A Formal Mentoring Program and its Relationship to Academic Success and Retention Rates of First-Time Freshman College Students at Walla Walla University

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ABSTRACT

A FORMAL MENTORING PROGRAM AND ITS RELATIONSHIP TO ACADEMIC SUCCESS AND RETENTION RATES OF FIRST-TIME FRESHMAN COLLEGE STUDENTS AT WALLA WALLA UNIVERSITY

by

Sallieann Brown Hoffer

Chair: Erich Baumgartner
Title: A FORMAL MENTORING PROGRAM AND ITS RELATIONSHIP TO ACADEMIC SUCCESS AND RENTENTION RATES OF FIRST-TIME FRESHMAN COLLEGE STUDENTS AT WALLA WALLA UNIVERSITY

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Date completed: September 2010

Problem

For almost 160 years, researchers have studied freshman college students because attrition is heaviest during the first year. At Walla Walla University, statistics have shown that approximately 30% of each incoming freshman class will not return their sophomore year. The attrition rates represent an astounding loss of resources for the institution and in many cases a devastating loss of time, money, and self-worth for the students. Across the United States a concerted effort is being made to develop mentoring programs for undergraduate students, creating an environment where they could thrive socially and academically.
Method

In this study, an ex-post-facto design fashioned this voluntary sample of first-time freshman students attending Walla Walla University to evaluate the formal mentoring program and its relationship to academic success and retention.

Prior to Fall quarter 2007, 75 students volunteered to participate in the study, and a comparison group of 74 students was randomly selected from the remaining freshman class. A director and mentors were hired to carry out the mentoring project. Faculty volunteers also served as mentors.

The college administrative software was used to collect data and compare variables related to demographic data, GPA, dropped courses, and retention. A mentoring assessment form was also completed to measure fidelity within the mentoring program and determines whether mentors were providing analogous services.

Results

Based on the interpretation of the data collected for this study, it can be concluded that a relationship exists between faculty mentors’ participation in a formal mentoring program and retention rates in the Fall of 2008. The inherent power that faculty hold may contribute to the conveyance of knowledge and positive attitudes impacting personal outcomes and retention, which can have a life-changing result for students.

Second, both hired and faculty mentors also retained students who maintained a college GPA 2.50 or below at a higher rate than those students who were not mentored. The transition of students away from home, leaving their support system behind, the group of friends who have become familiar, and moving from dependence to independence can result in difficulties affecting students’ academic performance.
Through mentoring, the individualized interactions with students have a persuasive effect on psychological and academic plans, pushing the student in developing self-confidence and leading to a desire to persist and become successful in the university setting.

In this study, there was no evidence that mentoring impacted GPA or the number of courses dropped. Ultimately, measures of success may go much deeper than GPA and staying in college; gains received through mentoring may have life-long effects that cannot be quantitatively measured.

Although many hypotheses did not prove to be statistically significant, results indicated that 8 of 11 hypotheses were in the predicted direction. A sign test was implemented and findings suggest that with a 90% level of confidence the correct direction of the findings were unlikely due to chance.

Conclusions

The study explored differences achieved in retention rates for students participating in the mentoring program, comparing outcomes to a comparison group for the Fall 2008 and Fall 2009 academic years. Statistical analysis indicated that a relationship existed between faculty mentoring and retention at WWU for Fall 2008. Likewise, faculty and hired mentors retained students who maintained a college GPA of 2.50 or below at a higher rate. Statistical investigation did not appear to find a relationship between mentoring and academic success.

