readiness for college. Students talked about important resources such as teachers, counselors, and interpreters who were instrumental in helping them prepare for college. Hillary, a freshman at a large college, was especially grateful for a teacher who went out of her way to help her.

I had a very good teacher in middle school. She said she saw potential in me to do better and to be smarter. She helped me with my math in my home. She helped me understand much better before class and after class so I could be at the same level as the hearing students. And it helped. My grades got better.

Another freshman, Clara, said that both her interpreters and teachers helped prepare her for college.

[My interpreters] taught me how to be responsible and how to use interpreters...And my teachers really encouraged me to be ready for college. They gave me a lot of responsibility and freedom, too. They said, go figure it out! Okay! But they were there for me if I had questions. Wonderful people!

Research shows that better academic preparation at the secondary school level resulted in a stronger likelihood of academic success (Tracy & Sedlacek, 1988). The majority of students in my study felt that their high school programs adequately prepared them for the transition to college. Participants also pointed out that support from teachers, counselors, and interpreters helped to prepare them to attend mainstream colleges.

Choosing a College

There is very little research related to the process of how and why deaf students choose a particular college environment. The majority of the research about deaf students in postsecondary education comes from the two national programs for deaf students, Gallaudet University and the National Technical Institute for the Deaf, which is housed on the campus of the Rochester Institute of Technology. Because these campuses are primarily segregated programs, research originated there does not necessarily reflect the experience of the thousands of students who choose to attend mainstream colleges. A 1991 report of an analysis of data collected by the Center on

Assessment and Demographic Studies at Gallaudet University examined the reasons that deaf students selected their particular institutions (Rawlings, 1994). The most frequent reason given for selecting a particular postsecondary program in the 1991 report was that the school had a specific major (57%), followed by the provision of support services (50%), the school's reputation (38%), and enrollment of other deaf students (31%). The findings of my study were consistent with the 1991 study and added another dimension. Many participants in my study also related having the college close to their home as an important factor when deciding where to attend college.

All the students in my study stated that they knew they would attend college upon graduation from high school. Choosing the right college was the challenge. Students in the current study talked about the pull during high school to attend well known deaf colleges such as Gallaudet University, the National Technical Institute for the Deaf, and California State University, Northridge. They wanted the experience of being a member of a larger deaf population than they had experienced in their mainstream high schools. Although several of the participants applied to these institutions with larger deaf populations, as the date neared to make a final decision, all but two students opted to choose a mainstream college that was closer to home. Of the two who did not attend mainstream colleges out of high school, one student began her college experience at Gallaudet University and the other at California State University, Northridge. Both of these students transferred to smaller mainstream institutions within two years.

Although the decision to attend college had already been decided, students in my study relied on a variety of factors to decide which institution to enroll in. Seven

participants (50%) selected their college based on a specific major. Fran said she went to a preview day at her high school that introduced all the colleges in her home state. “I always knew that I would go to college. I just didn’t know which one. I had heard of [my large college] because of their good science program. I applied, and not only did they accept me, but they offered me a scholarship, a lot of money! Whew! So I decided to go there.” Denise also said even though her small college had good support services and other deaf students, she would have chosen this college because “it has a great education program and my goal is to become a teacher, no matter what!”

Half of the participants mentioned the importance of good support services as a reason for selecting their college. They talked about meeting with support personnel at the Office of Services for Students with Disabilities and finding the people were very helpful and knowledgeable about their needs. Denise stated, “I came to [my small college] and I checked out the campus and I went to the ODS office and met the director. She was very helpful and made me feel comfortable.” Clara also said, “I had heard that [my small college] had good interpreters because they had an undergraduate interpreter training program, so I knew that would be a good place for me.”

The college’s reputation was an important factor for 5 of the participants (36%). Jorge, a freshman, stated there were a variety of reasons why he chose his small college, but its reputation was the deciding factor. “I had heard a lot of positive things about [my small college]. I didn’t hear one negative thing, only positive.” And Gary said he chose his college because he had heard that the college had a strong academic program and he wanted to be challenged academically.

The location and physical environment of the college were also important factors for some of the participants. All the students in my study who had chosen a small college commented on how the size was just right for them. As Kevin pointed out about the small college that he attended, “I wanted something small and more laid back. I like that.” The students who chose a large college spoke about the diversity and options available to them. Hillary said, “I wanted to go someplace where I would be introduced to lots of different ideas and options. I wanted to be academically stimulated and learn things I had never learned before. I think a small college would feel too much like high school to me.”

Attending a college where there were other deaf students was a critical factor for 4 of the students (29%) in the study. After graduating from high school programs where there were very few deaf students, these participants said they wanted to become more involved with the Deaf community. Lakisha stated that she specifically chose her small college because she had heard that this college had a deaf program and that many of the hearing students knew how to sign. “I wanted to be able to socialize easily with other students who could sign.”

However, some students did not want to be in a college with a large deaf population. At first Geoff considered going to one college because he heard it had a large deaf population and a strong support system. However, over time Geoff said he began to hear negative reports from other deaf students who had attended this institution. He chose to attend another college. Here he reflected on that decision:

I am glad that I didn't go to [large *deaf-friendly* college]. Number one it is a commuter school. There isn't a feeling of connection to the college community. And the Deaf community there is not that healthy. There is

a lot of backstabbing. It is more about who is better than who. It is more competitive. The focus is on that, and not on school...I don't think the deaf students are really academically oriented... So for me, choosing to be more involved with the hearing world made me more focused, balanced, and intellectual. There is more emphasis here on real life values and goal setting.

Being academically stimulated and challenged was an important consideration for other students, too. Becca stated that she originally considered attending Gallaudet University:

I thought I could go there and learn more ASL and be involved in the Deaf culture. But one friend...told me that I wouldn't be happy there because I was academically way beyond most of the students at Gallaudet. So I could see the pros and cons of Gallaudet. The more I thought about it, I decided not to go to Gallaudet because I really like to be challenged and try to go to a higher level. That is what makes me the best person I can be now.

It is important to point out that whereas Geoff and Becca had negative reactions to two different institutions of higher education, they had never actually attended either one. They based their decisions on information shared by others.

Choosing the right college was an important factor to how mainstream deaf students perceived their academic success and satisfaction. Five of the 14 participants (36%) transferred to their current institution of higher education. All students stated that they were now satisfied with their college choice and ready to complete their academic goal and obtain their degree.

Transition to College

The transition from high school to college is not inherently different for deaf and hearing students. Most students report that it is quite challenging. As Gerdes and Mallinckrodt (2001) found, students overestimated their ability to adjust academically

and were often surprised by how much they struggled in the first year. Students in my study were asked if their new college experience matched their high school prediction of what college would be like and the majority of students said it was much different. The participants reported that they had typically felt very competent academically in their high schools. They knew what was expected of them and how to be academically successful with a minimum of effort. Rene, a college senior, recalled her transition to college. “It was so easy in high school. Every class I took was an easy ‘A.’ But college is much different. Much tougher.” What felt *tougher* included concerns about study skills, time management, test-taking, and getting a decent GPA. Like many new college students, some of the students in my study said that the study skills they learned in high school were not adequate for college. Gary, a transfer student from a large college to a small college said,

I wasn't prepared for how much harder the classes were. The tests were harder. You had to prepare more than in high school. There is a huge difference between high school and college. You know, I was warned in elementary school that middle school was hard, but it wasn't so bad. And in middle school I was warned about high school, and I got really paranoid about moving up, but it was no big deal. So I thought when people warned me about college that it would be the same thing. I was really wrong!

Students shared that high school did not prepare them for how they would have to study in college. One student, Jorge, a freshman, realized that he was going to have to learn to study in a different way if he was going to be successful in college. Another student shared her memories of being a new freshman. High school had a more structured schedule. Lakisha recalled that all of her courses were scheduled for three days a week with no classes two days a week. It was challenging to figure out how to

balance her free time and study time. It was obvious that high school demands for studying were much different from college demands for these students.

The physical size of the college, as well as the number of students, was also a surprise to many of the students in my study. Students who attended large colleges often found themselves in classes with 300 or more students, especially their freshman year. Students shared that although their high school, family, and friends had tried to prepare them for the sheer magnitude of these larger colleges, they still were shocked to make their way around campuses with so many buildings and to sit in huge lecture halls.

Adjusting to the physical environment was a challenge for some students. Another transition was negotiating the student-teacher microsystem. Like hearing students, many deaf students in my study found that their relationship with instructors was different in college than in high school. Students found that what was effective in high school was not necessarily effective in college. Participants in my study said that high school instructors were available before, during, and after class. One student remembered high school teachers attending to her whether she requested it or not. But in college, she found she had to assert herself to if she wanted help. Negotiating faculty office hours was also new to the students in my study. As Clara, a freshman, declared, "I didn't know I had to visit professors during their office hours. There are a whole new set of rules to learn."

Navigating large campuses and interacting with college professors is often a revelation to most students. And there were other transition experiences the deaf students in my study had that were similar to those of hearing students.

As stated earlier, the average high school GPA for the participants in this study was 3.58. These students were used to working hard and doing well academically. But for most, college was more of a challenge than expected. Like hearing students, many students in my study bemoaned the changes from their high school GPA to their college GPA and vowed to improve. Brad, junior in college, felt that perhaps his high GPA in high school was a result of his high school teachers feeling sorry for him and making everything really easy. He felt shocked and ill prepared when he arrived in college. Another participant, Lakisha, explained the change by stating, “Oh, my high school GPA was much better. I was more focused and more structured. The classes were the same day after day. In college there is so much daily change. There is not as much stability.”

Clara, a freshman, said that she did not feel satisfied with the grades she had received the previous quarter. For both hearing and deaf students, the first term at college can be a very humbling experience.

I was surprised because the classes themselves were good, everything was good. But different than what I expected. I was taken by surprise! Oh boy! You know you hear about the first semester of college being really tough and the GPA goes really low. Well, mine went low too. But I learned a lot! I need to study more and read more and work on projects more. I learned a lot!

While most students struggle with academic demands when they first transitioned to college, some students in my study faced obstacles specific to deaf students. Six participants (43%) stated that the reason their GPA dropped was because of the greater demand for English writing skill. One of the major roadblocks to success in college is the difficulty some deaf individuals face with English syntax. English is a

second language for many deaf people (Schildroth, 1994), whose first language is American Sign Language. These participants stated that their writing skills were under par in comparison to those of their hearing classmates, and they all commented on experiencing surprise and embarrassment when their college professors critiqued their writing skills. One example of this is from Jorge, a freshman at a small college. This was his response when asked how he felt his English writing skills compared with his classmates:

Well, my first term here last fall I took a Business class and we had to keep a journal. I read it through and I thought it sounded pretty good. I handed it in, but the teacher really tore it apart. He said, your grammar is awful, I can't read this! You have to work on your English! I felt so insulted. I felt really heartbroken. I tried to explain that English is my second language, but the instructor yelled back, "That is no excuse! Too bad!" And walked away. I was so insulted by him! I felt lousy inside. I talked to my [deaf] friend about it and he is really skilled in English. He offered to help me with my writing. I didn't really feel comfortable going to the writing center. I didn't want people to look at me funny because my English isn't very good. That felt too awkward. So my friend helped me. I wrote down what I was supposed to and then my friend went through and corrected it plus explained to me the grammar mistakes I was making. I handed in the paper and my teacher was like, "Wow! Your English has really improved!" I said I had help and I left. So now when I need to turn in something in writing I always convince my friend to help me.

What stands out about the deaf students in my study is that the majority of them reported feeling comfortable in college with their English writing skill. Eight students (57%) talked with obvious pride about their writing skills. Some of these students compared themselves favorably with deaf peers and felt they were only slightly below their hearing peers. Denise, age 21, believed she was a capable college student even if her writing skills were slightly below those of her hearing classmates.

My English writing, I do fine. In high school I took a test that compared me to hearing students, to deaf students, and to hard of hearing students. I came up well above the deaf students, higher than most of the hard of hearing students, and just a little below average to the hearing students. But my intelligence is not affected. It is just interesting to see that.

Some students seemed almost bewildered as to why their English skills were good. One student said “I don’t know why, it is just that I happen to have a skill in English. I don’t know how that happened.” Two deaf students explained it by emphasizing that American Sign Language was not their first language and they had learned English by using an English-based signing system, SEE. Geoff, a junior at a large college, put it this way:

In writing I have always gotten A’s. I write pretty well. People often come to me for help writing papers. I am comfortable with writing so I would say I am a little above average in my classes. I think that comes from my past when I read a lot. I really learned English by reading. I would go to the library and take out huge stacks of books. I learned so much by reading. And also from my family. Like I said before my parents used SEE, which followed the structure of English. Later in life, I converted more to PSE. I think that has helped me with my English. I know people who criticize SEE and say that it is the hearing man’s invasion of the deaf language. But . . . I think SEE is good to teach a young child to help with the English structure to help with communication through their life.

The transition to college is a challenge for the majority of students, and most are surprised by the academic rigor required of them (Gerdes & Mallinckrodt, 2001). This was true also of the deaf students in mainstream colleges in my study. Another important factor to academic success and satisfaction, in addition to adequate academic abilities, is clear and purposeful aspirations. All students in my study entered college with clear and focused goals. Those goals are discussed in the following section.

Academic and Career Goals

Abilities are only one piece of the academic puzzle for students who are deaf. Scherer and Walter (1988) interviewed 320 deaf students at the National Technical Institute for the Deaf who withdrew or transferred to another postsecondary institution and reported that inability to decide on a major area of study was an important factor related to persistence. More recently, Jagielski (1997) found that career information was not a typical part of developmental experiences at home or in schools for deaf students. The students in my study were unique in that they all had strong and diverse career aspirations.

All but two of participants (86%) in my study had declared a major at the time they were interviewed. Typical of most college students (Orndorff & Herr, 1996), even those who announced their major were not yet definite if they would actually graduate with that particular major. For instance, Clara, a freshman, stated that she had very strong goals for herself, but admitted that she often changed her mind. She had heard that college students changed their mind an average of seven times in college before finally deciding on a major. But she said with a laugh, “But today, I am an education major!”

All of the students were very clear about their professional goals. The diversity of career goals was surprising. Since the passage of the Americans with Disabilities Act of 1990, support services have been made available to students who are deaf making more options for academic majors and for more diverse professional careers. This is a dramatic shift from the days when deaf people were offered a limited number of vocational possibilities. Only 4 out of the 14 participants (29%) chose traditional career

goals that were specific to being deaf. Those careers were teaching and counseling with people who are deaf. It is clear that deaf students in my study are being educated according to their potential, interests, and above all else, choice. The other 10 students (71%) envisioned themselves in careers that were more mainstream and in the hearing world.

Some students did not talk about how being deaf would affect their career choice. For instance, Geoff, had dreams of starting his own business one day. He felt his major in college was preparing him with endless choices as a horticulturist. And, Jorge, a freshman, believed his vision of becoming a city planner or developer could improve the living environments for residents in his community. Hillary, also a freshman, wanted to pursue her passion for history by becoming a museum curator. “I really like museums. I always get so excited about history and all. Especially Egyptians and tombs and mummies and stuff like that. I can see myself as a curator of a museum.”

Other students brought up being deaf and how that might affect their career choice. Haley, a senior, shared her goals of being an athletic recruiter. She stated that there were two strong pulls to this career. “First of all, you get to travel. And second, you don’t have to worry about communication.” Haley went on to explain that recruiters only have to observe the playing ability of the athlete and then use e-mail or use other communication technology to share their findings. Fran, a premed student, was concerned how being deaf might affect her ability as a physician.

I always wanted to be a doctor. But I had to figure out which kind. I was always interested in being an ER doctor, but people come there with serious emergencies and I decided that I couldn’t have an interpreter come with me into the emergency room all the time. And then I thought about being a family doctor, but I really don’t like children all that

much. (laughing). So I thought an Ob-Gyn would fit me. I have never seen an Ob-Gyn who is deaf. And I know a lot of deaf people would feel more comfortable talking with a deaf doctor about those issues. So I thought, why not? I can do that.

