Student Persistence at a Small, Private, Religiously-Affiliated College: An Examination of Retention Theory

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STUDENT PERSISTENCE AT A SMALL, PRIVATE, RELIGIOUSLY-AFFILIATED COLLEGE: AN EXAMINATION OF RETENTION THEORY

by

Benjamin Arendt

A Dissertation
Submitted to the
Faculty of the Graduate College
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requirements for the
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Department of Educational Leadership, Research and Technology
Advisor: Andrea Beach, Ph.D.

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Benjamin Arendt
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CHAPTER I
INTRODUCTION

Background

Researchers in higher education institutions have spent considerable energy producing studies, models and theories attempting to explain the relationships between college students and the institutions they attend; specifically why a student persists or stops out of college (e.g., Astin, 1984; Bean, 1980; Kuh, 2007; Patrick 2007, 1980; Spady, 1970; Tinto, 1975). These efforts are not surprising considering that only fifty percent of those who enter higher education obtain a bachelor's degree, according to the U.S. Department of Education Center for Educational Statistics (Brawer, 1996; Seidman, 2005).

According to American College Testing (2003), over the last 20 years there has been little change in five-year graduation rates for combined Bachelor's, Master's, and Ph.D. granting institutions. Findings from ACT's annual survey of over 2,000 two-year and four-year institutions indicate a first to second year average drop-out rate of 31.8% at public Bachelor level institutions. More recently the National Center for Public Policy and Higher Education in both its 2004 and 2006 Measuring Up reports indicated that the United States is underperforming in higher education. Yet, Kuh (2007) maintains that as many of four-fifths of current high school graduates must obtain some form of postsecondary education if they are to become self-sufficient and if the United States is to remain economically competitive.

Student persistence and degree completion play an important role in enrollment management strategy and macro budget planning for private and public institutions alike.
Persistence is commonly defined as a first year student returning to regular enrollment status in the first semester of the sophomore year and is positively associated with the likelihood of eventual graduation from the institution (Mallinckrodt & Sedlacek, 1987, Yu et al, 2007).

Several institutional outcomes associated with persistence include institutional prestige and financial gains and losses (Ferguson, 1990; Nordquist, 1993). College costs continue to increase and enrollments are at record highs, while the proportion of students completing degrees has been level for decades, making the study of student persistence vital (Kuh, Kinzie, Schuh, & Whit, 2005).

Many studies have been conducted to create and examine theories of student departure, student retention and student persistence (e.g., Berger, 1997; Nordquist, 1993; Sedlacek, 2004; St. John, 2003; Tinto, 1975). The overall goal of such theories is to account for the relationships between students and the colleges they attend (Pascarella & Terenzini, 1991) so that institutions can put strategies into place to improve upon those relationships; thus, improving student persistence, retention, and degree completion.

Examining the vast literature on persistence theory, four major motifs emerge. The most traditional view is that there are a set of pre-college characteristics that not only predict academic performance but also predict persistence behavior, among other outcomes (Astin, 1991; Feldman & Newcomb, 1969; Strauss & Volkwein, 2004). A second group of theories line up with “student-institution fit models” (Strauss & Volkwein, 2004). A third set of propositions highlight the value of campus climate and involvement (Astin, 1984; Endo & Harpel, 1982; Nora, 1987). Finally, there are structural, or organizational perspectives, that give point to the institutional variables as
contributors to not only educational outcomes, but also persistence (Hall, 1991; Berger & Milem, 2000; Pascarella, 1985; Strauss & Volkwein, 2004). Examples of these variables would be things like campus size, institutional mission and institution wealth. For example, the location of a campus may have an impact on persistence, or amount of resources available to students may increase a desire to stay.

Put simply, there are academic and non-academic factors possessed by the student and the institution that are described in the literature as influencing persistence. According to the accepted models, these factors display themselves simultaneously within the institution and the individual student. Figure 1 illustrates the four motifs and how they intersect. The central component to their intersection is persistence.

![Persistence](image)

*Figure 1. Persistence models and theories: Emergent themes.*

Despite the wide acceptance of various persistence models, there are criticisms of these theories as well. Many studies producing persistence theories and models are short-term in nature and generally focus on first-year retention (e.g., Berger, 1997; Elkins, Braxton, & James, 2000; Ishitani & DeJardins, 2002; Tiereny, 1992; Tucker, 1999).
Another challenge is that these models have largely focused on large, public institutions (e.g., Astin, 1975; Cabrea, Nora, & Castandeda, 1993; Smith, 2002; Tinto, 1993). Research that examines accepted retention theory within the context of small, private, liberal arts colleges is limited. Studies that have emerged (e.g., Barry, 2002; Cash & Bissel, 1985; Fulcomer, 2003; Smith, 2002) call for more study implementing a longitudinal review of retention to examine the applicability of the various persistence models to these specific institutional environments.

For the purposes of this study, retention will be used to describe institutional efforts to help students achieve the objective of returning to the same college in which they initially enrolled (Lenning, Beal, & Sauer, 1980). Persistence will refer to a student’s ambition to stay enrolled at the same university in which they initially matriculated (Mallinckrodt & Sedlacek, 1987, Yu et. al, 2007). Degree completion refers to a student who remains enrolled at a college until she or he completes all academic requirements necessary to graduate (US Department of Education, 2000). Attrition refers to students departing from the university without completing a degree (Bean, 1978).

As previously noted, literature examining persistence issues within the context of small, private, religiously affiliated, liberal arts institutions is sparse. A review of such studies completed to date will be offered within chapter 2, but this chapter highlights a few studies and notes how they reveal the need for further research within such higher education settings. For example, Barry’s (2002) research was fashioned to examine the common characteristics of academic and social integration of college students attending a small, private, religiously affiliated institution. A major limitation of the study was the undefined qualifications of social involvement. This study concludes that "other forms of
support" like family members were the strongest positive influence on retention. As another example, Fulcomer (2003) concludes that student retention at small, private, religiously affiliated institutions is related to a student's academic achievement and satisfaction, and adequate student work programs. One recommendation from this study was to produce qualitative data that would heighten the understanding of variables that impact retention in such settings.

Several tools have been created to measure the various student and institutional variables deemed important for persistence (Bean, 1978; Gohn, Swartz & Donnelly, 2001; Tinto, 1975, 1988). One such tool is the National Survey of Student Engagement (NSSE). The initial NSSE project was conceived as a means to record the current context of student engagement at four-year colleges and universities, and produced five benchmarks that emphasize the important link between effective educational practices and collegiate quality (Kuh, 2001). Those benchmarks include: (1) the level of academic challenge, (2) active and collaborative learning, (3) student interactions with faculty, (4) enriching educational experiences, and (5) supportive campus environment.

The level of academic challenge refers to the degree to which a student is pushed toward knowledge acquisition. Active and collaborative learning can be interpreted as peer/group work within a framework of action with service-learning opportunities being a great example of learning within this framework. The student interaction with faculty benchmark refers to the amount of time, both formally and informally, students spend engaging with faculty. Enriching educational experiences refer to the quality of educational experiences as perceived by the student. And supportive campus climate refers to a community ethos that supports students.
Each of these five benchmarks can be tied directly to one or more components of the aforementioned persistence theory models (Astin, 1993; Bean, 1990; Lotwoski, Robbins, & Noeth, 2004; Pascarela & Terenzini, 1977; Tinto, 1987). More detail on these connections and their importance in this study is offered the conceptual frame section of this chapter.

What is important to know at this point is that, in keeping with accepted persistence theories, high scores on each of the five benchmark areas, measured by the NSSE, are assumed to be positive predictors of persistence. Yet criticisms of persistence theories indicate that previously mentioned models do not fully account for persistence issues within various types of higher education institutions. This is the case for one small, private institution that did not score well on two of the five benchmarks (student and faculty interaction and active and collaborative learning); yet that same institution still maintains a very high first-year to second-year retention rate (an average of 87% over the past four years). According to persistence theory, this university should be experiencing a more modest retention percentage. Current persistence theory does not adequately explain what is happening within this institution, and perhaps others like it.

A previous study (Zomer, 2006) at the same institution focused on retention of "at-risk" students through an examination of persistence behaviors in relation to on-campus mentors. The purpose of that study was to examine the applicability of Vincent Tinto's (1975) theory of student departure to the experience of students identified to be at risk of not graduating at a private, religiously affiliated, liberal arts institution and the impact of mentoring on the students' experience. Important to this study is Zomer's (2006) finding that faculty members were not specifically mentioned, by the students
interviewed, as having impacted participants' social development. Based on this finding, Zomer recommended that further study should include a deeper examination of the relationship between student persistence and student/faculty interactions and relationships. The Zomer study focused heavily on one retention model and differs from this study in that it addressed a limited population of students, those "at-risk" of drop-out. This study complements Zomer's work by looking more deeply into the factor of student/faculty interactions and relationships for the general student population. Using these recommendations, this study will focus only on the student and faculty interaction benchmark.

Research Questions

This study seeks to understand how one small private institution can maintain a high persistence rate while not seeming to exhibit several necessary retention factors as described in the literature and prescribed in theory. The following research questions have been established to guide the study:

1. To what extent and in what ways does the 2003 and 2006 NSSE student and faculty interaction benchmark for both first year and senior year students at one small, private, religiously affiliated college differ when compared to:
   (a) their CCCU peers (when including the 2006 dataset);
   (b) their Carnegie peers; and
   (c) to the entire NSSE samples?

2. To what extent and in what ways does the 2003 and 2006 NSSE student and faculty interaction benchmark differ among students at one small, private, religiously affiliated college when disaggregated by:
(a) gender (for both first year and senior students);
(b) those majoring in professional and non-professional degree programs at the private school being studied (for both first year and senior students); and
(c) those who have declared a program of study and those who have not (for first year students)?

3. Within a small private, religiously affiliated college which had scored low on the 2003 and 2006 NSSE student and faculty interaction benchmark, how do students (first-year male and female, first-year undecided, first-year enrolled in professional programs, first-year enrolled in non-professional, senior male and female, seniors enrolled in professional programs and seniors enrolled in non-professional programs) describe their experiences in that college and connect those experiences to their persistence in completing their degree at that college?

Methods

This study incorporates a mix of quantitative and qualitative methods within a two-phased research structure. The first portion of the research thoroughly examines the 2006 NSSE data set to discover any significant differences among sub-groups (NSSE group, Carnegie group, CCCU group and the school of interest) and relationships among variables (e.g. gender, academic program, year in college) that shed light on the benchmark “profile” of this school compared to its peers.

The research examines variables as they are presented in the NSSE report and those that are supported by literature. For example, previous research has found that
persistence is higher for both men and women who are more integrated into the college experience; however, some of the factors that influence persistence do so in different ways for men and women (Leppel, 2002). Another study by St. John, Hu, Simmons, Carter and Weber (2004) found that students in “higher demand” majors (e.g., Business, Healthcare and Engineering) were more likely to persist than those who were undecided about their major. Finally, much has been written about the impact of the first-year experience (Kuh, 2007; Levitz & Noel, 1989; Pascarella, Terenzini, & Wolfle, 1986; Tinto, 1999). Sidle and McReynolds (1999) revealed that students who participate in a “first-year experience” (defined as a curriculum delivered by faculty) displayed not only higher motivation to finish college, but higher levels of retention than those who do not. This portion of the research was conducted using SPSS software on the provided NSSE data specific to this college, its Carnegie peers, and the entire NSSE cohort.

The primary focus of the quantitative data analysis is on the 2006 dataset. The reason for this is threefold: first, the 2006 survey provides recent data, second, it offers comparisons with the CCCU schools (the 2003 dataset does not) and finally, there has been a Carnegie classification change after the 2003 dataset was created. This is important because the data will reveal that the institution being studied has not only maintained a lower score on the student and faculty interaction benchmark since 2003, it has actually decreased regardless of its classification. It is also important because the institution being examined scores low on this benchmark when compared to other similar private, religiously affiliated colleges.

The second phase of the research uses interviews of 11 current first-year students and 8 current senior students, to inform the findings of the quantitative phase. An
interpretive, qualitative research method was applied to ascertain any meaning that can further explain the quantitative findings. Interviews were conducted at the college this study examined and included current students who are enrolled at the institution into their second semester and those in their final semester. This is also beneficial because those students who are in their second year were first year students in 2006, and those students who are seniors were first year students in 2004. This is relevant because the findings reported in the quantitative phase will be presented categorically by first year and senior year students' perceptions of student and faculty interaction.

Conceptual Framework

This research is informed by established persistence theory and responses to the accepted retention models. Persistence literature has examined the student and institution relationship through a lens that focuses predominantly on background factors. Most models characterize those factors as either academic (cognitive) or non-academic (non-cognitive). Academic background factors include high school grade point average (Tinto, 1987), standardized test scores (Lotwoski, Robbins, & Noeth, 2004), academic preparation (Tinto, 1975), achievements and goals (Fullcomer, 2004; Spady, 1970), effort (Chickering, 1987), quality of programs (Kuh, 2001), and faculty interaction with students (Astin, 1993; Fullcomer 2004; Stoecker, Pascarela, & Wolfle, 1988). Non-academic factors believed to contribute to student persistence include issues such as commitments to complete degree (Braxton, 2000; Spady, 1970), social integration (Astin, 1984; Spady, 1970; Tinto, 1993), peer and community involvement (Astin, 1984; Pascarella & Terenzini, 1977), satisfaction (Bean, 1990; Sandler, 2000), and socio-
economic status (DesJardins, 2002; Lotkowski et al., 2004; Metz, 2001; St. John, 1992, 1997).

Such academic and nonacademic background factors are coupled with institutional characteristics such as campus climate (Uppcraft & Schuh, 1996) and commitment to students (Cabrera, Nora, & Castaneda, 1993) to produce a relationship that supports or discourages persistence. Institutional academic factors include quality of programs (Kuh, 2001), and faculty interactions with students (Astin, 1993; Fullcomer, 2004; Pascarella & Wolfe, 1988). These theories maintain that if there are predictors to both successful completion as well as attrition, there may be some tangible evidence that leads to completion improvement.

Overall these theories indicate that there are certain essential components for significant levels of student persistence success. And if certain elements are missing (as measured by items such as the NSSE benchmarks), then these theories would suggest that lower persistence rates would occur. Yet, this does not appear to be happening within at least one small private college (the one involved in this study) wherein their scores for the student and faculty interaction NSSE benchmark is lower than the national average for that benchmark as well as lower than their peers and yet they have a higher student persistence rate.

According to Kuh and Hu (2001) educators at all levels believe that frequent, meaningful interactions between students and their instructors are important to learning and personal development. Higher education literature places high emphasis on the positive impacts student-faculty contact (e.g., Astin, 1984, 1993; Bean, 1985; Bean &

Early literature (Wilson & Woods, 1975) asserts that effective education requires close working relationships between undergraduate students and faculty members. More recent literature generally indicates that the more contact between students and faculty both inside and outside the classroom, the greater the student development and satisfaction (Astin, 1993). One study (Kuh & Hu, 2001) defined student and faculty interaction by activity that included talking with a faculty member, visiting informally after class, discussing career plans, having coffee with a faculty member, meeting with a faculty advisor, discussing career plans, asking for advice, and working on a research project. Student and faculty interaction is the focus of this study. Students were asked to consider how they perceive and value faculty interaction, how much contact they perceive they have, and to describe influential moments of connection in and out of the classroom.

Chapter I Summary

Despite numerous retention studies and strategies, attrition rates from colleges and universities continue to be high. Specific retention rates for private, four-year colleges have historically been higher than those rates at public institutions. According to ACT (2006) over the past 23 years the average retention rate at Bachelor’s degree granting private institutions from the first to second year is 70.6%, with the highest percentage of 74 (1989) and the lowest percentage of 60.1 (1997). Completion rates for private four-year colleges are 56.1% compared to the public rate of 39.6% (ACT, 2006).
Given the current national education agenda and goals, even the significantly higher completion rate for private institutions can be argued as unacceptably low.

Most accepted models of persistence posit a set of background characteristics held by the student, in conjunction with institutional characteristics, which predict the likelihood of student retention. Background factors can be characterized as both academic and non-academic that incorporate academic preparedness, socio-economic status, and a commitment to complete, among others. Criticisms of the models contend that they are not readily applicable to all institution types nor are they uniformly reliable for all types of institutions. Further, there is not a clear explanation for the discrepancies found in retention rates between small, private, religiously affiliated colleges and public universities. Measuring persistence factors using the NSSE (a national survey that focuses on student engagement) has also suggested five benchmarks that universities should possess if they are to experience high retention rates.

The goal of this research project is to understand the variables that influencepersisters at a small, private, four-year institution which scores low on two of five benchmarks produced by the NSSE dataset, one of which is theorized to be connected to persistence (student and faculty interaction). This research includes a review of the literature in Chapter 2, a discussion of the methods being utilized in Chapter 3, a presentation of all findings in Chapter 4 and a summary with limitations and recommendations for future study in Chapter 5.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Studying student persistence has become important over the past few decades. The academy is increasingly concerned with retention because the need for college education has risen while the levels of degree completion have remained constant (Kuh, Kinzie, Schih, & Whit, 2005). Section 1 of this chapter examines the impact of student persistence from the macro, globalization level to the micro individual level. This review of the literature involves a thorough investigation of conceptual frameworks examining persistence and persistence models and theories. Emergent themes from embraced persistence models will then be presented. Those themes include the academic and non-academic background factors associated with student persistence for both students and institutions. A critique of persistence models follow.

In section 2, there is a presentation of the key elements of the National Survey of Student Engagement (NSSE), which is an assessment tool informed by persistence theory, used to measure important elements of student engagement and persistence in college. Chapter 2 will conclude with a summary of identified themes.

For purposes of this study I use the terms retention and persistence interchangeably. Generally speaking, retention refers to success in achieving a set goal or objective (Lenning, Beal, & Sauer, 1980). The opposite of persistence or retention is attrition. SUNY’s (1979) definition asserts that attrition is the failure to achieve a goal or objective. These terms can be taken together to create a conceptual framework within which researchers attempt to account for educational goals possessed by students.
(Grayson, 1997). Put differently, this framework can be helpful in defining research cohorts that allow research assessment. For example this study assesses students who have persisted at a specific college and examined those who have not persisted. Finally, degree completion refers to the ability of a student to graduate from a specific program of study (Lenning, Sauer, & Beal, 1980).

Section 1 – Importance of Persistence and Utility of Theoretical Models

Globalization has had a major impact on the world economy which has resulted in a changing American workforce that is demanding college educated employees (Lotkowski, Robbins, & Noeth, 2004). According to Carnevale and Desrochers (2003) nearly every sector of the United States economy requires skilled and competent workers with specific knowledge that extends beyond the scope of a high school education. This is largely a result of the evolution of the current knowledge-based economy. In fact, according to the US Department of Labor, by 2012 the number of jobs requiring advanced skills will grow to twice the rate of those requiring only basic skills (Hecker, 2004).

Importance of College Student Retention

According to Barfield and Bealieu (1999), postsecondary education is the key for a stronger national workforce and a better quality of life. Not only are low student retention rates at the postsecondary level a waste of human talent, they also jeopardize the national economic future (ACT, 2004). With 60% of jobs in the United States already requiring some measure of postsecondary education, it is not a surprise that the quality of the undergraduate experience is of paramount interest to parents, college students, employers, accreditors and legislators (Kuh, 2001, 2007; Lotkowski, Robbins, & Noeth, 2004).
In response to the globalization phenomenon, and the resulting challenge of remaining socially viable and economically competitive in a global economy, two essential issues emerge as relevant to the postsecondary sector: encouraging students to enroll in higher education, and formalizing retention strategies to increase degree completion (Lotkowski, Robbins, & Noeth, 2003).

The realization of a need for a skilled workforce intersects alarmingly with the reality that the degree-earning rate for students at four-year colleges is only 60.4% (Digest of Educational Statistics, 2001). Moreover, this may be an optimistic assessment as some researchers have declared that only 50% of those who enter higher education will obtain a bachelor’s degree (Seidman, 2005). This ultimately translates into over half a million students per year in college who fall short of acquiring the skills, credentials, and knowledge they seek in post-secondary education (Carey, 2004). Most students stop out of college early in their college career. More than half of all students who decide to leave college do so before their sophomore year (Consortium for Student Retention Data Exchange, 1999). The question remains, why are our post-secondary institutions losing a third to half of their students so early in the post-secondary education experience?

A notable early study performed by Astin (1975) included 41,000 beginning undergraduate students at 358 institutions with varying Carnegie classifications. This study revealed that four years after beginning college 49.6% of students had obtained a Bachelor’s degree. This exploration was unique in that it was inclusive of several institution types and accounted for unique missions and Carnegie classifications.

More recently, the National Study of Degree Attainment in America’s Colleges and Universities (2002), performed by the Higher Educational Research Institute,
included 262 institutions and measured retention. This study utilized data from the Cooperative Institutional Research Program (CIRP) and revealed that only 46.7% of students obtained a postsecondary degree in four years. That number increases when allowing for 6 years to 58.8% (Astin & Oseguera, 2005).

Individual Benefits of Student Retention

There are undoubtedly positive benefits associated with degree completion. Tangible outcome data can be presented in broad categories like income differentials (Day & Newburger, 2002; Porter, 2002), learning benefits (McClanahan, 2004), and individual and social attributes (Institute for Higher Education Policy, 1988).

Income differentials between college graduates and non-degree holders are hard to ignore. There is a positive correlation between income levels and education levels. For example, lifetime mean high school graduate earnings peak at $1.2 million, while associate degree holders earn $1.6 million and bachelor degree holders have earning potentials of $2.1 million (Day & Newburger, 2002; Porter, 2002). There are also losses in employment associated with students who do not complete higher education programs. For example, studies demonstrate that those who finish a college degree have shorter periods of unemployment than their non-degree completing counterparts who only possess a high school diploma (Lotkowski, Robbins, & Noeth, 2004). Further, students who complete some post-secondary education but depart prior to degree completion (and thus do not hold a degree beyond a high school diploma) tend to face lower income rates than their college-degree holding counterparts (U.S. Census, 2004).

Not all of the benefits or positive associations of holding a degree are financial. According to Furgeson (1990) students who do not persist to completion have "negative
attitudes” towards becoming life long learners. It could be argued that degree completion could be a catalyst for continued intellectual stimulation that would benefit not only the individual but also the student's place of employment, family, and community. Furthermore, the social impetus for becoming a productive citizen is primarily shaped within the context of education (Perez, 1998).

The Institute for Higher Education Policy (1988) has used income level differentials and life-long learning benefits together and synthesized these categories into four economic and social attributes for the general public and for individuals who have achieved higher levels of education (McClanahan, 2004). The first attribute they derived is called “public economic.” This refers to increased tax revenues due to higher salary earnings. Higher salary earnings also increase consumption which can increase workforce. There is also a decreased reliance on government financing.

The second attribute is called “individual economic” (McClanahan, 2004). This attribute includes higher salaries and benefits, employment opportunities, higher savings levels and improved working conditions. The individual economic benefits allow for more mobility both personally and professionally. For example there is more freedom of mobility within a profession as well as the financial means to relocate if necessary.

Thirdly, there are the “public social” attributes (McClanahan, 2004). These includes overall reduced crime rates, and increased giving to charities and community service. There is an increased quality of civic life that includes a greater appreciation of diversity. There is also an improved ability to adapt to ongoing technology.

Finally, the “individual social” benefits include improved health and greater life expectancy (McClanahan, 2004). These health benefits as well as accrued economic
assets are transferred to ensuing generations. There is a generally better consumer awareness with decision making as well as increased personal status. There is more time for hobbies and leisure that further contribute to quality of life. Essentially, those who are highly educated have access to privilege. According to Patrick (2007) for the first time in history, the United States is losing ground to other countries in educational attainment of its workforce. Furthermore, there is an increasing demand for higher levels of education in the US workforce, in those occupations that pay a living wage (Patrick, 2007).

*Institutional Benefits of Student Retention*

Degree completion does not only have individual and societal implications; institutions are impacted as well. Student persistence is of great concern for institutions of all sizes and affiliations, in fact it is the “life-blood” for most (Hurd, 2000). It is well documented that persistence through graduation percentages are in need of improvement (Astin & Oseguera, 2005; Kuh, 2007; Kurd, 2000; Siedman, 2005). There are consequences for institutions associated with low retention rates. Those consequences range from financial restraints, to ability to attract top tier faculty and students (Gansemer-Topf & Schuh, 2005; Patrick, 2007).

According to Nordquist (1993), in private institutions most of the income is generated from tuition and fees, and in public institutions income from state appropriations is generally allocated in direct proportion to the number of students a particular college or university has enrolled. Colleges and universities are facing the reality that students who leave college may never return. With the loss of those students, the institutions must deal with the associated loss of resources and status.
At this point we know that there are several reasons why college degrees are important. We know that today's workforce is demanding better education and degree holders have a greater likelihood of career advancement, increased quality of life and economic privileges. These realities exist within the current trend of significantly lower than desired persistence rates. America's educational goals far exceed the picture of current the reality offered by such researchers as Siedman (2005) who propose that only 50% of those who enter higher education will obtain a bachelor's degree based on current persistence trends (Desjardins, Ahlburg, & McCall 2002; Kuh, 2007; Measuring Up 2006; Patrick, 2007; Wetzel, O’Toole, & Peterson, 1999). It is necessary to better understand what makes retention and persistence possible in order to develop useful strategies for drastically changing the current degree completion statistics for higher education institutions. Researchers have spent considerable energy producing theories and models to explain persistence behavior and the pages to follow detail some of the embraced models of persistence.

Section 2: Student Persistence Theories and Models

From the time a student moves through the admissions funnel and matriculates to enrollment, that student is on the way to either retention or attrition. Between the first year orientation and graduation, several things take place that contribute to a student’s continued enrollment or departure. Many students enter college without the necessary skills to complete their degree (Levitz & Noel, 1989), however, Tinto (1993) suggests that this is only a factor in roughly 15-25% of student departure. Clearly, other factors need to be explored, but the skills and knowledge a student brings to the post-secondary experience remains a significant variable (Lichtensein, 2005).
Background Characteristics Influencing Persistence

Most models, which will be presented in greater detail, contend that there are a full range of background characteristics that serve as predictors of collegiate success. One early, influential and comprehensive study on student retention identified 65 different factors that appear to influence retention (Albino, 1973). Such background characteristics possessed by the student in conjunction with those attributes possessed by the institution provide the context that allows or disallows persistence. Generally speaking, much of the research on retention has produced major factors that include academic preparation, student demographics, aspirations and motivations, financial factors, college environment, and the degree to which the student is involved socially and academically, institutional policies and procedures, and the student’s sense of belonging at the institution (Chickering, 1987; Kuh, 2007; Lenning, Beal, & Sauer, 1980; Lotwoski, Ribbins, & Noeth, 2004; Pascarella & Terenzini, 2005; St. John, 1997; Tinto, 1997).