With preliminary results found in this study, WWU elected to institute a mentoring program for all freshmen. A longitudinal study would quantify the contributions of formal mentoring on student success, graduation rates, and retention.
Andrews University

School of Education

A FORMAL MENTORING PROGRAM AND ITS RELATIONSHIP TO ACADEMIC SUCCESS AND RETENTION RATES OF FIRST-TIME FRESHMAN COLLEGE STUDENTS AT WALLA WALLA UNIVERSITY

A Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree

Doctor of Philosophy

by

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ACKNOWLEDGMENTS

My graduate program has been a long but enriching life experience and has made a monumental impact on my life and career. I have learned many things, one of which is that this journey would not have happened without my Creator: I owe my all to God who is my strength, sustainer, deliverer, rock, and hope. I also know God places special people in our lives to uphold us, and to the following people, words are inadequate to affirm how much your presence in my life has meant to me. I especially wish to thank my husband, Brad, for his unfaltering love, constant patience, encouragement, prayers, and confidence, which provided the emotional support necessary to complete this degree. Thank you for all the hours you spent reading data which meant nothing to you but everything to me. To my loving sister and brother-in-law, Amanda and Roger, who shared in this experience and played an integral role in the pursuit of my dreams. Thank you all for taking the journey with me, allowing me to stumble, sometimes pushing me, but never letting go of my hand, for each of you saw only my potential and encouraged me to reach the finish line.

My sincere gratitude is given to my dissertation chair, Dr. Erich Baumgartner, for his encouragement, guidance, and professional support. To Dr. Isadore Newman, who warmly and unselfishly gave so much time to ensure that the statistical framework for my study was sound, you have been a delight to work with and I feel fortunate to have worked with an outstanding scholar. Also, I am indebted to Dr. Sylvia Gonzalez, who graciously provided her expert insight and support through this process. To the
Leadership Department at Andrews University, especially to Dr. Shirley Freed, who has been a mentor, and inspiration, and to Marjorie Bates, who was so very, very patient, assisting with much needed program support. To Walla Walla University, thank you to Dr. Joe Galusha, Dr. Mel Lang, and mentors for allowing me to conduct this research. To Trudy Klein, my esteemed nursing colleague who taught me so much about being a leader, a teacher, and a compassionate human being, I thank you for my success in all aspects of my career. To our beloved Jonna Buell, who supported our nursing department, courageously and lovingly taught me lessons on how to survive challenges with courage.

I could not end without thanking my learning community, the Northwest Regional Leadership Group—Carolyn Denney, Jim Weller, Rhonda Whitney, Les Zolllbrecht, and Cindy Bailey—who have provided advice, support, humor, and above all friendship through this process. Carolyn, for your teamwork and support from the development of the mentoring program to analyzing the data and outcomes, you have been a joy to work with. Rhonda, how I treasure the educational journey we have shared; I feel fortunate to have had the opportunity to share this experience with you, knowing you were praying for me and rooting me on. Dr. Judy Whedbee and Dr. Ronda Christman, my cohort team members, nursing colleagues, and treasured friends, your continued support and love have sustained me through this process and I am truly grateful.
CHAPTER ONE

INTRODUCTION

The purpose of this chapter is to provide information on the background of the problem and to introduce the study. The chapter additionally includes the purpose, research questions, methodology, theoretical framework, significance of the study, definitions of the terms, delimitations, and limitations, and will conclude with the summary.

Background of the Problem

According to the U.S. Department of Education (2009), National Center for Educational Statistics, and Integrated Postsecondary Education Data, enrollment in degree-granting institutions is expected to increase from 14.3 million in 1993 to 20.6 million in 2018. Although U.S. statistics indicate a gradual increase in enrollment, Seventh-day Adventist colleges have not shared in this trend. According to Hart (2009), in the 1970s, 10 Seventh-day Adventist colleges and two universities had a combined enrollment of slightly fewer than 20,000 students. As of 2009, there are now seven Seventh-day Adventist colleges and seven universities, with a collective enrollment of around 24,000 students. Hart further indicates that deducting student enrollment of the three large North American Seventh-day Adventist health science colleges—Loma Linda, Kettering, and Florida Hospital College—the actual total number of students enrolled in
the remaining liberal arts colleges has declined in the past 30 years to approximately 17,000.

Retention of college students is of paramount interest to institutions of higher education. The environment of student scarcity in higher education has encouraged institutions to examine practical strategies to promote student retention in order to thrive in today’s economy (Porter, 1989). The downturn in economics has also pressured institutions to cap escalating tuition and fees in higher education and retain students already enrolled rather than spending money on attracting new students (Berger & Lyon, 2005).