Four of the participants (29%) wanted to work in careers that directly included deaf people. Two students wanted to teach and mentor deaf children, and two other students saw counseling with deaf clients as an appropriate career. Kevin, a junior who is majoring in social work, wanted to work with families that have a deaf member. Lakisha, a senior, saw the need for more professional counselors in the field of deafness.

I want to work with deaf and hard of hearing students to prepare them as they transfer to college and to help them find themselves and have good self-esteem. I want to help them realize that they are not the only one. I always felt like I was the only one. I know that there are not enough deaf counselors in the world right now. I want to make sure that there is someone available for them.”

Deciding on a major and choosing a career goal can be stressful. Brad, age 23, attended three different colleges before he discovered a small college that offered a major that he knew was a fit.

It has been so stressful for the last five years and I felt like I was really wasting my time. I couldn't find anything that was motivating me and I was worried about what I would be doing in my 30s, 40s and so on. And now I have found something, exactly what I want to do. And I was just thinking recently that I am really focused on today and not worried about what is going to happen for me next year, what is going to happen to me when I am 25. I am really just focusing on what I am doing today and going with it.

Choosing clear and purposeful goals is an important indicator of academic persistence in college. The majority of students in my study were excited and motivated to be in college. And they were clear about how college was an important stepping

stone to their future goals. Although choosing a major and setting a career goal is a common activity for all students, the participants in my study had the unique experience of relying on support services to help them succeed academically in college.

Support Services

As mentioned above, the passage of the Americans with Disabilities Act of 1990 accelerated the growth in demand for educational support services within institutions that had previously not enrolled deaf students. The most widely used support services by deaf college students are interpreters and notetakers. As recent as the late 1990s, it was found that nationwide only 45% of two-year and four-year postsecondary educational institutions nationwide provided sign language interpreters and 69% provided classroom notetakers (National Center for Educational Statistics, 1999). This was not the case for the participants in my study. All four institutions involved in my study provided accommodation services when requested by students who are deaf. Students reported using services such as speech to text equipment, wireless laptops, extended time for test taking, and tutoring and writing centers. The most commonly used services reported by the participants in my study were interpreters and notetakers.

Interpreters

Students who are deaf and attend a mainstream college must request accommodations through the Office of Services for Students with Disabilities. Thirteen out of the 14 participants (93%) in my study requested interpreters for classroom lectures and extracurricular activities. One student who relied on speech and speechreading for communication stated that she was very satisfied with the wireless laptop system in the classroom, requested through the Office of Services for Students

with Disabilities. This student said she sat wherever she chose in the classroom with her laptop. An assistant from the Office of Services for Students with Disabilities also sat in the class with another laptop that was equipped with a wireless connection. The assistant typed each lecture. As the assistant typed, the words appeared on the student's laptop so she could follow the lecture.

All other students used sign language interpreters in the classroom. Whereas the wireless laptop system portrayed the meaning of the lecture in complete English sentences, interpreters must often translate the spoken word from the English language into a visual and distinct sign language. The students in my study used interpreters throughout their elementary and secondary school experiences. But they shared that their experience with high school interpreters was different from their experience with college interpreters, especially in regard to the way they interacted. Clara, a freshman at a small college stated:

The interpreters here are great, but they are different from my high school interpreters. [In high school] we were not responsible for the interpreters. They were responsible for us. And here we are responsible for ourselves. The interpreters come to class and then they leave. It is different from my high school. Wow!...In high school I was always friends with my interpreters. We would talk during class and interact with each other. But here it is different...In some ways it is nice. Some interpreters are friends with me and we will chat outside after class, but that is it. So I have to remember in college that friendship and interpreting are separate.

Some students felt ambivalent about having an interpreter. Four of the participants (29%) in my study sometimes chose to voice for themselves during class. Geoff, a junior at a large college, was one of these students. He stated he has good speech and speechreading skills, but he sometimes preferred using an interpreter

because it was easier to follow fast-paced dialogue, especially in large classes. He shared the struggles he had using interpreters.

Sometimes I find myself watching the interpreter and then I look over and lipread the professor and the message seems so different. The mood can be so different. It is amazing how much the interpreter or the style of the interpreter can change the tone of the lecture. Sometime I miss that tone when I use an interpreter.

Another frustration Geoff experienced at times was hearing people's ignorance in regard to how to use interpreters.

In the fraternity we sometimes have large meetings, but I usually don't have an interpreter. I like to be dependent on myself. I don't like it when students look at the interpreter and say "Tell him..." They look at the interpreter instead of me. That really burns me. The interpreter is not having the idea, I am!

College students must be able to trust the interpreter's skills in regard to the tone and the accuracy of the interpretation. Because of this, the unique microsystem between a deaf student and interpreter can be tenuous at times. The participants in my study talked about their reliance on interpreters and how it can sometimes be a *love/hate* relationship. Students said some interpreters are very skilled but others were found to be lacking in different areas. Jorge talked about his dependence on interpreters, as well as his frustration when an interpreter's skills do not measure up to his need. "I get so mad and frustrated [when an interpreter can't voice for me]. Like it wastes my time. I want to be included in the class discussion but if the interpreter keeps screwing up then it is no good for me."

Some students just accepted that interpreters were going to make mistakes. Clara, a freshman, said that in high school, "I was famous for causing interpreters to gulp because I always used big words or I would be nervous so I would sign fast." But

when asked if it was frustrating when the interpreters struggled to voice for her she said she was used to it. Another freshman said that she did not expect her interpreters to be perfect all the time, and would use laughter as a way to diffuse any discomfort in the classroom if an interpreter struggled to voice for her.

Participants also discussed the importance of the interpreters' understanding that they were unique individuals and had different communication needs. Lakisha, a senior, explained:

Sometimes I feel frustrated with the interpreters here. I feel like many don't understand that I am from a different background too. I have to explain to them that I am from a different background and I sign more English or total communication. I sign some ASL and it is my goal to learn more ASL. But I feel like sometimes the interpreters are not really patient with me. I don't think they really accept my way of signing. I hate to say this, but I often feel like I have to fit with their way of signing versus having them fit with my way of signing.

Deaf students and interpreters are involved in a unique microsystem compared to other college students. Deaf students are dependent on interpreters to provide necessary classroom information. At the same time, interpreters may be the only other person in the classroom who can communicate with them. As Haley stated, "I both love and hate my interpreters. I rely on them to give me important information from class, but at the same time, I would prefer to be able to communicate directly with teachers and students in the class. Some are wonderful, but some are not."

Notetakers

Notetaking is another support service available to the students in my study. But, as with interpreters, this service was seen by the participants as both positive and negative. The students exclaimed that lecture notes were imperative for their success as

a college student, but having to rely on others to take notes was sometimes unsatisfactory. Whereas 2 students (14%) said that they were satisfied with their notetaking services, 12 students (86%) expressed frustrations. Geoff shared his ambivalence about notetakers. It really was not a service he wanted to have.

“Occasionally I use notetakers. It really depends on the class. I really prefer to take my own notes because I know what is important to put down.” But it can be a real challenge to take notes when you are deaf and must rely on your eyes to take in information.

Diverting your eyes to write down notes means you may miss important information.

Geoff went on to say,

The only trouble is, when I take my eyes off of the interpreter to jot down my notes, I am always afraid that I will miss something the professor said. So I try to write with my eyes on the interpreter, but then my head gets overloaded with information and I end up missing one thing or another.

Other concerns that students had were related to the timeliness of obtaining notes. Although some students received a copy of the notes the day after the lecture, others had to wait up to one week or more, which made studying difficult. Becca recalled the previous term and shared her concern with how long it took to get a copy of notes.

I was supposed to get my notes regularly, but the person always postponed getting them to me. The notetaker would leave me notes saying I am sorry, but I am not able to get your notes to you because... and she would give me many different reasons. That was frustrating. My notes were sometimes two weeks late! So I asked another person if I could borrow her notes and I stayed up at night copying them. Her notes were so much better. She wrote in story form or narrative. My real notetaker didn't even take notes in outline form. They were hard to figure out. The other student's notes were much better. They were more organized and easy to understand. I realized then how much a notetaker can influence my grades.

And as Becca stated, it was not only the timeliness, but also the way notes were organized. Clara shared how hard it was at times to read the copied notes. Notetakers' sloppy penmanship and lack of clarity dismayed her. Clara sometimes compared the notetakers notes to her friend's notes in class and found that they often were not the same.

Brad figured out a method to obtain the best notetaker possible. He shared, "I talk with the teachers before classes start and ask them to help me pick out someone who is really committed to coming to class, who can write clear, and who can take good, like A+ notes. And so far that has worked for me."

Support services such as interpreters and notetakers are provided to deaf college students who attend public colleges. Students in my study reported that they would not be successful in college without the aid of these support personnel. But at the same time, the participants related their frustration with the skills of some interpreters and notetakers. As Becca stated, "I can't expect everyone to be perfect. I just want the interpreters and notetakers to do the best they can because I need them so I can be successful in college."

Interaction in the Classroom

Participation in the classroom has been linked to retention for deaf students (English, 1993). Being able to ask questions, share ideas, meet with instructors, and talk with students shapes students' feelings of academic satisfaction in college. Students in my study were asked about their class participation, and how they communicated with faculty and with classmates.

Class Participation

Deaf students typically require the services of sign language interpreters in order to participate in the college classroom. In my study, 13 out of the 14 participants (93%) relied on interpreters for communication in class. Whereas a few of the students felt very satisfied and comfortable with using their interpreters to participate in class, several students spoke vehemently about their disappointment with some interpreters' skills to accurately voice for them. Haley, a senior at a small college, spoke of her frustration and embarrassment when interpreters could not understand her questions well enough to voice to the teacher and the class.

I can't keep raising my hand to ask questions because the interpreter makes so many mistakes. Then the students in the classroom think I am stupid instead of seeing that the interpreter is inept. I don't like that! So I often just sit there and hold it all in. Keep my mouth shut . . . but if I have a deaf friend or someone who can sign in class, then I will check in with them and ask my question and get it clarified. That is better.

Trusting the skills of the interpreter is not the only concern deaf students discussed. The problem of *lag time*, or interpreter processing time, was also an important issue that interrupted students' participation in class. Lag time refers to the 5 to 10 seconds it takes an interpreter to finish signing what has been said after the instructor has stopped speaking. This time is needed to translate the spoken English word into sign language. Foster, Long, and Snell (1999) discussed how lag time subtly excluded deaf students from full participation. Rene, a senior at a large college, explained her experiences with interpreter lag time this way:

Sometimes I don't like to raise my hand because the interpreter is always behind what the teacher is saying. So if I ask a question, for example, if the instructor asks something like, who in this class has brown hair? And I raise my hand, then the teacher is already on to another subject.

And I'm the last person to say anything, and it is awkward, and I don't like being last because of the interpreter's lag time . . . I mean I understand that the interpreter has lag time, but it makes it awkward for me to participate. In a big class, it is just too hard. In a small group it's a little better. I feel like I stand out. I just want to be like the other students.

Students in my study shared their feelings of shyness regarding class participation. The reasons for the shyness included not trusting the interpreter to accurately voice for them when they had a question or comment, being afraid their hearing classmates might see them as dumb or slow, and being confused by the lecture material. Jorge, a freshman, stated, "If I know the subject really well, then I feel like I can participate. But some courses are really tough and in subjects I don't fully understand, so I am awkward and hesitant then."

Being confused by the lecture content did not stop Fran, a premed student at a large college, from participating in class. She stated that she often felt shy, but would still assert herself and raise her hand to ask for clarification. "I have to understand the concepts. If I don't understand exactly what the teacher is saying, then I need to ask to clarify to make sure I understand what they mean."

Sometimes shyness was also related to having to ask for help. Becca, a freshman at a small college, compared high school to college:

Here it is so different. I don't know how to explain it. In high school there was a lot of attention on each student and getting lots of help. It was nice. Like now in college if you raise your hand, you will get help. You have to ask for it. In high school they would notice when students needed help. I notice that I really hold back here and don't ask for help much . . . I am learning more how to ask for help. I would say that I hold back 60% of the time and ask for help 40% of the time.

Another student had a totally different attitude. This freshman at a small college went to class prepared and ready to participate. She was surprised that not all the students were as prepared as she. Clara explained:

Funny, in my World History class we had a group discussion to talk about what we had read for the homework. But I was the only one who had read the homework. And I was throwing out all these ideas. And talking about what I had read and asking the others in my group. I was the only one talking in my group! I asked the others, don't you know this? And they said no, they hadn't read the homework. I said, you should read the assignments, and went on talking about what I had learned. The teacher came over and was really impressed. She said, "Good job! You are making some smart comments. That is great!" And I felt like hey! Am I the only one here who knows something? . . . That felt good to me and I patted myself on the back.

All participants agreed that smaller classes and small discussion groups were much easier to participate in. The four students (29%) who attended colleges with more than 20,000 students talked about some classes with 300 or more students. It would be easy for most students to be anonymous in such settings, but students who are deaf and use sign language interpreters typically must sit in the front row so they can observe the interpreter as well as the teacher. The participants in my study said that they were used to sitting in the front because they had attended mainstream classes in high school and used interpreters. When asked if they liked sitting in the front of the class, half the students said they did not mind because they needed to have good visual access to the interpreter and the teacher. But the other half said they would welcome having a choice as to where to sit. Haley, a transfer student from Gallaudet University where all faculty and students communicate in sign language said with a huge laugh, "I don't like to sit in front. When I was a student at Gallaudet I could sit wherever I wanted. And where did I

choose to sit? Way in the back!” She went on to say that she could participate in the all-deaf class just as comfortably from the back of the classroom as the front.

Communication With Classmates

But even with small classes or fixed seating arrangements, the majority of students repeatedly stated that having just one other deaf student in the class would make a difference to them in regard to class participation. But it did not need to be a deaf student, any student who could sign would be welcome. Students said repeatedly how helpful it would be to have a classmate who shared the same language so that classroom assignments could be discussed or study groups could be formed. Nine of the students (64%) in my study attended a small college that enrolled approximately 30 deaf students in undergraduate and graduate programs. However, even with this larger deaf cohort, the students from this institution were rarely enrolled in a class with another deaf student.

Haley, age 21, stated, “What a difference it would make to have a deaf classmate! We could talk to each other and we could figure out assignments together! We could struggle together and support each other.” Other participants remarked that having someone in class who could sign, hearing or deaf, would benefit them. They stated they would enjoy having someone to socialize with at the beginning and end of class, as well as someone with whom to study.

Although most deaf students longed for another deaf or signing student in their classes, Rene shared an interesting perspective regarding deaf classmates. Rene is a senior at a large college where only three deaf students are enrolled. One time she found herself in a class with one of the other deaf students. Rene stated that although she had

always longed for another deaf student in her class, she was surprised at how ill at ease she felt. This is her response when asked how having another deaf student in class affected her participation:

I was more active in the class, but at the same time it is sometimes awkward to act deaf, because [my large college] is a hearing world. But having another deaf student there made it awkward for me to decide how to communicate. I wasn't sure if I should talk and sign at the same time, or not use my voice or what. It was the same for the other deaf student. He would sign with me, but then use his voice with the other students in class.

The majority of the students in my study never had the experience of having another deaf person in their college classroom. Students were asked how they managed communication with their hearing classmates. Although all but one student stated that they preferred sign language for communication, 10 students (71%) also indicated that they at times used speech and speechreading with people who do not know sign language. The majority of students said they were comfortable writing notes, gesturing, or voicing one or two words or short phrases if an interpreter was not available. But it was not always easy. Kevin, who transferred from an all-deaf institution of higher education, Gallaudet University, to a smaller mainstream college shared his frustration this way:

I use an interpreter or I gesture. If I want to ask a question, then I use the interpreter. If it is only two or three words, then I will ask myself. I don't always like using the interpreter because people sometimes say to the interpreter, 'tell him...' But that is okay...When someone wants to talk to me, they will turn their body away from me and talk to the interpreter. You know, hearing [people] don't know. That is fine. I accept that. That never happened at Gallaudet, though.