Background factors that influence a student’s ability to successfully complete college have received increased attention in recent years, and a number of academic factors have been examined in attempts to identify those students most likely to achieve success in college (Pritchard & Wilson, 2003). Because of this, quantitative variables such as gender (Sanders, 1998), parental education levels (Ting & Robinson, 1998), high school GPA (Tinto, 1987), high school rank (Haviland, Shaw, & Haviland, 1984), and standardized test scores (Lotkowski, Robbins, & Noeth, 2004) have been associated with college retention rates.

College academic success and retention have traditionally been predicted using demographic and academic variables (e.g., standardized test scores, preparation for
college, socio-economic class). Some studies have suggested that nonacademic factors may significantly influence college performance and retention (Braxton, 2000; Sedlacek, 2002; Szulecka, Springett, & de Pauw, 1987). It has also been suggested that students who are emotionally and socially healthy are more likely to succeed in college (Leafgran, 1989). One study (Pritchard & Wilson, 2003) investigated the impact of student emotional health and social health on college student GPA and retention. That study revealed that both emotional and social health factors related to student performance and retention.

Students are not the sole possessors of background factors that inform persistence behaviors. Academic and non-academic factors also can be applied to the institutions that are attended by these. Levitz and Noel (1989) contend that most attrition is avoidable. In other words, the institution can play a large role in retention. Some examples of academic factors at the institution level are quality of programs (Kuh, 2001), and faculty involvement with students (Astin, 1993; Fulcomer, 2004; Kuh, 2001; Stoecker, Pascarella, & Wolfle, 1998). Others include the availability of courses of study (Neslon & Urff, 1982), the quality of instruction (Pascarella, Whitt, & Nora, 1996), and the availability of technology (Aune, 2000).

Non-academic factors present within the institution may include the campus climate (Ucraft & Schuh, 1996), the college commitment to students (Cabrera, Nora, & Castaneda, 1993) and financial aid awards (DesJardins, 2002; Metz, 2001; Paulsen & St. John, 1997; St. John, 1992). Other factors include a student’s ability to navigate the institutional systems (Padilla, 1999) and the “match” between a student’s personal expectations and the college reality (Braxton, Vesper, & Hossler, 1995).
Early Models of Persistence

Spady (1970) developed a longitudinal model of student persistence and withdrawal based on the degree of “fit” between each student and the institutional environment that student found him or herself in. He did so by examining Durkeim’s (1950) suicide studies. The model suggests that there are self-selecting traits and initial commitments to the goal of graduation from college and to the particular institution to attend (Pascarella, Terenzini, & Wolfe 1986). The model not only predicted the academic probabilities, it also predicted how well each student will become integrated into the institution’s community.

Contributing to the work of Spady (1970), Tinto developed a longitudinal model of the withdrawal process of college students. Tinto (1975; 1987) was largely informed by Durkeim’s (1953) theory on suicide and Van Gennep’s (1960) writing on “cultural rites of passage.” From this, Tinto established a two dimensional model of student departure (Tinto, 1975). He suggests that each individual comes to a particular university with what he calls “pre-entry attributes” in conjunction with a combination of intentions, goals and commitments. The model suggests that students will enroll at institutions with a wide range of background traits like ethnicity, secondary school achievement, academic aptitude, and family expectation. These background traits are then coupled with initial commitments of graduation from college and selecting a college. Together the background traits and initial commitments are measured and hypothesized as predictors of not only how well a student will perform academically, but also how integrated into the community the student will become. That integration will play a large role in student completion (Pascarella, Terenzini, & Wolfe, 1986).
Tinto ultimately argues that students who experience isolation, adjustment issues, difficulty, or incongruence with the institution are more likely to depart than students who do not experience those dynamics. Coupled with those "experiences" is the existence of specific student background variables that have impacted each student's decision. To confirm that student departure may have links to student backgrounds, there have been studies that indicate that the low retention rate of some colleges is more a reflection of student choices of involvement than a reflection of institutional failures (Astin & Sax, 1998; Paul, 1996). According to the American Council on Education (2002) report that used findings from 10 years of longitudinal research entitled "Access and Persistence," most students leave college because they do not aspire to attend a four year college or because they fail to prepare academically.

This longitudinal research (Astin, 1993; Bean, 1980; Choy, 2002; Horn & Nuñez, 2000; Tinto, 1975; Warburton, Bugarin, & Nuñez 2001) asserts that stronger levels of individual, social and academic integration, coupled with personal and family aspirations and background characteristics lead to greater commitment to the institution and degree completion. This work also lead to the identification of different groups of students including: at risk, adult, honors and transfer. It also identified different types of post-secondary institutions including: non-residential, two-year, urban, and large public. It is interesting to note for the purposes of this study there is no mention of private institutions in Tinto’s early work.

Bean’s Model of Student Departure

Following Tinto’s work, Bean (1980) created a model of Student Departure. This model explains the factors that lead to student attrition. Like Tinto, he asserts that there is
a link between college retention and past, as well as present, academic performance. Essentially, he states that college performance influences a student decision to stay or leave college. Bean (1980) also presented data specific to gender. He found that men and women differed in factors influencing persistence. For example the findings suggested that institutional quality and opportunities emerged as primary factors for men, while satisfaction with the collegiate experience emerged for women (Bean, 1980).

Bean (1985) revised his model and discovered that student peers are more important than informal faculty contact. This means that students play a more active role in socialization than previous studies indicated. Finally, college grades seem more the product of selection than socialization. This refers to the university selecting students for admittance to the institution. This revision coincides with other work regarding student involvement and engagement (Astin, 1998; Kuh, 2007). For example one study tested the linkages between student engagement and student learning (Carini, Kuh, & Kline, 2006) and revealed that students of higher ability (measured by a high standardized test score) benefit less from student engagement elements, compared to those of more median abilities.

Student involvement is the antidote to isolation. Perhaps, the preconceived background variables that each student possesses may hinder the level of involvement achieved by a student. Those variables may also serve as predictors to what type of peers a particular student may choose as associates or friends. This is important because peers influence nearly all aspects of college student development (Ku, Hu, & Vesper, 2000; Pascarella & Terenzini, 1991).
Astin’s Model of Student Involvement

Astin (1970) developed a model of retention that examined the multiple variables that impact student persistence decisions. He focused on student involvement and the impact the level of such involvement has on retention. He concluded that students learn by becoming involved. The more involved students become, the more likely they will persist.

Astin (1984) further developed his concepts by explaining that his involvement theory has five basic postulates. First, involvement refers to the investment of both physical and psychological energy devoted to various objects. One micro example of an “object” might be studying for an exam, while a macro, and very generalized, example of an “object” would be student satisfaction.

Secondly, involvement happens along a continuum. An “object” will be pursued by different students with varying levels of commitment. Next, involvement has both qualitative and quantitative features. For example, hours of study spent preparing for an exam can be quantitatively analyzed in connection with a grade received; while the comprehension and meaning students make of learning can be measured qualitatively.

Fourth, “the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program” (Austin, 1999, p. 519). Finally, the effectiveness of educational policies and best practices are directly linked to the capacity of those policies to increase student involvement (Astin, 1999).

The greater a student’s involvement and engagement with his or her college community, the greater the likelihood that same student will persist in that same college
(Astin, 1984). Specifically, there is a connection with a student’s involvement in the academic life of the college which leads to improved development through knowledge acquisition (Tinto, 1997). What this suggests is that it is not only advantageous for the university to get students involved with faculty (to enjoy the security of higher retention), but also for the student’s benefit of deeper learning (Endo & Harpel, 1982).

Student involvement with faculty members and academic life generally speaking impacts learning (Tinto, 1997). High levels of involvement seem to increase learning gains over the course of a student’s stay at a particular college (Endo & Harpel, 1982). Student development occurs when positive involvement happens which leads to greater student performance.

Pascarella (1985) developed a general causal model of student retention. Causal models are used to understand the pattern of influences involved in the impact of student learning and development. This work continued to confirm that student background, or pre-college traits, directly impact the college environment. It also found that structural and organizational institutional characteristics such as study abroad opportunities, service-learning initiatives, capstone experiences, and practicum experiences also impact the college environment which can contribute to persistence (Kuh, 2007).

Current Work on Student Persistence

Recently, Berger and Milem (2000) developed an organizational theory of student departure. This organizational theory suggests that an institution’s unique makeup, otherwise known as organizational features, influence student experiences and ultimately student persistence outcomes. Two categories of organizational features are described in the theory. The first is the organization culture. This refers to the patterns of
organizational behavior that have become institutionalized structures. The second is organizational climate. This represents current perceptions about organizational behavior. Berger and Milem suggest that both work in concert to influence persistence behavior.

Bean and Eaton (2001, 2002) developed a psychological model of college student retention. The foundations of this model are the psychological processes that occur at the base of academic and social integration. Four psychological theories emerged from the study: attitude-behavioral theory, coping behavioral theory, self-efficacy theory, and attribution theory. Attitude-behavior theory posits that students enter college environments and have emotional reactions to the college environment. This reaction motivates a student to engage or participate in adaptive strategies for the purpose of feeling comfortable enough to integrate into the environment.

Coping behavioral theory suggests that through an evaluation of the given environment and adaptation to that environment, one may adjust to new situations. Self-efficacy theory has been articulated in work by Bandura (1997) at length and is defined by an individual’s self perception of their own ability to behave in certain ways in certain contexts to assure certain outcomes. Finally, attribution theory is largely explained by locus of control (Rotter, 1966; Weiner, 1986). Locus of control refers to the extent to which one believes their past outcomes and experiences were directly caused by internal or external forces. A person with an internal locus of control, for example, believes that she is instrumental in her own success and failures while a person with an external locus of control believes that past successes and failures are a result of outside forces. This relates to students because those, for example, who may have an internal locus of control are likely to act in ways that lead to academic or social success because they ascribe
causality between studying and attending classes with academic achievement (Bean & Eaton, 2001).

**Critiques of Persistence Theories and Models**

Although the aforementioned models of persistence have been largely accepted and embraced, they do have limitations. The following paragraphs will highlight some relevant limitations of the models pertinent to this study. Namely, that these models do not adequately account for institution type. Because Tinto's theory is arguably most noteworthy, I will begin with some challenges to his model.

Tierney (1992) challenged Tinto's theory by suggesting that there was too much emphasis placed on the student in regard to becoming academically and socially integrated. Tierney appropriately illustrates this point by citing differences among cultures. For example, minority students are often required to leave cultural familiarity behind when integrating into the college culture creating a circumstance in which these models may not apply as specifically as initially believed.

Another example, informed largely by Davies and Guppy (1997), of gaps in literature surrounding involvement and persistence are worthy of discussion. There exist at least two axes of stratification in the higher educational system: the hierarchy of institutions of differing prestige and selectivity, and the stratification among the various programs of study and concentration. Institutions vary widely in their academic and social selectivity. Davies and Guppy (1997) go on to say that the “odds of being accepted into an Ivy league university are remote compared with the chances of entering a state community college” (p. 1418). Additionally, degree earners from elite institutions reap the most rewards in the job market (Kingston & Smart, 1991) and graduates from more
Selective colleges tend to enjoy higher incomes and enter higher-stratus occupations (Rumberger & Thomas, 1993; Smart, 1986, 1988; Trusheim & Crouse, 1981). On the contrary, entrance into community colleges can depreciate the occupational returns of college (Monk-Turner, 1990). Highly selective universities offer benefits that are not only economic. They present students with advantageous networks and a community for potential high-status marriage partners. In a mass postsecondary system, prestigious colleges consistently provide the best opportunities to create privileged ties whose benefits may be seen instantly or accrue later in life (Davies & Guppy, 1997).

Studies do suggest that these advantages and disadvantages exist within the context of higher education and they are powerful forces that have moved students to places of privilege and others to limited access to opportunities (e.g., Hurtado & Carter, 1997; O’Brien & Shedd, 2001; Sedlacek, 1987; Schwitzer, 1999). For example, Tinto (1975) would argue that the institutions characteristics are a huge contributor to student retention (which is not illogical given the rational approach of more money equaling more resources, translating into effective practices for student development); however, when controlling for background student characteristics, the evidence is strong that institutional effects are minimal (Toutkoushian & Smart, 2001).

Astin (1993) furthers this critique by stating that the implication for practice should be overarching, rather than singular in nature. This again does not adequately account for differences among students, nor does it give room for differences among institution type. According to Berger (2001), there is growing recognition that our understanding of how various colleges work is enhanced when different theories or
models of student persistence are integrated into a coherent whole according to institutional context, rather than viewing each theory as either "right" or "wrong."

Further addressing differences among institution types, Fulcomer (2003) points to persistence rates that are different for private and public institutions. For example, based on ACT data bachelor degree completion rates have averaged 39.6% over the past 24 years at public institutions, and 56.7% for private colleges (ACT, 2006). The limited studies on small, private, religiously affiliated colleges do seem to affirm embraced retention models; however, there is not an explanation for the discrepancy in retention rates between cohorts at private and public institutions. Further, Pascarella and Terenzini (1991) call for single-institution data on student retention as does Kuh (2007), who calls for individual institution examinations.

Berger and Braxton (1998) further the discussion by confirming that the aforementioned theories are primarily based on four year public institutions, yet the difference in retention rates among institution type (namely, private and public) is so significant that the theory should be examined within the context of the private, liberal arts institution as a distinct case. This suggests that there is a knowledge gap in the research literature.

*Retention at Private, Religiously-affiliated Colleges*

There have been studies that have examined private institutions on the issue of retention and found that background characteristics like academic preparation, institution commitment, and peer and faculty interactions matter (e.g., Berger, 1997; Berger & Braxton, 1998; Fulcomer, 2003; Milem & Berger, 1992; Smith, 2002); however, few authors have examined persistence theories within the context of a small, private,
religiously affiliated, liberal arts college. Studies that have emerged (Barry, 2002; Cash & Bissel, 1985; Fulcomer, 2003; Smith, 2002; Zomer, 2006) call for more in-depth study of retention to examine the applicability of persistence models to their specific institutional environment.

Barry’s (2002) study was fashioned to examine the common characteristics of academic and social integration of college students attending a small, private, religiously affiliated institution. The focus of this study was to discover if there is a relationship between persistence and student characteristics. The study relied upon archival data which were taken directly from copies of student records at the university in which they attended. The variables used were ACT scores, gender, state of residence and whether or not the student had chosen a major upon entering the institution.

A major limitation of the study was the undefined qualifications of social involvement. This study also concludes that “other forms of support” like family members were the strongest positive influence on retention. Fulcomer (2003) indicates that student retention at small, private, religiously affiliated institutions is related to academic achievement and student satisfaction. This study used data from two surveys (taken by 187 students) designed to measure college impact. Correlation analysis was conducted to identify variables that had a significant correlation with retention. Fulcomer’s work highlights student satisfaction, academic achievement and adequate student work programs as essential to retention success. One recommendation from this study was to produce qualitative data that would heighten the understanding of variables that impact retention.
Section 3: Measuring Persistence

There has been a reliance on theoretical departure and engagement models to explain persistence and attrition behaviors. Chickering and Gamsom’s (1987) seminal work produced seven best practices in undergraduate higher education including: student-faculty contact, cooperation among students, active learning, receiving prompt feedback, student time on task, communication of high expectations and respect for diverse talents and ways of learning. These practices have informed many of the studies mentioned in previous sections of this literature review.

These same models have also been synthesized for the creation of measurement tools. One such tool is the National Survey of Student Engagement (NSSE). The initial NSSE project was conceived as a means to record the current context of student engagement at four-year colleges and universities. The NSSE annually obtains information from random samples of first-year and senior-year students regarding their experiences as undergraduates in college. The NSSE was initially started using grant money from the Pew Charitable Trust. Since 2002, the survey has been conducted and supported by institutional participation fees.

The NSSE is based on research and theory related to effective undergraduate education. According to Pascarella and Terenzini (1991) the research is unequivocal: students who are actively involved in both academic and out-of-class activities gain more from the college experience than those who are not so involved. The NSSE does not directly focus on particular educational outcomes, rather it attempts to redefine collegiate quality by focusing less on institutional rankings, which tend to be synonymous with
institutional prestige, reputation and resources, and more on student outcomes (Kuh, 2001).

The NSSE seeks to discover exactly how students use resources, rather than focus on the resources alone (Kuh, 2001). For example, a recent study by Carini, Kuh, and Klein (2006) examined (1) the extent to which student engagement is associated with experimental and traditional measures of academic performance, (2) whether the relationships between engagement and academic performance are conditional, and (3) whether institutions differ in terms of their ability to convert student engagement into academic performance. The sample consisted of 1,058 students at 14 four-year colleges and universities and suggests that there is a link between engagement measures and educational outcomes.

The NSSE was birthed out of decades of research that includes student affairs professionals, identity and development theorists, and research pioneers in the field of higher education (Astin, 1993; Bean, 1980; Pascarella, 1985; Spady, 1970; Tinto, 1975) with the desire to enhance institutional improvements, foster comparative and consortial activity and produce systematic national data on “good educational practices” (Kuh, 2003). Based on Chickering’s (1987) seven principles of good practice in higher education, the survey gained traction utilizing these three motifs: the level of academic challenge, the time a student spends on a specific task, and the participation a student experiences in other educationally purposeful activities. All of these principles influence the quality of student learning and speak to the overall college experience (Kuh, 2001).

The NSSE employs five benchmarks to interpret the data and isolate institutional strengths and weaknesses. Benchmarks are created to provide reliable statistical
comparisons with peer institutions and allow for single-institutions studies. Each benchmark is measuring specific questions within the survey and then statistical tests are performed to provide comparative analysis. The five benchmarks include: (1) level of academic challenge, (2) active and collaborative learning, (3) student-faculty interaction, (4) enriching educational experiences, and (5) supportive campus environment.

The five benchmarks are also connected to embraced theory. For example, the survey is asking questions and assumes the importance of things like background factors, peer interactions, and faculty engagement (Astin, 1993; Kuh, 2007; Tinto, 1997). Figure 2 displays the major components of embraced theory within the framework of academic and non-academic factors for students and institutions as well as the five benchmarks produced by the NSSE survey, which was strongly influenced by persistence theory. This figure is a synthesis of persistence theories and models that have produced variables that predict persistence behaviors. More specifics related to the questions that are asked on the survey are presented in chapter 3.
Figure 2. Conceptual Framework.

My study places particular emphasis on the Student-Faculty Interaction benchmark primarily because Kuh (2001) asserts that the initial NSSE data indicates that the frequency of student-faculty interaction is “much less than what research studies suggest is optimal” (p. 13). According to Kuh (2006) students learn firsthand how to think and solve practical problems by interacting with faculty members inside and outside of the classroom. As a result, their teachers become role models and mentors, and inspire life-long learning. The NSSE consists of 28 sections, each containing at least one question, and some sections have multiple questions. The Student-Faculty Interaction portion asks students how much they discuss grades with professors, talk about career

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<th>Academic Factors</th>
<th>Non Academic Factors</th>
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<td>• Socioeconomic Status (Lotkowski, Robbins, &amp; Noeth, 2004)</td>
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<td>• Standardized Exam Scores (Lotkowski, Robbins &amp; Noeth, 2004)</td>
<td>• Commitment to complete (Braxton, 2000; Spady, 1970)</td>
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<td>• Academic Preparation for college (Tinto, 1975)</td>
<td>• Gender (Leppel, 2002)</td>
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<td>Achievement/Goals (Fullcomer, 2004; Spady, 1970)</td>
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<td>Effort/Challenge (Chickering, 1987)</td>
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<td>Quality of Programs (Kuh, 2001, 2003, 2007)</td>
<td>Involvement w/Community (Astin, 1984; Pascarella &amp; Terenzini, 2005)</td>
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<td>Faculty interaction with student (Astin 1993; Fullcomer, 2004; Kuh, 2007; Stoecker, Pascarella &amp; Wolffle, 1988)</td>
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plans with an advisor or faculty member, discuss ideas from readings or classes with faculty outside of class, work with faculty members on activities other than coursework, how quickly they have received feedback from faculty on academic performance, and if they have worked with a faculty member on a research project outside of course or program requirements.

Knowing that the Student-Faculty Interaction benchmark is low on the national level (Kuh, 2001), it is important to know how a given institution compares to its peers, especially since this study focuses on one small, private institution. It is important to inquire about any institution's low score, particularly if the college operating budget is tuition-driven and retention-dependent, in order to anticipate a drop in persistence as prescribed in the research surrounding this benchmark.

Based on NSSE reported data, this institution scored low on the Faculty-Student Interaction Benchmark and its score was lower than its peers in the Coalition of Christian Colleges and Universities (CCCU), lower than its Carnegie peers, and also lower than the entire NSSE 2006 cohort. In addition, the college scored low on the Active and Collaborative Learning Benchmark. According to persistence theory scoring low on two of the five NSSE benchmarks should lead to modest retention percentages; however, despite the reality of these low benchmarks, this institution has maintained a high retention rate. In fact the institution that produced significantly low scores on two benchmarks enjoys an average retention rate of 87% (first to second year) over the last four years (2003-2007). Clearly, existing persistence theories do not explain this discrepancy and further study is warranted.
Chapter II Summary

College student persistence is important to individual students, institutions and society. There is a greater need for college degree holders in the United States. Economic, personal, and societal implications are at stake. According to data provided by ACT (2003), the National Center for Public Policy and Higher Education (2006), and trend data (e.g., Choy, 2002; McLanahan, 2004; Patrick, 2007) the United States is underperforming in higher education.

There have been several scholars who have studied the issue of student attrition and have identified key concerns and developed models that have been accepted and embraced by higher education practitioners, faculty and administration (e.g., Astin, 1984; Chickering, 1987; Pascarella & Terenzini, 1987; Tinto, 1975). These models have been evaluated, critiqued and expanded (Bean & Eaton, 2001; Kuh, 2007; Sedlacek, 1987) in efforts to increase student retention, namely through student engagement.

Identifying a problem, naming the concern and developing strategies to meet the needs are important; however, measuring their impact is critical. The NSSE is an instrument that is informed by aforementioned research models and seeks to measure the effectiveness of an institution’s retention efforts through the creation of benchmarks that offer feedback. This study seeks to utilize the NSSE metric with an eye toward adding more to the little currently known about persistence at small, private, religiously-affiliated colleges.
CHAPTER III
METHODOLOGY

Chapter III describes the research design used in this study and the methodology and procedures undertaken. I begin this chapter with a brief introduction, a section which identifies the research setting, participants, data collection, and methods to be employed, beginning with the quantitative phase. This section also includes an explanation of the quantitative data examined in order to provide the focus for, and validate the relevance of, the qualitative research questions that shape this study. That research was conducted using an interpretive qualitative research methodology as discussed in Section 2 of this chapter. Section 2 also provides a complete description of the various data collection methods and procedures, sampling, and population. Finally, the chapter concludes with a summary.

This study seeks to understand how one small private institution can maintain a high persistence rate while not seeming to exhibit all necessary retention factors as described in the literature and prescribed in theory. Using the 2003 and 2006 NSSE findings to give focus to the study, the goal is to discover statistical trends or patterns as well as observe phenomena experienced by students who have persisted at one private, liberal arts college in the Midwest. The accepted models of student departure and persistence have not accounted for potential variances found at small, private religiously affiliated colleges and those found at larger state universities. This research endeavors to discover why these variances exist in attempts to provide professionals in higher education tools to improve retention and avoid attrition.
Research Design

This study employed a mixed-methods design model that allows the proposed research questions to be examined uniquely. The research used a sequential collection of data design (Cresswell, 2003; Tashakkori & Teddlie, 1998) which began with quantitative data analysis, followed by a qualitative collection of data and analysis based on the quantitative findings. That culminated into an interpretation of the entire analysis. Put differently, the quantitative findings informed the qualitative portion of the research, determining what students were chosen to interview and exactly what questions were asked. For examples: gender, area of study, and year in school.

Creswell (2003) indicates that quantitative methods are appropriate when identifying those factors that might influence a specific outcome or when testing a particular theory. The following research questions and sub-set questions were examined using a quantitative approach:

1. To what extent and in what ways does the 2003 and 2006 NSSE student and faculty interaction benchmark for both first year and senior year students at one small, private, religiously affiliated college differ when compared to:
   (a) their CCCU peers (when including the 2006 dataset);
   (b) their Carnegie peers; and
   (c) and to the entire NSSE samples?

2. To what extent and in what ways does the 2003 and 2006 NSSE student and faculty interaction benchmark differ among students at one small, private, religiously affiliated college when disaggregated by:
   (a) gender (for both first year and senior students);
(b) those majoring in professional and non-professional degree programs at the private school being studied (for both first year and senior students); and

(c) those who have declared a program of study and those who have not (for first year students)?

Qualitative studies are appropriate when a researcher is exploring meaning and isn’t necessarily able to quantify the existing variables (Creswell, 2003). Qualitative research takes place within a natural setting where events occur (Creswell, 1998; Marshall & Rossman, 2006; Schwandt, 2001) so this methodology is well suited for an examination of student persistence behaviors. This study utilized qualitative analysis in a way that transforms quantitative data into findings (Patton, 2002). Because there are specific theories that have been established relating to student persistence, there is a wealth of observable data, and there was accessibility to interview students who have both completed the NSSE and persisted at the institution being studied; the following question and any potential sub-questions were explored using the qualitative research method.

3. Within a small private, religiously affiliated college which had scored low on the 2003 and 2006 NSSE student and faculty interaction benchmark, how do students (first-year male and female, first-year undecided, first-year enrolled in professional programs, first-year enrolled in non-professional, senior male and female, seniors enrolled in professional programs and seniors enrolled in non-professional programs) describe their experiences in that college and connect those experiences to their persistence in completing their degree at that college?
This portion of the study focused on individual students who are concurrently enrolled at the same institution, and who have persisted towards degree completion. It also involved students who may or may not have taken part in the NSSE. The objective was to investigate what factors these students identified as being critical in their continued enrollment and to examine what role, if any, student and faculty involvement had in their decision to stay enrolled. This research is important because it attempts to fill research gaps that currently exist with retention rate discrepancies among institution types described by broad theories. This research responds to criticisms of embraced retention models that have been broadly applied.

Setting and Participants

This study specifically examined Calvin College, which is a four year, private, religiously affiliated liberal-arts institution located in Grand Rapids, Michigan. The institution is designated as a General Baccalaureate-Arts and Sciences College by the Carnegie Classification system with a population of approximately 4,300 students.

The college was founded in 1876 by immigrants from the Netherlands affiliated with the Christian Reformed Church as a seminary training school to produce ministers. It is now a leader in private education offering 110 majors, minors and pre-professional programs of study. There is a 52% in-state student population, a 9% international population and the remaining 39% come from around the United States. The institution has a North American ethnic minority student population of roughly 6%, and approximately 2,300 students reside on the 390 acre campus located in a residential neighborhood in Grand Rapids. The institution has over 55 student clubs and
organizations that include sport, recreation, arts, music, and co-curricular opportunities (Calvin day 10 report, 2007).