There is an increasing trend toward accountability within institutions of higher learning, and retention is not only tied to accreditation but also financial allocations (Berger & Lyon, 2005). Policies and interventions at the federal and state levels are now focusing on persistence as key outcome indicators, which could affect funding of colleges and universities (Berger & Lyon, 2005; Moman, 2002). Hence, administration in higher education is seriously researching the causes and solutions to student attrition (Danaher, Bowser, & Somasundaram, 2008; Moman, 2002).

For almost 160 years, researchers have studied freshman college students because attrition is heaviest during the first year (Cope & Hannah, 1975; Hicks, 2007; Levine, 1991; Pascarella & Terenzini, 1980; Porter, 1989). At Walla Walla University, statistics have shown approximately 30% of each incoming freshman class will not return their sophomore year, which is higher than the national average of 25.9% for private colleges in the United States (Salinitri, 2005). Colleges are researching strategies to identify student populations which are high-risk in dropping out and assist in not only attrition
rates, but obliterate the psychological and financial cost borne by students who leave (Cash, 1990).

According to Lang and Ford (1992) the roots of student attrition can stem from transition adjustments and difficulties, inability to meet academic standards, inability to adapt to a new social environment, changes in personal goals, lack of motivation, financial difficulties, and incongruence between an institution’s orientation and approach. To combat this dilemma, institutions are developing programs for first-year students including orientation, tutoring, placement testing, first-year seminars, and mentoring (Salinitri, 2005). According to Kalsner (1991), comprehensive ongoing orientation activities throughout the freshman year can assist students in dealing with the separation from their past associations and begin to form new personal links with the college.

Student persistence in higher education has been defined as the student who enrolls each semester until graduation, studies full-time, and graduates in about 4 years. Literature suggests student persistence is correlated with the extent to which first-year students experience success in college (Grunder & Hellmich, 1996). Persistence may be determined by how well students form connections and become socially and academically integrated into campus life (Astin, 1997). The key to freshman success is involvement, and research has indicated that informal contacts between students and adults, such as a mentoring relationship, may have a positive impact on retention (Bernier, Larose, & Soucy, 2005).

Mentoring has gradually become a popular retention tool universities are implementing to encourage and support student success (Bernier et al., 2005; Salinitri, 2005). From an institutional point of view, increasing persistence has the capacity of not
only positively impacting the operations and financial success of the university but, more important, establishing a mentoring program can lead to positive personal and academic outcomes (Salinitri, 2004). For a student, the belief that someone at the institution cares about them can make the difference between success and failure, and the decision to stay or leave college (Brown-Minis, 1999).

Theoretical frameworks have dominated retention research, one of which is Astin’s (1997) theory of involvement. The theory of involvement asserts a student’s learning and retention are related to their active involvement with the institution. Tinto’s (1975) Theory of Student Departure is perhaps one of the most commonly cited theories for student persistence. Central to Tinto’s theory is the idea that student persistence is strongly predicted by the degree of academic and social integration.

Obtaining a college degree is often considered the prerequisite of success, yet some students do not persist because they lack encouragement, guidance, support, or a role model (Wallace & Abel, 2000). From a higher education perspective, mentoring has the ability to reduce the negative impact created by barriers, thus facilitating relationships with students leading to academic and personal success. Research in higher education suggests an empirical link between student mentoring and student retention (Bernier et al., 2005; Campbell & Campbell, 2000; Wallace & Abel, 2000). Involvement of faculty and staff matters, and at no point does it matter more than during the freshman year of college when student attachments are so tenuous and the pull of the institution so weak (Tinto, 2003). The benefits derived from vigorous investigation and institutional interventions with regard to retention in higher education are: enhancing self-worth and

Within research, scholars are seeking evidence-based programs as their promise to improve the effectiveness and reproducibility of mentoring programs. When programs are implemented according to the original program design, it is referred to as program fidelity (O’Conner, Small, & Cooney, 2007). Although fidelity has not been measured in previous mentoring programs, this study seeks to measure fidelity in order to assess if the program is faithfully implemented to the intended program model. In order to replicate a mentoring program and obtain comparable results, it is imperative that mentors provide analogous services (Clay, 2005).