Another student who does not use sign language for communication arrived for her interview with writing all over her arms. Before the interview began I asked Hillary,

age 18, about the writing. She stated that if other students could not understand her voice, then she would use whatever was available to make sure communication occurred. When the paper that she always carried ran out she resorted to her hands, arms, or whatever was handy to write on. Later, in the interview Hillary, who relied on speech and speechreading, said that at times other students and teachers do not understand what she is saying and it can be quite bothersome. She spoke of one time when a teacher did not understand her and asked her to meet him after class to ask her question. I asked her how she handled that. She replied, "I just sat back and was quiet. But I am sick of sitting back and being quiet. If I have something to say or to ask, I want to be able to do that. At least I am trying!"

Communication With Faculty

Communication between teachers and students is an important part of the academic experience. English (1993) explored persistence among deaf college students in mainstream colleges and found that students who reported more interaction with faculty did better academically. The students in my study were asked about their interaction with their teachers. Brad responded in this way. "I have always had a good relationship with all my college teachers. I will always go up to them and talk with them. And I know that is sometimes a good idea because you can get a better grade in class." When asked how he talks with them, he replied "With my voice. Or I use the interpreter, or I write back and forth. It really depends on the teacher." All the students in my study found ways to interact with faculty both during and after class.

Students shared that most faculty had little or no exposure to deaf students in their class. Often students had to explain how to use an interpreter or what some of their

unique needs might be. Becca laughed when she shared that one of her teachers talked extremely slowly because she did not know how to use an interpreter. Rene, a senior, said over her four years at her large college, she had found that some, but not all, of her teachers were helpful and understanding. However, some needed to be educated as she explained:

Many of [my teachers] have no idea what it means to work with a deaf student. The interpreters get really frustrated because they will ask the teacher if the videotapes are close captioned and the teacher will have no idea. And also, when there is a presentation on the overhead, it's difficult to take notes and look at the overhead at the same time. So when I ask the teacher for the notes, it seems that some look at me like I'm taking the easy way out . . . Sometimes teachers think that I'm deaf and taking advantage of the system. They think I should take notes myself and they don't understand that a deaf person has to watch the interpreter, and the videotape, and the teacher, and it's impossible to take notes. Some teachers just don't understand that. I feel like I have to explain to them over and over again. Also, I have to explain to teachers about using the sign language interpreters. That I need them to communicate, but that I will also speak for myself and use my oral skills.

As stated earlier, not all deaf use the same communication methods or have the same communication needs. Geoff tended to use both his voice and an interpreter.

First of all I raise my hand and then I use my voice. And if the teacher is not used to hearing my voice, then I will use the interpreter to voice for me. Sometimes it takes awhile for people to get used to my voice, and then after that they are fine. So when the relationship is relatively new, it requires the interpreter to voice for me. Generally I like to voice for myself. If I go to my professor's office hours, I go by myself. I don't bring an interpreter.

At times, students needed to communicate one-on-one with their instructors.

Some said trying to meet with a teacher after class was often impossible for two reasons: (a) the teacher did not have time, and (b) the interpreter had another class

scheduled. The majority of students found e-mail to be the best way to communicate.

Haley put it this way.

If a problem or question comes up in class I always start with e-mail. I always ask the teacher if they check their e-mail or not. If not, then what am I supposed to do? Some teachers are excellent. They return messages quickly. Others tell me that they prefer office hours . . . So I always check with teachers to see the best way to contact them. E-mail is always best for me, but phone or in person is okay. If something comes up in class, I always have the interpreter. The thing that is frustrating with interpreters is that they have to leave right after class because they have another class to interpret for. UGH! If necessary, I will write notes with my teacher. If the interpreter needs to go, then I will put up with writing notes. If I can hold off until I get back home then I will e-mail.

One student commented that e-mail was the most respectful way to communicate because, as she said, “My time is precious and the teacher’s time is precious.” But for this very reason, another student, Gary, age 20, stated that he rarely e-mailed his professors because he did not like to bother them outside their teaching and office hours. He stated proudly, “I can usually take care of myself.”

It is much easier to be an active participant in class when deaf students feel a sense of acceptance and belonging. It made a difference to these students when teachers went out of their way to recognize their unique needs and helped to bridge relationships with other students in the class. Rene, a senior at a large college, talked about what a difference it made to her when one of her teachers invited her to talk about being deaf to the class.

In one class that I took, we were focusing on cultures. And my teacher asked me to talk about my experiences with the Deaf culture. She said she would give me extra credit. So I shared with the class what it was like to be deaf in a hearing college and it seemed like it really impacted the students. I feel like they really respected me and that they now go out of their way to talk to me. I feel like they understand me better. All the students are really friendly with me. It’s really cool.

Interaction in the classroom is an important factor in students' persistence in college (Astin, 1993; English, 1993). Developing a working relationship with faculty and classmates, as well as feeling free to raise their hand and participate in classroom discussion added to participants' perceptions of academic success and satisfaction. Although some participants in my study shared their awkwardness with classroom interaction, most shared that they felt they belonged and had a right to be there.

Summary

This study found that deaf students' perceptions of academic adjustment to mainstream college included more than just academic abilities. This is similar to what Pantages and Creddon (1978) reported in their early study on college attrition. Whereas students in my study talked about being *hard workers* in high school and having an average high school GPA of 3.58, other important factors became apparent from the interviews. The participants talked about the significance of their high school preparation for college, including the support from important resource people such as teachers, counselors, and interpreters. As with all students, choosing the right college was also an important issue (Astin, 1993). Students in this study brought in their own psychological characteristics and their career aspirations when making this important decision.

The transition into college was a humbling experience for these hard working deaf students. Some struggled to learn the right study skills to be successful, whereas others pondered the difference between high school teachers and interpreters, and college teachers and interpreters. Some students in my study felt challenged as they transitioned from high school into college. As Gerdes and Mallinckrodt (2001) found,

students tended to overestimate their ability to adjust academically. However, in general, the participants in my study spoke of feeling hopeful about their academic adjustment and success in college.

Research found that students entering college with a clear sense of purpose (Braxton et al., 1995; Pascarella & Terenzini, 1991), as well as the ability to decide on an academic major early in their college career (Franklin, 1988; Scherer & Walter, 1988), were better prepared for the demands of higher education. Both of these are important components to academic adjustment and the ability to persist in higher education. The deaf students in my study clearly related their excitement and motivation about their future goals.

Other researchers (Astin, 1993; English, 1993) pointed to the importance of positive interaction in the classroom as relating to academic success and satisfaction. Whereas most of the students in my study felt shy about raising their hand during class discussions, they also talked about the ease of using e-mail to communicate with faculty when faculty was responsive and when interpreters were not available. Participants talked often about preferring small group discussions to large classes.

Students also grappled with a new set of rules for obtaining and working with the support services on campus. Foster, Long, and Snell (1999) examined the efficiency of support services for college students who are deaf. The participants in my study were able to clearly articulate what worked and what did not work for them in regard to college support services, such as notetakers and interpreters.

A variety of microsystems demonstrated the unique interplay between the participants of this study and their academic environments. Interactions between dyads

such as student-teacher, student-support staff, and student-classmate provided an important example of microsystems in academic settings. As Bronfenbrenner (1979, 1989, 1993) suggested, the more connections there are between microsystems the more support there is for the developing individual. Students in this study were situated in mesosystems that helped to support their academic adjustment and development.

Academic adjustment was only part of these participants' experience in mainstream colleges. Social and emotional integration has also been identified as affecting students' ability to persist in higher education. The following chapter explores deaf college students' perceptions of social success and satisfaction in mainstream colleges.

CHAPTER 5:
“THE PEOPLE YOU SURROUND YOURSELF WITH REALLY AFFECT YOU”:
STUDENTS’ PERCEPTIONS OF SOCIAL SUCCESS AND SATISFACTION

Academic ability is an important factor in the retention of college students in general, as well as those who are deaf. However, social satisfaction plays an equally important role in regard to persistence or withdrawal in college. Gerdes and Mallinckrodt (2001) found that students in general overestimated their ability to adjust academically and underestimated their ability to make a personal or emotional adjustment. Social and emotional integration into college has a strong influence on retention. Issues such as family relationships, feelings of self-worth, and successful interpersonal relationships in the campus environment are important indicators of students' success and satisfaction. Stinson and Walter (1997), two researchers who have examined the social transition to college for deaf students, identified three social issues students who are deaf needed to address to adjust effectively to higher education: (a) developing social skills, (b) establishing an identity, and (c) acquiring independence and interdependence. These issues were also identified in the current study.

Bronfenbrenner's (1979, 1989, 1993) ecological perspective helped to organize the data from my study regarding deaf students' social experiences in mainstream colleges. For example, the immediate social environments of these students, or the microsystems, included the residence hall or apartment with roommates, extracurricular activities, and campus jobs. Bronfenbrenner's (1993) concept of mesosystems is defined as a web of involvement of two or more settings that contain the developing person. The participants were embedded in interacting mesosystems of academic, social, and family

life. As would be predicted in ecological theory, my study found that the individuals interacted differently with each microsystem depending on their backgrounds and developmental trajectories. To understand the social and emotional adjustment and satisfaction of students who are deaf in mainstream colleges this chapter first examines the background experience of the participants including their social experiences in high school and their relationships with their family of origin. Next, individual characteristics are examined that include the participants' sense of identity and agency. Last, social embeddedness in the college environment is discussed by examining peer interaction and social networking in the mainstream college.

Social Experience in High School

According to a study by Schildroth and Hotto (1996) 80% of the 50,000 deaf students in the United States attend mainstream high schools. Of those, 68% are in a setting with one or no other deaf students. All the students interviewed for my study attended mainstream high schools and 13 (93%) graduated from one. In my study, 71% ($n = 10$) were in secondary settings where they were the only deaf students. Learning and honing social skills is an important part of the high school experience (Stinson, Scherer, & Walter, 1997), especially as students prepare to transition to higher education. The students in my study discussed their high school experiences and social preparation for college.

When asked about their social experiences in high school, participants talked about such microsystem settings as relationships, classrooms, and extracurricular activities. Although social relationships are important and at times tumultuous for many high school students, most of the participants in my study had the additional experience

of being the only deaf student in their school. Therefore, communication was often an issue. The high school friends identified by the participants were mostly hearing people who could not sign. Although 10 out of the 14 participants (71%) did mark on the study's intake form that speech, in addition to sign language, was a preferred mode of communication, interaction with nonsigners was often found to be a challenge. Students talked about their attempts to fit in with hearing students in high school, but they related that they often felt left out and frustrated in social groups. Denise stated, "It was hard because I was the only deaf person in the school and I was always the person who reached out . . . I was afraid that if I didn't call them no one would call me." She went on to say that she preferred to interact one on one with other students rather than in a group, because "hearing people talk on top of each other all the time." Rene agreed. She said she could not always depend on her speech and speechreading skills to understand what her hearing high school friends were saying and often she felt frustrated being in social groups. "They told me to forget it, that they would tell me later. Or they would ignore me. It was so frustrating interacting with them in social groups."

Clear communication was key to fitting in with others for the students in my study. Lakisha identified herself as being hard of hearing in high school. She later became deaf during her second year of college. Although she used a signing interpreter throughout her mainstream secondary experience, the interpreter used SEE and Lakisha used her voice to communicate with hearing people. She realized in high school that she did not sign like other deaf people who communicated in American Sign Language. She said she felt stuck between two worlds in high school, the deaf and the hearing. Those feelings caused her to be reserved, especially in groups.

The deaf and hard of hearing students mocked me and called me names because I used my voice and talked too much. It hurt my feelings . . . I couldn't communicate with deaf people. I couldn't communicate with hearing people. I felt like both worlds looked down on me . . . I didn't fit in with either group very well . . . I was really shy in high school and I was afraid I wasn't smart enough to say anything. I was pretty timid. Once in a while I would raise my hand. When I was one on one, I was more assertive . . . I never used my voice in class. I only used my voice with [hearing] friends when we were alone and I wanted to make sure they understood me.

Several of the participants were involved in extracurricular activities that provided a social context for them to interact with their high school peers. However, similar to Holcomb's (1998) findings, the students in my study tended to participate in more physical activities, such as sports, rather than student government or academic clubs. Participants in this current study described how they worked hard to make a name for themselves on the team. When asked about his social life in high school, Gary stated,

It was hard being the only deaf student. But I worked hard to be a good athlete and I had some friends who were hearing on my track team. And we got along okay . . . As long as I was involved in a physical activity and we didn't have to talk it was fine. That would be the only problem--when talking was necessary--and I didn't like that.

Kevin talked about playing sports throughout high school and felt he was an important and contributing member of the team. When asked how he communicated with his teammates, he said they would give each other "high-five's and thumbs-up." But actually socializing with his teammates was another matter. Kevin went on to say, "We don't hang out much other than on the field during practice and games. I am pretty much by myself in the evenings and weekends. I hang out with my younger brother."

Geoff was unique in this sample because he had a different kind of social experience in high school. He transferred to a new school district when he was a freshman in high school. He was the only deaf student in the school and this school was one of the biggest in his state. “There were new people coming and going all the time so it wasn’t like I was the first new student the school had seen in years. It was easy for me to jump in and make new friends because everyone [all the new students] had the same experience as me.” Geoff went on to talk about making two new friends rather quickly. “I met two guys that I am still good friends with today. The three of us went through high school together. It was a great experience.” Neither of these friends learned sign language, but Geoff used his speech and speechreading skills to communicate. Geoff stated that the three of them were competitive academically and worked hard to make good grades. They often spent evenings and weekends studying together. “It really helped to have the kind of people I had around me because I knew I could count on them for intellectual support, discussions, experiences . . . I really believe the people you surround yourself with really affect you.”

Another student talked about learning sign language with her hearing peers. Becca attended an oral school for deaf students until the sixth grade, at which time she was home-schooled. She transferred to a mainstream high school her junior year when she learned that this new school offered American Sign Language as one of its foreign language choices. Becca wanted to learn how to sign. She said, “[At first] in high school I was quiet because I was taking everything in and experiencing new things. I was scared a lot.” As she began to learn sign language with her hearing peers, things began to change. “I became fluent in just two years. My teachers were amazed. It was fun

communicating with other students in sign language. I began to make new friends. In my senior year of high school I was more balanced because I finally had a social life.”

One participant in my study graduated from a residential school for the deaf. Rene described her social experience at the school for the deaf. Rene had been a mainstream student through her sophomore year in high school where she was the only deaf student. She pleaded with her parents to allow her to transfer to the school for the deaf, four hours away from her hometown. Her parent agreed to send Rene to the residential school during her junior and senior year of high school. Rene described how she benefited from her mainstream and residential school experience:

My mainstream experience felt like they really encouraged me with my English, science and math skills, all of those that were going to help me get into college. The school for the deaf didn't prepare me academically, because many of those deaf students didn't go on to college. I feel like I'm happy I went to the deaf school because it really made me more self-confident. It made me stronger than when I was in mainstream school. My social life was better when I was at the deaf school. It helped me with social skills. So the education was great in mainstream, but the social was good at the deaf school . . . Academically I was ready [for college] because of my mainstream experience. Socially and emotionally I was ready because of my experience at the deaf school . . . I grew so much. I found myself at the school for the deaf. I found the Deaf culture, the language, I had interaction, the Deaf community, the sports I was involved in. Everything! I grew so much. I became independent. I got to know who I was.

High school social experiences affected the participants of my study as they prepared to transfer to college. Although most students in my study struggled socially in high school because of communication restraints and not belonging to a social group, a few felt socially competent and comfortable. As stated earlier, over two thirds ($n = 10$) of the students in my study graduated from high school programs where they were the only deaf student. These students had to learn how to make their way in an all-hearing

environment in order to succeed at the secondary level. But this was not the only place where they were in the minority. Ninety-three percent of the students ($n = 13$) in my study were also the only deaf member in their extended family.