Research Method

The first portion of the research design is a quantitative secondary analysis of the National Survey of Student Engagement findings from the 2003 and 2006 data. The NSSE obtains information gathered from random samples of both first-year and senior students regarding their undergraduate experience (Kuh, 2001). Data collection includes paper and online survey options. The overall findings include respondent characteristics, frequency distributions, mean comparisons, and benchmark comparisons. I obtained access to this data, and subsequent access to the participants, through the permission of the Office of the Provost as well as the Calvin Center for Social Research.

The NSSE was designed to measure the extent to which students are engaged in “empirically-derived effective educational practices” (Psychometric Properties of NSSE, 2006). Put another way, the NSSE measures the adopted best practices posited by embraced persistence theories and models. The NSSE reports student behaviors that are consistently highly correlated with persistence patterns.

Respondent characteristics are snapshot recordings of a particular school’s response rate. Frequency distributions are the number and percent of student responses to all survey items producing institution specific data, comparison data, and specific respondent data. Mean comparisons are frequency distributions that include average scores, statistical tests, and effect sizes for item specific data. Benchmark comparisons are five clusters, or themes that have emerged, that are effective educational practice measures. The five benchmarks include: (1) level of academic challenge, (2) active and
collaborative learning, (3) student-faculty interaction, (4) enriching educational experiences, and (5) supportive campus environment.

Each sample yields comparison reports (frequency distributions, mean comparisons and benchmark comparisons) that are randomly selected from completed student surveys from all institution types. Three categories are present in making comparisons among institution types: the entire NSSE sample (which includes all data), Carnegie peers (which includes data from schools that have the same Carnegie classification), and the Coalition of Christian Colleges and Universities (the coalition of which Calvin is a member of).

Data can be disaggregated in any number of ways. For example, it can be examined by gender, declared major, and year in school. This study will present disaggregated data that informed the qualitative procedure of data collection. Using a normative approach, I compared benchmark responses between the CCCU data, NSSE cohort and Carnegie peers.

The NSSE asks students to report on the frequency of their participation in activities that are believed to positively predict persistence behaviors. Students are asked to describe their perceptions of their current college environment, followed by an estimation of their perceived growth during their college career. Finally, students provide background characteristics about themselves. Asking for this data is consistent with persistence theory by assuming background characteristics influence persistence (Bean, 1978; Gohn, Swartz, & Donnelly, 2001; Tinto, 1975, 1988).
Benchmark Measures

After making initial observations of the frequency distributions it is clear that Calvin College scores low on the faculty engagement benchmark; however, I was interested in exploring the statistical significance of that finding. The first step in the data analysis was to uncover what elements of the NSSE survey comprised the faculty and student engagement benchmark. That benchmark measures five specific elements, the extent to which: (1) the student discussed grades or assignments with their instructor, (2) the student talked about career plans with a faculty member or advisor, (3) the student discussed ideas from their class or readings with faculty members outside of class, (4) the student indicated that they received prompt written or oral feedback from faculty on their academic performance, and (5) the student worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.). Two groups of students were asked to complete the survey during 2003 and 2006. One group was first-year students and the other group was seniors. Students were asked to rank how often one of those five elements took place on a scale of 1-4. A score of “1” corresponded with “never,” while a “2” represented “sometimes.” A score of “3” equated “often” and students gave a “4” to those elements that occurred “very often.”

NSSE Respondent Characteristics

According to the NSSE 2003 and 2006 respondent characteristics, the 2003 first year sample at Calvin College included 473 first-year students and 306 senior students with an overall response rate of 57%, while the 2006 sample included 545 first year students and 463 seniors with an overall respondent population of 53%. These samplings compare to the 2006 CCCU cohort sample of 3,051 for first-year students, with a
respondent population of 1,561 (51%), and 2,085 for seniors, with a respondent population of 1,156 (55%). The 2006 Carnegie peer institution sample size included 44,216 first-year students with 20,469 respondents (46%) as well as senior sample of 36,593 with 17,360 senior respondents (47%). Finally, the entire 2006 NSSE cohort sample had 391,985 first-year students, with a respondent population of 130,704 (33%) and a sample of 359,758 seniors with a respondent population of 128,270 (36%). The sampling errors for the respective 2006 cohorts are as follows: Calvin College 2.1%, CCCU 1.3%, Carnegie peers 0.4% and NSSE 0.2%.

The first way to examine the data is to look at how each cohort of students responded to the 5 components of the faculty and student engagement benchmark. Each question asked on the survey is presented in a frequency distribution table. A mean of responses is then calculated based on how students ranked their perceptions on the 1-4, never to very often scale. From those percentages a mean score can be calculated for each cohort holding any variable desired constant. For purposes of this study, I compared the mean scores of the responses given by Calvin College students to those responses given at similar CCCU institutions, their Carnegie peers and the entire NSSE sample. I then examined institution-specific data which revealed more detail regarding respondents as categorized by gender, year in school and academic program to discover if there are any differences among those groups as they relate to the Student-Faculty Interaction benchmark.

Quantitative Analysis

Common parametric analyses such as t-tests, analysis of variance, and chi squares have quantitative properties that allow me to measure dependent variables in a way that
approximates an interval level (Morgan, Reichert, & Harrison, 2002). The quantitative portion of this research presents descriptive statistics that display means and variance. I used the results of the t-test parametric statistic to discover whether the differences are significant (Allyn & Bacon, 2004) among institution type while looking at the Student-Faculty Interaction benchmark that was provided in the NSSE report.

I then utilized a chi square procedure to determine whether significant differences existed between the four cohorts (Calvin, CCCU, Carnegie peers and NSSE sample) on the engagement benchmark. The chi square test is appropriate because I wanted to determine if the frequencies across categories on my variables are distributed in a relative manner (Morgan, Reichert, & Harrison, 2002).

Finally, I employed an analysis of variance (ANOVA) to compare group mean distributions among academic programs when focusing on the institution specific data. With an ANOVA I made comparisons by holding desired variables constant while testing other variables against them. This is referred to as a 1 X 3 ANOVA which indicates one independent variable with three levels (Allyn & Bacon, 2004). These ANOVA tests were run to discover how students differed in their responses by academic program, gender, and year in school and to discover if those differences were significant.

Presented in table 1 is an overview of the NSSE Benchmarks, variables, cohort analysis, and statistical methods.
Table 1. NSSE Student-faculty Interaction Benchmark Overview

<table>
<thead>
<tr>
<th>2006 Group Analysis</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin College</td>
<td>Disaggregated responses of total participants in the NSSE by gender, declared major, year in college.</td>
</tr>
<tr>
<td>NSSE Sample</td>
<td>The entire population scores that allow for comparative analysis.</td>
</tr>
<tr>
<td>Carnegie Peers</td>
<td>These are schools, both public and private that share the same Carnegie classification.</td>
</tr>
<tr>
<td>CCCU Cohort</td>
<td>The Coalition of Religiously affiliated Colleges and Universities that Calvin is a member of.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Benchmark Elements</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The student discussed grades or assignments with their instructor.</td>
<td>1 = never</td>
</tr>
<tr>
<td>2. The student talked about career plans with faculty or advisor.</td>
<td>2 = sometimes</td>
</tr>
<tr>
<td>3. The student discussed ideas from their class or readings with faculty members outside of class</td>
<td>3 = often</td>
</tr>
<tr>
<td>4. The student indicates that the received prompt written or oral feedback from faculty on their academic performance.</td>
<td>4 = very often</td>
</tr>
<tr>
<td>5. The student worked with faculty members on activities other than coursework.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>2006 Respondent Characteristics</th>
<th>2006 Response Total</th>
<th>2006 Percent of total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006 NSSE First-Year Sample</td>
<td>130,704</td>
<td>33%</td>
</tr>
<tr>
<td>2006 NSSE Senior-Year Sample</td>
<td>128,270</td>
<td>36%</td>
</tr>
<tr>
<td>Calvin First-Year</td>
<td>545</td>
<td>56%</td>
</tr>
<tr>
<td>Calvin Senior-Year</td>
<td>463</td>
<td>50%</td>
</tr>
<tr>
<td>CCCU Cohort First-Year</td>
<td>1,561</td>
<td>51%</td>
</tr>
<tr>
<td>CCCU Cohort Senior-Year</td>
<td>1,156</td>
<td>55%</td>
</tr>
<tr>
<td>Carnegie Peers First-Year</td>
<td>20,469</td>
<td>46%</td>
</tr>
<tr>
<td>Carnegie Peers Senior-Year</td>
<td>17,360</td>
<td>47%</td>
</tr>
</tbody>
</table>

Statistical Analysis

- **t-Tests**: Comparing mean scores among cohort groups and within Calvin sub-groups in groups of 2
- **Chi Square**:
- **ANOVA**: Comparing all of the means utilizing independent variables
Section 2: Qualitative Methodology

This study also employed qualitative data collection procedures applied in the phenomenological tradition (Cresswell, 2003) to bring further understanding to the experience of a small private institution that achieves very high degree completion rates while scoring low (as compared to all institutions and to a select group of peer institutions) on the predictor benchmark of student engagement. The open-ended procedures utilized in an interpretive study allow for a rich exploration of subjects' experiences around the given phenomenon- in this case, student persistence. Using such methods there is room to ask a follow-up to a particular question, or gain more insight and clarity from the respondent (Marshall & Rossman, 2006). This information can also be coded and used towards the emergence of themes because it is not funneled through experimental, numerical processes.

The strengths of the qualitative approach are found in its exploratory and descriptive properties that stress the importance of context, setting, and participants frames of reference (Marshall & Rossman, 2006). Qualitative research provides researchers with tools for developing a deeper understanding of social phenomena, and each individual's interpretation of the important events and processes in their lives (Thompson, 2003). Qualitative research is a discovery-oriented approach intended to understand a phenomenon in its naturally occurring states (Rudenstam & Mewton, 2001).

Interpretive Approach

The phenomenological tradition is a complex, multifaceted approach to research that examines behavior and garners meaning from observations (Hammond, Howarth, & Keat, 1991). Phenomenologists are opposed to the empiricist idea that legitimate
knowledge can only be had by rejecting the way we perceive the world of everyday life as “mere appearance” (Schwandt, 2001). This study used the careful description of ordinary experiences found in every day life as experienced by each participant. That is, a description of things as one experiences them first-hand (Schwandt, 2001). According to Tesch (1988), the phenomenological approach has been implemented in several different settings, including education. Phenomenology also allows the study of a group of individuals as compared to other approaches such as a biography or a case study involving one individual (Creswell, 1998). Studying group responses was appropriate in this case. For example, I asked women to respond to questions, a specific major to respond to the same questions, and then compared responses.

The general purpose of conducting phenomenological research is to attempt to describe and interpret the experiences of participants in order to understand the “essence” of a particular experience as perceived by the participants themselves (McMillian, 2004). Phenomenology assumes that there are multiple ways of interpreting the same experience and that the meaning of a particular experience is constructed in the reality of each participant. The participants in a phenomenological study are intentionally selected because they are precisely the populations that have lived the experiences that are being investigated (McMillian, 2004). I was purposeful in the selection of participants and was careful seeking the meaning in observations, but it does fall short of a true phenomenology. For purposes of this study I refer to my qualitative methodology as an interpretive approach rather than a full phenomenology.
Qualitative Data Collection

In order to ensure appropriate data collection and analysis, care was taken to obtain a purposive sample of persisting students for this study. Three primary criteria informed the selection of study participants: (1) current students who are enrolled in at least 12 hours of coursework at Calvin College who, (2) have persisted at the same institution into their third consecutive semester, and (3) are in good academic standing at the institution. Specific selection of students to participate in the study were based on categories presented Figure 3 in the quantitative data. The study is set at the same institution, described in detail previously, in which the NSSE survey was administered.

Once the research center had identified who should be considered for the study I then cross-referenced that list with student enrollment records to determine who is still enrolled at Calvin for the spring 2008 semester through the Office of the Registrar. Once a list had been created, I purposefully selected participants to take part in the study based on their gender, academic program and year in school.

To ensure the privacy of individual educational records, I was not given access to any part of the student’s record other than gender, status, and declared major (if they had declared an academic program). I used contact information contained on the college’s web page to contact students identified as potential participants and invited them to participate in the study. An initial email was sent to each student that included an explanation of the goals of the study and invitation to participate in a personal interview lasting approximately 60 minutes. Interested students were asked to respond via email and schedule a time for an interview. This process continued until I managed to create enough individual interviews, comprised of students who committed to participating in
this study, as determined by the chair of this research project. I was given a large pool of
students to work with and found adequate commitments from the initial pool of students.

Selection of Participants

Based on the quantitative findings, I performed individual interviews with a group
of three students in their first year who are undecided, a group of three first-year students
in professional degree programs, and a group of three first-year students from non-
professional degree programs. I was purposeful with this sample to maintain a gender
balance. Next I interviewed a group of four senior students from professional degree
programs and a group of four seniors from non-professional degree programs with an
equal balance of gender.

These sub-populations may have responded differently to the NSSE questions
and perhaps there is some variance that would be significantly noteworthy. Each sub-
population was determined completely by the findings presented during the quantitative
phase of the research project. These groups were anticipated due to literature that
supports linkages between gender (Leppel, 2002), major (St. John et. al., 2002), and year
in school (Levitz & Noel, 1989), and also because the NSSE report presents data in these
categories.

Data Collection

There was a need to formulate a pool of survey respondents for those who have
persisted at the college for four years and are eligible for degree completion as well as a
cohort of students who are currently enrolled in their first year. From those pools it was
critical to be able to identify certain demographic descriptors such as year in college,
major, gender, and more. I needed to go through appropriate channels to obtain
permission to perform the intended research, namely, be granted approval from the Calvin Center for Social Research and the Western Michigan University Human Subjects Institutional Review Board. I garnered initial permission to fully investigate the NSSE data and its findings for specific purposes of this research project from the Provost of Calvin College as well as the faculty committee on retention. This was followed by approval from the HSIRB board at Western Michigan University.

To get the project started, there was an investigation of the 2003 and 2006 NSSE reports. As presented earlier, there needed to be some disaggregated analysis of the findings. If there are certain variables that seem to produce statistically significantly different scores among sub populations, for examples major, gender or year in college, I wanted to formulate interviews based on those demographics.

Once the groups of students to be interviewed were identified and their enrollment status determined I pulled together a purposeful sample of students to interview within specific cadres that may address a particular variable. For example, I interviewed female undecided students as well as male students in professional academic programs to see if they respond differently to the same questions. These groupings were determined by the quantitative findings, but the in-depth responses, or deeper meanings discovered, came from the individual interview responses.

Those students, who had been identified as possible participants, were sent an e-mail explaining the study. The correspondence was used to inquire if the students were interested in participating. Once interested, they were asked for biographical information with which to stratify the interview sample. The students selected were contacted by email or telephone to arrange an interview, which were conducted in person, lasting no
longer than one hour. Sample correspondences such as the introductory e-mail, letter of
invitation to participate, a letter of regret, and a thank you letter can be found in the
Appendix section.

During the interview process I asked students to describe their connections with
faculty and how important those connections are to them. I also asked students to
articulate their level of satisfaction with their faculty interactions. Each student was given
the freedom to expand on their answers, but each was given a specific set of questions to
maintain consistency.

Data Verification

Prior to each interview, a letter detailing the agreed upon time and location of the
interview, the expected length of the interview, a list of preliminary interview questions
and a copy of a consent form to review and sign was be sent to each participant. In
addition, I reviewed the purpose of the study, the proposed outline of the interview
session, and my commitments to confidentiality.

The verification of the qualitative data was authenticated in a couple of ways.

First, the sessions were digitally recorded, and full transcripts were created and can be
reviewed at any time. The recorded files are also available. Of major importance in the
data analysis portion of a qualitative study was the understanding that I was the primary
instrument of data collection. Given this fact there were intentional efforts to minimize
potential biases that may occur, or the interpretation of events through a desired outcome.

This type of interaction, involving myself, in the data collection and analysis process is a
significant challenge when conducting qualitative research (Creswell, 2003),
subsequently, efforts were made to reveal limitations and minimize this potential. One
strategy I employed is a process called "member checking." This practice allows those engaging in the study as a participant to carefully review transcripts and clarify any statements made during the interview process. There was an open invitation to review the data that was be collected to further solidify that the respondents were truly expressing what they wanted to articulate. Students were sent a post-interview email with this information and very few responded.

During the qualitative phase, efforts were made to “triangulate data” by asking for multiple sources of data from the study participants rather than relying solely on conducted interviews. For purposes of this study, I allowed any number of sources including faculty advising notes, self-disclosed student academic records, or any other sort of artifact that each participant found relevant to the study or helped them communicate the meaning they assigned to the questions. Students did not present artifacts other than jotted notes that they had taken. As Jacob (1987) noted, one of the purposes of analyzing data in qualitative research is to classify or categorize information where appropriate. The primary goal of this method is to notice emerging themes from the perspective of the research participant and then to attempt to articulate and explain these patterns (Creswell, 2003) or to understand the essence of their experience (Creswell, 1998). In order to accomplish these goals, and be consistent in the execution of the qualitative phase, an observational protocol for recording the data was implemented (Cresswell, 2003). The protocol included both descriptive and reflective notes for the final process of coding the data.
Analysis Procedures

The interviews were transcribed in their entirety, analyzed, and interpreted using the constant comparative approach (Strauss & Corbin, 1990). This approach is inductive and allowed me to identify common themes and emerging patterns through the use of content analysis. According to Patton (1980) this technique allows for the identification of patterns, themes, and categorical analysis to spring from the data rather than being imposed prior to data collection. This method was plausible because audio taped and transcribed each interview, followed by careful analysis.

Ethical Considerations

To ensure the research participants were fully aware of the nature and purposes of this research, I informed them in writing prior to the interview, stating the purpose of the study, the time commitments involved, the format for the interview, and the potential uses of the study. The privacy of each study participant was also protected (Locke, Spriduso, & Silverman, 2000). To maintain each member’s confidentiality, I created codenames for each of the participants. Further, I took care to comply with all the requirements of Western Michigan University’s Human Subject Review Board. Written consent was collected before participants engaged in data collection activities. The study materials will be transferred to the Western Michigan University campus at the end of the study and stored for a three-year period. Records will be available for inspection by individuals authorized by the sponsoring institution.

Limitations and Delimitations

Of primary importance is the disclosure that I am employed at the institution in which the study is being conducted. Furthermore, I am in enrollment and external
relations which is a department highly concerned with issues related to retention and degree completion.

Another limitation is the power relationship of one institution’s data. Single-institution studies are limited; however Kuh (2007) suggests that the NSSE be examined via single-institution studies to understand what a given institution may be experiencing. This is coupled with the reality that I worked with a secondary data source for the quantitative phase of the study. Finally, the NSSE benchmarks are one of many metrics that could be employed to examine issues of retention and engagement. I am limiting this study to the NSSE.

There are bound to be individual interview limitations, namely that this is not a true phenomenology: an exhaustive, interview process over time. I was hopeful that participants could connect experiences they had with meaning, but was limited in time, resources and intrusiveness. In other words, I was not able to go as deep as I would have liked to with the participants as they related their experiences. Finally, I was limited by mitigating memory aptitude. I was asking participants to call on their history and memory and some may be able to do that better than others.

Chapter III Conclusion

College student persistence is an increasingly important area of research. This study seeks to understand the relationship between faculty involvement and student engagement as prescribed by persistence literature and as measured by the NSSE study. This project incorporates a mix methods approach of quantitative and qualitative data collection and analysis at one school with high retention rates but low faculty
involvement rates with the goal of adding to the literature surrounding issues of retention and persistence.
CHAPTER IV

RESULTS

In this study, I employed a mixed methods research approach that included an examination of a secondary dataset and individual interviews from a purposeful sample of students to discover if there are any significant differences in student responses in the way they score and describe their interactions with faculty. I examined one private, religiously affiliated school with a high retention percentage of first-year students (as well as high persistence percentages of graduating seniors). Initially, I explored two secondary datasets (2003 and 2006) that presented differences in responses to the Student-Faculty Interaction Benchmark on the NSSE when comparing one institution to its peers. This study focuses specifically on the 2006 dataset for two reasons. The first reason for doing so is because the 2006 dataset is the more recent, and second, the institution being reviewed changed its Carnegie classification after 2003 making the comparisons to peer institutions impossible as they are now not the same. It is of interest to know that despite changing Carnegie classifications, and making comparisons to other CCCU schools, the institution being reviewed scored low on the Student-Faculty Interaction benchmark in each dataset for first year students.

Next, I examined whether there were demographic variables, at that institution found to score low, that were largely responsible for the difference in score. I looked at gender, year in school, and program of study. I employed both descriptive and inferential statistics in the data analysis. An alpha level of .05 was used with every inferential procedure as is normative in behavioral science (Hinkle, Wiersma, & Jurs, 1998). Finally, I performed individual interviews with students to gather further understanding and
attempt to bring meaning to the numbers presented. In this chapter, I present the findings of the statistical procedures and analysis of interview data. The presentation is organized by two sections beginning with the quantitative findings.

Section 1: Quantitative Analysis (Research Question 1)

The first research question notes: to what extent and in what ways does the 2006 NSSE student and faculty interaction benchmark for both first year and senior year students at one small, private, religiously affiliated college differ when compared to: (a) their CCCU peers; (b) their Carnegie peers; and (c) to the entire NSSE samples?

It was hypothesized that the variables of school sample type have an impact on the distribution of student and faculty interaction benchmark scores. Specifically, the null hypothesis states: there is no difference among the NSSE sample types (NSSE, Carnegie peers, CCCU, and institution) when comparing scores on the 2006 NSSE student and faculty interaction benchmark.

The first set of research questions focused on the differences in NSSE student-faculty interaction benchmark scores of students at Calvin, CCCU institutions, Carnegie peers, and the entire NSSE sample. In light of a higher retention percentage at Calvin, the results of the analysis are interesting. First, consider the retention percentages of schools within the CCCU. Table 1 illustrates that Calvin maintains a higher retention percentage (87.8 compared to 74.5) as well as a higher persistence to graduation rate (74.5 compared to 56.5). Table 2 illustrates that there are discrepancies in percentages.
Table 2

2006-2007 Retention CCCU Report

<table>
<thead>
<tr>
<th>Institution</th>
<th>1st-2nd Year Retention</th>
<th>6 Year Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCCU (N=79)</td>
<td>74.5</td>
<td>56.5</td>
</tr>
<tr>
<td>Calvin</td>
<td>87.8</td>
<td>74.5</td>
</tr>
</tbody>
</table>

Sources: CCCU 06-07 report & Calvin Day 10 report 2006

The NSSE data clearly presents a statistically significant difference in scores among institution types as presented in the 2006 NSSE report. When including variables like gender, enrolment status, and institutional size, Calvin’s first-year students scored statistically significantly lower than its CCCU counterparts (p<.001), lower than it’s Carnegie Peers (p.<.001), and lower than the entire NSSE Cohort (p<.01). The seniors only scored statistically significantly lower when compared to their Carnegie peers (p<.001). Given this I can reject the null hypothesis that there is no statistical difference among these groups. Table 3 below presents these findings.

Table 3

NSSE Mean Comparisons

<table>
<thead>
<tr>
<th>Class</th>
<th>Calvin Mean</th>
<th>CCCU Mean</th>
<th>Carnegie Peers Mean</th>
<th>NSSE 2006 Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>29.2</td>
<td>36.6</td>
<td>35.0</td>
<td>32.1</td>
</tr>
<tr>
<td>Senior Year</td>
<td>42.6</td>
<td>43.3</td>
<td>49.1</td>
<td>41.3</td>
</tr>
</tbody>
</table>

I was interested in how students, who were identified by their year in school, differed among institution type. For this comparison a chi-square test was the most appropriate non parametric measure because the NSSE report presents the ordinal data as percentages. A 1x3 chi-square test was applied to examine if the proportion of Calvin
student-faculty interaction benchmark scores were different than those scores reported at comparable institutions (CCCU, Carnegie Peers and the NSSE sample). A chi-square test was performed for each of the five questions that make up the student-faculty interaction benchmark for each year represented (first year and seniors). Results revealed a statistically significant difference in student scores by year. The data indicated that for most of the questions Calvin students score lower than those students at other institutions, namely first-year students (Table 4).

Table 4

*Distribution of Student-Faculty Interaction Benchmark Scores by First Year*

<table>
<thead>
<tr>
<th>Discussed grades or assignments with an instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin</td>
</tr>
<tr>
<td>N= 524</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=19,588</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=123,842</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Talked about career plans with a faculty member or advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin</td>
</tr>
<tr>
<td>N= 524</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=19,590</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=123,866</td>
</tr>
</tbody>
</table>
Table 4 – Continued

<table>
<thead>
<tr>
<th>Discussed ideas with faculty members outside of class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin CCCU</td>
</tr>
<tr>
<td>N=524</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=19,591</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=123,844</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Received prompt feedback from faculty on academic performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin CCCU</td>
</tr>
<tr>
<td>N=517</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=19,386</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=122,224</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worked with faculty members on activities other than coursework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin CCCU</td>
</tr>
<tr>
<td>N=517</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=19,384</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=123,811</td>
</tr>
</tbody>
</table>

It is clear that there are significant differences in responses by institution type for first year students. Next, I wanted to investigate Calvin more closely and try to analyze why there might be a lower score represented.
Senior Responses

Similar to the first year group, a 1x3 chi-square test was performed to examine if there were significant differences among senior responses to the five questions relating to student and faculty interaction. The test revealed that there are fewer statistically significant differences among the scores. In fact, only 2 of the questions revealed significance at the .05 level. Those that were significant were feedback ($\chi^2 = 15.92, p < 0.01; \chi^2 = 11.53, p < 0.01; \chi^2 = 10.61, p < 0.01$) and discussing grades ($\chi^2 = 14.68, p < 0.01; \chi^2 = 10.65, p < 0.05$). Presented in table 5 are the complete chi-square results.