To improve the fidelity of the Experimental Mentoring Program, the Director of the Mentoring Program maintained weekly logs which were provided by each mentor and included the number of contacts with the mentees, the manner in which the mentees were contacted, a brief outline of the session, and total hours spent in the mentoring relationship. Measuring fidelity allows new programs to replicate the empirical evidence which is an important feature and has proven to be valuable (Clay, 2005).

**Statement of the Problem**

For almost 160 years, researchers have studied freshman college students because attrition is heaviest during the first year (Cope & Hannah, 1975; Hicks, 2007; Levine, 1991; Pascarella & Terenzini, 1980; Porter, 1989). At Walla Walla University, a 4-year private college in Washington state, statistics have shown approximately 30% of each incoming freshman class will not return their sophomore year, which is higher than the national average of 25.9% for private colleges in the United States. The attrition rates
represent an astounding loss of resources for the institution and in many cases a devastating loss of time, money, and self-worth for the students. With enrollment continuing to decline at Walla Walla University, it is essential to develop programs having the potential to improve the lives of the students served, to improve student success, and potentially to increase retention and graduation rates at the University. This research sought to meet this need by instituting a mentoring program for freshman students at WWU in an effort to increase retention and academic success.

**Purpose of the Study**

Research has supported claims that informal contact outside the classroom has a positive impact on retention and academic outcomes (Bernier et al., 2005). The purpose of this study was to determine if a formal mentoring program for first-time freshman students at WWU positively impacted retention rates and academic success. The research was conducted to examine the effects of formal student mentoring at Walla Walla University on (a) student retention, and (b) academic success.

**Research Questions**

This study seeks to determine what relationship, if any, exists between a formal mentoring program and the retention rates of first-time freshman students at Walla Walla University, and whether the mentoring program significantly influenced student academic success. Three quantitative indicators of academic success were examined: (a) the students’ ability to achieve a cumulative grade point average above a 2.0, (b) the students’ ability to complete the courses enrolled during the academic year, and (c) the status of student retention the following academic year. To determine differences in fidelity among mentors, the weekly mentor logs were evaluated.
In this study, the following questions were posed:

1. Are there differences between the retention rates of students who participated in a mentoring program and students who did not participate in a mentoring program?

2. Are there differences between the cumulative grade point average (GPA) of students who participated in a mentoring program and students who did not participate in a mentoring program?

3. Are there differences in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex, race, and ACT?

4. Are there differences in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for students who are Seventh-day Adventist (SDA), remedial coursework, and undecided major?

5. Are there differences in GPA, retention rates, and courses dropped between students who were mentored by faculty and staff and those students who were mentored by hired mentors?

6. Are there differences in each of the fidelity variables or the total fidelity scores between faculty and staff mentors and hired mentors?

7. Are there differences in college GPA for mentored students who had a high-school (HS) GPA of 2.5 or less?

8. Are there differences in retention rates for mentored students who had a GPA of 2.5 or less?
Research Method

This research study utilizes an ex-post-facto design. According to Kerlinger and Lee (2000), in ex-post-facto research, the independent variables have already occurred and are essentially not manipulable. Ex-post-facto research looks to the past to explore and observe the differences between variables providing a deeper insight into a phenomenon (LoBiondo-Wood & Haber, 1998). Newman, Benz, Weis, and McNeil (1997) further indicate that ex-post-facto research contains a quality or assigned variable which can only reveal relationships, not cause, for the outcome after the variation has occurred. This non-experimental, ex-post-facto design done in conjunction with my colleague Carolyn Denney (2008) utilizes quantitative research to evaluate a formal mentoring program and its relationship to retention among freshman students at Walla Walla University.