Relationship With Family

Researchers have found that family of origin relationship issues affect a student's ability to adjust to the college experience (Astin, 1993, 1999; Braunstein & McGrath, 1997; Chickering, 1969; Tinto, 1993; Youn, 1992). Family relationships were an important topic to the participants of my study, too. The students spoke in detail about their relationships with their parents, siblings, and extended family. Whereas relationships with family of origin are a significant subject for most traditional-aged college students, the majority of the students in my study had the unique experience of being the only deaf person in their family and many did not have a shared language with other family members.

Mitchell and Karchmer (2002) found that 90 to 95% of deaf children are born to hearing parents. Ninety-three percent of the students in my study ($n = 13$) were born to hearing parents. One participant had a father who was deaf. However, most parents of students in my study had never encountered a deaf person prior to the diagnosis of their own child.

Studies in the field of deafness have shown that strong family relationships helped to facilitate young deaf adults' academic success, self-esteem, and sense of autonomy (Meadow-Orlans., Mertens, Sass-Hehrer, & Scott-Olson, 1997; Meyers & Bartee, 1992; Moores, 1991). The majority of students in my study stated they had a strong family relationship. Other factors examined in my study include shared language

and family closeness. All of these affect the social and emotional integration and adjustment of deaf students in mainstream colleges.

Shared Language

Researchers have found that common or shared language, which begins at an early age, positively influenced achievement in school, sense of worth, and social and emotional development of children (Greenberg & Kushem 1987; Jamieson, 1995; Lueke-Stahlman & Moeller, 1990; Spencer et al., 1992; Swisher, 1992). Although most deaf children learn a form of sign language for communication with teachers and peers in the schools, studies have shown that only 10 to 28% of family members signed regularly with their deaf children (Danermark et al., 2001; Gallaudet Research Institute, 2003). Participants in my study reported that currently 36% ($n = 5$) of their parents communicated using sign language with their deaf child.

However, almost 60% of the students in my study ($n = 8$) had parents who signed when they were first diagnosed as deaf. In fact, two participants had parents who signed prior to the birth of their deaf child: one whose father was deaf and another whose hearing mother knew sign language before learning that her infant son was deaf. In addition, after the diagnosis of their deaf child, three mothers became proficient enough in sign language to work as interpreters for the deaf in mainstream elementary school settings. Students in my study were proud that their parents and siblings signed. As Haley pointed out, “The three members of my family are hearing. I am the only deaf member in all the generations. And my family can sign, so their second language is ASL!”

Haley's mother as well as several other parents of participants made an effort to gather as much information as possible from experts in the field to decide what course of action to take regarding communication with their deaf child. Daphne explained her parents' process and how the extended family was involved:

I was born deaf but nobody knew until I was 15 months old. The doctor told my parents that they had to make a decision about how to communicate with me and where I would go to school. My parents talked with other experts in the field and adults who are deaf to get their opinions. Then they discussed it and decided to put me in a mainstream school . . . They started to learn sign language. At first a woman came to the house a few times a week in the evening and taught us all to sign, not only my parents, but also outside members of the family. My aunts, uncles, and cousins. But they don't know how to sign now, that was a long time ago. But yes, they all came together a few times a week to learn sign language.

Although over half of the students ($n = 7$) in my study had parents who already signed or who learned sign language at the time of their child's diagnosis, only 5 students (36%) stated that their parents continued to communicate in sign language as their child matured. This proportion is higher than in the shared language findings by Gallaudet Research Institute (2003). Three participants in my study said that the main reason their parents stopped signing was because the students became more proficient in speech and speechreading over time. Geoff explained:

[My parents] learned SEE when I was born. And then two years later my sister was born, and she learned SEE too. The two of us were really close. And signing and talking at the same time. After a while, I got so good at lipreading that the family dropped the signing part. So now we just talk and I read lips. Occasionally they will sign. It has become a family joke because we don't use sign anymore so now when they do sign they make kind of a big deal out of it. It is funny. But generally it is just spoken English in my home.

Five students (36%) reported that their parents continued to use sign language with them. Even though these parents learned English signing systems when their deaf

children were very young, communication was not always easy. For instance, participants in my study talked about daily interaction with other deaf adults in the community or students in the college environment and being exposed to more American Sign Language. Students said when they went home to visit, family members were sometimes confused by the way they signed. Students also mentioned that after they left home to attend college, they noticed how slow and elementary some parents' signs were. Even though three mothers worked as interpreters for deaf, they were employed at elementary schools where more English signing systems were used. One mother wanted to improve her own signing skills. Her daughter, a participant in my study, was surprised when her mother enrolled in an American Sign Language class after she moved out of the home to attend college because her mother had always used English signs with her. Daphne explained, "At the beginning when I first found out that she was taking an ASL class, I was so puzzled. Why would she do this? Why would she take a class when she already knew how to sign? She was paying money to take a class!" But as she shared this story it was obvious that she was proud of what her mother did. She went on to say that as she thought about it later, she really appreciated her mother for trying to keep up with her daughter's changing communication.

Another student stated that she felt acknowledged by her family when they had big family reunions and dinners. Haley's mother worked as an interpreter, and she either volunteered to interpret at family get-togethers, or hired an interpreter. Haley was very appreciative of this and felt lucky to have parents who accommodated her needs this way. She said,

Sometimes when we have big family dinners, she will hire an interpreter for me . . . I think that is really cool. I am lucky to have parents like that. It is great because other members of my family don't sign so an interpreter makes the dinners more accessible for me. That doesn't happen very often, only once in a while.

The 6 participants (43%) whose parents never signed talked about how they communicated in the home. All of them said they used their voice and read lips or used what hearing they had with the help of hearing aids to talk with family members. Four students (29%) attended oral elementary schools that promoted speech and speechreading skills, and where sign language was forbidden. Although 3 of these students (21%) learned sign language later at different stages of elementary or secondary school, 1 (7%) participant maintained oral communication only. Hillary was born deaf but never learned sign language to communicate at school or at home. What is interesting is that her younger brother was born hearing, but was diagnosed with autism. Her family learned some rudimentary sign language to improve communication with him. Hillary explained:

I wanted to learn sign language and I asked my father many times and he said that it would not be useful to me. But he allowed me to learn sign language with my brother. Because he can't speak. My parents thought that he was deaf when he was born, like me. But he was autistic . . . I got a book called the *Joy of Signing*. I taught myself fingerspelling. I can do that really fast with my hands. And with my brother I sign things like cookie. I call it autistic signing.

Fran learned sign language when she arrived in the United States at age seven. English was a second language for her parents and they never learned sign language. She said, "I don't force my parents to know sign language. They must decide and do whatever they want." She explained that she uses her voice and speechreads fairly well.

She also said that she wrote notes to her parents in simple English so they could understand.

Whereas Fran talked of accepting that her parents do not know sign language, other students talked about feeling hurt and disappointed that their families did not sign. One student, Rene, shared that she felt frustrated with how difficult communication was at home. She said that she was expected to use her voice and speechread when she was with her family. She gave the example of sitting around the dinner table and feeling lost. “For instance, if there is a joke and everyone is laughing and I missed it, I ask my mom what they said. And she says, ‘Don’t worry about it. It’s nothing.’” Or sometimes when the joke was repeated for Rene’s benefit, she still felt that she had missed out because it was not as funny the second time it was told.

Rene wished her parents knew sign language. She shared her frustration and how tired she was struggling with communication with her parents:

I worked so hard to be what my parents wanted me to be. They wanted me to be able to communicate in the hearing world. That bigger world. They wanted me to become a part of the ‘real world’. But I am deaf and I can’t change that. I tried to change myself to fit them. But now I realize that I can’t change all the time. They have to change for me, too . . . I feel like I work more than 50%. It is exhausting to try to lipread and pay attention all the time. I want them to try to accommodate me. Because growing up I felt like I worked all the time to accommodate them. They always tell me that they want to learn sign language. But they have never learned. So this last Christmas, I gave them an ASL dictionary and an ASL sentence structure book. Because I plan to go to Gallaudet University for graduate school. . . And I might meet a deaf man, my future husband or whatever, so how will my family communicate with him? So I want my family to understand what my life is like. I want to teach them to use the TTY. I want to take my hearing aids off. And then they will have to contact me through the deaf way. I want them to understand that I can’t fit their way all the time. I want them to fit my way too. Maybe they will take an ASL class when I am gone to Gallaudet University. Maybe. They should.

Clear communication and sharing a language were significant topics brought up by the participants in my study. Another important issue was students' perceptions of closeness to family members. Researchers suggest that the relative success with which a student manages college life may be tied to experiences in family relationships (Arnett, 1998; Kenny & Rice; Lopez & Brennan, 2000; Tinto, 1993; Youn, 1992). Students in my study were asked about their perceived relationships with their parents, which included their overall feelings of closeness to family members, how and how often they contacted their family while at college, and their perceptions of encouragement and support from their family. Parental experiences with college are also included.

Family Closeness

Ten of the 14 participants (71%) stated they felt very close to their parents. All but 2 of these students had begun signing with their parents at a young age. Most participants repeatedly stated that the family members they felt the most attachment to were the ones who they could communicate with the best. Both Clara and Jorge are examples of feeling close to family members who shared sign language or with whom they could easily communicate. Clara's father is deaf and communicates with American Sign Language. She stated, "I am closest to my father. We are both deaf. We have had similar experiences...He signs ASL and so do I."

Jorge went on to explain the closeness he felt to a variety of family members, some of whom signed and some who do not. His mother currently worked as an interpreter and knew sign language prior to Jorge's birth.

My mom is number one. But I am also close to my favorite aunt. She can't sign, but we are still very close. We write back and forth to each other. Also, I can read her lips clearly. She talks slowly for me and I understand

her just fine. I am also close to my younger cousin who is eight. She can sign too! I taught her signs and she is motivated to learn more. Her younger brother is just five years old but he wants to learn and I am teaching them both. They live in California. I predict that they will both become interpreters or work with the deaf in some way. They are both so open and motivated to learn about deafness and sign language. I have another cousin who is 25 who can sign. She signs more English but we still can chat with each other.

Most students mentioned their mother first when asked who they felt the closest to in their family. Hillary, who used oral communication in the home, stated she felt very close to her mother. "I feel the closest to my mother. She is like my best friend. We call each other all the time, even in college. We e-mail each other. She is always there for me. It is hard to explain what kind of a person she is. She is one of a kind."

However, good communication did not always mean signed communication. Five students (36%) talked about perceived closeness to their family members who did not currently sign. Of these 5, one student, Geoff, stated that he felt very close to his family members even though none of them currently signed. It is important to point out that Geoff's parents began signing immediately when he was diagnosed as deaf and only stopped signing after he became adept at speech and speechreading. However, 4 students (29%) stated that they did not feel close to their family of origin and none of these parents had ever signed with their deaf offspring. Gary was raised in a hearing family that did not sign. He struggled to answer the question about who he felt closest to in his family. This is what he said, "Communication with my family is not very good. We don't communicate that much. I usually take care of myself when I am with them. But they are good people. I just don't feel that close to them."

Contact With Family

Students were also asked how and how often they contacted their family. Most students in my study had at least weekly contact with their parents, and the contact was made in a variety of ways. Communication technology has historically isolated deaf people from mainstream information in society. But with a series of laws that were enacted to grant people with hearing loss more access to information technology, such devices as the telephone, television, and the internet are more accessible (Rogers, 1998). The deaf students in my study spoke excitedly about communication technology and how easy it was to contact their parents. Participants talked about using instant messaging programs and e-mail on the internet, video relay services over the phone, TTYs, and pagers. Geoff, a junior explained how he communicates with his family:

Mostly I talk with my mom on instant messaging. It is so easy. We don't have to go through the relay. We talk once, twice, sometimes three times a week. We talk about what we are doing. I don't talk with my dad that often. For my sisters and me, my mom is the key person to go through. And over the past three years, I would say the communication level has been constant.

Parental Encouragement and Support

In addition to family closeness and contact, parental encouragement and support were important factors in these students' social and emotional adjustment to college. Rene shared that her parents' encouragement made a significant difference in her desire to persist in school. Even though her parents had not attended college, she said that they always encouraged her to work hard and get the best grades possible. She was appreciative that they taught her strong work ethics and not to give up. She said, "My parents taught me if you want something, you have to work hard to get it. And I work hard!"

Parental encouragement and support came in different forms. Lakisha shared the joy she felt sharing school information with her parents who never attended college. She related that showing an interest in her school work was very important to her.

My parents are really involved with my school, they are always asking me, what are you learning? Which classes are you taking? I think they feel a little jealous because they have missed so much. I share a lot of what I learn in class and they always say, tell us more! I bring home papers that I wrote. And I enjoy that so much. It makes me feel good to be sharing with them.

Parents' College Experience

Although Rene and Lakisha felt support and encouragement from their parents, neither of their parents attended college. College retention experts suggest that first generation college students have a more difficult transition from secondary school to college and have a higher withdrawal rate than their peers (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Using results from the National Center for Education Statistics Beginning Postsecondary Students Longitudinal Study, Choy (2001) found that in 1995 – 1996, 34% of the students entering the nation's four-year colleges were first-generation students. The participants in my study had a much higher percentage; half of the participants ($n = 7$) were first generation students.

Four students said that their parents never talked with them about going to college. As Kevin explains, "They never said anything to me. It was always my decision." Whether encouraged by their parents or not, these first-generation students were motivated to obtain their college degree. Haley, a senior, talked about with about her upcoming graduation from college.

My parents both went to college for a short time but neither of them got their degrees. But my brother and I will get our degrees. Actually, I have gone the furthest so far. I will be the first person in our whole extended family to ever get a college degree.

Relationship with family was an important topic for the participants of my study. Although research has found parental involvement to be one indicator of students' social and emotional adjustment to college (Gonzales, Greenwood, & WenHsu, 2001; Weiss & Schwarz, 1996), students' personal characteristics and sense of agency also affected students' perceptions of social success and satisfaction in college.

Sense of Agency

As stated above, early studies found that academic performance explained less than half of the variance in student retention (Pantages & Creedon, 1978). Indeed, social and emotional integration plays an important role in college persistence. Pascarella and Terenzini (1991) found that personal characteristics, such as motivation to learn and ability to take action to meet academic and social demands, were key to success in college. This section discusses participants' sense of agency, or the personal characteristics participants had that made it possible for them to maneuver in the social environments of their college experiences. The participants' characteristics found in my study include a sense of identity, the ability to self-determine, and experiences of belonging.

Identity

One of the tasks of identity formation for young adults is making choices by exploring alternatives and committing to roles (Erikson, 1968). Oyserman, Gant, and Ager (1995) expanded this concept by saying that identity formation must include the social context in which people find themselves. In other words, identities are negotiated within a framework of one's interpersonal encounters. For the deaf participants in my study, cultural identity was an important factor in their social and emotional adjustment to mainstream colleges. As Bat-Chava (2000) proposed, deaf identities are acquired via family and school histories. It was evident in my study that participants' identities were affected by the degree to which they were exposed to other deaf children and adults in family and school settings. Although all participants in this study stated that they were deaf, not all identified with the Deaf culture. One participant in my study identified as culturally hearing, 3 identified as members of the Deaf culture, and 10 identified as bicultural.

In addition, not all of the students in this study were born deaf. Schroedel, Watson, and Ashmore (2003) found that the majority of deaf students in college were actually deafened after the age of 19. Three participants (21%) in my study were born hearing and then diagnosed as hard of hearing in early childhood. Over the last few years, these students' hearing deteriorated and they now identify as Deaf. Lakisha explained:

I was born hearing. And then about 18 months of age I got an ear infection and my hearing deteriorated. My hearing finally stabilized and I called myself hard of hearing. And then during my sophomore year [of college] my hearing suddenly changed and I became completely deaf.

Almost 80% of the participants ($n = 11$) were born deaf, but shared that their cultural identity changed depending on the situation and with whom they socialized.