Table 5

<table>
<thead>
<tr>
<th>Distribution of Student-Faculty Interaction Benchmark Scores by Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor</td>
</tr>
<tr>
<td>Calvin</td>
</tr>
<tr>
<td>N=449</td>
</tr>
<tr>
<td>Carnegie</td>
</tr>
<tr>
<td>N=16,981</td>
</tr>
<tr>
<td>NSSE</td>
</tr>
<tr>
<td>N=124,729</td>
</tr>
</tbody>
</table>

*approaching significance
Table 5 – Continued

Talked about career plans with a faculty member or advisor

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin</td>
<td>CCCU</td>
<td>0.68</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=449</td>
<td>N=881</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carnegie</td>
<td>$\chi^2$</td>
<td>0.77</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=16,984</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSSE</td>
<td>$\chi^2$</td>
<td>0.53</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=124,741</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussed ideas with faculty members outside of class

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin</td>
<td>CCCU</td>
<td>2.86</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=449</td>
<td>N=882</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carnegie</td>
<td>$\chi^2$</td>
<td>2.78</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=16,981</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSSE</td>
<td>$\chi^2$</td>
<td>1.92</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>N=124,722</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Received prompt feedback from faculty on academic performance

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin</td>
<td>CCCU</td>
<td>15.92</td>
<td>3</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>N=444</td>
<td>N=876</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carnegie</td>
<td>$\chi^2$</td>
<td>11.53</td>
<td>3</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>N=16,886</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSSE</td>
<td>$\chi^2$</td>
<td>10.61</td>
<td>3</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>N=123,840</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5 – Continued

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Worked with faculty members on activities other than coursework</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calvin</td>
<td>CCCU</td>
<td>2</td>
<td>df</td>
</tr>
<tr>
<td>N= 444</td>
<td>N=878</td>
<td>2.21</td>
<td>3</td>
</tr>
<tr>
<td>Carnegie</td>
<td>N=16,884</td>
<td>2.11</td>
<td>3</td>
</tr>
<tr>
<td>NSSE</td>
<td>N=123,811</td>
<td>1.49</td>
<td>3</td>
</tr>
</tbody>
</table>

p.<.05

**Research Question 2**

The second research question notes: to what extent and in what ways does the 2006 NSSE student and faculty interaction benchmark differ among students at one small, private, religiously affiliated college when disaggregated by: (a) gender (for both first year and senior students); (b) those majoring in professional and non-professional degree programs at the private school being studied (for both first year and senior students); and (c) those who have declared a program of study and those who have not (for first year students)?

It is hypothesized that the variables of gender, program areas, and year in school have an impact on the distribution faculty interaction scores. Therefore, the null hypothesis assumes (1) there is no difference in among programs (non-professional and professional) in their assessment of student and faculty interaction and (2) there is not a difference between of undecided and declared students in their assessment of student and faculty interaction.
First-year Gender Variations

Because there is a statistically significant difference in the responses of first-year students, I wanted to examine if gender was a factor. To determine this, I isolated all of the Calvin cases by year. I then performed an independent sample T-test to determine if there was any significant difference in responses to the questions that comprise the Student-Faculty Interaction benchmark between male and female students. In testing for the equality of the means I first ran a Levene’s test to measure the equality of variance. It is important to note that despite a much larger response rate from females (there are more females than males enrolled at Calvin) the test met requirements for homogeneity, lending credibility to the t-test. I used this test because my samples (men and women) are unequal in size and may be unequal in variance. Table 6 displays the results from the Levene’s test.

Table 6

Levene’s Test of Homogeneity First-year

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>.339</td>
<td>.561</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>.196</td>
<td>.658</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class.</td>
<td>1.317</td>
<td>.252</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance.</td>
<td>3.071</td>
<td>.080</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework.</td>
<td>.150</td>
<td>.698</td>
</tr>
</tbody>
</table>

The results of the Levene’s test demonstrate that for first-year students, the variances were not significantly different from one another for each of the questions used
to comprise the benchmark. Therefore, the variances are assumed compatible and can be compared with each other. Because I was able to make comparisons among gender I performed a t-test to discover if there were significant differences in scores among gender.

Gender does not appear to be a major factor in the score differential among first-year students. Generally speaking, there is not a statistically significant difference between gender responses; however one of the five benchmark categories (discussed ideas from your readings or classes with faculty members outside of class) demonstrates a statistically significant score (p<.015). Presented in Table 7 is a complete description of all scores among first-year responses for Calvin students by gender. As a result I will accept the null hypothesis that there is not a significant difference in scores between gender groups for first-year students.

Table 7

Descriptive Statistics and t-Test Results: First-year and Gender

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>M</td>
<td>184</td>
<td>2.30</td>
<td>.757</td>
<td>.843</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>308</td>
<td>2.32</td>
<td>.746</td>
<td>.844</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>M</td>
<td>184</td>
<td>2.06</td>
<td>.740</td>
<td>.693</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>308</td>
<td>2.09</td>
<td>.767</td>
<td>.690</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>M</td>
<td>184</td>
<td>1.82</td>
<td>.746</td>
<td>.015*</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>308</td>
<td>2.09</td>
<td>.767</td>
<td>.016</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance.</td>
<td>M</td>
<td>184</td>
<td>2.52</td>
<td>.677</td>
<td>.504</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>307</td>
<td>2.57</td>
<td>.748</td>
<td>.493</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework.</td>
<td>M</td>
<td>184</td>
<td>1.49</td>
<td>.693</td>
<td>.451</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>307</td>
<td>1.44</td>
<td>.709</td>
<td>.449</td>
</tr>
</tbody>
</table>

*p<.05
First-year Program Responses

To explore if there were any differences in scores among first year students when comparing by program, or area of study, I began with a reclassification of majors. For the "primary major" variable as presented by NSSE there were originally 10 categories. I collapsed those into 3 distinct categories: non-professional programs, professional programs, and undecided. I did this because these are precisely the labels Calvin assigns to these areas of study. For example, in the NSSE presentation, Education and Engineering are valid as their own primary major. Both of those programs at Calvin are considered professional. Because my definition of professional for the qualitative portion of this study needed to be consistent with what current students refer to as professional, I made the necessary reclassifications to this dataset. The primary majors named Arts and Humanities, Biological Sciences, Business, Physical Sciences, Social Science, and other were labeled “non-professional” (N=289). The primary majors names Education, Engineering and Professional were classified as “professional” (N=169). Finally, those in the undecided (N=34) category maintained the same classification.

With these three classifications in mind an ANOVA was computed and found significant difference in responses to four out of the five questions that comprise the Student-Faculty Interaction benchmark. Those questions that are significantly different are talking about career plans with a faculty member \( (F_{2,489,491}=3.955, p=.020) \), discussed ideas from readings or class \( (F_{2,489,491}=5.631, p=.004) \), received prompt feedback \( (F_{2,488,490}=3.930, p=.020) \), and worked with faculty members on activities other than coursework \( (F_{2,488,490}=3.955, p=.020) \). The details are presented in table 8.
Table 8

ANOVA Tables for First-year Program Benchmark Score

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>2</td>
<td>1.288</td>
<td>.277</td>
</tr>
<tr>
<td></td>
<td></td>
<td>489</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>491</td>
<td></td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>2</td>
<td>3.955</td>
<td>.020*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>489</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>491</td>
<td></td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty Members outside of class.</td>
<td>2</td>
<td>5.631</td>
<td>.004*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>489</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>491</td>
<td></td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance.</td>
<td>2</td>
<td>3.930</td>
<td>.020*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>488</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>490</td>
<td></td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework</td>
<td>2</td>
<td>5.819</td>
<td>.003*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>488</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>490</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Multiple Comparisons

Because there is a statistically significant difference in the four responses detected in the ANOVA, there is a need to make some multiple comparisons for those items. Using the Tukey post-hoc test I was able to isolate a dependent variable (the four Student-Faculty Interaction benchmark questions) and compare each one of the three program areas independently. The Tukey revealed that there is a statistically significant difference in responses to the benchmark questions among the three program classifications. The undecided group scores statistically significantly lower when compared to the professional and non-professional groups for three of the four (talked about career plans; discussed ideas; received prompt feedback) while there was only one significant difference among the other groups (professional scored statistically
significantly lower than non-professional on "worked with faculty members on activities other than coursework"). Because of this I have rejected the null hypothesis that there are no differences among responses when comparing them by program of study. Table 9 presents the results of the post-hoc analysis.

Table 9

**Tukey Multiple Comparisons**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Program</th>
<th>Mean Diff.</th>
<th>Std. Error</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>Non-Prof</td>
<td>Professional</td>
<td>-.044</td>
<td>.073</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.351</td>
<td>.136</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>Non-Prof</td>
<td>.044</td>
<td>.073</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.395</td>
<td>.141</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>Non-Prof</td>
<td>-.351</td>
<td>.136</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional</td>
<td>-.395</td>
<td>.141</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class</td>
<td>Non-Prof</td>
<td>Professional</td>
<td>.066</td>
<td>.070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.441</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>Non-Prof</td>
<td>-.066</td>
<td>.070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.375</td>
<td>.137</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>Non-Prof</td>
<td>-.441</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional</td>
<td>-.375</td>
<td>.137</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance</td>
<td>Non-Prof</td>
<td>Professional</td>
<td>.081</td>
<td>.070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.360</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>Non-Prof</td>
<td>-.081</td>
<td>.070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.278</td>
<td>.137</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>Non-Prof</td>
<td>-.360</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional</td>
<td>-.278</td>
<td>.137</td>
</tr>
<tr>
<td>Worked with faculty Members on activities other than coursework</td>
<td>Non-Prof</td>
<td>Professional</td>
<td>.204</td>
<td>.067</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.274</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>Non-Prof</td>
<td>-.204</td>
<td>.067</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Undecided</td>
<td>.070</td>
<td>.132</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
<td>Non-Prof</td>
<td>-.274</td>
<td>.128</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Professional</td>
<td>-.070</td>
<td>.132</td>
</tr>
</tbody>
</table>

*p<.05
Senior Gender Variations

Despite the lack of significant differences in the senior responses comparing Calvin to its peers, I still wanted to examine whether gender was a factor in any of the results. To determine this, I once again isolated all of the Calvin cases by senior class rank. I then performed another independent sample T-test to determine if there was any significant difference in responses to the questions that comprise the Student-Faculty Interaction benchmark when holding gender constant. In testing for the equality of the means I also ran a Levene’s test to measure the equality of variance. It is important that once again I ran this test because although the gender gap did tighten at the senior level, there were more female scores than male scores. This test revealed that there is only one significant difference in variance (discussed grades or assignments with an instructor). The test met requirements for homogeneity lending credibility to the t-test. Table 10 presents the results of the Levene’s test.

Table 10

Levene’s Test of Homogeneity Among Seniors

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>5.539</td>
<td>.019*</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>.086</td>
<td>.769</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class.</td>
<td>.041</td>
<td>.839</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance.</td>
<td>1.698</td>
<td>.193</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework.</td>
<td>.329</td>
<td>.566</td>
</tr>
</tbody>
</table>

p. < .05
The results also demonstrate that for senior students, gender does not appear to be a major factor in the score differential among students. In fact, the same benchmark question that was statistically significant for the first-year students (discussed ideas from your readings or classes with faculty members outside of class) demonstrates a statistically significant score \((p<.019)\). Presented in Table 11 below is a complete description of all scores among senior responses for Calvin students by gender. As a result of these findings I will accept the null hypothesis that there is not a significant difference in scores among gender for senior students.

Table 11

<table>
<thead>
<tr>
<th>Description</th>
<th>Gender</th>
<th>(N)</th>
<th>Mean</th>
<th>SD</th>
<th>(\text{sig.})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>M</td>
<td>156</td>
<td>2.50</td>
<td>.741</td>
<td>.193</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>257</td>
<td>2.61</td>
<td>.846</td>
<td>.179</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>M</td>
<td>156</td>
<td>2.54</td>
<td>.897</td>
<td>.154</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>257</td>
<td>2.67</td>
<td>.876</td>
<td>.156</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class.</td>
<td>M</td>
<td>156</td>
<td>2.07</td>
<td>.820</td>
<td>.932</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>257</td>
<td>2.08</td>
<td>.853</td>
<td>.931</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance</td>
<td>M</td>
<td>156</td>
<td>2.71</td>
<td>.720</td>
<td>.395</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>258</td>
<td>2.77</td>
<td>.793</td>
<td>.384</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework.</td>
<td>M</td>
<td>156</td>
<td>1.95</td>
<td>.976</td>
<td>.716</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>258</td>
<td>1.98</td>
<td>.962</td>
<td>.717</td>
</tr>
</tbody>
</table>

\*\(p<.05\)

Senior Program Responses

To explore if there were any differences in scores among senior students when comparing by program, I used the same reclassification of majors to non professional \((N=299)\) and professional \((N=114)\) and did not use undecided because there are none at this level.
For the senior group comparisons I utilized an ANOVA and did not find any statistically significant differences. The only area that even approached significance was the variable “received prompt oral or written feedback” ($F_{1,412}=3.460, p=.064$). Because of this I am able to accept the null hypothesis that there is not a difference among senior responses when controlling for program of study. Presented in table 12 are these findings.

Table 12

<table>
<thead>
<tr>
<th>Activity</th>
<th>df</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussed grades or assignments with an instructor.</td>
<td>1</td>
<td>2.013</td>
<td>.157</td>
</tr>
<tr>
<td>Talked about career plans with a faculty member or advisor.</td>
<td>1</td>
<td>.001</td>
<td>.979</td>
</tr>
<tr>
<td>Discussed ideas from your readings or classes with faculty members outside of class.</td>
<td>1</td>
<td>.521</td>
<td>.391</td>
</tr>
<tr>
<td>Received prompt written or oral feedback from faculty on your academic performance.</td>
<td>1</td>
<td>3.46</td>
<td>.064</td>
</tr>
<tr>
<td>Worked with faculty members on activities other than coursework.</td>
<td>1</td>
<td>1.123</td>
<td>.290</td>
</tr>
</tbody>
</table>

*p < .05

Section 2: Qualitative Analysis

The purpose of this section is to further investigate the quantitative findings through individual interviews. I selected a qualitative methodology with the purpose of listening for themes that might explain the statistical discrepancies found in section one. For example, I asked first-year undecided students to talk about their faculty advising sessions to discover if faculty were directing these students towards a major. Another example would be asking all students where faculty interactions take place, how
important these interactions are, and how satisfied they are with those interactions. A copy of the interview protocol can be found in appendix E.

These students were interviewed after they persisted into their second semester as first-year students, and into their final semester as seniors. Each interview took place on campus and after the consent process was explained and accepted the interviews lasted approximated one half hour. A standard protocol for all interviews was approved by the Western Michigan Human Subjects Review Board including a follow up email with additional questions. I used this standard protocol for consistency but did allow room for dialogue to occur.

Upon completing the interviews, full transcripts were created and I began to look for meaning in student responses within the phenomenological qualitative tradition (Cresswell, 1998). This happened namely through a systematic reading of each transcript followed by an intentional effort to observe emergent themes which I refer to as an interpretive approach. This information was then used to determine if the experience of the study participants could support the data uncovered during the quantitative phase. The following discussion will be based on the final research question.

Research Question 3

The final research question notes: within a small private, religiously affiliated college which had scored low on the 2003 and 2006 NSSE student and faculty interaction benchmark, how do students (first-year male and female, first-year undecided, first-year enrolled in professional programs, first-year enrolled in non-professional, senior male and female, seniors enrolled in professional programs and seniors enrolled in non-
professional programs) describe their experiences in that college and connect those experiences to their persistence in completing their degree at that college?

Participants

Students meeting the primary criteria informed the selection of study participants: (1) current students who are enrolled in at least 12 hours of coursework at Calvin College who, (2) have persisted at the same institution into their second consecutive semester, and (3) are in good academic standing at the institution. I used a purposeful sample of students that are a representation of the student body and fit within the structure of the quantitative phase. I interviewed a total of 20 students. Of those, 3 were underrepresented students of color, 2 were international, 10 were women and 10 were men. This breakdown is consistent with the larger demographics represented at Calvin and are presented in table 13. Following is a brief summary of each student who participated. The names were changed to protect confidentiality.

Table 13

<table>
<thead>
<tr>
<th>First-Year Name</th>
<th>Program</th>
<th>GPA</th>
<th>Legacy</th>
<th>Residence</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dave</td>
<td>Undecided</td>
<td>3.0</td>
<td>Yes</td>
<td>CA</td>
<td>M</td>
</tr>
<tr>
<td>Ava</td>
<td>Undecided</td>
<td>3.5</td>
<td>Yes</td>
<td>MI</td>
<td>F</td>
</tr>
<tr>
<td>Amelia</td>
<td>Undecided</td>
<td>3.3</td>
<td>Yes</td>
<td>IL</td>
<td>F</td>
</tr>
<tr>
<td>George</td>
<td>Undecided</td>
<td>2.4</td>
<td>Yes</td>
<td>MI</td>
<td>M</td>
</tr>
<tr>
<td>Annabelle</td>
<td>Non-Professional</td>
<td>3.5</td>
<td>No</td>
<td>MI</td>
<td>F</td>
</tr>
<tr>
<td>Brooke</td>
<td>Non-Professional</td>
<td>3.5</td>
<td>Yes</td>
<td>AZ</td>
<td>F</td>
</tr>
<tr>
<td>Addison</td>
<td>Non-Professional</td>
<td>3.6</td>
<td>&quot;No&quot;</td>
<td>WI</td>
<td>M</td>
</tr>
<tr>
<td>Tim</td>
<td>Non-Professional</td>
<td>2.5</td>
<td>No</td>
<td>WV</td>
<td>M</td>
</tr>
<tr>
<td>Jessie</td>
<td>Professional</td>
<td>3.0</td>
<td>1st gen.</td>
<td>Zimbabwe</td>
<td>F</td>
</tr>
<tr>
<td>Owen</td>
<td>Professional</td>
<td>3.3</td>
<td>Yes</td>
<td>VA</td>
<td>M</td>
</tr>
<tr>
<td>Jenni</td>
<td>Professional</td>
<td>3.4</td>
<td>Yes</td>
<td>MI</td>
<td>F</td>
</tr>
</tbody>
</table>
Table 13 -continued

<table>
<thead>
<tr>
<th>Senior Name</th>
<th>Program</th>
<th>GPA</th>
<th>Legacy</th>
<th>Residence</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eric</td>
<td>Non-Professional</td>
<td>2.9</td>
<td>No</td>
<td>WA</td>
<td>M</td>
</tr>
<tr>
<td>Karina</td>
<td>Non-Professional</td>
<td>3.5</td>
<td>No</td>
<td>CA</td>
<td>F</td>
</tr>
<tr>
<td>Jessica</td>
<td>Non-Professional</td>
<td>3.0</td>
<td>No</td>
<td>CA</td>
<td>F</td>
</tr>
<tr>
<td>Mark</td>
<td>Non-Professional</td>
<td>3.0</td>
<td>Yes</td>
<td>IL</td>
<td>M</td>
</tr>
<tr>
<td>Dale</td>
<td>Professional</td>
<td>3.6</td>
<td>No</td>
<td>India</td>
<td>M</td>
</tr>
<tr>
<td>Tom</td>
<td>Professional</td>
<td>2.9</td>
<td>*No</td>
<td>MI</td>
<td>M</td>
</tr>
<tr>
<td>Claire</td>
<td>Professional</td>
<td>3.2</td>
<td>1st gen.</td>
<td>IN</td>
<td>F</td>
</tr>
<tr>
<td>Kendra</td>
<td>Professional</td>
<td>3.7</td>
<td>No</td>
<td>CA</td>
<td>F</td>
</tr>
</tbody>
</table>

*Siblings attended before, but not parents

First-year Undecided Participant Summaries

Dave is from California and is deciding on a major. Both of his parents finished college and had an expectation that he would attend a four-year university. He was introduced to Calvin through his sister who attended Calvin and had a positive experience. Dave lives on-campus and reports a high level of satisfaction with both the student life and academic experiences he has encountered.

Ava has known about Calvin for as long as she can remember. Her father is a Calvin graduate. Ava is from West Michigan and has other family members that have also attended Calvin. Because of this legacy she initially was not interested in attending Calvin. After a visit to campus during high school she decided that Calvin was the place for her, despite knowing that several high school classmates would also be attending. Ava has changed her major twice and is now deciding on a major and has a 3.54 GPA. She lives in an on-campus residence hall and is satisfied with the social life she has.

Amelia is also from West Michigan and is also a legacy student with both of her parents graduating from Calvin. She mentions that there was not an expectation placed on
her to attend Calvin. She has yet to declare a major and has a 3.28 GPA. She decided to come because she wanted to stay close to home and attend a smaller, Christian school. She currently lives in an on-campus residence hall and enjoys her social life.

George is also from West Michigan. He has a brother who is a senior at Calvin and both parents also graduated from Calvin. His current GPA is a 2.4 and although he is still deciding on a major, he really enjoys the residence halls on campus. Because he visited his brother while in high school he feels very comfortable with Calvin and says that it matches many of his expectations. George lives in an on-campus residence hall.

First-year Non-professional Participant Summaries

Annabelle is a first year student from Livonia, Michigan. She has two sisters that came to Calvin and both of them had a positive experience. She is currently pursuing a double major in theater and voice performance. Her reported GPA is a 3.5. She lives on-campus and reports high levels of satisfaction with her social life.

Brooke is a first year student from Arizona studying chemistry and currently has a 3.5 GPA. Both of her parents are college graduates and her mother is a Calvin alumna. Brooke says her parents did not place pressure on her to attend Calvin. She currently lives on one of the on-campus residence halls and reports high levels of satisfaction with her experience thus far.

Addison is a first year student from Wisconsin who is a declared biology major. He has a GPA of 3.65 and is currently planning to change his major to biochemistry or math. Both of his parents graduated from a large public university and encouraged him to attend college but did not place pressure on him to come to Calvin specifically. Although
the academics are hard, he has enjoyed his experience and is satisfied with his residence life experience. He currently lives in one of the on-campus residence halls.

Tim is a first year student of color from West Virginia studying psychology. He is a first generation college student and has a GPA of 2.5. He had never heard of Calvin until he came upon a website linking him to the Calvin home page. From there he became curious, came for a visit, then decided to enroll. He is very satisfied with the social atmosphere and lives in an on-campus residence hall.

First-year Professional Participant Summaries

Jessie is a first year international student from Zimbabwe, Africa. She is a first generation college student with both parents deceased. She became familiar with Calvin through her sister who is a Calvin graduate. She is majoring in accounting and has a 3.0 GPA. There was a lot of expectation placed on her from her family to attend Calvin because of its academic reputation, coupled with the positive experience of her sister. She reports that the academic challenge has been significant and she is very satisfied with the student life experience thus far. She currently lives in one of the on-campus residence halls.

Owen is a first year student from Virginia studying education with a Spanish emphasis. He currently has a GPA of 3.3 and reports that the academic challenge at Calvin has been high. Both of his parents graduated from Calvin, but he indicates that there was not pressure for him to attend. He reports that he is highly satisfied with his student life and academic experiences thus far. Owen lives in an on-campus residence hall.
Jenni is from West Michigan and comes from a long legacy of family members connected to Calvin. Her grandfather served on the board of trustees and another family member has been a professor. Both parents and all of her siblings graduated from Calvin as well. She indicated that there was a high expectation placed upon her to attend Calvin. She is a nursing major with a current GPA of 3.4. She currently lives in one of the on-campus residence halls and is satisfied with her experiences thus far. She chose Calvin because it was close to home, had a great reputation and financially it was affordable.

Senior Non-professional Participant Summaries

Eric is a senior graduating with a major in computer science. He is from Lansing, Michigan and his father is a professor at a large public university. Both of his parents had an expectation that he would attend college, but he did not feel that there was pressure placed upon him to attend Calvin. Eric lives off campus with friends that he chose to live with and reports that his social experiences at Calvin have been positive. He is very satisfied with his Calvin experience but says that the academic challenge was moderate. He currently has a GPA of 3.0.

Karina is from San Diego, California and is a senior graduating with a triple major in sociology, English and Latin and a 3.54 GPA. Her parents discouraged her from attending Calvin because of the conservative perceptions of the institution they had and fear it was “too religious.” Both of her parents went to public universities. She currently lives off campus with some friends and reports that she is nominally satisfied with her student life experience at Calvin.

Jessica is a student of color also from California. She is a first generation college student. She is double majoring in psychology and Spanish and currently holds a GPA of
3.0. She was drawn to Calvin by the opportunities to study abroad and the academic reputation. She currently lives in an on-campus apartment and indicates a moderate satisfaction with the social atmosphere and student life experience at Calvin.

Mark is a senior from Illinois studying exercise science and has a 3.0 GPA. He indicated a slight expectation that he attend Calvin due to family legacy. His grandfather is a former professor and his mother is an alumna. He currently lives off campus with some friends and indicates that he has been very satisfied with the academic and student life experiences he has had.

Senior Professional Participant Summaries

Dale is an international student from India in the nursing program. He currently has a 3.55 GPA and is very satisfied with the level of academic challenge and the social atmosphere. Both parents are college graduates and there was no expectation placed on him from his parents to attend Calvin. He currently lives off campus and is very involved with numerous campus activities. He reports a high satisfaction with student life. He does indicate that he has faced prejudice attitudes and behaviors from the community.

Tom is a senior engineering student from Ann Arbor, Michigan with a 2.8 GPA. Both parents graduated from Calvin and it was always an expectation that he would attend Calvin. Tom lives in an on-campus apartment complex and reports high levels of satisfaction with the student life experience. He indicates that the academic challenge has been tough, but is very satisfied with the academic experience he has had as well.

Claire is a senior education major from Illinois with a 3.2 GPA. She is a first-generation college student who was drawn to Calvin by its academic reputation. She currently lives in an on-campus apartment and is very satisfied with her student life
experience. She indicates that the level of academic challenge has been difficult and she
did not feel prepared for it when she entered as a first-year student.

Kendra is a senior nursing student of color from California with a GPA of 3.7.
Both of her parents went to college and placed a high expectation on her to come to
Calvin. Kendra lives in an on-campus apartment complex and reports a high level of
satisfaction with her student life experience. She reports that the academic challenge has
been greater than she expected.

Themes

The analysis of the interviews provided themes that came from consistent views
the participants described. These themes are generated from the observations of several
statements made from all participants. This section will describe the observation in the
following three categories: overall themes, first-year themes, and senior themes.

Overall Themes

Generally speaking, all of the students interviewed are very satisfied with their
Calvin experience. In fact all students interviewed mentioned specifically that they are
satisfied with the social atmosphere and the student life experience Calvin offers. Each
student gave examples of things they are satisfied with as well.

Overall Theme 1: Students report high levels of satisfaction with student life
experiences. The impact of positive peer involvement appears to be a major factor in
student persistence at this institution. In fact peers are more influential in making
decisions on what program or major to choose than faculty. Students at Calvin indicate
satisfaction with the friendliness of the student body and a sense of belonging. Every
single first-year student, regardless of program, indicated that they are satisfied with their student life experience, and most said they were very satisfied.

Comments related to finding friendship on campus were plentiful. Many students related their experiences in the residence halls as a great context to establish friendships. For example, Mark, an out of state senior in a non-professional program, commented on the number of opportunities there were to interact with peers:

I think just living in the dorms, there [are] always a lot of activities going on. The first two years they have people responsible for activities within each dorm. So floor activities and stuff like that. So there's always something going on. So it's always the focus is trying to meet other people I guess. The first couple years that's the biggest focus I guess. Then it's a big change moving off campus you're away from everything and it's a lot harder to get on campus. It's a lot harder to socialize with that large number of people. But the focus tended to be on [making] closer friends. But the activities were still there. It's just a little bit more difficult to get there, but they are there. They do a really good job providing those activities on and off campus.