Prior to Fall Quarter 2007, 75 students from our Jump Start Program volunteered to participate in the study, and 75 students were randomly selected from the remaining WWU first-time freshman class as a comparison group for this study. Hired employees, as well as faculty and staff, were utilized as mentors for the formal mentoring program.

With permission from Walla Walla University, the administrative software program was used and data collected for those participants who volunteered to be mentored and for the selected comparison group. Information regarding high-school GPA, gender, ethnicity, and religion was extracted to compare both groups. The mentored group was compared to the randomly selected comparison group, matching subjects for identifiable variables such as gender, religion, ethnicity, GPA, and comparable credits taken Fall Quarter 2007.
At the beginning of 2008, the retention rate, GPA, and credit drop/failure rate of the students in the comparison group were compared to the retention rate, GPA, and credit drop/failure rate of the mentored group. In addition, a comparison was made to determine if there were differences in those students mentored by paid employees or faculty and staff.

The association between mentoring and academic success requires contemplation of the dynamics of the mentoring relationship (Jacobi, 1991). To determine the effectiveness and fidelity of the mentoring program, it becomes necessary to properly evaluate the role of the mentor. Jacobi first identified the need to obtain measureable outcomes for mentoring programs in the realm of education. To that end, I developed a mentoring assessment form which asked each mentor to evaluate their perceptions and experience as a mentor during the 2007 academic year. The assessment form was reviewed by a panel of experts for content validity. The mentor assessment form evaluated the mentor’s perception of how they completed specific required tasks during the 2007 academic year. Fidelity focused on how weekly logs were maintained, the attendance of weekly meetings, contact of the mentees, the manner in which the mentees were contacted, success in developing goals with mentees, connecting mentees with resources at college, encouraging the mentee to make an appointment with their academic advisor, participating in social gatherings, and to what extent they felt they were successful as a mentor in performing these duties during the 2007 academic year.

**Theoretical Framework**

There is a growing body of literature supporting mentoring programs as retention and enrichment strategies in higher education. Studies indicate formal mentoring
programs have provided the most significant increase in enrollment and retention, assisting students in developing enduring and meaningful relationships and assisting with their adjustment to university and improving academic performance (Salinitri, 2005; Wallace & Abel, 2000).

For the purpose of this study, the theoretical framework for the formal mentoring program will link the relationship between mentoring and Astin’s (1984) Theory of Involvement, Bandura’s (1986) Social Learning Theory, and Tinto’s (1975) Theory of Departure (see also Salinitri, 2004).

Astin (1975, 1984) believed student retention was linked with institutional involvement which incorporated investment of energy in academic and social relationships (see also Salinitri, 2005). According to Astin, student involvement refers to the quantity and quality of time a student spends engaged in academics, participating in organizations, and interactions between faculty and other students. Astin believes involvement occurs along a continuum, with different students possessing differing degrees of involvement. Students operating on a one-to-one basis with other students, such as in mentoring relationships, can allow mentors to monitor the involvement and academic progress, and ultimately increase student success (Astin, 1984; see also Salinitri, 2004). The important key is to find a hook which will stimulate involvement in the college experience (Astin, 1984). The key for educational institutions is to design effective programs that will effectively motivate students and translate into student achievement, focusing all institutional personnel on one mission, student involvement. According to Astin’s Theory of Involvement, mentoring programs should increase
student involvement within the university environment and improve persistence, thereby augmenting graduation rates.

Social learning theory explains human behavior in terms of role modeling and reciprocal interaction between cognitive, behavioral, and environmental influence (Braxton, Hirschy, & McClendon, 2004). Social learning is the process through which students develop skills to understand and manage life tasks, adapting to complex demands, and achieving success (Bandura, 1963; Elias et al., 1997). Mentoring relationships are often the medium through which students integrate into the academic and social cultures of the university (Denney, 2008; Shultz & Cook-Sather, 2001).