Becca said that she currently identified herself as a bicultural deaf person, but understood why other people from her past might see her as a hearing person. When asked to clarify, she replied:

All my life I have hung around hearing people. I have just been quiet and nodded my head to everything, until high school when I first started socializing with deaf [people]. [Today] I think like a hearing person a lot and sometimes deaf people will notice something I do and say hey, you are doing that like a hearing person. That is the hearing way. But I feel involved with the hearing way because I went to oral school for six years and I didn't sign until I was a junior in high school. And I learned sign language. And I am still learning. Now I call myself deaf.

Introduction to other deaf people and learning sign language were important factors in identity formation for many of the participants. Several students shared that they believed they were hearing or perhaps hard of hearing until they met other deaf people or began to learn sign language. Rene explained:

I was born deaf, but I was raised with hearing people. There were never other deaf around. I was the only deaf person. I felt like there was something different about me, but I didn't know what it was. I was taken out of the class at different times and I didn't understand why I was taken out and other students weren't . . . I always felt myself the same as my hearing peers. I just couldn't always understand what they were saying. I would have to ask them what did you just say and they would say "never mind. I'll tell you later" and that was very frustrating. At that time I called myself hard of hearing . . . It wasn't until the fifth grade that another girl who was deaf came into my class and she used sign language. It was the first time I saw sign language. I had learned fingerspelling in the third grade, but it was in the fifth grade that I used an interpreter for the first time. That is when I started to call myself deaf and not hard of hearing.

But this newfound identity was not as easy as she first portrayed. Rene went on to share her frustrations with her identity and being the only member of her family

who was deaf. Like many deaf children, her hearing deteriorated during childhood. It was hard for Rene to be in-between the hearing and Deaf world.

My parents expect me to be the bridge between the hearing world and the Deaf world. But several years ago when my hearing went down, I knew that I would never become hearing so I just wanted to throw that away. I wanted to let go of the hearing world altogether. I was deaf. That was frustrating because sometimes during those angry years I was so frustrated. I just threw my hearing aids across the room one day. I was so frustrated because I wasn't fully deaf. Now I am mostly fully deaf. Without hearing aids I am deaf. But I need my aids to communicate with my family. But sometimes I just feel like taking them off and making my family feel what it has been like for me growing up. I don't think they really understand. Many hearing people don't . . . I feel stuck in the middle. Most deaf kids are born to hearing families feel stuck. It is like there are two worlds and they are stuck in between. Which world do they choose? I have wanted to just give up the hearing world and be in the Deaf world. But I am really between both worlds.

One student in the study did not use sign language for communication, but instead relied on speech and speechreading. Hillary stated that she was deaf, but identified as culturally hearing. Glickman (1996) refers to this identity orientation as one where individuals place little significance on hearing loss, value oral communication, and choose activities that help them *fit in* with hearing society. Hillary attended an oral school for the deaf through her elementary years and transferred to a large public mainstream school where she was the only deaf student. Even though she said she was deaf, she saw herself as a *normal* person as she explained: "I see myself as a normal hearing person because I don't let my deafness affect me. I don't see it as a disability. I want other people to see me as a normal person. That is what I believe."

Some of the participants felt that their cultural identity as a deaf person changed as they entered college. Lakisha stated, "I really didn't know my identity before [as a deaf person] and being at [this small college with other deaf students] has allowed me to

really analyze who I am and where I am going. And I feel I have become stronger and more stable. And ready to move on.” Daphne also talked about how her identity as a deaf person changed since transferring from a community college where she was the only deaf student. Her current institution is a small college, which is *deaf-friendly* because of the relatively large number of deaf students ($n = 30$) and the academic programs that train students to work with the deaf population. Daphne explained that she had never experienced socializing with deaf people until the previous fall when she transferred to this new college. She did not know how to *act* like a deaf person.

Last fall I began socializing with deaf people. Before that I wasn't involved with the Deaf culture. I used to be very shy about gesturing. I was very shy about pointing things out. I always depended on using paper and pen. I refused to communicate if there was no paper and pen. I was embarrassed or maybe shy . . . Then last fall I started meeting deaf people. I started hanging out with them and watched them gesture. Like one time I was riding with my friend and we stopped to get gas. And she waved at the attendant and gestured “thumb up.” And I was puzzled at first. I had always used paper and pen to communicate at the gas station . . . I always wrote down each word and showed it to the attendant. I never gestured. . . . So I saw my friend gesture and since that time, that is the way I do it too. And at restaurants, too. The menu, you know how you can point at what you want? I never pointed. I always wrote down what I wanted. Now I just point . . . I needed to see other deaf people do it before I could do it myself.

The majority of the students in my study are considered bicultural because of their exposure to both the Deaf and hearing communities. As Bat-Chava (1993, 1994) found, people with bicultural identities believed that both sign language and speech are important, and they identify with, and have positive attitudes toward, a variety of deaf and hearing people. The students in my study are exploring who they are with themselves and in their environments. It is a dynamic process and their identities continue to emerge.

Self-Determination

Self-determination is a term often seen in the special education field that refers to skills students with disabilities need for successful transition after high school. It commonly refers to an individual's ability to set and achieve goals. The National Capacity Building Institute (Yuen & Shaughnessy, 2001) provided a more formal definition of self-determination as a process that included:

Informed choice; knowing your limits/strengths; knowing what you need; providing the opportunity to choose; knowing options and consequences; setting and having goals; being self-directed and person-centered; communicating your goals and needs; taking responsibility thinking, feeling, emoting; having value; experiencing and doing; appreciating the wisdom of the child; and process and outcome (accountability). (p. 200)

One task high school transition counselors focus on with students with disabilities who are college bound is the ability of the students to identify their disability and to be able to request appropriate services in the college environment. This is a critical self-determination skill (Yuen & Shaughnessy, 2001). All students in my study were able to identify that they were deaf and exactly what accommodations they needed to succeed in college. Students reported that they comfortably requested services at their respective Office of Services for Students with Disabilities. Some students struggled more with requesting accommodations directly from their teachers, but when concerns or problems occurred in the classroom they all knew to go to the Office of Services for Students with Disabilities to resolve the issues.

The participants in my study revealed other self-determination skills, such as demonstrating a sense of self-efficacy, being able to set goals, and negotiating new freedoms in college. Strong self-efficacy was also apparent as the students talked about

the qualities they possessed that would make them successful in college and in life.

They knew it was not easy to be a deaf student in a mainstream college, but their entire academic and social experience up to that point showed them that they were strong and competent in their worlds. Students used such words as *hard worker*, *adventuresome*, *goal oriented*, *motivated*, *proud*, *courageous*, and *capable* to describe themselves. For example, Hillary a freshman, stated with obvious pride, “I am the kind of person who doesn’t give up. I am like my father in that way. If I commit to something, I don’t give up. I think I can get smarter and smarter. And I believe I can do anything I want to.”

Lakisha seemed almost surprised at her own strength as she described how she struggled during her sophomore year of college after an illness that caused her to lose all of her hearing.

I am sometimes amazed at my ability to get through that horrible year. I really should have dropped out a long time ago, but I didn’t! I have succeeded so far. I didn’t give up! I have a ways to go still, but I am doing it! I have survived! And I am proud of myself!

Another student attended a large college where there were no other deaf students during his freshman year. His memory of his first year in college was vivid and he was surprised that he maintained a 3.7 GPA. He said, “The classes were very large. At [my large college] I was just a number. The teachers didn’t know me at all. It takes a lot of discipline to show up to class when teachers don’t even know you. But I did it!”

One challenge most incoming students have in college is the ability to negotiate new social freedoms (Astin, 1993, 1999; Braxton et al., 1995). Like their hearing peers, many of the students in my study did not feel prepared for suddenly finding themselves independent and on their own. Time management became an important issue. Brad, a

junior, talked about his first semester as a freshman in college. Like many new college students, he struggled initially with his new freedom. “If you were late to class, there was no one there to give you a tardy slip. They didn’t take roll. I said fine! I can be late to class or skip and go to the beach! I can play with my friends, whatever!” He went on to say that he had to learn how to manage his life so he could have fun and still be a successful student.

All participants in this study had stories, to a greater or lesser level, similar to Brad’s. Some struggled more than others. However, in contrast, one student, Rene, a senior, remembered handling the new freedoms she experienced her freshman year differently. Like many of the participants in my study, academic success was a priority. She said that she knew college would be harder than high school, but she was surprised by all the social options available to her. But she said, “I am a very focused person. I really didn’t get involved with parties and things that took my focus away from school.”

All students in my study displayed self-efficacy skills. They each believed that they were capable of success and could persist even in the face of adversity. Another factor that influenced these students’ sense of agency was feeling a connection to their environment, feeling as if they belonged. The majority of participants not only felt attached to their college, but they also talked about having a sense of belonging, which was different from what many had experienced in high school. Researchers have found that person-environment interactions led to varying levels of academic and social integration and belonging, or lack thereof, contributed to decisions to persist in or depart from college (Renn & Arnold, 2003; Tinto, 1987, 1993).

Brad attended a small private college at the time he was interviewed. He had a specific career in mind since graduating from high school, but he could not find the right institution of higher education that could help him meet his goal. He attended four different colleges before transferring to a small college in the Pacific Northwest that offered a major that matched his original career goal. Although he is the only deaf student, the small college atmosphere and the right major made him believe that he finally found his place. “I feel like it is my third home. I have my home, my parent’s home, and the third is this school . . . I feel like I haven’t been in the right school for the past five years but now I am finally in the right place.”

Another student, Geoff, had a very similar experience. This student described the linkages between different settings and how he felt embedded in these interacting mesosystems. For example, he worked in his academic major department, consequently he knew his teachers well; plus he took classes with many of the students he worked with. He went on to say, “I have carved a niche for myself in college. I feel like I know where I belong.”

The microsystems of students also have a strong effect on the sense of belonging. Although this is not necessarily unique to deaf students, finding understanding and acceptance in relationship with others is important for successful social and emotional adjustment to college. Becca, a freshman at a small college with a number of deaf students, spoke of her feelings of acceptance and belonging at her new college.

I wasn’t sure if people would accept me as a deaf person. And I feel very accepted here. All my life I was used to people not really talking to me. Even adults were scared to approach me and would avoid me. But

I came here to [small college] and people are curious about me and many people I meet want me to teach them sign language. I have met many people. And people tend to accept me for who I am. It seems to me that in college people tend to explore more about other people instead of just labeling them. Before people had just labeled me. It is so cool to be here.

A strong sense of agency affected students' success and satisfaction in college.

The students in my study talked about their identity, their sense of self-efficacy and self-esteem, their ability to negotiate new freedoms, and their sense of belonging. As These abilities and personal characteristics have an effect on the social integration and adjustment to college. As Stinson and Walter (1997) pointed out in their study, establishing an identity and acquiring independence and interdependence are critical social factors deaf students need for effective adjustment to higher education. Developing social skills is also vital for deaf students who persist in mainstream colleges.

Social Embeddedness

Bronfenbrenner's ecological theory provided a lens to examine the interactions between the students in my study and their environment. Other researchers have also examined this relationship. Vincent Tinto (1987, 1993) contributed to the understanding of person-environment interactions through his work on student retention and undergraduate socialization. Tinto's longitudinal study examined interactions that led to social integration such as formal extracurricular activities and informal peer interactions with other students. Tinto stated that these interactions lead to varying levels of interaction, which contribute to decisions to persist or depart from college. This section

will examine the interaction of participants' microsystems and mesosystems in the college environment.

Like all students in college, the deaf students in my study had a variety of microsystems where interpersonal relationships were experienced in face-to-face settings. These social settings included residence halls or apartments with roommates, study groups, and extracurricular activities such as student clubs and athletic teams. Often, these settings interacted creating mesosystems within which the students lived. All of these environments had an effect on the developing individual and encouraged social involvement in the college environment. What was unique to my study was the challenge of communication between the deaf student and others who did not sign. This section will take into consideration factors that were significant to this sample: (a) communication issues, (b) social satisfaction, and (c) extracurricular activities.

Communication Issues

Ease in communication was an important factor in the social experiences of the participants. Nine of the students (64%) in my study attended a small college that enrolled approximately 30 students who are deaf. In addition, this institution provided academic curriculums that were *deaf-friendly*, such as American Sign Language classes, interpreter training, as well as teacher preparation and rehabilitation counseling for those who are deaf. All 9 students who attended this college were satisfied with their social interactions. The students enjoyed interacting with both deaf and hearing students who could sign. Jorge, a freshman who attended a mainstream high school where he was the only deaf student explained: "I am much more social since I came to [small

college]. I hang out with hearing and deaf people. Just as long as they know some sign language. Really we are one big group, both hearing and deaf socializing together.”

At the same institution, Daphne, a junior, had a part-time job on campus. When asked about communication with her coworkers, she responded that she felt lucky because so many students at this college had taken sign language classes, so a few of her coworkers could sign. She went on to say that she was very comfortable using pen and paper to communicate with nonsigners. In fact, using a pen and paper were the most common ways the participants communicated with those who could not sign. But students were also creative with using current technology to aid the communication process. Gary described one experience this way.

I was assigned to a project with a classmate who couldn't sign so I used my voice. And I did my best to lipread him. We ended up writing back and forth and even on the computer. Writing is kind of a last resort, but it worked. We even used my pager before if there was no paper or computer with us. I can type just a word or two and get the message across.

As Gary explained, he used his voice and speechreading skills to communicate with nonsigners. However, most students would agree that this was not always the easiest way to have successful communication. Lakisha, a senior, worked hard to be patient with those who could not sign. Clear communication was important to her but she was often frustrated with the communication restraints between her and nonsigners.

I try to encourage writing notes, but sometimes I have to use my voice to get my point across. Ugh! So I will use my voice to make sure they understand me. But my lipreading skills are just fair. So I have them look directly at me and to talk normal. Not at warp speed! I tell them to calm down and take their time and just talk normally to me. I will ask them to repeat it one more time and then I will repeat the statement back to them. I will make sure we are communicating successfully. Understand, with a hearing person who doesn't know sign language, the communication is very, very brief. It is very surface. There is no depth to the conversation.

The 5 students (36%) who attended institutions of higher education that enrolled few deaf students also shared their acceptance and satisfaction with the communication in their setting. Fran said, “There are not many deaf people here [large college]. Last year there were two, and this year only one who signs, me.” She went on to say,

I feel comfortable in the hearing environment, even more than I feel in the deaf environment. That is how it was when I was growing up. I was always with hearing students in the mainstream school. Thirty students were hearing. And I was always comfortable. I like where I am now. I communicate with them with gestures and writing. Or I use an interpreter.

These 5 students felt comfortable using their voices and speechreading. One student, Rene, a senior, became the athletic director in a large house with 50 other hearing female students. She used her self-determination skills to educate her housemates.

Everyone knew me. I taught the president and everyone how to communicate with me. I told them they had to look directly at me to talk to me. Like during meetings...I would use my voice, but when we had really large meetings and I couldn't see across the room, I'd tend to sit with my roommate or a friend and have them explain to me what was going on and I'd lipread them. No one there knows sign language.

But whether the participants attended colleges where they were the only deaf student, or colleges with larger deaf populations, many students shared that they noticed hearing people often did not seem to work as hard as they did when it came to communication. Lakisha spoke of going home exhausted after spending hours at school with those who did not sign. She wanted to see more effort on the part of nonsigners.

It takes so much effort to communicate with hearing people who don't know sign language. What I want is reciprocal relationships. Where there is give and take on both sides. That is more fair. But most of the time I think deaf people work harder than hearing people at communication. I would like to see it more 50/50.

Social Satisfaction

Students were asked if they felt satisfied with their social life in college. All of the participants said yes, but they all also said it would be nice if there were more deaf students at their institute of higher education. All the students in this study socialized with both deaf and hearing peers, some who signed and some who did not. Haley had originally attended an all-deaf college, Gallaudet University, before transferring to her current college where about 30 deaf students were enrolled. She shared her perception of her social experience in her current college..