George, a first-year student who is still deciding on a major, also commented on the ability to make friends. He made some comparisons to experiences that his friends have related to him from other institutions.

The dorm communities seem a lot closer than at other schools. Everyone seems to have friends. No one is an outcast. I can just walk down the path to and from class and you always say “hi” to people because you get to know people pretty quickly because it's a smaller school. But at the same time it's not too small.
First-year students and senior students alike spoke to their appreciation for variation within their peer group. For example, Owen, an out of state student in a professional program said:

I am satisfied with the social experience and I would say it’s fairly important. Just to be able to make friends, to do stuff, go out and have fun. At the same time, be able to talk about the more serious stuff; just to have a balance in the social atmosphere.

Another example, Dale, a senior international student enrolled in a professional program, offered his perspective about balance but in the final analysis is satisfied with what he has experienced. He said:

This is a great place for students; just the diversity of peers that are around that you can hang out with and talk to. You can have deep friendships and you can also have superficial friends. There are lots of different activities provided for us—opportunities for us to hang out, watch a movie, go to a banquet, show off your talents and also grow in your spiritual life. It’s just very encouraging and a great place for students.

Another senior reflected on her positive experience and satisfaction with her student life experience. Kendra, an out of state senior in a professional program, articulated:

The good thing about being here is that there is so much opportunity to get involved in so many different things. My first year I was not much of a “get involved kind of person,” but when that changed I wanted to get socially involved
in things. There so many opportunities like hanging out with friends, hanging out with your floor or even getting involved in the community.

Only one negative comment was made regarding the community atmosphere. Jessica, an out of state senior in a non-professional program, indicated that at times people come across as “fake nice” but she has found her niche:

It depends on where you are and where you live I guess because the social atmosphere differs from when you’re in the dorms or off campus or in the apartments. And I have done all three. So when you’re in the dorms, you have the people on your floor that you hang out with and people in your dorm that you get to know and that becomes your social network. When you’re off campus, you have the people in your classes and the people that you used to know. And when you’re in the apartments, it’s the people that are in your apartment, and people in your apartment building, and then their friends. So then that’s normally a good mix of everybody on the apartment side of campus [The social atmosphere is] fine, I mean it takes some getting used to but once you understand the dynamic you find people that actually that don’t [act] fake nice and you find your match and you find other people that have similar interests in things that you do.

Several other students commented on their experiences being positive with terms like “community,” “great atmosphere,” “supportive,” and “inviting.” One student indicated that the social atmosphere is the reason why she is staying at Calvin.

Interestingly, few students mentioned spiritual growth and one first-year student mentioned that alcohol is a major part of the social experience.
Overall Theme 2: The level of academic challenge is harder than expected.

Nearly all of the students describe their perceptions of the academic challenge at Calvin as difficult or hard. In fact, 17 commented that the academic challenge was difficult. Words that students chose to describe the level of challenge were “difficult,” “hard,” “not prepared,” and “high level.” Students indicated that they believe that Calvin has a reputation for being a strong academic school, and were expecting an academic challenge, but the reality of their experience is one of struggle.

Ava, an in-state legacy student deciding on a major, commented on the level of academic challenge and chose to use the word “shock” to describe how she feels about it:

It’s obviously a lot different than high school; it was kind of a shock to me. The first few months I definitely had to learn how I study best, where I study best and stuff like that. So, it is challenging.

Tom, an in-state senior in a professional program, indicated that the level of academic challenge has caused him to make sacrifices in order to be successful academically despite the fact that he took advanced courses in high school. He used the word “heavy” to describe the level of academic challenge he has experienced:

[The professors] have definitely loaded the homework on and they make sure you are constantly busy. You have to balance everything and often sacrifice opportunities that you have to go and hang out to get your work done… or sleep.

Claire, a first-generation senior in a professional program, reflected on her experience with transparency. She talks about her level of preparedness and the struggle to meet expectations in a way that prompted her best work:
It’s been challenging [academically], that’s for sure. I guess at first, when I was a freshman, I wasn’t prepared for the papers and stuff like that. I would have to write papers and all of the reading... I really didn’t believe it until I had to do it. There was a lot, so it was hard for me to grasp. I definitely had my nights of staying up until 2 a.m. writing papers and stuff like that. So, yeah, definitely a challenge, but a good one. And one I was able to meet successfully.

Amelia, an out-of-state first year student in a professional program, compared her perspective by drawing a comparison to another institution. She said:

It’s definitely academically challenging. I have a boyfriend that goes to [a public university] and just comparing my schoolwork to his, there’s a huge difference. I think he can get by with doing minimal work and you really can’t do that here. That’s not acceptable, so I am definitely pushed harder than he is and harder than I think a lot of state universities push their students.

Many other students echoed these sentiments and offered reflections that described the academic challenge by the level of reading and writing that is required, the amount of homework due, and the level of analytic thinking each course involved. Phrases like, “lots of reading and writing,” “much harder than high school,” and “high level of analytic challenge” support this notion.

**Overall Theme 3: Academic challenge variations are based on content and faculty.** Every student, regardless of class standing, mentioned that they believed that the academic challenge they experience comes from a combination of the student-held personal interest of the class content and the professors teaching style. Many students commented that their most interesting classes, as well as the best classes they’ve had,
were so because of the energy and passion that was displayed by the professor. In fact, for those students who have a declared major, rarely was the best or most interesting class experienced within that program. Often the best and most interesting courses were those that were also challenging, but the students felt inspired by faculty passion for the subject matter.

Tom, a senior with a GPA of 2.5, mentioned that the excitement, for the topics being presented, that was demonstrated by faculty not only engages him in the classroom but also served as inspiration to continue in his professional program:

I think a lot of [professors inspire] through how excited they are about the topic. [One professor] was very energetic, very engaging, and really showing both how exciting engineering can be and how real it is. Always relating it to what’s actually going on and how things work and stuff like that. And so by teaching us how things work, he kind of engaged my interest in how we create things. Plus the professor is very excited about the topic and I think that adds to exciting students about the topic and hearing how he thinks [the topics] are so amazing.

Kendra, a senior professional program major with a high GPA, spoke about the impact professors have on student learning through their ability to communicate subject matter in ways that engage students; however, she does mention that much of academic challenge is dependent upon course content and personal interest and personal academic ability:

The professor’s a huge aspect. They’ve just inspired me more and like this is it, this is what I want to do. They have such a passion for it and you can just see it in their lectures and not only are they teaching it, but they’re out doing it too which
just shows their love for it hasn’t failed and I don’t know. I can just see it in their faces that they love it so much. But, you know, I’m not an English person for example, and therefore English becomes a lot harder for me because I just don’t like English. I don’t like writing, so I think it really varies from class to class in a sense. Mainly it’s the like the person more. If you’re major and your focus is mainly on sciences and stuff you probably have a hard time seeing what’s the point of taking philosophy? What’s the point of taking religion? I’m never going to use it. And so then you kind of have this defeatist’s attitude about these classes kind of and so then I think if you come in with that attitude it’s going to be harder because you’re not open to learning new things. Because you don’t see what….how is this going to help me.

Brooke, an out of state first-year student with a GPA of 3.5, agreed that professors influence a student’s interest levels through demonstrating excitement, but also articulated each student has his or her own gifts and are drawn to content that is attractive to them:

Well for me personally, I understand math, so the challenge for me in math seems to be not as much as it is in my psychology class. That class is a little more challenging, it doesn’t involve equations and I really have to think conceptually and so I think for me it’s just the way my mind works.

Mark, an out of state senior enrolled in a non-professional program, articulated a similar sentiment regarding personal interest and content. Mark believes that each class is unique, but personal interest has an impact on learning:
For me, my love is for sciences. So I’ve been able to excel in those classes just because I have such interest in them; however, in taking English, or math classes, it’s just really hard for me to succeed because it’s not my interest.

Finally, Jenni, a first-year student in a professional program with a GPA of 3.4, commented about the intersection of her personal interests and the excitement that the professors possess about the material they teach. She said:

[Class] is just interesting, it’s a lot of fun, the way she ties it [together]. I liked that she was really excited about what she’s teaching. And she would always make it so practical. I really believed what she was saying.

*Overall Theme 4: Students report more faculty contact than peers at other institutions.* Sixteen students indicate that they believe they have more contact with professors than their friends report at other institutions. Implicit in those remarks were specific statements related to large public universities. Students made assumptions that students at other colleges are “just a number,” or “not known” by their faculty. It is important to mention that students were not prompted to discern what type of comparisons to make, either to a small private college or large public institution. It is also important to note that these students were not told that the NSSE report indicated that students at Calvin report lower levels of student and faculty interaction when compared to public and private institutions.

Dale, a senior student enrolled in a professional program with a GPA of 3.6, speaks for many students when he talks about how he perceives his relationships with faculty compared to those peers and friends at other institutions:
Many of my friends from high school went to [a large public university] or bigger universities with 40,000 students. So they don't have that level of personal interaction with faculty. So I definitely feel that they're missing out on that personal interaction. And they admit that too, that you don't get to know the professor at a personal level and you're just a number out of 600 or a 1,000 in a lecture. Here, I have a name and a relationship with a professor.

Jenni, a first-year student who lives locally, echoes these thoughts and also makes the presumption that students at other institutions are not interacting with faculty because of the volume of students in each class:

One of my friends goes to [a large public university] and there are like 300 people in her classes, so she doesn't know [faculty] at all.

Jessica, a senior non-professional student from out of state, adds her perspective but also includes other private colleges in her estimation of interaction with faculty comparisons:

I think Calvin [faculty] do a pretty good job of having an open door policy so that way you can always get a hold of your professor. For example, some professors even give out their cell phone numbers so that you can call them any time with any questions. I don't really feel like that's happening with other campuses, private or public.

Another in-state senior in a professional program, Tom, offered his perspective and once again views his experience positively in comparison to others. He said:
[My friends] don’t really interact with faculty whatsoever. I have a friend from [a state school] who says that his biggest class he is in has 500 students and he is not even noticed.

Ava, an undecided first-year student with a GPA of 3.5, offered her perspective by articulating that she sees a difference between the connections students and faculty have at institutions based on the institution type. She said:

I think it just kind of depends on the school. I have friends that go to private schools and go to public schools. I don’t know why, but I feel like the ones that go to a private schools have faculty that are more willing to help.

Finally, Jessie added to the conversation. Jessie is a first-year international student enrolled in a professional program who made mention that she believes that her level of interaction with faculty members is “average” when compared to other students at her institution; however, the conversation went like this when the comparison was made to friends at other colleges:

Interviewer: How about friends at other colleges? How do they describe their interactions with faculty members?

Jessie: They don’t. I have never had a friend who has talked about their professor [who is attending another college].

*Overall Theme 5: The lack of student-faculty interaction is a result of student’s schedules, a result of student contentment with existing levels of interaction, or lack of desire.* In the first year group only 2 students indicated they would like to increase their interaction with faculty members while 9 students indicated they are comfortable with their current level of interaction and don’t desire more. The senior’s perspective was
different in that 6 indicated that they wanted to have more faculty contact and only 2 said they did not.

Every student mentioned that they are satisfied with interactions they do have with faculty. Of those students who mention they would like to increase their level of interaction, each student indicated that it was their schedules and time commitments that were impeding them from making connections. Although there were rare exceptions, most students indicated they have contentment with the amount of contact they had with professors.

Dale, a senior international student, speaks a common thread with his description of the amount of interaction he has with faculty members:

I would say I’m pretty satisfied with the amount of interaction I’ve had with faculty. I think each student is different, but I definitely feel that I’ve had enough interactions with professors.

Kendra, a senior with a GPA of 3.7, mentions that she just doesn’t have time to make interacting with faculty a priority. Her schedule impedes her from doing so. She said:

[I would connect more with faculty] if I had time, but I just don’t. I guess I could make more time, but everyone can always say that.

Claire, a first-generation senior, speaks to her lack of desire to connect with faculty members by articulating how uncomfortable those interactions make her. She said:
I just don't feel comfortable initiating [contact] with [faculty]. I just always feel awkward. I only see my professors twice a week in the classroom. It's like you're in the classroom and then you're out. I go and talk to my friends.

The satisfaction with interaction levels does not seem to be contingent upon class status. For example George, a first-year student with a GPA of 2.4, seems satisfied with the amount of contact he has and is not actively seeking more:

I don't have any real desire to [interact more with faculty]. I'm pretty busy as it is with friends, and homework, and a job, and a lot of stuff so...I guess I probably wouldn't go out of my way to get to know [professors] better.

Students who communicated a desire for greater interaction with faculty members consistently mentioned that their schedules were an impediment to connection. For example, Brooke, an out of state first-year student, articulated:

I would say just their schedule. I mean usually they’re only here from 8:00 am to 5:00 pm and I’m usually busy from 8:00 am to 5:00 pm, so any interaction I might have with them would be in the evening which is when more of my social life takes place. That's kind of when their social life takes place as well.

The most revealing comment, however, came from Owen. Owen is a first-year student enrolled in a professional degree program. He indicated that he is generally satisfied with the level of interaction with faculty and feels comfortable interacting with them in the hallway, their offices, and around campus. Owen goes on to describe that he discerns which professors to talk to based on the level of engagement he feels with them. Further, he indicates that the level of interest the class holds for him translates into a greater desire for him to engage with that particular faculty member. Owen said:
I don’t generally talk to all my professors. It’s just the ones that I feel the most engaged in that I [talk to] if I have questions or things that I want to talk about, then I feel like I can meet with my professors. The classes that I don’t really feel engaged in or feel like it’s just a so-so class, then I’ll generally no interact with my professor.

Although this represents one student, Owen is suggesting that what happens in the classroom impacts the engagement that happens out of the classroom. This sentiment is an interesting nexus between theme 3 and theme 5. Also related was Ava’s (first-year undecided student) statement that her desire to connect with faculty members “depends on what is happening in class.” There seems to be an overall satisfaction with the level of interaction with faculty members and those professors that are engaging in the classroom are being sought out by students outside of the classroom.

*Overall Theme 6: Faculty advising satisfactory but not influential.* As a result of the findings in the first year responses, namely the low undecided NSSE group responses to faculty-interaction, I was interested in asking students about faculty advising. The responses indicate that advising is a distinct category for students that do not fall within the “interaction” context. Most first-year students, regardless of program, indicate that faculty members are not the most influential people in choosing a major yet claim that their advising appointments are helpful. In fact, many of the first-year students indicate that they “wouldn’t change anything about it.” That being said, there is a feeling that students do not feel “known” by their advisors, and therefore are either unable or unwilling to be persuaded by them when choosing a major.
For example, Amelia, a first-year undecided student, indicates that she meets intentionally with her advisor once or twice a semester. During her sessions she discusses the following:

I like to know I'm on top of things. [My advisor and I] talk about what classes I still need to take, tests I have to sign up for, interims and semesters abroad. I wouldn't change anything yet, so far they have been very helpful and straightforward.

Ava, another first-year undecided student, commented that she believes professors are “very helpful,” but when asked specifically about choosing a major she had this to say:

No, they just help me, it is my decision completely. Because obviously they can give as much advice as they can, but they don’t really know me that well.

George, another first-year student who is undecided, spoke specifically about who will be the most influential in helping him make a decision on a major. He said:

Your friends know you the best, they will be like, “Oh I can see you being a good ‘this’.” And I listen to that because they say it for a reason. Your friends [also] know you the best. The academic advisor, I would say, doesn’t know you and your personality, just your GPA, how you did in their course, and my classes, but they can’t say what you’d be good at really.

Finally, the last undecided first-year student, Dave, also commented that his advisor is not helping him determine what to study. He said he believes that he can get help from the career counselors and from discerning what courses he likes the best, rather than direct interaction with professors.
Students who have decided on a program of study echo similar sentiments to those in the undecided group. Tim, a non-professional first-year student, downplayed the importance of advising. Perhaps Tim’s description of faculty advising gives insight as to how first-year students view faculty advising. He said:

I have met with my faculty advisor for academic advising sessions only. It is somewhat important, most students have a pretty good idea of what they want to do anyways.

Owen, an out of state first-year student enrolled in a professional program, said his faculty members gave him “guidance” but they never “forced” him to make a decision. He described it this way:

Most of them that I talked to were like, “Just go in and experience [your classes], see what your likes or dislikes are. And I feel like that was helpful in terms of letting me just figure it out for myself.

Overall Theme 7: Students consider email a form of faculty-student interaction.

Many students indicated that email is a primary form of communication with professors. Not only is it a preferred method of communication it is considered student and faculty interaction. Many students commented, “If I need to talk to them I just email them.” It is important to note that within this community there is the wide use of the Black Board web portal, meaning there is an existing framework for e-communication to occur, and even an expectation. For example, one student feels as though email is a function of the job of a professor. Mark, an out of state senior said:

Changes [to the syllabus] are going to be made. The assignments are mostly done by email and not by paper. I have a lot of professors who email and seem to
change things around quite a bit and email us with upcoming assignments instead of having them sent [via paper].

Most students perceived their use of using email as a form of interaction that has a personal meaning. Kendra, an out of state senior with a high GPA, commented that she tries to stay in touch with faculty as much as possible and sees email as the primary context for her “friendships” with faculty. She said:

I try to stay in touch as much as possible because [faculty] are so great. Why wouldn’t you? Just because they’re professors doesn’t mean you can’t be friends.

Nothing too long or anything, just an email to stay in contact.

Amelia speaks of her use of email also as a way to get to know professors as “actual people.” She said:

I mostly interact with emails. We send emails back and forth a lot, so I guess I am just getting to know my professors as actual people.

Further, students mentioned several times that they are “too busy” to talk face to face. Email has allowed communication to occur regardless of time constraints or office hours. Consider these sentiments articulated by Annabelle. She mentions she does desire more interaction, but admits that she is “lazy” and doesn’t want to go out of her way to have face to face interactions. She said:

I lack the general desire to get up and go talk to them about things. I mean there’s email if I need to talk to them about anything.

Still, other students utilize email as a primary way to “keep in touch” with faculty or to communicate with them. Jenni, a first-year legacy student, mentioned that she emails her professor to communicate, make requests like references, and ask questions.
Also, Ava, an undecided first-year student who believes that she interacts more with faculty than her friends to said, “I’m not afraid to ask questions [so] I email my profs a lot with questions.” Another senior, Mark, commented, “I would say [I interact with faculty members] rather often because if I have a question, I shoot them an email.”

Claire, a senior, also utilizes email as a way to communicate and interact with faculty members. She said:

Sometimes I will just email them [if I need help] because I have discovered that professors are pretty good about emailing.

*Overall Theme 8: Legacy has an impact on student perspectives.* One question that emerged for me as I reviewed these findings was this: how much is the familiarity with the institution, because of family alumni history, compensating for the need for students to connect with faculty? I ask this because there seems to be an extremely strong assumption by students that this college is where they are supposed to be and their families also agree. Although there is familiarity with the college through familial experience, students do not communicate a pressure to attend. Of all of the students who participated in this study, 8 of them are legacy students (one or both parents, or grandparents attended), 2 of them had siblings attend the same college, and 2 are first generation college students.

Students spoke to this familiarity in their families when they were asked how they first heard about Calvin. Amelia, an undecided first-year student, commented that not only did both of her parents graduate from the same institution, but also her siblings and cousins. She said:
I think Calvin was always just ingrained in me because so many of my family members have been to Calvin. I spent a lot of nights here on campus hanging out with them since I was in middle school.

Amelia has an interesting response that was echoed by several when asked if she felt pressure or was there an expectation placed on her by her family or parents to attend Calvin. Very confidently she said, “Not at all.”

Students who describe their legacy connection to Calvin are so matter of fact that it almost seems like this institution was a natural progression in their lives. I wonder if these students may have experienced their “rite of passage” years before entering the college context. Consider these statements from Jenni, another first-year student:

My grandpa is on the board. Like, my whole family has gone here. I have been around it my whole life. My parents were not pressuring me, but they gave me money for here.

Another first-year student, Brooke, mentioned that her mother graduated from the same institution. When asked specifically if there was an expectation placed on her that she too would attend she said:

Not much, I mean there was probably a little bit there, but [my parents] allowed me to apply to other [colleges] and didn’t put pressure on me to come here.

George, an out of state first-year student, said both of his parents and his brother attended the same institution. He said this in response to a question asking him if there was pressure placed on him to come:
Not too much because I am the youngest of six and the oldest four didn’t come to [this institution], so I looked at a few schools. [This school] was third on my list for a little while.

As a final example, Dave, an out of state first-year student, spoke from his legacy perspective and furthered this theme of always knowing about Calvin, but indicating there was not pressure to attend.

I first heard about Calvin from my parents, who both went here. In my family there is a long line of people, and on the other side, who have been going to this school for a long time. Honestly, there was zero expectation. My sister went before me, and I knew that it was good.

**First-year Themes**

During the interview process, in addition to overall themes which were found across all students, two themes emerged out of the first-year group. The first theme related to the influence faculty had on student selection of majors or programs of study. The second theme indicates that students are generally satisfied with both the quality and the quantity of their interactions with faculty members. The following is a further look into themes that may resemble overall themes, but were particularly consistent with the first-year cohort; specifically the first theme. This is primarily because first year students have not all chosen a major of study, while the senior group has.

**First-year Theme 1: Faculty are not influential in choosing a major.** Many students commented that they are not seeking input from faculty or assigned faculty advisors in terms of career goals. Some students replied that they haven’t done so because they themselves do not know what they want to do, while others commented that
they feel as though their advisor doesn’t know them, so how could they give them direction?

Most students indicate that their family helped them choose a major, while others mentioned the influence of peers and friends. Some students spoke about an innate sense of what they are interested in. For example, Annabelle, a first-year student in a non-professional program, indicates a high level of satisfaction with faculty, and even her faculty advisor, but mentions that it is her parents that are helping her decide on a major, not faculty.

Ava, an undecided student, commented that, although she feels satisfied with the interactions she has with faculty she feels as though the professors don’t know her. She indicates through the following quote that professors really are not on her list of people who she would turn to help her choose a major, and she also mentions that her parents have an expectation that professors will be available to her if she needs help. In this case “help” does not include guidance by way of choosing a major, in fact, this quote suggests that because faculty “don’t know me” they are likely the last persons this student would look to for that type of direction. Ava said:

It’s just weird to have your professors not really know you and not know more about you than, say, your name. I guess I could make the effort, but they are really busy and I am really busy so it’s not necessarily possible, I guess. I feel like it’s not their job to become best friends with their students. I’ve talked with my parents and they do feel like there should be someone available for me if I do have a question or need help I should be able to find it... not even just a professor, but with anything.
Dave, another undecided student, is also a student deciding on a major and does not name his faculty advisor as an influencer in helping him decide what to study. Dave’s plan is to continue to try to “figure out what I like” and then go seek out the input of a career counselor:

I am going to be listening in my classes to try and figure out what I like... seeing what subjects interest me helps me to know what I would like to do. And, also I would like to go to a career counselor.

George, a first-year legacy student, specifically mentions that his advisor is incapable of helping him decide on what to major because he feels as if his advisor does not know him. He goes on to indicate that it is his friends that will be most influential. When asked, “Who do you think you’ll pursue to help you get input into your [major] decision?” George said:

Probably friends. They will tell me, ‘I could see you being good at this.’ And I listen to that because they say it for a reason. Your friends know you the best. The academic advisor some, but I would say they don’t know you and your personality, just your GPA, how you did in their course, but they can’t say what you’d be good at really.

When asking Jessie, a first-year international student, specifically about this question, she indicated that faculty have not been instrumental in her choice to pursue accounting:

BEN: Is there any faculty member that has inspired you to continue this study, or pursue the study in accounting?

JESSIE: Not yet.
BEN: Who did you seek input from when choosing your major?

JESSIE: I asked my sister. Then I also asked some of her friends who were accounting majors.

Although a senior student from out of state, Jessica remembers her decision on what to study was not influenced by faculty or advisors. She indicated, as did many other students, that her friends were the most influential. Jessica said:

[My] friends [helped me make the decision on what I should major in]. They know me. They know my interests. They know what I can do.

First-year Theme 2: Students are satisfied with the quantity and quality of faculty interactions. Many students articulated their perceptions that faculty are approachable in and out of class. Many students expressed that the primary context for interaction with faculty is in the classroom or hallway before and after class, or in office settings.

Owen, an out of state student enrolled in a professional program, described his interactions with faculty as more than those friends at the same institution. He mentioned that he talks with his professors once or twice a week, but not to all of his professors. Owen states:

I don't generally talk to all my professors. It's just the ones that I feel the most engaged with what I want, you know, if I have questions or things that I want to talk about, then I feel like I can meet with my professors. The classes that I don't really feel engaged in or feel like it's just a so-so class, then I'll generally not, you know, interact with my professor.

Owen went on to describe that his interactions are based on his perceptions of faculty energy or enthusiasm for a subject and how that relates to his own familiarity or
interest in a particular subject. Interestingly, he indicates that he would like to have more interaction:

I'd say my interactions probably are a lot more than some of my friends. I can't really think of any that, you know, are actually that engaged or that active in their interactions going out with their faculty or their professors. I know there's one or two that have established relationships with their professors. But that's it. As of right now I would say the level that I'm at is adequate for me. But in the future I would definitely like to see more interaction.

It also appears that not only are discussion-formatted classes preferred to lecture-formatted classes, class discussions are viewed as student and faculty interaction. George, a student who feels that he does not need more interaction with faculty, describes it this way:

I like the discussion classes...we just read something and then we discuss it during class. I like doing that a lot. Just because it's not just what the professor thinks and what his view is, you get everyone's view and you could have say in it as well.

Echoing these thoughts, Owen also mentions his preference for discussion oriented classes. He is explicit in his examples that in one course he felt like he was experiencing engagement with faculty through discussion, and in one course he was not. In that discussion context he admits it is a better way for him to learn:

I think in terms of learning, for me that's much better because when I become engaged, when I'm answering questions, when I'm kind of discussing it, that helps me learn better than when somebody's just telling me what I need to know.
And I know that my science class, parts of that, I didn’t feel that there was as much engagement or as much interaction between the student and the professor. Finally, Dave, an undecided student with a GPA of 3.0, mentioned that if he were in classes that were only lectures every single day he would not enjoy that. He had this to say about in-class interactions:

In classroom activities we just talk back and forth. You can talk back and forth to him with ease and he’ll call on you. He’s just open to that sort of thing.

Dave went on to tell a story of an out of the classroom experience that was meaningful to him and others. He said:

The professor for my communications class had the [students] over for dinner at least once a semester and that’s actually been a lot of fun as well., The whole class will go and we’ll cook or bring Chinese food, and then we’ll watch a movie and critique it, and just talk about it, and it’s a lot of fun.