I mostly socialize with deaf people here. Well, really it is half and half, hearing and deaf both. I really socialize with anyone. Even hearing people who don't know ASL, I get along with them. But I would say all the deaf people here are my friends. There are about 30 deaf students here and I would call them my friends . . . It is nice to have deaf people around. So... I am happy here. But of course, compared to Gallaudet University. Nah! That was my best social experience. Nothing can top that! I was so satisfied with my social experience at Gallaudet. So am I really satisfied here at [small college]? Well...no. it was really much better at Gallaudet . . . At Gallaudet the students were all deaf so I could pick and choose who I wanted to be friends with. And here I can't. It is limited. I am happy that there are deaf students here but not all of them fit my personality.

Whether students attended colleges with 1 or 2 deaf students, or with 30 deaf students, some still talked about experiencing times of isolation and loneliness. But each student said they had found a niche for themselves at the time they were interviewed. Rene, a senior, remembered feeling isolated her freshman year. She had transferred to her large college from a residential school for the deaf. Her first year at college was very difficult. "There was no one to chat with. I was used to being involved with people and there was no one . . . I really felt alone." Rene went on to share her chance meeting with another deaf student:

The end of my junior year I was working at a sporting goods store and I met another student who was deaf. We had no idea of each other because we were in different majors. It is a huge campus and it is easy to not see other students for weeks at a time.

Other students had a different response than Rene when asked about their social experiences. Jorge, a freshman who attended a small college with a number of deaf students stated he felt very satisfied with his social life at college because of the number of students who could sign.

We all support each other. There is a lot of support and help that we offer each other. If I need help, people come, and if they need help, I go to help them. We often study together and support each other. It is very comfortable for me. I feel like I fit here.

Social satisfaction was related to students' opportunity and ability to make friends with whom they could communicate. As Wycoff (1997) suggested, students who lacked close relationships may struggle with social and emotional integration in the college environment. One place where relationships were established in college was in extracurricular activities.

Extracurricular Activities

Involvement in extracurricular activities was an important part of students' perceptions of social success and satisfaction. What stood out in this group of participants is that 13 out of the 14 students (93%) were involved with at least one extracurricular activity. The students in my study knew the importance of being involved in activities and organizations on campus. They were social beings who wanted to interact and engage with others. Some of the activities these students were involved in included collegiate teams, intramural sports, sorority and fraternity houses, and clubs and organizations through the college.

Four students (29%) in my study were recruited to compete on college athletic teams in football, lacrosse, and basketball. Students talked about feeling *equal* with their hearing teammates, and the importance of being recognized for their skill, not their deafness, by their coaches. Becca said, “One thing I really like about this coach is that he doesn’t look down at me like I am deaf. He treats me like any other student and I like that.” Several other students participated in intramural sports, such as flag football, powderpuff football, volleyball, soccer, water polo, softball, mountain climbing, and basketball. One student was even voted homecoming princess her first term in college.

One college was considered *deaf-friendly* and provided opportunities specific to deaf students and students learning sign language. The ASL Club at this small college was established through the Associated Students Organization. All the deaf students interviewed at this college were either members or officers of this club. This is a unique organization in that it encourages both deaf and hearing students who know or are learning American Sign Language to intermingle. As Daphne explained, “My best friend, who is hearing, and I met in the ASL Club. I will be the president of the club next year and she will be the copresident. There is always one hearing and one deaf president in the ASL Club.” Students were proud of this club. Gary said,

Oh yes, I go to the ASL Club here. That club just got an award for the best activity group on campus. It is a great group of people. What I like about this group is that they are very inviting to signers of any level. There is no *deaf power* issue here. We are all just people.

Geoff and Fran attended separate large colleges with only one or two other deaf students. They found that joining a fraternity or sorority gave them the social integration they desired. Geoff explained,

When I first entered [large college] I knew I had to meet new people. It was hard the first term and I told myself just to see where this would go. And then during the winter term I became one of the founding fathers of a fraternity...That was where I really met my base group of friends.

And Fran, concurred:

I am satisfied [with my social life] because I needed some kind of community activity. I wanted something I could participate in during the academic year, instead of just studying, going to class, taking exams. I thought it would be good for me to offer something to the community, so I joined the sorority. That helps me offer something to the community, too.

Mesosystem linkages between campus settings were abundant. Students were embedded in interacting microsystems that went beyond their campus experiences to include family and high school connections. These connections across systems helped the students to feel connected and established in their college environments. Like many hearing students, some of the deaf students in my study became roommates with students they had met in high school. Clara was an example of this as she described her dorm mate. "We both were high school classmates and we came together to this college. And I knew deaf people from other schools who came here, too. We all interact at the deaf club. And I was relieved to know they were here, too." And Rene lived with someone she grew up with. Although her roommate did not know sign language, Rene stated that she is comfortable with this roommate because of their past history.

Fran's situation was more unusual. Fran attended a large college with two or three deaf students she has never met. She was enrolled in a very challenging science program at her college. Fran shared that she sat most of the time with a friend who was in most of her classes. When asked how she communicated with this friend, she replied, "Well, she knows sign language very well. We met because her mom used

to be my interpreter in high school. Her mom taught her sign language and now she is in the same school and in the same major as me!”

The students in my study were embedded in interacting microsystems, which included microsystems of roommates, classmates, teammates, members of clubs, friends from their hometown, and other deaf students. Each microsystem and mesosystem linkage had a developmental effect on the student. These effects within and across systems reinforced one another, which provided more support for the deaf student and which resulted in stronger feelings of success and satisfaction in mainstream college.

Summary

Research has found that integration into the social fabric of college life is as important as academic abilities in student retention (Astin, 1993,1999; Gerdes & Mallinckrodt, 2001; Tinto, 1987, 1993; Youn, 1992). For students in my study, social and emotional success and satisfaction were related to several factors: (a) social experience in high school: (b) shared language and family relationships, (c) sense of agency, and (d) social interaction in the college environment. Table 2 summarizes participants’ perceptions of social outcomes in relation to shared language with their parents.

The students in my study learned about mainstream environments from their primary and secondary school experiences. All participants attended mainstream schools for at least part of their precollege education, and most in settings where they were the only deaf student. Although a few students felt satisfied with their social experience in high school, many struggled to belong and to find social groups in which

Table 2

Students' Reports of Social Outcomes Ordered by Communication With Parents

Name (pseudonym)	Parents	Socially	Current	Close	Cultural Identity
	Sign Post Diagnosis	Prepared for College	Social Satisfaction	Parental Relationship	
Becca	Yes ^a	Yes	Yes	Yes	B ^b
Clara	Yes ^a	No	Yes	Yes	B
Daphne	Yes ^a	No	Yes	Yes	B
Haley	Yes ^a	Yes	Yes	Yes	D ^c
Jorge	Yes ^a	Yes	Yes	Yes	D
Denise	Yes	No	Yes	Yes	B
Geoff	Yes	Yes	Yes	Yes	B
Lakisha	Yes	No	Yes	Yes	D
Brad	No	No	No	Yes	B
Fran	No	Yes	Yes	No	B
Gary	No	No	Yes	No	B
Kevin	No	No	No	No	B
Rene	No	No	Yes	No	B
Hillary	No	No	No	Yes	H ^d

Note. ^aParents continue to sign with their deaf child. ^bB = Bicultural identity. ^cD = Deaf identity. ^dH = Hearing identity.

they felt supported. Barriers in communication were central to this struggle. Although most students were involved in extracurricular activities outside of the classroom, they talked of feeling lonely and isolated after school and on the weekends.

Research suggests that family relationships are important to students' social and emotional satisfaction with college (Arnett, 1998; Kenny & Rice; Lopez & Brennan, 2000; Tinto, 1993; Youn, 1992). Almost all deaf children are born to hearing parents and research in this field has found that only a small percentage of those parents learn to communicate in sign language (Danermark et al., 2001; Gallaudet Research Institute, 2003). What stood out in my current research is that over half of the participants' parents learned sign language at the time their child was diagnosed as deaf. Although not all these parents continued to sign as their child matured, all the participants whose parents did sign stated that they felt close to their parents. In contrast, of students whose parents have never signed, only two reported feeling close. As can be seen on Table 2, shared language between the deaf children and their parents influenced not only the participants' perceptions of closeness to family but also participants' feelings of social preparedness for college.

Personal characteristics also affect students' ability to succeed in college (Pascarella & Terenzini, 1991). In my study, it was found that students' sense of cultural identity, the ability to self-determine, and experiences of belonging shaped their social and emotional integration into college. Although all students identified as deaf, there were unique distinctions among the participant. The ability to self-determine refers to setting and achieving goals. The students in my study knew their strengths and limitations, and were highly self-motivated. Although many participants stated they had

felt out of place in their high schools, they all declared they had found their niche and had a strong sense of belonging to the social environment in their college settings.

Person-environment interactions led to experiences of social integration. As Tinto (1987, 1993) pointed out, students who are able to find congruence with one or more social environments, even if the context of the broader campus culture is largely incongruent, can experience social success and satisfaction, whereas absence of an adequate experience of congruence may lead to withdrawal. Nine students (64%) in my study attended one small college that was considered *deaf-friendly*, whereas 5 students (36%) attended colleges where they were the only deaf student or there were only a very small number of deaf students enrolled. All the students in my study stated they were able to find congruence with one or more social environments in their college setting, and that overall, they felt satisfied and successful with their social experiences at the mainstream colleges.

CHAPTER 6: DISCUSSION AND CONCLUSION

Approximately 123,000 deaf students are enrolled in over 2,300 postsecondary institutions across the United States (Schroedel et al., 2003). More than 70% of these students will drop out of college and never obtain their degree (Myers & Taylor, 2000). Although most deaf students attend mainstream colleges where there are either no or few other deaf students, there has been little research on this population. The goal of this qualitative study was to better understand the experiences of deaf students in mainstream colleges and to examine the factors that appear to contribute to students' perceptions of success and satisfaction in their academic and social environments. This study focused on the perspectives of 14 undergraduate students and provided information about the microsystem and mesosystem environments that affected these students. This study allows us to learn more about the characteristics and trajectories of mainstream college students who are deaf.

This closing chapter reviews the important findings from this study, and examines recommendations for practitioners for academic and social improvement for deaf students in mainstream colleges. After discussing the limitations of this study, I conclude with implications and suggestions for continued research in this area.

Study Findings

Fourteen students who are deaf and attend mainstream colleges participated in this study. They were asked to talk about their relationships with family and how high school prepared them for college, as well as to share their current academic and social

experiences in their college environments. The results of this study presented a rich narrative of the lives about which we have previously known little.

Bronfenbrenner's (1979, 1989, 1993) ecological theory provided a powerful lens for understanding the academic and social experiences of deaf students in mainstream colleges. To understand the overall influences of the environment on the developing college student who is deaf, it is important to understand the contexts in which an individual develops. Complex patterns of interaction and development were discovered in my study. Microsystems included relationships between participants and others, such as family members, faculty, classmates, support service providers, coaches, coworkers, roommates, and peers. The linkages contained within these immediate settings were most often complementary and positively influenced participants' abilities to adapt to the academic and social demands in mainstream colleges. For instance, students participated in a variety of social and work settings outside of the classroom, which provided additional support and influenced participants' ability to adapt academically and socially to their mainstream college environments.

The larger context in which these settings were embedded also shaped the participants in this study. Major social settings, or exosystems, such as the state college system and the Deaf community were important because they influenced both the deaf participants and those with whom they interacted. Macrosystems, which encompass the cultural or subcultural systems, also affected the students in this study. Federal laws, such as the Americans with Disabilities Act, had a direct bearing on participants. Without this law, students would not be entitled to interpreters and notetakers in the mainstream college setting. The macrosystem also includes beliefs and values that have

been passed down for generations. Participants' cultural identities were a part of this larger environmental setting. The last ecological system that shaped these participants was the chronosystem. The students in this study were affected in part by the era in which they attended high school and college. The laws that are in place, as well as the increasing sensitivity by the general public to people who are deaf or who have disabilities, make it easier for developing students such as those in this study to be successful in mainstream colleges.

Although there is a dearth of literature focused on deaf students in mainstream college settings, the little we know was supported in the findings of this study. In addition, important factors were raised as participants in this study described their lives. The following factors are summarized in this section: (a) early experience with shared language between family members, (b) personal characteristics associated with success in college, (c) high school preparation, (d) adequate support services in college, and (e) interaction with others.

Early Language Experiences

Shared language between all children and significant others is important to healthy development. Researchers (Greenberg, Calderon & Kusche, 1984; Luetke-Stahlman & Moeller, 1990; Swisher & Thompson, 1985) found that deaf children's achievement in school, sense of worth, and independence were all dependent on early communication effectiveness between deaf children and their hearing parents. Although almost 60% of the participants ($n = 8$) in this study began signing with their parents as young children and preferred sign language for their current communication, only 36% ($n = 5$) reported that they currently communicated in sign language with at least one

parent. This is a higher percentage than other studies, which have found that only 10 to 28% of hearing family members sign regularly with their deaf children (Danermark et al., 2001; Gallaudet Research Institute, 2003).

Three participants (21%) no longer used sign language to communicate with their parents. They stated that their parents stopped signing for a variety of reasons, but the main cause was because the student's speech and speechreading skills improved over time allowing the parents to rely on oral skills for communication. Of the participants whose parents no longer signed, while one had no regrets and the other two shared their disappointment stating they wished their parents and other family members could sign so that communication in general could be easier and more effective. However, even when parents knew sign language, there were still communication challenges for the deaf students and members of their family. All but one of the students reported that at times they experienced communication confusion or exclusion with family members. The one student who did not experience this had a father who is deaf and a mother who is hearing but who is employed as an interpreter. Everyone in their home was comfortable with sign language.

Personal Characteristics

Pascarella and Terenzini (1991) found that personal characteristics, such as motivation to learn and ability to take action to meet academic and social demands, are important indicators of success in college for students in general. The deaf students in this study were consistently high achievers as shown by their high school and college GPAs, as well as involvement in extracurricular activities. Self-determination, as discussed by Yuen and Shaughnessy (2001), was evident by students' abilities to set

and achieve goals. Another important indicator of persistence is the consideration of future aspirations. Braxton et al. (1995) suggested that college students who are able to make relatively early decisions to identify clear, purposeful educational goals tend to persist as compared with those who delay academic planning. All participants in this study had specific careers in mind, although not all had selected an academic major. In addition, the students had clear plans on how to meet their objectives. As Clara declared, "College is a challenge, but I've got dreams and I know I can do it!" These characteristics contributed to deaf students' sense of agency and overall feelings of success and satisfaction at their colleges.

A sense of identity is also an important personal characteristic for developing college students. Cultural identity shapes the lived experiences of people who are deaf. Researchers (Bat-Chava, 2000; Glickman, 1993, 1996; Melick, 1998; Overstreet, 1999) found three identities associated with deaf individuals: culturally hearing identity, culturally deaf identity, and bicultural identity. Although all participants stated that they were deaf when originally asked about identity, upon further probing, it was found that over 70% ($n = 10$) considered themselves bicultural. Students in this study aligned with those who are bicultural because they believed that both sign language and speech were equally important. In addition, they felt comfortable socializing with hearing as well as deaf people. Four students (29%) did not include speech as a preferred mode of communication and indicated that they preferred communication via American Sign Language or Pidgin Signed English. Although 9 participants (64%) identified speech as a second choice for preferred communication, 13 of the participants (93%) preferred

sign language for communication with others. Only 1 participant identified speech as her only preferred mode of communication.

Bronfenbrenner's (1993) chronosystem played an important role in shaping the lives of the participants in my study. The era in which these students attended elementary school, high school, and college directly shaped their sense of agency and identity. All of the participants in this study grew up with the benefit of federal laws, such as the ADA, which provided more awareness to their parents, their teachers, and the general public, as well as changed the level of service available to students with disabilities.