Senior Themes

Seniors are pleased with their interaction with faculty. Generally speaking, they report high levels of satisfaction with the quality and quantity of interactions. It appears as though there is a sense that they “ought” to be interacting with faculty more than they do because they perceive interaction with faculty members as a positive part of the college experience. Many report that they have gotten to know faculty members on a personal level and have been impacted positively by those relationships. Two themes emerged for the seniors and are reported in the paragraphs to follow.

Senior Theme 1: Senior students have higher faculty interaction. There seems to be a shift in perspective away from the first-year attitude of “faculty don’t know me and I
don’t need to interact with them” towards a conviction that “faculty are valuable resources.” All seniors report a high level of satisfaction with their contact with professors, and the trend clearly moves away from not wanting interaction at the first-year level to wanting more interactions at the senior level. Nearly all seniors mention their desire for and awareness of the value of interacting with professors.

Claire, a first generation senior enrolled in a professional program, commented on this shift directly through her reflections but appears regretful that she did not take advantage of faculty interaction:

And so sometimes I’m like, oh I wonder you know if I took the time to [interact with faculty] I’m sure I’d be able to say that my professors are cool. I’m sure there’s value in that because they’re like our elders. Like they have a lot more wisdom and knowledge and they just seem friendly for the most part.

Jessica, a senior from the west coast, mentions that her perception of faculty is one that highlights the need for students to be teachable and glean from professor knowledge in and out of class:

Because I respect their opinion and, I don’t know, [there is] an element of what you can learn from them, and help you achieving what you want for your life.

Jessica went on to talk about her college experience with faculty and how her perception shifted over the years. She said:

I think my first couple years here [faculty interaction] wasn’t that important because I was just kind of getting used to college and it was my experience. But the more I enjoyed classes, the more upper level classes, I think interaction becomes more important because it is a higher level that you are studying, and the
subjects that you want to go into, and just making sure you understand what’s expected of you. And just bouncing off ideas about projects [through faculty interaction].

Karina, also from the west coast, responded to the question, “Do you think a student should pursue faculty?” by saying, “Yeah, I think I should have. Even though she may not have interacted as much as other seniors, she still learned the value of those types of interactions. She went on to say:

I think that is probably where I would have learned a lot because I think faculty here are really smart, and they know a lot. At least the interactions I have had with them and other people have talked about having, I know they always get a lot out of it.

It is important to mention that even among those who indicated they realize the importance of faculty interaction, some of these seniors still maintain that their schedules are a major impediment to actualizing connection.

**Senior Theme 2: Professor enthusiasm for teaching positively influences engagement.** It appears as though faculty have a presence that can positively influence the classroom environment. Students report that when they perceive a faculty member’s true passion for subject matter it produces a desire to stay engaged and even interact with faculty members. Perhaps most interesting in Mark’s, an out of state non-professional student, comment is near the end of his statement when he articulates an increased sense of motivation inspired by faculty:

I think professors, they’re here for so long and you can tell which one’s really want to be here and which ones really love to teach and the ones that just go
through the motions. And the ones that are engaging they love it. They love every new class that comes in. And, and they love being there. You can definitely tell those that don’t. It’s a lot easier to learn. It is. It’s a lot easier to pay attention. You actually really want to get the work done for them too.

Kendra, a senior with a 3.7 GPA, continues this thought with a similar response. She describes her ability to gauge a faculty member’s passion for a subject:

I think it’s just the passion they have for what they’re teaching. I think you can tell from the very first minute, like from the very first day you can tell really, if they really have a passion for what they’re teaching... if they really believe it. If they really aren’t just doing this for a job. That really makes a big difference.

I asked Kendra how she senses that faculty “believe in it” and how she senses that they’re “passionate about it” and she responded this way:

I don’t know if I can explain it. You just get this feeling. It’s like the sixth sense about things. You know you feel it. You can see it on their face. You can hear it in their voice. How much they’re willing to help you throughout the year. How much you know even after you’re done with that class you know, you still see them, you still talk to them.

Tom, a professional student, also commented about professor excitement and how that impacts interest levels. He said:

I think a lot of [professors inspire] through how excited they are about the topic. [One professor] was very energetic, very engaging, and really showing both how exciting and how real [subject matter] is. [He] always related it to what was actually going on and how things work. He kind of engages your interest.
Dale, an international student, describes how faculty have impacted his engagement, and consequently learning, through professor teaching creativity and willingness to approach the classroom with multiple instructional deliveries:

The professor just had this unique way of teaching... [the use of] humor and energy helps. He not only focused on the lecture but provided visual aids. He provided opportunities for class discussions. So we got real comfortable with each other to discuss and talk... he had that way of getting us together into groups to work together. I would say that definitely really held my interest.

Chapter IV Summary

It is clear that many students are indeed satisfied with the level and quality of their interactions with faculty at this institution. Students reported high satisfaction with peers and the student life experiences they are a part of. The following overall themes emerged: (1) students report high levels of satisfaction with their student life experience, (2) the level of academic challenge is harder than expected, (3) academic challenge variations are based on content and faculty, (4) students report more faculty contact than peers at other institutions, (5) the lack of student-faculty interaction is a result of student’s schedules, a result of student contentment with existing levels of interaction, or lack of desire, (6) faculty advising is satisfactory but not influential (7) email is considered student-faculty interaction, and (8) legacy has an impact of student perceptions.

Also present were first-year student themes. Those included: (1) faculty are not influential in choosing a major, and (2) students are satisfied with the quantity and the quality of faculty interactions. The senior themes were: (1) senior students have higher
faculty interaction, and (2) professor enthusiasm for teaching positively influences engagement. Appendix H presents a summary of these themes by participant. The results of this study lead to a discussion concerning the NSSE (its' content and appropriateness of measurement), the relationship of student and faculty at Calvin, and suggestions for future study which is presented in chapter V.
CHAPTER V

DISCUSSION AND CONCLUSIONS

The findings of this study are summarized in this chapter, followed by a review of the three research questions that framed this study and how they relate to these results. Emergent themes are also discussed. Finally, limitations, recommendations for future study, and conclusions are also presented at the end of this chapter.

Overall Summary

This study employed a mixed methods research approach to explore the experiences of students enrolled at a private, religiously affiliated, liberal arts institution which historically scores low on an accepted measure of student and faculty interaction. The literature suggests that receiving a low score on the National Survey of Student Engagement (NSSE) should serve as an indicator of low retention rates, whereby full-time enrollment has a consistent positive relationship with NSSE benchmarks (Pike, 2004). This institution does not experience a low retention percentage when compared to its peers, yet it does score statistically significantly lower than its peers on two NSSE benchmarks. The benchmark that this study focused on is the student and faculty interaction benchmark.

The goal of this study was to examine the experiences of the students, as they relate to faculty interaction, at this institution and assess meaning from a statistical analysis of the NSSE data. The project began with an investigation of the NSSE data through a quantitative analysis. For the second phase of the research project individual interviews were conducted using an interpretive, qualitative approach.
Synthesizing the literature into broad categories reveals that college degree completion is a concern for the academy (Braxton, 2001; Kuh, 2007), and is a function of personal and institutional background factors (Bean, 1982; Pascarella & Terenzini, 1991; Tinto, 1975). Noteworthy factors of persistence are academic and non-academic characteristics possessed by the institution and individual. Despite the wide acceptance of persistence models and retention theories, there are limited studies that speak to the experience of small, private, religiously-affiliated colleges. The literature highlights aspects of the college experience that leads to persistence. One of the paramount components is student and faculty interaction (Kuh, 2007; Pascarella, 1980; Tinto, 1997).

Several tools have been created to attempt to measure variables that have been embraced as vital for persistence to occur. This study chose to utilize the results of the NSSE because of its significance and acceptance (Astin & Lee, 2004; Pike, 2004). It is largely accepted because of its implementation by hundreds of universities across the country. The NSSE presents data into “benchmarks” that are indicators of how students report their perceptions of faculty and learning. Of particular importance to this study was the “student-faculty interaction” benchmark.

The quantitative analysis reveals that, despite high retention percentages, Calvin scores statistically significantly lower on this benchmark when compared to its peer institutions. It is also evident that academic program and year in school are factors that impact the significance of the scores. For example, undecided students report lower levels of student and faculty interaction and the overall gap in scores (related to student and faculty interaction) closes from the first-year to the senior year.
The qualitative portion of the study allowed themes to emerge. There were overall, group themes, first-year themes, and senior themes. Interestingly, despite the low faculty-student interaction benchmark score there is a high level of student satisfaction related to their interactions with faculty. Of the 20 participants, none articulated dissatisfaction with their interactions with faculty. There is also a high satisfaction with the student life experience that students participate in.

Review of Research Question 1

The literature surrounding retention and degree completion speaks to the importance of background characteristics of an individual student and an institution. Those background factors are both academic and non academic. Because this institution enjoys high retention and persistence percentages it should follow that the factors prescribed in the literature as being necessary for persistence and retention to occur should be measurably present at this institution.

In order to address these assumptions a statistical analysis of the secondary dataset (NSSE) was performed and revealed that Calvin scores statistically significantly lower on the student-faculty benchmark when compared to other institutions (many of the same CCCU institutions that have lower retention and persistence percentages than the institution being examined). This NSSE score does challenge the presuppositions that the literature posits and that the NSSE measures. It is incongruent to have a higher retention percentage while demonstrating significantly lower benchmark scores.

Retention and persistence are vitally important to both students and institutions and these findings provide a case that supports one of the main criticisms of the literature surrounding persistence theory (namely that they are too broad and are not inclusive of
small, private, religiously-affiliated colleges) and challenges both the practices of faculty interaction at this institution as well as the measurements utilized to inform this study. Because there is consistent data that supports the notion that what is happening at this institution is not an anomaly; I looked into the findings and focused heavily on the institution to discover if there are any meanings to assign to the numbers.

Review of Research Question 2

Knowing that there are differences in NSSE scores I wanted to discover if gender, year in school, or programs of study provided an explanation. These groups were anticipated due to literature that supports linkages between gender (Leppel, 2002), major (St. John et. al., 2002), and year in school (Levitz & Noel, 1989) with persistence, and also because the NSSE report presents data in these categories. Students who were purposefully selected to participate in interviews were broken into categories by gender, year in school, and academic program. The design was intentional to create a balance among genders for each program of study among academic standing.

Gender

The second research question took the results of the quantitative overall findings and isolated the cases at Calvin. I began with isolating gender. I did this because I wanted to test the assumption that men and women would respond differently to faculty interaction. An initial review of the NSSE data does demonstrate that first-year males and females tend to report nearly identical aggregate scores to each of the five questions comprising the student-faculty interaction benchmark.

As students move through their Calvin experience it appears that women report slightly higher levels of interaction, but they are not significant. During the qualitative
phase, I was purposeful in creating a gender balance with the individual interviews in order to discover if there were any themes that emerged that were different among the sexes, and none were found.

This study affirms previous studies that have indicated gender does not play a factor in perceptions of student and faculty interaction at the first-year or senior level. This was initially apparent due to the quantitative analysis, but later confirmed during the qualitative interviews. Students report consistent, high levels of satisfaction with their faculty interactions irrespective of gender. This finding mirrors an Eisler and Brady (1999) finding that indicated male and female students did not differ in their classroom participation or perceptions, and instructors did not interact differently with the male and female students. Student perceptions strongly correlated with their own behaviors and with instructor behaviors. Classroom interactions and student perceptions varied on the basis of different demographic characteristics including instructor sex, class size, instructor monitoring of gender-race equity in the classroom, gender relevance of the course, and the sex ratio of the class (Eisler & Brady, 1999). This is important because the NSSE is not solely measuring interaction with faculty outside of the classroom.

A more recent study (Kuh & Hu, 2001) indicated two important things about gender and faculty interaction outside of class. First, the most frequent type of contact with faculty students had was visiting after class. Students reported little personal or social contact with faculty out of class. Secondly, the study found that there was no significant gender difference in student-faculty interaction. These findings are not challenging previous research that suggests that female students participate less often and less assertively than male students in classrooms, and that professors’ discriminatory
behaviors are partly responsible (Crawford & MacLeod, 2004; Hall & Sandler, 1982; Salter, 2003). Those studies are primarily looking at “chilly classroom climates,” which are the subtle or overt ways in which women and men students are treated differently, and actions that can be taken to create a learning climate that fosters the intellectual growth of all students, whereas this study is looking at interaction that can take place out of class. In other words, those studies focus heavily on gender and learning style rather than gender and faculty interaction.

Program of Study

Program of study also was not a factor in the low score for senior students; however, for first-year students, this was a source of significance. For the senior group this finding supports early literature from Tinto (1982) and Bean (1982) which suggests that attrition, or non-persistence, is more a function of academic performance (e.g., academic integration), social-physiological factors (e.g., goals, social life, faculty contact), and environmental factors (e.g., finances, opportunity to transfer).

However, first-year students who are still deciding on an academic program report lower levels of involvement with faculty in the following categories, as measured by the NSSE: talking about career plans with faculty, discussing ideas from readings or class, receiving prompt feedback, and working with faculty members on activities other than coursework.

Because undecided students had an impact on the aggregate scores, I decided that it was important to consider the role of faculty advising during the interviews. Much of the literature surrounding first-year student attrition focused on students who were defined as “at risk” (e.g., Campbell & Campbell, 2007; Rickinson & Desmond, 1995;
Zomer, 2006). I asked several students, regardless of their major, to talk about their advising appointments with professors, but focused more directly on that component of student-faculty interaction with undecided students. I did this because frequent faculty-student contact in and out of the class room has been found to be the one of the most important factors in student motivation and involvement (Chickering & Gamson, 1987).

I also did this because the NSSE explicitly asks about students' discussion of career plans with faculty. Perhaps students into their second semester, who have not chosen a major, could be defined as at-risk; although, at this institution these students are more at-risk of low faculty interactions rather than at-risk of attrition. What I found was the undecided students do not actually have a faculty member as an academic advisor. In reality, these students are paired with someone in the Academic Services office. I believe that there are discrepancies in how undecided first-year students report faculty interaction based on this advising structure. Consider, for example, the differences in responses between two students: Annabelle and George.

Annabelle is a non-professional first-year student who has been assigned an academic advisor with faculty status. She described her interactions this way:

Ben: What sort of things do you talk about when you’re in an advising session?
Annabelle: What I want to do with my major and what classes, and what electives, and what classes from core I want to take. They have lists of: “You can take this, or this, or this.” And what she thinks would best benefit me in the long run.

Ben: Are you finding those sessions to be helpful?
Annabelle: Yes. Very.
Ben: Do you feel like you’re persuaded by what the faculty member says?

Annabelle: Yeah. I would say so.

George is an undecided first-year student who is not as convinced as Annabelle when it comes to academic advising. He reflects his academic advising in this fashion:

George: I’m still looking for what I’m going to pursue in academics.

Ben: Okay, who do you think you’ll pursue to help you to get input into that decision?

George: Probably friends because sometimes some of them will be like, oh I could see you being a good “this.” And I listen to that because they say it for a reason. Your friends are the ones that know you best. The academic advisor knows me some, but I would say they don’t know you and your personality. Just your GPA, how you did in a course, but they can’t say what you’d be good at really.

It may be the case that these students, perhaps with further consideration like GPA, are indeed at-risk because they do not have a faculty advisor initiating faculty contact. Considering that this group is largely responsible for the low NSSE score and the literature is consistent with the need for faculty interaction, having faculty advise undecided students seems strategic.

Year in School

It is clear that NSSE scores increase from the first-year to the senior year (review table 7 for first-year significance and table 9 for senior scores). This increase accounts for higher scores (for seniors) that can be measured by the NSSE, but also more mature comments regarding the role of faculty in the lives of their students. During the
qualitative phase, seniors made several comments regarding the importance of faculty interaction. Nearly all (7 out of 8) seniors said that they wished they interacted with faculty more and articulated the importance of faculty involvement. Take the comments of Karina, an out of state senior in a non-professional program with a GPA of 3.5, for example, as she reflects back on the process of choosing a major and how faculty informed that decision:

[Faculty have] encouraged me. Just the fact that you have someone that actually wants you to major in something. I feel like that meant a lot to me because I felt like I still have some of that [encouragement] up on my wall in my room back home. [I liked having] someone telling me that this is what I should do because at that point I was so freaked out because I had no idea what to do. And just anyone giving me any direction whatsoever I feel like was influential. And yeah, somebody wanting me in their program was always good.

Other seniors commented on how faculty members have been influential in finalizing career goals and declaring a major. In fact, 5 out of the 8 seniors articulated that faculty inspired them through teaching or advising. Mark mentions specifically that his faculty advising sessions were helpful to him in solidifying career goals. Seniors demonstrate more awareness for the role of faculty in advising and as influencers in the lives of students. In the following comments it is interesting to observe this shift in perception from initially not being influenced by faculty to having faculty become a big part of his future decision-making process:

Coming in I wouldn't say that [faculty] pushed me in any direction. I would say that since I had an interest in physical therapy, I was assigned a physical therapy
advisor along with my other advisor. So I would talk to him and he would explain
to me kind of what the process would be with grad school and with this program
and all that. So he was just more for information purposes at that point. But as I
started to make my decision I think they were more trying to tell me what major
would help me out the most in grad school. They would tell me what classes
would benefit me the most and other classes that would help me in grad school.
So I think that was a big part.

These comments, when compared with first-year perceptions, indicate that a
positive change occurs in student perceptions of faculty involvement over time. First-year
students overwhelmingly indicate that faculty members are not the primary influence in
their academic lives. Furthermore, there seems to be an unawareness of how faculty can
influence and guide students. Owen, a first-year professional program enrollee, states “[I
will] figure it out for myself what I want to do.” Ava, an undecided student, said, “Today
actually I met with my advisor [and] I honestly don’t even know who I met with.” When
asked how he will figure out what he will major in Dave, also an undecided student, said,
“I’m going to also be listening in my classes and just try to figure out what I like.” Only
one first-year student talked about seeking out the advice of faculty members. Ironically,
Amelia is an undecided student who said:

I think your major can definitely be swayed depending on how much you like a
professor. Like I love my philosophy professor right now. I could major in
philosophy. So it definitely does have a factor into it. But then my education
professor for my 102 class is also my academic advisor, so he has a lot to say
about being a teacher. So it can be confusing. I think everyone, all of my professors that I’ve talked to they’ve been really helpful.

In summary, overall for research question 2, gender is not a factor that contributes to lower benchmark scores. Men and women demonstrate similar satisfaction levels and report similar perceptions of faculty interactions. Academic program is a factor, specifically among undecided first-year students. As revealed by the multiple comparison Tukey analysis (Table 8), such students are bringing down the benchmark score which confirms that year in school does have an impact on student perceptions as seniors clearly articulate more benefits of student and faculty involvement and interaction.

Review of Research Question 3

It is established that persistence and retention rates are valued by institutions because of the benefits they offer to the individual who completes a degree, to the institution that offers the degree, and the society within which the degree holder becomes productive (e.g., Berger & Milem, 2000; Ferguson, 1990; Hall, 1991; Nordquist, 1993; Pascarella, 1985; Strauss & Volkwein, 2004).

Given this importance, persistence theory has posited ideals that have been measured through instruments like the NSSE. At this point I know that Calvin scores low on the NSSE, and that there seems to be a few variables that may influence those scores: year in school and undecided status. The purpose of this research question is to connect the analysis of the NSSE data to the perceptions of students through individual interviews.

Because of these findings it was necessary for me to create criteria for the selection of interview participants. Given the quantitative analysis it became apparent that
I needed a gender balance for each class (first-year and senior) as well as a representation of each program of study category (professional, non-professional, and undecided for first-year students). From these categories I interviewed a purposeful sample of students with demographics reflective of the student body. During the interview phase the following themes emerged: (1) students report high levels of satisfaction with their student life experience, (2) the level of academic challenge is harder than expected, (3) academic challenge variations are based on content and faculty, (4) students report more faculty contact than peers at other institutions, (5) the lack of student-faculty interaction is a result of student's schedules, a result of student contentment with existing levels of interaction, or lack of desire, (6) faculty advising is satisfactory but not influential (7) email is considered student-faculty interaction, and (8) legacy has an impact of student perceptions.

Also present were first-year student themes. Those included: (1) faculty are not influential in choosing a major, and (2) students are satisfied with the quantity and the quality of faculty interactions. The senior themes were: (1) senior students have higher faculty interaction, and (2) professor enthusiasm for teaching positively influences engagement.

High Satisfaction with Student Life Experience

Clearly the student life experience is a noteworthy component of the greater Calvin experience. Nearly all (19 of 20) students interviewed not only showed high levels of satisfaction when describing their experience during their interviews, but also gave detailed accounts of how the community has shaped them. All 20 spoke highly of their social experiences and were positive in their descriptions. Students mentioned that peers
are a major factor in their persistence and also program of study decisions. This is consistent with the prescribed theories of retention (e.g., Braxton, 2004; Tinto, 1979).

In many regards, it is the social interactions with peers and social opportunities that are driving retention decisions in this community. That is not to say that faculty interactions are not important to students as much as they are not perceived as more important than peer relationships that are created. Recently Wilcox, Winn, and Fyvie-Gauld, (2005) corroborated this with a study that supports the claim that making compatible friends is essential to retention. Such friends provide direct emotional support, equivalent to family relationships, as well as buffering support in stressful situations. Course friendships and relationships with personal tutors are important but less significant, providing primarily instrumental and informational support.

Interestingly, both men and women seem to be inspired by the closeness of community they experience. There does not seem to be a difference in responses by gender. Take the following comments from Dale, an international senior in a professional program, for example. He mentions with a great deal of sincerity that he would not thrive without having the kinds of relationships with people that he has created at Calvin. He goes further by mentioning the importance of feeling accepted and loved. Dale articulates:

[The social atmosphere] is very important because I thrive on people and thrive on relationships and it’s very important for me to feel accepted, to feel loved, to feel that encouragement, to feel that support from peers and friends. So it’s very critical and important to me.
Many students commented on the closeness of the community they feel and it appears to have an impact on students. Students did not report, during the qualitative interviews, dissatisfaction with the community. Dave, an undecided first-year student, describes it like this:

The dorm communities seem a lot closer than at other schools. Everyone seems to have friends. No one is an outcast. I can just walk down the path to and from class and you always say “hi” to people because you get to know people pretty quickly because it’s a smaller school. But at the same time it’s not too small.

Women also describe their social experiences by choosing words like community, friendship and opportunities. They also seem to be impacted by their experiences and it compels them to stay in the community. For example, Kendra, a senior student enrolled in a professional program, states that when she came to campus she was drawn by an academic drive, but through her social experience she has been changed and now values the social components of her college experience. Kendra articulates her perspective by saying:

Well the good thing about Calvin and just being here is that there so much opportunity to get involved in so many different things; even if you don’t want to get involved. My first year, I was kind of like, “Oh I’m not much of a get involved kind of person.” I was here for college and that was pretty much it, but of course I changed a lot. But it was nice because when I finally changed, I wanted to get socially involved in things. There were all kinds of opportunities like hanging out with friends, hanging out with your floor, or even things like get involved in the community, or through your church-- if you have certain views, or
social justice or environmental -- things like that that you are kind of like interested in. You make the greatest friends here and probably people you'll always be friends with.

Not surprisingly, many students have found meaningful interactions with friends within the context of an intentional community that has a religious component that asks students to live their lives with a degree of vulnerability and openness. It may be that this vulnerability is precisely the type of social integration necessary for a non-departure decision described by Tinto (1975) and Bean (1982). I will discuss more on this in the section on legacy students.

Academic Challenge: Perceptions

Most students (17 out of 20 in the study) indicated that the level of academic challenge is high. The interviews revealed that although Calvin has a reputation for quality academics, students feel as though the experience is harder than they expected. It is important to note that not only are students satisfied with their level of challenge, but 20 out of 20 students value the challenge and think it is important. This is also consistent with persistence theory (Bean, 1982; Tinto, 1975) as students who hold the "background characteristic" of expecting and valuing an academic challenge will have a greater likelihood of degree completion.

Academic Challenge: Content and Faculty

Students give credit to faculty members for making material come alive and stay interesting. Most students indicate that an academic challenge is based on content that they feel comfortable with and with faculty members that can deliver the material in an
engaging way. Take these comments from Karina, a non-legacy senior in a non-professional program, for example:

I think that there’s a lot of classes that people sign up for because the content sounds so exciting and those usually end up being crappy classes because there just not done well. Unfortunately I feel like that happens a lot. There’s so much cool content out there and it just gets really boring if you don’t do it the right way, I guess.

This sense of things being “boring” can be diffused by a professor’s use of energy, humor, and discussion. Energy is a major factor in student satisfaction and fundamental for creating a learning environment. This coupled with discussion seems to be a preferred method of learning for the students interviewed. Owen, a first-year student enrolled in a professional program, describes it this way:

I know my history professor, he kind of uses lecture notes but sometimes he’ll just go to the board and write a few notes and engage the class and try to get the students to respond. I think in terms of learning, for me that’s much better because when I become engaged, when I’m answering questions, when I’m kind of discussing it, that helps me learn better than when somebody’s just telling me what I need to know. And I know that my science class, parts of that, I didn’t feel that there was as much engagement or as much interaction between the student and the professor.

Amelia, an undecided first-year student, also commented on the discussion format. She enjoyed the combination of discussion and reflection. She said:
[My favorite classes] were both discussion oriented classes. And for me specifically, I just thrive on that kind of stuff. I’m able to formulate my thoughts. And both classes actually had discussions and then we’d have small one page papers that we’d have to write. So I was able to think about the discussions that we’d had in class and I already have my thoughts out there being said during class. Being able to pull those together and put them on a paper.

In response to why Dave, an undecided first-year legacy student, enjoys an academic challenge in class he said, “He’s just a really funny guy. He’s a lot of fun I just enjoy being in his classroom because he - he’s just funny.” Humor was also noted by Claire, a first generation senior enrolled in a professional program:

[My professor] wasn’t afraid to be silly or anything like that. So seeing him being so uninhibited I think made it more comfortable, at least for me to be that way too and not think like, oh just because I’m adult doesn’t mean that I can’t act like a silly person or something like that.

Finally, it is evident through the following comments made by Addison, a non-professional first-year student, that faculty do inspire students through their teaching style and expectations. Addison made this comment when describing what he called his “best class”:

I’m not getting an A in that class. It’s super hard. Just the level at what she expects us to perform makes me work hard, and study hard, and want to learn all I can.
According to Bean (2005) the importance of the effects of academic performance in college on retention should not be underestimated. Bean describes this importance by stating,

A student enters college with a record of academic performance and cultural capital, interacts with faculty members, advisors, and other students in formal and informal academic settings, forms the attitudes that their education is of practical value for getting work, develops a sense of academic self-efficacy, approaches academic work, develops an internal locus of control related to academic achievement, gets good grades, feels loyal to the school, and chooses to continue enrollment there. (p. 227)

This may be an oversimplification of retention; however, it does speak to the power of academic achievement. Based on student perceptions, faculty have a huge impact on that and should be inspired to assist the college with its retention efforts by creating environments of learning that connect with students.