High School Preparation

Researchers focusing on college retention issues have found that academic and social adjustment to college is related to students' readiness (Astin, 1993; Braxton et al., 1995; Pascarella & Terenzini, 1991; Tinto, 1993). The way high schools helped to prepare both deaf and hearing students influenced students' abilities to succeed both academically and socially in the college environment. The majority of participants in this study felt their mainstream high schools adequately prepared them for the academic rigors of college. Although many students were still surprised by the amount of homework assigned and the importance of study skills in college, they all considered themselves *hard workers*, and stated that the work ethics they learned in high school helped them to be successful in college.

All students, hearing and deaf, face an array of obstacles to success in college. However, for most deaf students who attend college, English is a second language (Schildroth, 1994). Research on retention of deaf students has found deaf students'

English writing skills were weaker than those of their hearing peers (Myers & Taylor, 2000; Stinson & Walter, 1997; Foster et al., 1997). However, almost 60% of the students ($n = 8$) in this study felt their writing skills were on the same level as their classmates who are hearing. This sense of competence added to students' overall feelings of academic readiness, as well as success and satisfaction.

Although most participants in this study felt academically ready for college, many felt unprepared socially. These students spoke of their social isolation in mainstream high school because of communication challenges with classmates and others. One student graduated from a residential school for the deaf where there is a critical mass of peers and adults with whom she could easily communicate and interact. She attended mainstream school until her junior year in high school, at which time she transferred to the state school for the deaf. She felt that her high school experience in a mainstream setting prepared her academically for college, but the school for the deaf experience made her more self-confident and more socially ready for college. This corresponds with research that found mainstream settings often provided a more arduous academic education (Spencer et al., 2000), whereas the social, emotional, and cultural needs of young people who are deaf were better met in residential schools for the deaf (Davis, 1986; Foster, 1997).

Adequate Support Services

Another distinctive consideration for college students who are deaf is the availability of adequate support services. Deaf students are attending public higher education institutions in greater numbers in the past decade because support services are required under the Americans with Disabilities Act (Lewes et al., 1994; Ries, 1994;

Schrodel et al., 2003). Students in this study requested services through their institution's Office of Services for Students with Disabilities. All but one participant used interpreters and notetakers in the classroom setting. Most students were satisfied with their interpreters' signing skill, but they shared concerns about the interpreters' inability to voice accurately for them. This concern made several students hesitant to participate in class for fear of looking incompetent or *dumb* in front of their teachers and hearing classmates.

In addition, many students were not satisfied with the notetakers, stating that the notes were often sloppy and disorganized. Students shared that good notes had a significant impact on their academic success in the classroom. Unique to students who are deaf is their dependence on support services to succeed in college. As one participant pointed out, there is a *love/hate* relationship between students and support providers such as interpreters and notetakers. Strong and effective working relationships between students who are deaf and their service providers are essential for students to persist in college.

Interactions With Others

Effective interaction with faculty, both in and out of the classroom, was another factor that affected the persistence of students in college (Tinto, 1987, 1993). English (1993) found that deaf students who reported greater interaction with faculty did better academically and tended to persist in mainstream colleges. The students in this study had mixed experiences with faculty. Some described how they felt overlooked in the classroom, whereas others were pleased with their instructors' attention to e-mails sent after class. Effective communication was central to students' satisfaction with their

interaction with faculty members. Students shared that often teachers were ignorant of how to interact with deaf students. All participants in this study felt it was important that faculty who had deaf students in their class receive in-service training from the college's Office of Services for Students with Disabilities. Students wanted faculty to know basic information about deaf students and how to use interpreters. The participants stated that they wanted to *fit in*. As Daphne implored, "I don't want special attention, I just want to be treated like any other student in the classroom".

In addition, this study found that deaf students in mainstream colleges interacted with both deaf and hearing students. Again, what was important was communication. The 9 students (64%) who attended a small college where many in the student body knew sign language preferred to socialize with others who could sign. The 5 students (36%) from institutions with much smaller deaf enrollment interacted mainly with hearing students who did not know sign language. All students found innovative ways to interact with others who did not know their preferred language. Most students used gestures, writing, and current communication technology to aid in interaction with others. Ten students (71%) in this study indicated that although sign language was preferred, speech was an acceptable form of communication with others who did not sign. These students willingly used their speech and speechreading skills to assist with the flow of communication. All but 1 participant ($n = 13$) noted that they preferred to communicate in sign language, and stated that communication using speech and speechreading was always more challenging because of the possibility of misunderstanding. Although some students in this study shared their frustrations

regarding communication with others, many participants were satisfied with the limited communication they developed within their social networks.

Studies have shown that integration into the social life of college is as important as academic abilities in student retention (Astin, 1993, 1999; Gerdes & Mallinckrodt, 2001; Tinto, 1987, 1993; Youn, 1992). One way to integrate is to join campus-run activities. All but one of the participants in this study was involved in one or more extracurricular activities at their college. Participants joined hearing sororities and fraternities; participated in a number of committees and clubs, some which were specific to those who could sign and others that were not; several played college-level sports; and many participated in intramural activities. This involvement added to students' perceptions of social satisfaction and success in mainstream college.

The intent of this research was to examine the social and academic experiences of deaf students in mainstream colleges. Overall, the participants in my study felt successful and satisfied with their academic and social experiences in their college; however, these students who are deaf had to learn tactics for overcoming a variety of obstacles they faced in their mainstream colleges. Accessing the Office of Services for Students with Disabilities, advocating for themselves to ensure adequate support services, interacting with others who did not share a common language, and experiencing social isolation were experiences that were common to the participants in my study.

A variety of factors linked to students' perceptions of academic and social success and satisfaction have been described. Although students affirmed their general feelings of academic and social success and satisfaction, they were eager to offer

suggestions and recommendations to increase adjustment and integration for students who are deaf in mainstream colleges. The next section reviews those suggestions and includes recommendations for practitioners.

Recommendations for Practitioners

Most colleges are faced with a student body that is made up of diverse individuals and groups. In the face of such diversity, the need for colleges to provide a widely differentiated array of support resources and educational experiences is evident. Research has found that deaf students often face navigating college life without the necessary tools or without a responsive and supportive campus environment (Foster & Brown, 1989; Foster & DeCaro, 1991; Foster, Long, & Snell, 1999; Foster & Walter, 1992; Scherer, Stinson, & Walter, 1987). The participants in my study were unique in that many had the necessary tools upon entering college as well as supportive campus environments. Students in this study, for the most part, came from supportive home environments, had strong academic preparation for college, and possessed clear and purposeful goals for their future. These *tools* were an important part of their sense of agency and success. In addition, all of the participants in this study attended postsecondary institutions that housed strong disability services offices. Students felt the coordinators of these offices were responsive and cared about their success in mainstream college.

However, these students still struggled in their college settings. The participants in my study were asked what recommendations they had for other students, faculty, staff, and administrators that might make deaf students' academic and social

experiences in mainstream college more satisfying and successful. Their responses were both ardent and articulate.

Most students who are deaf and attend mainstream colleges experience a degree of isolation in and out of the classroom because of communication challenges. When asked what suggestions the participants in my study had to improve the experience of deaf students, every student started with a desire to have more deaf students at their institution of higher education. All participants agreed this would make their college life easier. Students envisioned feeling more empowered if another deaf student sat next to them in the classroom. Haley stated, "If there is another deaf student, then I feel more powerful in the classroom. It is easier to speak out and things like that." Other students talked about having deaf mentors on campus to assist in the tutoring center or to help with the transition to college. The participants recognized that recruiting more deaf students was not a priority of their colleges, however, making the deaf students who currently attended these institutions feel welcomed and valued was an important first step to encouraging other deaf students to apply.

The students in my study had specific recommendations that could affect deaf students who currently attended mainstream colleges. The first was to enhance the accessibility at their prospective colleges. For example, extracurricular activities are an important part of the college experience. The deaf students in this study suggested that schools make events and activities more accessible to deaf students by ensuring that interpreters are available and that videotapes are captioned. All the participants remarked that deaf students should be able to access services and events offered on campus in a similar fashion as hearing students. Lakisha made this suggestion. "I think

communication [with deaf students] could be improved on campus if flyers for events and stuff included whether it was accessible. I mean, will activities be interpreted? Will movies be captioned? Things like that are important to me.”

Students had a variety of ideas to help improve the interaction between faculty and deaf students. All students wanted to be seen as unique individuals. Several students shared the importance of being seen by faculty as individuals because not all students who are deaf communicate in the same way or have the same abilities. Several students were concerned that faculty did not know how to use an interpreter in the classroom or how to communicate effectively with them. Kevin said that teachers tended to overlook him in class. He explained, “I think it is important that faculty involve deaf students more [in class]. Sometimes faculty overlook deaf students and don’t even see that we exist.” Participants suggested in-service training for faculty through the Office of Services for Students with Disabilities to learn how to communicate with deaf students as well as how to use interpreters in the classroom.

Denise shared that this would be useful for faculty and others:

I think all faculty, staff, and students should have a meeting with ODS to learn how to talk with a deaf person, because they often talk directly to the interpreter instead of the student. And also they need to learn how to approach deaf people. I have had people come up to me and pound me on the shoulder to get my attention, and I feel like my space has been invaded. They need to become more aware of Deaf culture. Because, I think there is a lot of bias about language and they often don’t understand second language information.

Communication between faculty and students was an important concern for these participants. The most common suggestion for improvement was the use of e-mail for more efficient one-on-one communication. E-mail allows both the instructor and the

deaf student to have equal access to each other, especially between classes or if interpreters are not available.

Other suggestions for faculty from students included making the classroom more *deaf-friendly* by slowing down the lecture when using visual aids so students who rely on an interpreter can look at the visual aid and then back to the interpreter without missing important information. Another student suggested using PowerPoint presentations that outline lectures. All students recommended that videotapes and films be captioned when there was a deaf or hard of hearing student in the classroom.

I recommend that the Office of Services for Students with Disabilities should contact faculty members when a deaf student first enrolls in their class. In-service training or even one-on-one discussions between the teacher and coordinator of disability services about how to work with deaf students and interpreters could benefit both the student and the teacher.

Students may select a particular college for its location, tuition costs, range of majors, reputation, as well as numerous other reasons. Students who are deaf consider the same reasons as their hearing peers, but they are likely to give major consideration to the type and quality of support services available to them. Skilled support service providers are very important to the academic success of deaf students and several students in my study suggested that interpreters and notetakers be evaluated on a regular basis to ensure the best quality of service for students who are deaf. However, students realized that many colleges do not have experience with deaf students and these specific support people. One student suggested that personnel from the Office of Services for Students with Disabilities at colleges who were not accustomed to working with deaf

students visit a college that serves larger populations of deaf students to see what they had in place. He said, “There are support programs out there that are successful. Small campuses don’t have to reinvent the wheel!”

Commitment to help sustain the development of all individual students, including those who are deaf, is a critical and ongoing challenge faced by colleges. But, what is the institutional commitment? What are the attitudes and actions that demonstrate to deaf students that they are valued? It is essential that there is an appropriate and reliable match between what the institution provides and what the student would like to receive. There needs to be a commitment from the administration level down that encompasses instruction, organization, and student life issues involving all students with disabilities, including those who are deaf. It is possible for institutions to go beyond the letter of the Americans with Disabilities Act and embrace the all-inclusive spirit that underlies it. The participants in this study were eager to share their ideas and suggestions of what might make an institution of higher education more *deaf-friendly*. Students who feel valued and experience a sense of belonging at their college have a stronger chance of persisting.

Limitations

This study is not without limitations. Purposive sampling methodology was used to recruit subjects for this study. For this reason, there was a lack of variability in the sample population. Since there is relatively little research on the academic and social experiences of students who are deaf in mainstream colleges, this was an exploratory study. Therefore, I chose to limit my selection criteria to students who were (a) between the ages of 18 to 23, (b) were single and not living with their family of origin, (c) self-

identified as deaf, (d) receiving services through their colleges' Office of Services for Students with Disabilities, and (e) full time students. Also, all participants were enrolled in four-year colleges or universities.

In addition, all the students in this study attended mainstream high schools. Although one student transferred to a residential school for the deaf during her junior and senior year, she was the only person in my study to graduate from this type of institution. In contrast, other research indicates that about 20% of all deaf students graduate from residential schools for the deaf (Schildroth & Hotto, 1996). This is an important point when considering this current study. Research (Spencer et al., 2000) has indicated that deaf students who attend mainstream high schools often receive a more rigorous academic education, however their social, emotional, and cultural needs often suffer in these settings (Davis et al., 1986). The majority of participants in this study felt their high school had academically prepared them for college, but several stated that they did not feel socially prepared for college. Interviewing students who attended residential schools for the deaf throughout their elementary and secondary education could provide a more diverse sample in regards to academic and social preparation for college.

An important note is that there are approximately 40 deaf students who attended the four colleges that agreed to participate in my study. Out of this number, only 18 deaf students were identified who met my selection criteria, and I interviewed 14 of them (78%). Perhaps the similarities found between the subjects indicate that deaf students who attend mainstream four-year colleges with small deaf populations in the Pacific Northwest have much in common.

College students who were not included in this study were those who are older than traditionally aged students and married, or living with their parents. Students who were hard of hearing or identified as hearing impaired were not considered, nor were part-time students or students who attended community colleges. The results of this study might have looked quite different had my sample included a broader selection. For instance, students who are deaf and attend community colleges are likely to be more diverse in terms of their high school academic and social preparation for college. The students in my sample were extremely bright and motivated and had successful academic experiences in their mainstream high schools. However, my intention was to explore issues among deaf students in mainstream four-year colleges in the Pacific Northwest. Narrowing the selection of the sample provided important preliminary findings. A follow-up study could look at the difference between the deaf students who are currently attending two-year versus four-year postsecondary institutions.

As indicated, there was indeed a lack of variation in the sample; however the use of purposive sampling was warranted. For instance, the coordinators of disability services on campuses were the main key informants and were important to identifying possible participants for this study. Coordinators were the bridges between potential participants and the researcher. It was important that I recruited subjects who identified themselves as deaf and not hard of hearing or hearing impaired. These coordinators helped recruit students who matched my selection criteria. In addition, the coordinators encouraged the identified subjects to participate in my study. This helped me to develop credibility with participants, which is critical in qualitative studies (Berg, 2001).

An additional limitation was that the sample size for this study was small. However, a qualitative approach was appropriate because this methodology allows researchers to fully examine questions about the development and adjustment of nontraditional groups (Foster, 1996; Manning, 1992; Mertens, 1998; Sheridan, 1996; Spencer, 2000). In addition, researchers using this methodology focus intensively on a relatively small number of participants toward the goal of understand the subtleties of the topic being studied (Berg, 2001). I was able to focus intensively via in-depth interviews on this small group of students with the goal of allowing the participants, not the researcher, to emerge as the experts on the topic (Lofland & Lofland, 1995).

The findings of this study are not meant to be conclusive or widely generalizable. It is clear that the 14 students interviewed for this study are not representative of all deaf students in mainstream colleges. The fact that the students were enrolled in four-year colleges because of their high school academic merit indicates the atypical nature of these participants. However, the data reflect the common themes evident in the responses 14 participants had to questions regarding their academic and social experiences in mainstream four-year colleges. Although not conclusive, they are informative.

Implications and Directions for Future Research

Approximately 70% of deaf students will withdraw from college and not obtain their degree (Myers & Taylor, 2000). This study examined factors involved with the attrition of deaf students in mainstream colleges. Persistence in college is important for many reasons, one of which is that deaf people who enter the workforce without a college degree have a difficult time securing jobs where they can compete and be

successful. Welsh and MacLeod-Gallinger (1992) found that deaf workers, in general, earned less than their hearing peers when level of education was equal. In other words, a deaf worker with a subbachelor's degree earned 79% of what a hearing worker earned with the same degree. This gap closed with advanced degrees. A deaf worker with a bachelor's degree earned 83% of what a hearing worker earned, and 89% with a master's degree. In a more recent study, Schroedel and Geyer (2000) found that the level of college degree correlated positively with annual income among deaf workers. They further confirmed that deaf college graduates earned significantly less than hearing graduates at the same degree levels. Succeeding in and graduating from college is essential if deaf individuals hope to compete and succeed in the world of work.