*More Faculty Contact than Students at other Institutions*

It is interesting that when reporting their perceptions of faculty interaction on the NSSE, Calvin students self report a lower amount of faculty interaction than their peers at other CCCU institutions and Carnegie Peers. Yet, when I interviewed them, 12 out of 20 said that they had more interactions with faculty members. Of the 8 that did not indicate the higher levels of connection, 4 mentioned that they don’t talk to their friends about connecting with faculty so they don’t know. Only one student thought that it was her friends that had more interactions while the remaining 3 thought the interactions with
faculty that their friends experienced at other colleges is similar to the amount they experience.

Kendra, a senior enrolled in a professional program, speaks for many students when she commented that her friends “don’t ever” connect with faculty. She said:

Oh, no. They don’t ever [talk with faculty]. They go to huge schools and so they don’t even know their professors. Usually it’s like these assistant professors, like oh my gosh. It’s so crazy. This one girl that I know she goes to UCSD back in San Diego, and this professor just records himself on a little tape recorder and then that’s class. I’m like what? I would hate that! No way. There’s like these huge classes. It’s hard to get to even know people. You know what I mean? Like whoa. No.

Another interesting observation is that students made an assumption that “other institutions” referred to large, public universities. Within that framework, students have a perception that students who do not attend a small, private institution only have large classes in huge lecture halls with relationally distant faculty. Take the comments of Annabelle, a non-legacy first-year student, for example:

[My friends] don’t talk to [professors] at all because they go to large schools with 300 person lecture halls and all that, so it’s harder for them to get to know their profs.

Claire, an-out-of-state senior, offered a similar perspective, only her assumption of class size dramatically increased when responding to the same question:

I just wonder if I were at a big university, like would the professors put so much energy or effort into interacting? I think the answer would be no because they’ve
got like 500 students in just one class. You interact more with a teacher’s aid
more than you do with the professors because there are just so many students.

Although there are several more to choose from, I will include one more example
from Tom, a senior enrolled in a professional program, who shares the same perspective:

I have a friend at [a large public university] who says that his biggest class he’s in
has 500 students and he’s not even noticed.

This perception of more faculty interaction compared to their peers at other
institutions is counterintuitive to the NSSE results. I believe that is because there is a high
level of satisfaction with student life, academic challenge, and when students speak of
faculty interaction they do so out of a framework of comparison to large, public
universities. When they answer the questions on the NSSE there is, perhaps, more of a
focus on their experience at their institution without the comparison.

*Lack of Faculty Connection a Result of Schedules*

Students are overwhelmingly satisfied with the quality of their interactions with
faculty. Of all the students interviewed, 6 of them said that either the amount of contact
with faculty is satisfactory or they simply do not place an importance on interacting with
faculty. There were no negative opinions of faculty interaction. There were 12 students
who indicated that they want to have more faculty interaction and the number one factor
impeding that is time. Tom’s summary statement can be echoed by many:

I think the faculty have put themselves out there for contact, and if I wanted more
contact with faculty it would be on my part to increase that.

Others, like Ava, said, “There’s really not maybe the time for that” and Dave
remarked, “Just time constraints [that keeps me from interacting with faculty].” Addison
indicates that he would like to interact more but his schedule makes it difficult, “That’s one thing [meeting with faculty] I have to do, but right now I’m kind of busy.” Kendra echoed, “If I had the time yeah. But I just don’t. I guess I could make more time. I guess everybody can always say that. I would like to [spend more time with faculty].” Others, like Jessie, said, “I am constantly doing something” and George commented, “I’m pretty busy as it is with friends, and homework, and a job, and a lot of stuff.” Tim concluded, “I do enjoy [connecting with faculty]. I’ve been working a little bit harder this semester to get to know my professors a little bit better. But, you know, I’ve got a job. I’ve got my schoolwork, I’ve got my friends.”

It is my contention that many of these students have no intention of seeking out faculty members for interaction other than what they currently experience. These students are seeking out the advice of friends and family on formal and informal levels.

Legacy

There is a strong denominational affiliation present in the student body. In fact, nearly 50% of all students come from the same church affiliation. Of equal importance is the high number of alumni children enrolled, which stands at nearly 40%. This percentage would only increase if we added the number of sibling students enrolled.

Although there is not much direct literature on the role being a child of an alumnus has on persistence, there are studies that speak to the difficulty of persisting as a first-generation college student. For example, Ishiani (2004) reveals that first generation students are more likely to depart than their counterparts over time. In fact, when controlling for multiple factors that include race, gender, high school GPA, and family income, there is a 71% higher risk of attrition among first-generation students than those
with college educated parents. Another study (Elkins, Braxton, & James, 2004) examined Tinto's concept of separation and discovered that support and rejection of attitudes and values were found to influence persistence in a statistically significant way. If there is a strong presence of students who have the family support of attitudes and values, not only of the religious affiliation but also of the college they also attended, there is a greater likelihood of persistence, despite what students might feel about their interactions with faculty members. In this particular instance, denominational affiliation and legacy status seems to positively influence persistence.

This sense of legacy, coupled with the denominational tradition, is something that should be considered as a major impact on student persistence and retention. One study could look at the perceptions and persistence rates of those students who are not denominationally affiliated or legacy students compared with those who are. This may reveal more insight into these questions.

First-year Themes

The following paragraphs will highlight some of the themes that emerged out of the interviews from first-year students. These were derived from comments that several students made. It is important to note that each first-year student was specifically asked about their advising experiences and their perceptions of those encounters with faculty.

Faculty are not Influential in Choosing a Major

The first theme that surfaced was the notion that faculty are not influential in choosing a major. Although there is a respect for faculty and a general comfort level with them, none of the first year students indicated that they have looked to faculty members to influence their decision to choose a particular area of study. Only 4 students did not
know coming into to college what they wanted to pursue in terms of a major. Students look to family members and friends for advice on choosing a major. Students feel that these are people in their lives who know them best and therefore allow them to be more influential.

Jenni talked about how she determined that she wanted to study Nursing. I asked her specifically how she determined her major and what role faculty played in her decision. Jenni said:

I just talked to a lot of people. That’s probably how I determined it. I talked to some of my sister’s friends who were in the nursing program here. It just appealed to me a lot. So I just, from talking to people.

Similarly, Tim responded to the specific question about faculty influence on choosing a major by saying, “I’m going to have to say it was more my decision.” I specifically asked students who are undecided about their relationships with faculty members as they relate to faculty advising. Interestingly, there is not a faculty advisor for each student that has not declared a major. The advising model for undecided students rests on the shoulders of the office of Student Academic Services. That isn’t to say that all students who are deciding don’t interact with, or have a faculty advisor because there are some exceptions. However, as a general rule, these students may be assigned someone as an advisor that is not a faculty member. Despite this, there is no evidence of dissatisfaction with the advising process among undecided students. I will present more comments on this and make connections to previous research in the recommendations section.
Students are Satisfied with the Quantity and the Quality of Faculty Interactions

Nearly every student (19) specifically articulated satisfaction with their faculty interactions. Realizing that the NSSE is not a satisfaction index, it would be inappropriate to offer a criticism based on these high satisfaction levels; however, it is apparent that at this institution quantity of interaction is not a predictor of satisfaction, and in the final analysis persistence. Previous literature suggests (e.g., Nora, 1987; Tinto, 1997) that the classroom is central to college student persistence. This study reveals that the level of interaction with faculty does not impact student retention.

Students spoke highly of their interactions with faculty and perhaps are not in need of frequent interactions to be compelled to stay enrolled at this institution. This counters persistence theory (e.g., Austin, 1984; Fullcomer, 2004; Stoeker, Pascarella, & Wolfe, 1988), but is supported by several comments. Perhaps because of smaller class size and low student-to-faculty ratios, students feel known without large degrees of interaction. For example, Jenni, a first-year student who is very satisfied with the level of faculty interactions, commented specifically that professors know her name. Jenni said:

I feel like I’m learning a lot and getting my money’s worth (laughs) and I’m generally pretty interested in the stuff I’m learning. My professors do a pretty good job at relating it to real life. [My professors] know you by name.

These themes suggest that students are satisfied with the level of interaction they experience. This is primarily because they have a larger satisfaction with their Calvin experience. Students at the first-year level seem to have a good sense of what they want to study and how they want faculty to shape that. These students are also impressed with
faculty that know their name, respond to email, and make themselves available if needed. Perhaps continuing these practices are true influencers of student persistence.

Senior Themes

Senior Students have More Faculty Interaction

For the senior group, 6 out of 8 students expressed a desire to have more connection and interaction with faculty members. All 8 were satisfied with the quality of the interaction, and those who did not desire more said so because they feel like there is enough interaction. Not only are they satisfied with their interactions, they develop relationships with faculty. Seniors respect and value the conversations and relational investments with faculty. Dave describes several faculty members who have been influential in his life by choosing words like "mentors" and "friends." He said this about faculty interaction:

I probably have five or six mentors at Calvin. And recently a professor called me into her office and we just chatted about where my heart is at in terms of where I feel that God is leading me and how I've grown and changed and developed over my years at Calvin. And she was really encouraging toward me pursuing the medical field in terms of me going on to medical school. Because that's where she saw that my heart was focusing toward. And then there's also my mentor through the mentoring program at Calvin who sees a potential in the spiritual side and he's encouraged me to look into seminaries, but I've also had other professors and actually even friends who have been really helpful in saying oh, maybe you should go into teaching or at least use your teaching skills in your medical work. So that way it's been really helpful to have that support.
It is interesting that with low NSSE scores, these senior students offer reflections about faculty members as mentors, friends, and support. There were no students who commented that faculty members are not available or are unwilling to meet with them. Students generally feel that faculty members care about them and will spend time with them. It is puzzling why this does not seem to be the case when using a metric like the NSSE.

*Professor Enthusiasm for Teaching Positively Influences Engagement*

This study suggests that the greater enthusiasm a professor demonstrates around a given subject, the greater likelihood the students will respond in classroom discussion. Further, classroom discussion is considered faculty interaction from the student perspective. Generating enthusiasm keeps students engaged, deepens learning, and gives students the feeling that they have connected with faculty members. Although this may be related, it is different from instructor likability, which has been demonstrated to earn faculty high evaluation marks but lower learning outcomes for students (Delucchi, 2000). Every senior student described their best class, sometimes it was even their hardest class, by describing the teaching methods of the faculty member.

Consider these comments from Kendra. It appears that the faculty member was able to significantly alter her perspective on learning and subject matter. This was a direct result of a faculty member’s ability to transmit content. Kendra said:

The professor's a huge huge, huge, huge, aspect. I have to say that philosophy was not my thing. I didn't know a thing about it before I even went in. I was like philosophy, please, this is going to be ridiculous, but the professor was amazing.
He was amazing. Honestly the best professor I’ve had here. Because that one experience that I had really changed my entire view on philosophy.

Consider Tom’s reflections as well as he specifically names professor excitement as a catalyst for learning and engagement. All of the seniors spoke highly of those professors who infused energy into their classes and demonstrated that by conveying an excitement for the material they were teaching. In other words, these students find those professors who display excitement for subject matter more believable and credible than those who do not. Further, those who couple that excitement with classroom discussion and engagement are more likely to experience interactions with students and higher levels of satisfaction from students. Ultimately, deeper learning will take place. Tom said:

The excitement of the professor about the subject really impacts the students because s/he’s really pushing you to try and understand what is happening. S/he enjoys teaching it to you.

Conclusions and Recommendations

In this section I will first offer some general thoughts and conclusions as they relate to this study. These thoughts are interpretations of the findings. Following these paragraphs is a more detailed, intentional connection of these conclusions to existing literature in the form of recommendations.

This study utilized the results of a recognized tool of measurement (NSSE) employed by this institution to examine the self-reported student perceptions of engagement they have with faculty members. Although the NSSE does not focus directly on educational outcomes, it does attempt to discover how students use available college resources by communicating participant scores through their benchmark system. There
are positive aspects to this model of measurement. For example, this can provide institutions substantial respondent data to gain a sense of how the institution may score compared with others. Another positive aspect of the NSSE is that it reveals that students view their respective campuses as supportive.

Although there are positives, there are some negatives associated with this specific tool as well. I believe this research project illustrates the need to steer clear of broad comparisons with this tool. In fact, I would argue that the institution specific data produced by the NSSE is more helpful than comparative analysis. The following findings illustrate this.

First, students at this institution are not leaving or stopping out of college despite the amount of contact with faculty members. Kuh (2001) asserts that the amount of contact the students in this study both scored on the NSSE and reported in the qualitative phase is “not nearly enough to perform at acceptable levels” (pg. 13). Either student testimonies can’t be trusted as they relate to the amount of time they spend with faculty members, or the amount of interaction is not as vital to persistence. As assumed, the NSSE not only underestimates the unique impact legacy has on student retention it appears to ignore this altogether.

Legacy, or the generational influence that is passed on by parents and alumnae of the same institution that their children are attending, is rather pervasive at this institution and I believe partially accounts for the strong retention percentages year after year. In fact, I would liken this to literature that surrounds selectivity. According to Kuh and Pascarella (2004), selectivity has an impact on the overall tone of the college environment and ultimately retention. If students are exposed to bright peers, that
exposure will impact how they spend time, what they talk about, where they live, and much more. Similarly, this institution has a large legacy population that views this institution as a natural fit or next part of their life. More on this will be presented in the recommendations to follow.

I also believe that this study reveals a great deal about student satisfaction. It is hard to measure satisfaction with the NSSE because it is not a satisfaction inventory. There are other measures that take satisfaction into consideration; however, the NSSE may not fully account for the level of satisfaction students have with their unique student life experiences. I believe that social and academic integration can both happen in and out of the classroom and therefore the academic integration is not solely a faculty responsibility nor is it only achieved through faculty interaction.

Communication is also important. I believe this study reveals that there are forms of communication, namely in class discussion and email, that students interpret as legitimate forms of student and faculty interaction, that may not be viewed the same way by the NSSE or faculty members. I will provide more on this as well in the recommendations to follow.

Another finding relates to faculty advising. The quantitative results revealed that undecided students are pulling NSSE scores down from average scores at comparable institutions. It is also evident in the qualitative results that faculty members are not influential in choosing a major. Considering that there is not a faculty advisor for students who do not have a declared major, it is not surprising that these undecided first-year students do not view faculty as people to guide them in this process or as people with whom they are generally interested in increasing their contact.
Comparative Findings

It is important to connect the findings of this research to those previous studies that inform embraced persistence theory. I have identified academic and non-academic factors important for student persistence and then discovered, through this research project, which theories emerge as relevant to the institution examined.

Student Academic Factors

Previous research has shown that student background characteristics, or pre-entry attributes, are predictors of college readiness as well as predictors of potential academic integration (e.g., Chickering, 1987; Lotwoski, Robbins, & Noeth, 2004; Tinto, 1987). My study reveals that in addition to background factors, parental levels of education (e.g., Bilson & Terry, 1982; Terenzini, Springer, Yaeger, Pascarella & Nora, 1996), which can be perceived as an academic factor, as well as legacy within the same institution, positively impact student retention. Additionally, previous research has shown that faculty interactions with students are important (e.g., Astin, 1993; Fulcomer, 2004; Stoeker, Pascarella & Wolfle, 1988). My study would support that sentiment; however, student perceptions of what constitutes faculty interaction are changing. For example, students in this study viewed email as an important form of faculty interaction as well as classroom discussion. My study also reveals that students value faculty humor and engaging demeanors in the classroom. Students also appreciate an academic challenge. These findings are consistent with previous studies that indicate the quality of academic programs positively influence persistence (Kuh, 2001), faculty engagement leads to academic integration (Tinto, 1975) and the academic program a student is in impacts student persistence (St. John, Hu, Simmons, Carter, & Weber, 2004).
Non-academic Factors

Non-academic factors also contribute to student persistence as described in the literature. This study revealed that gender does not account for score differentiation, and this finding is consistent with previous studies (e.g., Leppel, 2002). My study also points to social integration and peer relations as important to student persistence, with such findings consistent with previous literature (e.g., Astin, 1970, 1984). One finding that is not supported by previous literature (e.g., Metzner, 1989; Barefoot, 2000; Crockett, 1985; Habley, 1981; Light, 2001) relates to faculty advising. My study indicates that the faculty advisor does not necessarily play an important role in a student’s choice of major. In fact, this study suggests that friends have more influence than faculty members do.

Private, Liberal Arts, Religiously-affiliated Colleges

Previous literature surrounding small, private, liberal arts colleges is scarce, but the studies available suggest that academic peers impact and influence students decisions on what to study more than faculty members do (Zomer, 2006). My study also suggests that to be true. Further, my study suggests that student interaction is preferred to faculty interaction. Previous research regarding private university retention also shows that family support positively impacts retention. My study suggests that not only is family support important (e.g., Torres & Solberg, 2001), but legacy positively influences persistence. My study also indicates, as does the literature (e.g., Barry, 2002; Fulcomer, 2003; Zomer, 2006) that retention is linked with student satisfaction of social (student life) experiences as well as faculty interactions. Overwhelmingly, students in my study indicated they are satisfied with the level of academic challenge, the student life experience, and the quality and quantity of their interactions with faculty.
A comparison of these findings and how they relate to previous studies can be reviewed in appendix H. The comparative analysis charts the findings of this study to those of limited studies at small, private institutions as well as those studies that are generally embraced at larger, public institutions.

Recommendations

There are several recommendations that are derived explicitly from the findings of this study and may be a supplement to the existing efforts of faculty. These recommendations are a response to the findings of this study and may be more applicable in some contexts. Overall, these recommendations should be considered more strongly for first-year students. The paragraphs to follow highlight each recommendation.

Email

Email is considered interaction from the student perspective, so faculty should use it intentionally. Students appreciate the ability to communicate within the framework of their “busy schedules” and the use of email allows for communication at any hour of the day. They can choose when and where they will communicate as long as they have access to their email accounts. Also, students have an appreciation for the quick responses they receive from faculty when using email. It seems to be a more comfortable, convenient, and preferred method of interaction with faculty.

What students consider interaction, in this case email, faculty may not. Further, Nelson-Laird and Kuh’s (2004) study point to the prospect that particular areas of involvement with information technology could be viewed as forms of engagement in and of themselves. Faculty should be intentional to make email personal and hospitable. It may seem counterintuitive to replace interpersonal dialogue with electronic
communication. A replacement is not what I am advocating. I would encourage a complete embrace of this form of communication because students have a perception that they are interacting with faculty when they engage in this type of communication.

Further, students mentioned several times that they are “too busy” to talk face to face. Email has allowed communication to occur regardless of time constraints or office hours. I would finally encourage faculty to use email as a means to the end of academic integration and ultimately realize the seven principles for good practice in undergraduate education (Chickering & Gamson, 1987) that were offered in chapter 2.

Faculty Advising

This institution has a consistent advising process with inconsistent faculty advisee loads. First-year students are assigned a faculty advisor prior to their first semester and hold their first meeting in the summer prior to their first fall on campus. Following that initial encounter, there are two more sessions that occur throughout the year: one in the fall and one in the spring. These appointments vary in time commitment. Some last fifteen minutes and other students may take thirty.

Students are assigned a faculty advisor based on their declared major or interest area. This creates several problems for students and faculty. First, there is an unbalanced load of advisees for faculty members. For example, some departments may have faculty members who have 5 advisees while another department may have a faculty member with 45 advisees or more. Interestingly, there is not a course load reduction for those faculty members who carry more advisees. This practice needs serious reconsideration.

Research has shown that high-quality advising positively affects student retention, student GPA, and student satisfaction (Metzner, 1989). Despite high levels of student
satisfaction with advising, these appointments could be utilized more strategically as a retention tool if there were more equity in student assignments. That may allow for faculty to go beyond the mechanics of course selection and interact with students on a level that they would perceive as positive. Barefoot (2000) outlined a number of objectives needed for successful first-year students. Of major importance are student-to-student interactions and student-to-faculty interactions. Barefoot found that student time and involvement on campus outside of class must increase, and that a link between the curriculum and co-curriculum areas should be established.

Secondly, those students who are undecided are randomly given to staff advisors who may not be equipped to assist these students. It is important to note that there is a clear difference in the way first-year undecided students score and explain their experiences with faculty interaction. Given the faculty advisee discrepancies, those faculty members with low advisee loads need to create an equitable balance and take on exploratory students. Academic advising plays a key role in the success of students as they transition into the college context. Tinto (1999) suggested that advising is integral to student development. Advisors must understand the informational, conceptual, and relational aspects of their roles and how these aspects affect their interactions with first-year students. It is assumed that faculty are not trained career counselors in most instances and therefore do not feel the responsibility of taking ownership of a particular student’s choice of study; however, faculty should be competent articulators and supporters of the value of the core curriculum and its requirements.

Undecided students need to be given advisors who can serve them well, create a sense of accountability to do the necessary work of self-discovery, and provide guidance
if necessary. Quality first-year advising for undecided students may raise the faculty interaction perception of first-year students but may have a greater outcome of student persistence (e.g., Crockett, 1985; Habley, 1981; Tinto, 1987). Finally, quality advising may be the single most underestimated component of a successful undergraduate experience (Light, 2001).

**Impact of Interaction**

This study leads me to believe that, at this institution, student-student interactions are as important as student-faculty interactions. Given this reality, coupled with the awareness of the importance of the faculty involvement in student success and persistence (Astin, 1984), there should be strategic synergy between faculty and student affairs. This should begin with ensuring that the first-year experience is effective in connecting students and faculty.

There should be intentional programming designed to inspire students to connect with faculty during the first-year beyond a faculty advising appointment. Initially this may seem like an overwhelming idea to faculty, but it may actually have more benefits than pitfalls. If there were peer-peer experiences that spoke to the value of communicating with professors after poor grades, or after a lecture that was not understood, or to receive general advice on a particular field, perhaps students would maximize faculty time. Within that context of student programming, it would be helpful for faculty to teach students how to utilize faculty advising. Students need to be educated on the responsibilities of knowing their core curriculum requirements, how to navigate a course load, and what types of questions to ask that would serve them well during advising appointments.
Finally, faculty should employ strategic visibility to ensure greater interaction among students. One practical suggestion would be to make more and better use of dining hall hours. Several students commented that they have never seen a professor in the dining commons. Jessica said, “I think maybe once last semester, but, no, I don’t see them in the dining halls.” Consider George’s thoughts through this exchange:

George: Once in a while I see faculty in the dining hall, sometimes I’m not quite sure if they’re just like parents or faculty, but I think once in a while I see faculty in there.

Ben: What do you think about that?

George: I think it’s good, as long as they are engaging students in their classes. I mean if they just go and sit there and then leave, there’s no point to it. But if they’re actually discussing something or getting to know their students better, I think it’s definitely worth while.

This sort of strategic visibility, seeing multiple students at one time, could offer a degree of credibility with students that encourages them to interact with faculty and allows them to gain the many benefits of those connections. Consider these additional thoughts offered by Mark:

I had a lunch with [my professor] and met with him in his office a few times too. So I got a sense of that outside of class [interaction] as well. But most of them just [interact] inside class and I think they’re not going to make you meet with them outside of class. I mean, they’re always going to be there and there’s always that option. But they won’t make you meet with them. So you kind of have to go out of your way to or make some steps to go meet with them out of class.
Eliminating this feeling of "going out of the way" to interact with faculty may be possible if faculty members become visible to the greatest number of students with minimal time investments. A practical consideration would be the dining commons.

NSSE Instrument

This study does reveal some practices that may produce institution specific benefits, but it also calls into question the measurement tool that framed this study. Given that this institution scored low on the student-faculty interaction benchmark on two data sets at two points in time, all the while enjoying a higher retention percentage when compared to those same institutions (even when accounting for a change in Carnegie classification) indicates that the measurement is ineffective in this case as a comparative tool. Further, this study confirms previous critiques (e.g., Gordon, Ludlum, & Hoey, 2005) that the NSSE is a valuable tool for institutional self-reflection but is limited in its ability to use the benchmarks as indicators of institutional effectiveness. This is primarily because the results are not generalizable. Further, the goal of institutions should not be primarily set on increasing a particular NSSE benchmark score but rather to gain keener insight into the relationship between student engagement (as measured by the NSSE) and the desired outcomes that the institution has for its students (Gordon, Ludlum, & Hoey, 2005).

An initial objection would stem from the private, religiously-affiliated nature of the institution. As mentioned earlier, a primary critique of persistence theories (which the NSSE measures) is that they are too broad and are not as applicable to the private, religiously-affiliated colleges. These datasets did include comparative data for
participating colleges that are also private and religiously affiliated. I will present two overall concerns and then offer three areas of suggested improvement.

First, there is a contextual interpretation of NSSE data that could use transformation. The NSSE data is presented as a comparative analysis for institutions based on institution type (Carnegie peers, NSSE, and CCCU) by benchmark. I would suggest that this individual benchmark disaggregation come after giving each institution a compensatory, overall score that comprises all of the benchmarks. This would then give greater institution utility of the NSSE results. For example, at this institution there is clearly movement in student perceptions of student-faculty interaction from the first year to senior year. This suggests that interaction with faculty is a longitudinal process, therefore calling into question the value of a first-year score used to make comparisons to other institutions. There would be more significant value in producing an institution-specific metric that could give institutions insight year after year, regardless of how they compare to other institutions. I ultimately am calling into question that this is a tool that is really not measuring persistence theory; rather it is a tool that could enable an institution to discover any change in student perceptions year after year in their unique contexts.

Of secondary concern is the realization that this instrument may not be suitable with present-day conceptions of student interaction. Specifically, the NSSE needs to update to reflect the way students interact with faculty. This includes, but is not limited to technology. Student perceptions of faculty engagement at this institution do not look like a one on one conversation in a faculty office or in an advising context. In fact, many students commented on interaction with faculty members being an in-class discussion or
an email exchange. The impact and infusion of technology is changing the conceptions of student-faculty interaction. Although there are two questions that ask about “electronic mediums” within the NSSE survey, there needs to be a more explicit mention of technology within the framework of student-faculty communication and interaction. For example, one question asks if the student has discussed assignments with an instructor. I believe this could be an example where an update is warranted. The NSSE could ask this same question and include a statement that reflects technology into something resembling, “Have you discussed grades or assignments with an instructor in class, via email, or other form of communication?” This adaptation takes into account the widely used modes of communications students are using.

In the final analysis it seems imperative to consider if these observations override the usefulness of the NSSE or if there is need to look at the interpretation of the NSSE results. With these facts in mind, I offer three critiques of the NSSE.

First, I would create a larger index of questions to inform the composite benchmark scores. For each benchmark there are five related questions that are scored on a Likert-type interval scale. From this the responses are converted into percentages and then compared to scored percentages presented at similar institutions and the entire sample. In this case, the NSSE doesn’t provide an explanation for the significantly lower benchmark scores. At the risk of sacrificing longitudinal study opportunities by changing the survey, I would suggest the following: (1) move all questions related to faculty interaction, including questions related to emailing professors, to the student-faculty interaction index, (2) allow open-ended responses for students to record their perceptions
of the question, and (3) include more detailed questions about faculty advising, namely for the first-year cohort beyond career plans.

Second, tailor the NSSE for institution type using software that creates “if then” variability. For example, if a student indicates that they never worked with students on projects outside of class, then ask how important that is to them. This would allow an institution the opportunity to interpret comparative data within the context of their student responses.

Finally, the measurement tool may not be effective in comparisons due to the demographic of respondents. For example, the NSSE report demographics indicate that overall, 44% of all their first-year respondents in the entire sample nationwide live on campus, while Calvin has a 96% on campus living occupancy of first-year students. Another example would be the percentage of students involved with fraternities and sororities at schools other than Calvin. The NSSE demographic report indicates that overall, 23% of all their students in the entire sample nationwide participate in Greek life, while Calvin offers no opportunities for students wishing to become members. These factors may reveal that the NSSE is a measurement tool that is not a “one size fits all” metric. Furthermore, it may be the case that the NSSE is most effective for providing institution specific data rather than comparative analysis based on normative scoring patterns.

Suggestions for Further Research

Any suggestions for future research are made after understanding that small college studies, particularly performed at those with a religious affiliation, have historically drawn from previous work that is tied to larger, public universities. Although
there are good things to be gleaned from these studies, there needs to be an intentional effort to build a specific theory base for these types of schools that takes into account the nuances of their unique communities. My study suggests some of the uniqueness of at least one such college.

First, Legacy seems to account in some measure for the retention success. Perhaps there could be studies and theory developed surrounding alumni children and the impact they have on persistence and attrition. Another component to consider is the high degree of student satisfaction with the student life experience. It is possible that this is accounting for a large percentage as well. Also, there should be a consideration of the impact that a denominational affiliation, or lack thereof, on persistence.

There are several suggestions for further research that could be generated from the results of this study. One project could focus on the second benchmark score that has a statistically significantly lower score at this institution: the “active and collaborative learning” benchmark. This benchmark is based on the NSSE assumption that students learn more when they are intensely involved in their education and asked to think about what they are learning in various settings. Implicit in the assumptions are that collaborating with other students in solving problems prepares the types of encounters students will face during and after college. This could add depth to understanding the current study by seeing if there are any connections between faculty interaction and collaborative learning.

Given the high satisfaction with the student life experience on this campus, it might also be interesting to determine if there is a different perception of student-faculty interaction among students who live off campus and those who live on campus. This
study could test if the social satisfaction of students is the primary indicator of persistence. The demographics of this student body includes a large percentage of commuter students. In fact, nearly half of the student body lives off campus. This could be possible as the NSSE scores can be disaggregated by where a student lives.

Thirdly, there may be relevance to performing a longitudinal study of persistence and student-faculty involvement. This may be an attempt to gather information on an ongoing basis and choose factors that may present causality with retention.

Finally, it would be interesting to replicate this study with faculty. This study could begin with a questionnaire to faculty in various categories and then move towards individual interviews regarding their perceptions about student and faculty interaction and its importance. This study could include faculty perceptions on the role of advising and how they believe it is effective.

Summary

This study examined the literature surrounding college student persistence and university retention. The literature surrounding these critical issues suggest that there are several factors that contribute to student persistence and retention. According to accepted theory there are background factors that an individual (student) and an institution (college) possess that contribute positively and negatively to degree completion. Among the noteworthy attributes posited in the literature, this study was concerned with student and faculty interactions and how they lead to student persistence and retention.

Because there are agreed upon factors that impact retention and persistence metrics have been developed to measure the presence of these factors at institutions. One tool is the National Survey of Student Engagement (NSSE). The NSSE allows students to
self-report their perceptions of some aspects their collegiate experience. The survey takes responses and presents data through 5 benchmarks. Because this metric measures assumptions that are widely accepted in the literature, it is consistent to embrace the NSSE supposition that low benchmark scores may serve as an indicator of low student retention.

There exists one private, religiously affiliated institution that has a higher retention percentage, when compared to its peers as prescribed in the NSSE, yet a statistically significant lower benchmark score on 2 out of 5 benchmarks. This study is concerned with the student-faculty interaction benchmark.

The first portion of the study utilized the NSSE data set to perform statistical analysis and discover significant differences among the scores. Primarily that this institution does have a lower student-faculty interaction benchmark score. Further, a closer look at institution specific data revealed that first-year students and senior students responded differently to survey questions generating different benchmark scores.

Overall findings demonstrate that first-year students who are undecided are bringing the overall benchmark score down. Also, year in school has an impact on respondent scores. Senior students are more likely to report higher levels of faculty interaction. Gender has been determined not to be a significant factor. Of most importance is the realization that although persistence theory is embraced it is not always effectively measured by a “one size fits all” tool.

Despite these findings, the qualitative phase of the research project revealed that students are satisfied with both the quantity and quality of their interactions with faculty. Generally speaking, first-year students feel they have enough contact with faculty and
don't desire more, but those who do cite time constraints as an impediment. Senior
students are more articulate about the role of faculty relationships and describe them as
helpful. More study needs to be done to determine how faculty advising could be
improved, to determine faculty impressions of student interaction, and possibly an
examination of the other benchmark that received a statistically significant score.
REFERENCES


Washington, DC Association of American Colleges, Project on the Status and Education of Women.


Appendix A: Initial Invitation to Potential Participants
Appendix A: Initial Invitation to Potential Participants

Dear _______________

My name is Ben Arendt and I am writing to invite you to participate in a study of college students who have taken part in the National Survey of Student Engagement (NSSE) and have maintained enrollment at Calvin College. The study is being conducted in partial fulfillment of a PhD. in Educational Leadership through Western Michigan University. I am the Associate Director of Admissions and Financial Aid and am the student investigator (barendt@calvin.edu, 616.526.6892) in the study and the supervising professor is Dr. Andrea Beach (andrea.beach@wmich.edu, 269 387-1725).

You are being invited to participate in this study because you have been randomly selected as a student who has completed the NSSE and has maintained enrollment at Calvin. It is important for you to know that at no point during this study have I had or will I have any access any of your personal academic records. If you chose to participate in the study you will be asked to participate in a 60 minute interview in the Student Senate Meeting Room at Calvin College. You will be asked questions about your educational experience at Calvin and to articulate your involvement with faculty while being a student at Calvin. You may be asked to participate in a follow up conversation to clarify parts of your initial interview. All requests to meet will be done via email and all requests for data clarification will be completed by phone or in person.

Your identity and information will remain confidential throughout this study and your name and other identifying information will not be made available through the dissertation dissemination process. Pseudonyms will be used for all participants so your name will not appear on any paper relating to this study.

You may email me at this address if you are interested in learning more about participating in this study or if you have any questions about the content of this research. I will call you in a week to inquire if you are interested in learning more about this research. If you are interested I will schedule a meeting with you to answer any questions you might have and to provide you with a consent form for your review. If you decide to participate I will ask for your signature on the consent form and schedule a time for an interview. I will send a confirmation email that contains the date, time, and location for the interview as well as three questions for you to consider to help you prepare for our conversation.

The results of this study may be of interest to future college students as well as institutions of higher education that are interested in improving the support they provide to their students. If you have any questions about this study please contact me or Dr. Andrea Beach as listed above. Thank you for your possible participation.

Ben Arendt
Appendix B: Script for Follow-Up Phone Call to Potential Participants
Appendix B: Script for Follow-Up Phone Call to Potential Participants

Hello. My name is Ben Arendt and I am calling to follow up an email I sent you approximately one week ago concerning your potential participation in a study of college students and their engagement with faculty members. As I mentioned in my email, this study is being conducted in partial fulfillment of my Ph.D. in Educational Leadership at Western Michigan University.

Your involvement in this study is voluntary but would be greatly appreciated. The findings of this study may be beneficial to future students as well as institutions of higher education that are looking to improve and expand the services they provide to students.

The purpose of this call is to see if you have had a chance to read the email and to see if you would be interested in participating in this study. I would be happy to answer any questions you might have about the study or to set up a meeting in person to further discuss this research. If you are interested in participating, I would like to meet so you can review the consent form for this study and sign it, as well as schedule a time for a 60 minute interview.

As I mentioned, your participation in this study would be appreciated. Can I go ahead and schedule a meeting with you to review the consent form and to discuss your potential participation?

Thanks for your time and I look forward to meeting with you soon. Please contact me at barendt@calvin.edu or at (616) 526-6892 if you need to get in touch with me or have any questions prior to our meeting.

IN THE EVENT THEY DO NOT WISH TO PARTICIPATE

Thanks for being willing to consider participating in this study. I appreciate your time and understand that you are not able to participate at this time.
Appendix C: Demographic Survey
Appendix C: Demographic Survey

Please complete the following demographic information. Demographic information will be used to analyze and compare responses from different groups of people.

1. What is your gender?
2. What is your age?
3. What is your ethnicity?
4. How many semesters have you been enrolled at Calvin?
Appendix D: Consent Document
Appendix D: Consent Document

You are invited to participate in a study examining “Student Persistence and Faculty Involvement”. This study is being conducted by Ben Arendt, the Associate Director of Admissions and Financial Aid at Calvin College, and a doctoral student in the Higher Education Leadership doctoral program at Western Michigan University, under the supervision of Dr. Andrea Beach, his dissertation committee chair.

The following information is being provided for you to determine if you wish to participate in this study. In addition, you are free to decide not to participate in this research or to withdraw at anytime without affecting your relationship with Is or Western Michigan University.

The purpose of this study is to understand the experience of students’ engagement with faculty members who have taken the National Survey of Student Engagement (NSSE) and maintained enrollment at Calvin College. If you decide to participate you will be asked to participate in an interview lasting approximately 60 minutes. To help in your preparation, you will be then be given three questions for you to reflect upon prior to the interview. These interviews will be audio recorded to ensure the accuracy of the collected information and all interviews will be transcribed into a written record. You would be able to ask the interviewer to turn off the audio recording equipment at anytime during the interview.

Please do not hesitate to ask questions about the study before participating or while the research is taking place. I will be happy to share the results with you at the completion of the study. Ensuring the confidentiality of data is the norm in research. Neither your name will not be used in the dissertation dissemination process; rather it will only be known to I. Pseudonyms will be used for participants (i.e. Student 1, Student 2, and so on) and general terms will be used in reporting results (i.e. “Five of the students commented...;” “Two students reported that...;” etc.).

Written transcripts will be stored in a locked filing cabinet in the office of I for one year following the completion of the study. The written transcripts will be stored on the campus of Western Michigan University for at least three years. The audio transcripts will be destroyed once the transcription process has been completed and a written record is produced and you are confident that the written transcript accurately reflects your comments during the interview. There are no other known risks/discomforts associated with participating in this study.

There are several expected benefits from participating in this study. They are: 1) information regarding student and faculty engagement that leads to student persistence; 2) a better understanding of the impact of such interactions; 3) the opportunity to gain further knowledge about factors that are thought to be indicators of student success or difficulty relating to faculty; and 4) the ability for I to participate in a mixed-methods research study.
If you have any questions about this study, please contact Ben Arendt, the student investigator at (616) 526-6892 (office) or (616) 307-0444 (cell) or via email at barendt@calvin.edu. You may also contact the Chair, The Western Michigan University Human Subjects Institutional Review Board (269) 387-8293 or via email at hsirb@wmich.edu, or the Vice President for Research (269) 387-8298 if any questions or issues arise during the course of the study.

This consent document has been approved for use by I for one year by the Human Subjects Institutional Review Board (HSIRB) and by Calvin College’s Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in the study if the stamped date is older than one year.

A signed copy of this consent form will be given to you for your records.

Participant ___________________________ Date ___________________________

Consent obtained by: ___________________________
Interviewer/Student Investigator
Date ___________________________
Appendix E: Interview Protocol
Appendix E: Interview Protocol

Project: Student Persistence and Faculty Involvement

Time of interview: ____________________________
Date of interview: ____________________________
Location: ____________________________________
Interviewer: _________________________________
Interviewee: _________________________________

Thank you for consenting to participate in this study. I would like to record the interview so the study can be as accurate as possible. You may request that the tape recorder be turned off at any point of the interview.

Questions that the subjects will be asked include:

1. What is your declared major? What is your current GPA?
2. How did you first hear about Calvin?
3. How much of an expectation was there, placed on you by your parents/family, for you to attend college? Did your parents attend college?
4. What is it about Calvin that initially appealed to you?
5. Can you describe the social atmosphere at Calvin? Is the social atmosphere what you expected? How satisfied are you with it?
6. Describe the level of academic challenge that you have experienced at Calvin. Talk about the most challenging academic experience you have had. How does the challenge change from class to class? In what ways it dependent upon faculty? Is the level of academic challenge what you expected? How satisfied are you with the level of academic challenge?
7. Did you come into Calvin knowing what you wanted to study/major? Is this the same today? (if applicable, why did you change your major?) Talk about how you determined what to major in. How did faculty influence that decision? Describe a faculty member who has inspired you to pursue an area of study. If you don’t have a major, why? Who are you seeking input from to help you in your decision?
8. Describe the class that you have had that most held your interest. Talk about the best class you have had so far. What was it about the class that appealed to you? What happened in that class that you enjoyed? What was it about the content? What was it about what the faculty member did? Was it mostly in class? Describe any out of class interactions that you enjoyed? What was it about the out of class interactions that were positive?
9. Have you kept in touch with this professor? Have you had them for another class? Did you choose them again because of the experiences you had in previous classes?

10. How do you sense if a faculty member is prepared for class? How satisfied are you with the level of preparation the faculty demonstrate? How important is that to you?

11. How often do you interact with faculty members? Where do you interact with them? Do you take advantage of office hours? In what settings do you typically encounter faculty? Is it primarily after class? In their office? In the dining hall? How important is that to you? How satisfied are you with your interactions? What is the nature of those interactions? Do you want to have more interactions with faculty members than you do now? If yes, what, in your opinion, is impeding that from happening?

12. Do you think you connect more or less with faculty members than your Calvin friends report to have? How about friends at other colleges, how do they describe their interactions with faculty members? Do your parents/family have an expectation that you will connect with faculty members (e.g.: outside class help, letters of recommendation for grad programs, networking within the department for future benefit)? How do they convey that expectation?

Thank you for participating in this interview. If necessary, may I contact you for a follow up interview or to clarify some of your responses?
Appendix F: Script for Potential Interview Follow-up Phone Call to Participants
Hello, ________________

Thank you again for your agreeing to participate in the study of Student Persistence and Faculty Involvement. You participation in this study is appreciated.

In the process of summarizing the information collected during your interview, I have a few follow up questions for the purpose of clarification. As a reminder, I'd ask you to refer to the copy of the consent document you signed when you initially agreed to participate in this study. At that time, I informed you that you did not have to participate in any follow up questions if you did not want to and that you were free to withdraw from this study at any time.

Would you be willing to participate in this follow up? If so, is this a good time for you? If not we can schedule a time that is more convenient for you. I may also contact you via email to set up another time if you are unable to determine a time at this point.

(when a time is established, I would continue)

As a follow up to my question on ________ (indicate date), you mentioned _________. Could you please clarify (insert follow up question here).

Thanks again for your time. When I complete the summary of your interview, I will send you a copy so you can review it for accuracy. Please feel free to contact me at any time with any questions, to discuss the contents of this study, or with any other issue. You can contact me at (616) 526-6633 (office) or (616) 915-0442 (cell) or via email at barendt@calvin.edu. You may also contact Dr. Andrea Beach at (269) 387-1725 or via email at andrea.beach@wmich.edu.
Appendix G: Thank You Letter

Date

Name

Dear:

I wanted to formally thank you for your help with my dissertation research. I enjoyed our conversation about your life as a student at Calvin and how that has been influenced by your interactions with faculty members. Each interview I conduct offers fresh perspectives on this topic and I am eager to review the tape and transcript of our conversation.

As I mentioned to you, expect that this transcription and review process will take a month or more to complete. When I have finished with the proves, I will forward to you a copy of the transcription so you may review it for accuracy. At the completion of the study, I will also forward you an executive summary of findings.

Once again, thank you for relating your experiences and thoughts and for sharing your time with me.

Best,

Ben Arendt
Appendix H: Comparative Findings
Appendix H: Comparative Findings

<table>
<thead>
<tr>
<th>Student Academic Factors</th>
<th>Arendt (2008)</th>
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<tr>
<td>Student Background (Chickering, 1987; Tinto, 1987; Lotwoski, Robbins &amp; Noeth, 2004)</td>
<td>Legacy positively impacts student experiences and ultimately persistence</td>
</tr>
<tr>
<td>Faculty interactions with student (Astin, 1993; Fulcomer, 2004; Stoeker, Pascarella &amp; Wolfle, 1988)</td>
<td>Students appreciate over time, faculty interaction includes email and classroom discussion</td>
</tr>
<tr>
<td>Quality of programs (Kuh, 2001)</td>
<td>Students generally satisfied with level of academic challenge and interpret the challenge as difficult</td>
</tr>
<tr>
<td>Academic integration (Tinto, 1975)</td>
<td>Students value faculty humor, faculty preparedness, and engaging classroom discussion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Non-Academic Factors</th>
<th>Arendt (2008)</th>
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</thead>
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<tr>
<td>Student Background (Dietsche, 1990; Paul, 1996)</td>
<td>Legacy influences student experience</td>
</tr>
<tr>
<td>Gender- no affect (Leppel, 2002)</td>
<td>Gender not a factor in score differences</td>
</tr>
<tr>
<td>Family Expectation (Ting &amp; Robinson, 1998)</td>
<td>Low percentage of 1st generation</td>
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<tr>
<td>Parent education levels impact retention: student support services assist in retention (Thayer, 2000)</td>
<td>Pre-entry attributes such as legacy and parental levels of education positively impact retention</td>
</tr>
<tr>
<td>Social Integration (Astin, 1970)</td>
<td>Satisfaction with social life</td>
</tr>
<tr>
<td>Peer Relations (Astin, 1984)</td>
<td>Friends influence more than faculty</td>
</tr>
<tr>
<td>Satisfaction (Bean, 1990; Levitz &amp; Noel; Sandler, 2000, Tinto, 1987)</td>
<td>High levels of student satisfaction</td>
</tr>
<tr>
<td>Faculty Advisor Plays Important Role (Metzner, 1989; Barefoot, 2000; Crockett, 1985; Habley, 1981; Light, 2001)</td>
<td>Faculty advisor does not play an important role in choosing program of study</td>
</tr>
<tr>
<td>Year in School Impacts Student/Faculty Interaction Perception (Kuh, 2007; Levitz &amp; Noel, 1989; Pascarella, Terenzini, Wolfle, 1986; Sidle &amp; McReynolds, 1999; Tinto, 1999)</td>
<td>Year in school matters</td>
</tr>
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</table>

Comparison of themes to literature at private, religiously-affiliated colleges include studies from Barry, 2002; Berger, 1997; Berger & Braxton, 1998; Cash & Bissel, 1985; Fulcomer, 2003, Milem & Berger, 1992; Smith, 2002; and Zomer, 2006.

<table>
<thead>
<tr>
<th>Literature</th>
<th>Arendt (2008)</th>
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<tr>
<td>Academic Preparation</td>
<td>Academic challenge important, but hard</td>
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<td>Peer Interactions Matter More than Faculty Interactions</td>
<td>Peer interaction matters more than faculty interactions</td>
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<tr>
<td>Faculty Interactions Matter</td>
<td>Students satisfied with faculty interactions</td>
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<td>Family Support Impacts Retention</td>
<td>Legacy positively impacts retention</td>
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<tr>
<td>Retention is Related to Student Satisfaction</td>
<td>Retention is related to student satisfaction</td>
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<tr>
<td>Student/Faculty Interaction Low Impact on Student Social Development</td>
<td>Student/faculty interaction not as important as student/student relationships, particularly when choosing a major</td>
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</table>
Appendix I: HSIRB Approval Letter
Date: April 18, 2008

To: Andrea Beach, Principal Investigator
    Ben Arendt, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number: 08-02-41

This letter will serve as confirmation that the changes to your research project “Student Persistence and Faculty Involvement” requested in your memo dated April 16, 2008 (additional interview questions added) have been approved by the Human Subjects Institutional Review Board.

The conditions and the duration of this approval are specified in the Policies of Western Michigan University.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. In addition if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: March 6, 2009
Date: March 3, 2008

To: Andrea Beach, Principal Investigator
    Ben Arendt, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: HSIRB Project Number: 08-02-41

This letter will serve as confirmation that your research project titled "Student Persistence and Faculty Involvement" has been reviewed under the expedited category of review by the Human Subjects Institutional Review Board.

Before final approval can be given please address each of the following concerns. We expect that you will find the revisions requests to be productive and that you will revise your protocol according to our suggestions or in similar ways. If you think a particular revision is not in the best interest of the human subjects in your study, or you think an entirely different approach to the issue is best, please provide a written explanation and/or call us for consultation.

1. Qualitative Subject Recruitment section of the protocol outline: Is the data de-identified? Please clarify the statement, "The researcher has obtained access to this data, and subsequent assess to the participants ..." (p. 10). Will you be contacting those who participated in the survey for more data collection? If so, explain how you will proceed with recruiting, etc. Will you ask individual subjects to consent to allow their data to be used or will you be analyzing already existing de-identified data. These are FERPA issues to consider. Please submit a letter of agreement from Calvin regarding the use of these data.

2. Qualitative Data Collection section of the protocol outline:
   • Be certain that you are not presuming consent until after you have conducted the consent process. At the top of page 13, say something like, "...respond to the researcher via email and schedule a time to review the consent document and, if they agree to participate, proceed to the interview."
   • Will you link individual quantitative data from the NSSE to your participants? If so, how?
   • Will interviews be conducted individually or in groups? Please clarify and provide additional information regarding confidentiality etc. if interviews will be conducted in group format.
   • To assure that you are getting consent before subjects participate, changes the sentences at the top of page 14. ("The purpose of this email ... and to invite them to..."
learn more about participating. When a student returns a positive response … and location for the consent process and interview should they elect to participate…")

3. Benefits of Research section of the protocol outline: Please soften the promise of benefits by changing the word “will” to “may” as appropriate throughout this section.

4. Limitations and Delimitations section of the protocol outline: Please clarify the focus group portion of the project. Much more detail is needed about focus group formats.

5. Appendix A, Initial Invitation to Potential Participants: Please read this carefully for typos. We found two: In the first paragraph, change to “I am the Associate Director …” In the second paragraph, change to, “If you choose to participate …”

6. Consent Document: There is a typo in paragraph 4. Change “Neither your name will not be used …” to “Your name will not be used …”

In a cover letter to the HSIRB, indicate whether you have made the requested change; addressed the issue in a different way than the one the reviewers suggested; are directing the reviewers to the pages in your protocol that address the issue; or are providing a justification for not making the requested change.

Please submit your cover letter and one copy of the revised protocol with the changes highlighted within the document to the HSIRB, 251W Walwood Hall (East Campus). Remember to include the HSIRB project number (above).

Conducting this research without final approval from the HSIRB is a violation of university policy as well as state and federal regulations.

If there is anything you don’t understand about these comments, you are welcome to call the research compliance coordinator (387-8293) for consultation.
Appendix D: Consent Document

You are invited to participate in a study examining "Student Persistence and Faculty Involvement". This study is being conducted by Ben Arendt, the Associate Director of Admissions and Financial Aid at Calvin College, and a doctoral student in the Higher Education Leadership doctoral program at Western Michigan University, under the supervision of Dr. Andrea Beach, his dissertation committee chair.

The following information is being provided for you to determine if you wish to participate in this study. In addition, you are free to decide not to participate in this research or to withdraw at anytime without affecting your relationship with the researchers or Western Michigan University.

The purpose of this study is to understand the experience of students' engagement with faculty members who have taken the National Survey of Student Engagement (NSSE) and maintained enrollment at Calvin College. If you decide to participate you will be asked to participate in an interview lasting approximately 60 minutes. These interviews will be audio recorded to ensure the accuracy of the collected information and all interviews will be transcribed into a written record. You would be able to ask the interviewer to turn off the audio recording equipment at anytime during the interview.

Please do not hesitate to ask questions about the study before participating or while the research is taking place. I will be happy to share the results with you at the completion of the study. Ensuring the confidentiality of data is the norm in research. Your name will not be used in the dissertation dissemination process; rather it will only be known to the researcher. Pseudonyms will be used for participants (i.e. Student 1, Student 2, and so on) and general terms will be used in reporting results (i.e. "Five of the students commented..."; "Two students reported that...;" etc.).

Written transcripts will be stored in a locked filing cabinet in the office of the researcher for one year following the completion of the study. The written transcripts will be stored on the campus of Western Michigan University for at least three years. The audio transcripts will be destroyed once the transcription process has been completed and a written record is produced and you are confident that the written transcript accurately reflects your comments during the interview. There are no other known risks/discomforts associated with participating in this study.

There are several expected benefits from participating in this study. They are: 1) information regarding student and faculty engagement that leads to student persistence; 2) a better understanding of the impact of such interactions; 3) the
opportunity to gain further knowledge about factors that are thought to be indicators of student success or difficulty relating to faculty; and 4) the ability for the researcher to participate in a mixed-methods research study.

If you have any questions about this study, please contact Ben Arendt, the student investigator at (616) 526-6892 (office) or (616) 307-0444 (cell) or via email at barendt@calvin.edu. You may also contact the Chair, The Western Michigan University Human Subjects Institutional Review Board (269) 387-8293 or via email at hsirb@wmich.edu, or the Vice President for Research (269) 387-8298 if any questions or issues arise during the course of the study.

This consent document has been approved for use by the researcher for one year by the Human Subjects Institutional Review Board (HSIRB) and by Calvin College's Institutional Review Board as indicated by the stamped date and signature of the board chair in the upper right corner. Do not participate in the study if the stamped date is older than one year.

A signed copy of this consent form will be given to you for your records.

Participant Date

Consent obtained by:

Interviewer/Student Investigator Date
Appendix J: Thematic Chart
### Overall Themes - 1st YR

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### Overall Themes - Senior

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<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Legacy</td>
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</tbody>
</table>

### First-Year Themes
<table>
<thead>
<tr>
<th>Faculty not influential</th>
<th>Annabelle</th>
<th>Brooke</th>
<th>Addison</th>
<th>Tim</th>
<th>Jessie</th>
<th>Owen</th>
<th>Jemsi</th>
<th>Ava</th>
<th>Amelia</th>
<th>George</th>
<th>Dave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of Interaction</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**Senior Themes**

<table>
<thead>
<tr>
<th>Higher Levels of Interaction</th>
<th>Eric</th>
<th>Karina</th>
<th>Jessica</th>
<th>Mark</th>
<th>Dale</th>
<th>Tom</th>
<th>Claire</th>
<th>Kendra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm Influences</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Engagement</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>