More research is needed in this field. Although the interviews with the 14 students provided a wealth of new information regarding deaf students in mainstream four-year colleges, future studies that include important others in the various microsystems of deaf students could expand our understanding. Future research studies of deaf college students could include parents and family members, hearing roommates, hearing classmates, faculty, coaches, and others who interact with deaf students in their college environments. Including these significant others in the interview process and in data analysis could provide the researcher with more diverse information regarding the relationship deaf students have with others as well as their perceptions regarding the adjustment and integration of deaf students in mainstream colleges.

This study provided important information regarding the academic and social perceptions of deaf college students who attended colleges with very few deaf students. However, the participants in my study shared similar characteristics because of stringent

selection criteria. A future study that encompassed deaf students who live at home, are married, or attend community colleges could expand information on deaf students in mainstream colleges. A national survey of college students in 1989 – 1990 considered the traditional college age to be between 18 and 35 (U.S. Department of Education, 1993). The oldest student in my study was 23 years old. Interviewing participants older than this could provide important additional information.

Also, there are 345,000 hard of hearing students who are currently attending college (Schroedel et al., 2003). Although deaf and hard of hearing students are often considered together in studies, hard of hearing students face challenges that are quite different from those of students who are deaf. Interestingly, Moore (2001) found that vocational rehabilitation consumers who were hard of hearing achieved competitive jobs at significantly lower rates than consumers who were deaf. In addition, she found that when hard of hearing consumers attended college or were provided postsecondary vocational training, they were significantly more likely to achieve competitive jobs than consumers who had not attended college or had not received such services.

Because of legislation that has been enacted in the last 10 years, such as the Americans with Disabilities Act of 1990, the general public has become more aware of issues faced by deaf individuals. In contrast, the general public as well as individuals who are hard of hearing have little information regarding accommodation options for a partial hearing loss. The denial about the need for hearing assistance that is present in this population also exists with service providers. It is essential that we learn more about the academic and social experiences of hard of hearing students in the mainstream college setting. Doing so would provide hard of hearing people, vocational

rehabilitation counselors, as well as other practitioners, with valuable information that would improve this population's academic and vocational outcomes.

Another group not considered in this study was students who are deaf and who have withdrawn from college. Deaf and hearing students drop out of college for a number of reasons, including insufficient academic ability, financial restraints, and lack of emotional readiness. However, as this study found, students who are deaf have additional obstacles to overcome in college, for example inadequate support services. Over 70% of deaf students withdraw from college (Myers & Taylor, 2000). Future studies involving deaf students who have withdrawn from college, although harder to recruit, could provide important specifics into experiences of success and satisfaction in the academic and social environments of mainstream colleges.

Conducting this study has been personally rewarding and challenging and I have specific goals for continued research in this field. The information I gathered from this current study has provided me with rich and exciting data. The students I interviewed were exceptional people and I plan to continue to follow their lives for the next four years. My intent is to conduct interviews in person or utilizing new technology called videophones in the winter of 2006 and 2008 to track these students' academic and social trajectories in college and postgraduation. The students in this study can teach us more about the persistence of deaf students in mainstream four-year colleges.

The first two decades of my professional life included providing direct services to people who are deaf. After completing this research, my commitment to this population remains intact. However, I now believe the next two decades will include

working with other deaf professionals to conduct research on a more general level to enhance the personal, educational, and political lives of people who are deaf.

Conclusion

This study contributes to the literature that looks at college students who are often marginalized, but especially students who are deaf. Students from cultural minority groups, who have a disability, or who are deaf, and attend mainstream colleges, tend to drop out in high numbers. The participants in this study made recommendations to improve the college environment which can help with retention of special populations. Simple, modest changes can be made to aid students who are deaf, as well as other, in feeling more successful both academically and socially.

Deaf college students contend with many of the same challenges as hearing student in regard to college readiness and academic and interpersonal skills. However, deaf students in mainstream colleges must face obstacles that are unique to them. In addition, the individual learning characteristics, background experiences, language, and aspirations of deaf students can vary widely. Such diversity exists not only in comparison to hearing students as a whole, but among deaf students themselves as seen in the lives of the 14 participants in this study. Their stories highlight the importance of understanding how deaf students navigate both socially and academically in the ecological context of a mainstream college.

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APPENDICES

Appendix A

Sample Letter to Interested Participants Deaf Students in Mainstream Colleges: Interviews and Analysis

Date:
Name:
Title:
Address:

Dear [Name of Student]:

I am writing to ask your help with a project I am doing as part of my work as a doctoral student in Human Development and Family Sciences at Oregon State University (OSU). During the course of my studies, I have become interested in learning more about the experiences of college students who are deaf. I am interested in their family influences, their perceived readiness for college, and their current feelings of academic and social success and satisfaction. I am also interested in what it is like to be a deaf college student in a mainstream hearing college.

I would like to interview students who are deaf and who attend mainstream colleges. Each student will be interviewed for approximately one to two hours, in a place and time that is comfortable and convenient for them. The interviews will be conducted in American Sign Language, signed English, or spoken English, and will be videotaped. During the interview you can refuse to answer any question, and you can ask to stop at any time.

After the interviews, I will interpret the videotapes into spoken English onto audiotapes, and then transcribe the tapes for analysis. I will get help from my OSU professors to appropriately review and analyze these conversations. No one else, other than these professors, will see the interviews and all information will be kept confidential.

I will be contacting you within the next week to see if you are willing to participate in this project. I am excited about this project and I look forward to talking with you in person. If you have any questions or concerns and would like to get in touch with me sooner, I can be reached at 503-838-8744 (V/TTY) or by e-mail at smithj@wou.edu.

Thank you for your help.

Respectfully,

Julia A. Smith, M.S.
Oregon State University
Doctoral Candidate

Appendix B

Recruitment Flyer

***Are you a deaf, undergraduate student between the ages of 18 to 25?**

***Would you like a \$25.00 gift certificate to your college bookstore?**

***Would you be interested in participating in a research study that examines the lives and experiences of deaf college students?**

(Participation will involve a two hour video taped interview conducted in your preferred mode of communication.)

If so, please contact Julia Smith to find out about participating in this research study.

Julia Smith - Smithj@wou.edu

503-838-8744 V/TTY

Western Oregon University

Ed. Building, Room 227

Appendix C

Interview Protocol Questions

Category I: Student Background Information

- A. Name, age, gender, ethnic background, communication preference, year in college, major, GPA, secondary education background and GPA, other postsecondary experiences, career goal.

Category II: Identity

- A. How do you identify yourself? Do you call yourself deaf? Deaf? Hearing impaired? Hard of hearing? What does your family call you? What about your friends? Teachers?
- B. Have you noticed any changes in your identity related to your hearing loss over time?

Category III: Family of Origin

- A. Tell me about your family. How would you describe your relationship with your mother? Your father? Your siblings? How do you communicate at home? How has your relationship with your family members changed since elementary school? High school? College?
- B. What was it like for you to leave home for the first time? Has your relationship with your parents/siblings/extended family changed since you moved away from home?
- C. Has anyone in your family attended college before? What is your family's involvement in your college experience? How often do you communicate with them?

Category IV: College Readiness

A. This section will ask about how you felt prior to attending college. It will look at how prepared you felt to come to school academically, socially, and emotionally.

B. Perception of academic readiness: Do you feel your high school prepared you for college? How? What were your high school GPA and SAT/ACT scores? Describe your study skills like in high school. What about now? How is your college GPA? What motivates/excites in your college classes? Is this different from in high school? What is the most difficult part of college academically? What are your educational goals? Have you decided on a major? What is your attachment to this particular institution? How is the academic part of your college experience the same or different from what you thought it would be in high school?

B. Perception of social readiness: How ready did you feel to go to college? What concerns did you have in regards to meeting new friends? How would you describe your social life in high school? Is it similar or different in college? How did you meet your roommate? Did you consider yourself independent or more dependent when you were in high school? What is your freedom like now? How do you negotiate your freedom at college? How is the social part of your college experience the same or different from what you thought it would be in high school?

C. Perception of emotional readiness: How did you feel about leaving home? Do you feel separate from your family? What was your biggest fear when you

thought about college? What was the thing you looked forward to the most in college? If someone would ask you to describe yourself in high school, what would you say? What about now? How were your problem-solving skills in high school? What about now? How is the emotional part of your college experience the same or different from what you thought it would be in high school?

Category V: Perceptions of Academic, Social, and Emotional Success and Satisfaction at Your Current College

- A. How would you describe your overall experience at your college? Why did you choose to attend this college? Is your experience similar to what you predicted?
- B. What is your experience in the college classroom? How well do you feel you fit in? Who do you tend to sit with? How do you feel about your interaction with other students? What do you do when there is a group discussion? How do you feel about your communication and relationship with your professors? How are you doing academically?
- C. What kind of support systems do you use? What is it like to use an interpreter in the classroom? What about a notetaker? Do you use the tutoring center on your campus?
- D. Describe your social life at your college. Tell me about your current social support system. Who are your friends? Whom do you live with? Are you dating? How do you interact with hearing people on campus? Do you feel your interaction is positive or negative? Can you give examples? Do you tend to

have many friends, a few close friends, long-term friends, new friends? Who do you talk to at college if there is a problem? Did you know anyone at this institution before you applied? What do you do for fun at college?

- E. What is your overall feeling regarding your experience at your college? Describe how or why you are satisfied or not satisfied with your overall experience at college

Appendix D

Participant Profile

NAME: _____

DATE OF BIRTH: _____

ETHNIC BACKGROUND: _____

CURRENT ADDRESS: _____

E-MAIL: _____

PERMANENT ADDRESS: _____

Please provide the names and contact information for three people who will always know how to contact you. This will allow the researcher to get in touch with you if future questions arise:

1. _____
_____2. _____
_____3. _____

(All information on this sheet will be kept confidential
and stored in a locked cabinet.)

HOW MANY YEARS HAVE YOU ATTENDED THIS COLLEGE? _____

WHAT COLLEGES HAVE YOU ATTENDED PRIOR TO THIS ONE? _____

WHAT IS YOUR MAJOR? _____

WHAT IS YOUR CAREER GOAL? _____

WHAT IS YOUR CURRENT GPA? _____

WHAT HIGH SCHOOL DID YOU ATTEND? _____

WHAT WAS YOUR HIGH SCHOOL GPA? _____

WHAT IS YOUR PREFERRED MODE OF COMMUNICATION? _____

IN HIGH SCHOOL? _____

WITH FRIENDS? _____

WITH FAMILY? _____

WHAT ACCOMMODATIONS DO YOU USE IN COLLEGE? _____

(Thank you!)

Appendix E

Informed Consent Draft

Project Title: Deaf College Students in Mainstream Settings

Principal Investigator: Dr. Leslie Richards

Student Researcher: Julia Smith

PURPOSE

This is a research study. The purpose of this research study is to gather information regarding the perceptions of academic and social success and satisfaction for students who are deaf and who attend colleges in the Pacific Northwest.

The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study. Please read the form carefully. You may ask any questions about the research, what you will be asked to do, your rights as a volunteer, and anything else about the research or this form that is not clear. When all of your questions have been answered, you can decide if you want to be in my study or not. This process is called *informed consent*. You will be given a copy of this form for your records.

You are invited to participate in this research study because you meet the requirements of being a deaf undergraduate college student at a college.

PROCEDURES

If you agree to participate, your involvement will last for approximately one to two hours. Typically, we will only need to meet one time. The interview will be conducted in American Sign Language, signed English, or spoken English and will be videotaped. Information from the videotapes will be interpreted into spoken English

onto audiotapes for the purposes of transcription. Each participant will be invited to review the interview once it is transcribed into written English to check for accuracy.

The interview will consist of questions regarding your view of your academic and social success and satisfaction at your current college, your perception of your readiness for college prior to your admittance to this current college, your family of origin relationships, and what views you hold of yourself at this time in your life.

RISKS

Risks are minimal. Thinking about your current experience may bring up both positive and negative feelings. There is no pressure to participate, and interviews will be conducted in private so only the Student Investigator, Julia Smith, and the Principle Investigator, Dr. Leslie Richards, will see the responses. You can refuse to answer any questions or terminate the interview at any time. In the unlikely event you feel upset during the interview, a referral to a counselor can be provided.

BENEFITS

The potential personal benefits that may occur as a result of your participation in my study may be increased insight into the views you currently hold of yourself as a deaf student in a mainstream college. The researchers anticipate that society may benefit from my study by having more information regarding the experience of students who are deaf in a mainstream college.

CONFIDENTIALITY

Records of participation in my study will be kept confidential to the extent permitted by law. However, federal government regulatory agencies and the Oregon State University Institutional Review Board (a committee that reviews and approves

research studies involving human subjects) may inspect and copy records pertaining to this research. It is possible that these records could contain information that personally identifies you. However, in the event of any report or publication from my study, your identity will not be disclosed. Results will be reported in a summarized manner in such a way that you cannot be identified. All audio and videotapes will be stored in a locked file in the student researcher's office at Western Oregon University. A codebook listing names and contact information for participants will be kept locked in a separate location. The student researcher or a professional transcriber will transcribe all tapes. The transcripts or tapes (without identifying information) will be shared with the Principal Investigator, who is a professor at Oregon State University. All tapes will be destroyed after five years from the interview.

By initialing in the space provided, you verify that you have been told that the audio/video recordings will be generated during the course of my study.

_____Participant's initials

VOLUNTARY PARTICIPATION

Taking part in this research study is voluntary. You are free to skip any question that you would prefer not to answer. You may choose not to take part at all. If you agree to participate in my study, you may stop participating at any time. If you choose to withdraw from my study, all information collected up to that time will be destroyed.

QUESTIONS

Questions are encouraged. If you have any questions about this research project, please contact the Principal Investigator, Dr. Leslie Richards, at the Human

Development and Family Sciences Department at Oregon State University, 541-737-4992, or Student Researcher, Julia Smith, Western Oregon University, 503-838-8744, smithj@wou.edu. If you have any questions about your rights as a participant, please contact the Oregon State University Institutional Review Board (IRB) Human Protections Administrator, at 541-737-3437 or by e-mail at <IRB@oregonstate.edu>.

Your signature indicates that this research has been explained to you, that your questions have been answered, and that you agree to take part in my study. You will receive a copy of this form.

Participant's Name (printed): _____

(Signature of Participant)

(Date)

RESEARCHER STATEMENT

I have discussed the above points with the participant. It is my opinion that the participant understands the risks, benefits, and procedures involved with participation in this research study.

(Signature of Student Researcher)

(Date)

Appendix F

Codes Using winMax Software

Academic Satisfaction and Success

- Academic major
- Attachment to current college
- Challenging classes
- Class participation
- Easy/enjoyable classes
- English writing skills
- GPA
- Interpreters
- Notetakers
- Other accommodations
- Tutoring

Career Goal

College Preparedness

- Academic preparation
- Choosing a college
- Friend connection at college
- High school perception of college
- Previous college experience
- Social experiences in high school
- Transition to college

Commitment to College

Communication

- Age learned sign language
- Cochlear implants
- Faculty
- Family
- Friends
- In class
- Others in college
- Preferred mode
- With non-signers

Deaf Community

Family Relationship

- Changes since left home
- Early childhood experience

- Family closeness
- Family contact
- Family involvement in college
- Family members attended college

Identity

- As a child
- Current college identity
- From family

Other College Experiences

Personal Characteristics

- Motivation
- Self-determination
- Sense of belonging

Relationship with College Staff

Relationship with Peers

- Classmates
- Dorm/roommate
- Hearing vs. deaf

Social Satisfaction and Success

- Dating
- Extracurricular Activities
- Feelings of isolation
- Relationships with others
- Satisfaction with current college

Suggestions for Improvement

VR Services

What Would Make You Drop Out?