Tinto (2004) also supported the significant role of student involvement in positive educational outcomes for college students. Tinto’s Theory of Departure states that in order to persist, students need integration into formal (academic performance) and informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems. According to Tinto’s Theory of Departure, the mentoring program should increase student integration and increase retention rates of freshman students at the university.

This study is designed to determine if the mentoring program at WWU significantly influenced student academic success and retention of freshman students participating in the mentoring pilot program.

**Significance of the Study**

There are many reasons why this study is important in the realm of higher education. Specifically, Seventh-day Adventist educational institutions in the United States are facing the challenges of the rising cost of education in difficult economic
times; attractive, affordable, and accessible educational alternatives; and declining church resources (Guy, 1994). Results of empirical studies may pave the way for superior strategic planning, utilizing tactics that will benefit students and institutions alike. This study will allow private church-based colleges and universities that are similar to Walla Walla University to draw on the positive outcomes of this study and employ methodological strategies to improve retention and the success of students that they serve, and potentially decrease dropout rates within their institutions.

This study may also contribute to theory and practice. The results of this study may contribute to the body of knowledge regarding mentoring, and assist in understanding how the fidelity of a program can explain differences among outcomes of mentoring programs across the nation. This knowledge could guide other universities in developing powerful mentoring programs within their institutions, providing roadmaps to improve academic, social, and personal support of the students they serve, and potentially increasing retention and graduation rates at the University.

**Definition of Terms**

The following definition of terms is provided in order to clear any ambiguity with regard to concepts which will be described in subsequent chapters. The independent and dependent variables are operationally defined, and definitions are provided for other important and frequently used terms.

**Academic Probation**: Students in the mentoring program or pilot group who earned a university GPA below 2.0 during the 2007-2008 academic year.
**Academic Success:** Freshman students in the mentoring or pilot program during the 2007-2008 school year who maintained a WWU GPA above 2.0 and successfully completed classes to rank them as a Sophomore in the 2008-2009 academic year.

**At-risk Student:** A student who entered the University with a high-school GPA below 2.5.

**Attrition:** The loss of matriculated freshman students from Walla Walla University by transfer or departure after the first semester of the 2007-2008 school year.

**Dropout:** Freshman student attending WWU in the mentoring or controlled group at week 5 of the 2007-2008 school year who is no longer enrolled at week 5 of the 2008-2009 school year.

**Faculty Mentor:** A full-time faculty member working at Walla Walla University who worked with first-time freshman students in the pilot mentoring program during the 2007-2008 school year.

**Fidelity:** The extent to which components of the mentoring program are faithfully implemented according to intended program model, theory, or philosophy as measured by: completing the weekly mentoring logs; attending weekly mentoring meetings; the number of contacts with the mentees per week; the manner in which the mentees were contacted; the consistency in developing personal, academic, and career goals with the mentees; connecting students with necessary resources; referring students to their academic advisors when necessary; and participating in social events with mentees.

**First-time Freshmen:** Students who have completed less than 30 Quarter college credits and who had never attended Walla Walla University before the 2007-2008 school year.
**Freshman Persisters:** Freshman students who were in the mentoring program and controlled group from the 2007-2008 school year who continue matriculating at Walla Walla University and returned to WWU Fall Quarter 2008-2009 school year.

**Grade Point Average (GPA):** The averaged value of the student’s course grades for the number of university hours completed of core freshman courses, which include the 100-series in English, Bible, Psychology, History, and Humanities.

**Hired Mentors:** Mentors who were hired by Walla Walla University to work with first-time freshman students in the pilot mentoring program during the 2007-2008 academic year.

**Level-100 Course:** General education 100-level freshman course taken at Walla Walla University which includes: English, General Psychology, Humanities, History, and Religion.

**Low Socioeconomic Status:** Freshman students in the mentoring group and controlled group from the 2007-2008 school year, with a total household income below $20,000 and whose parents did not graduate from college.

**Mentoring Program:** A pilot program developed in 2007 at Walla Walla University to increase student involvement on campus and assist freshman students to establish a trusting and caring relationship, and to develop personal, academic, and career goals.

**Retained Freshmen:** Freshman students who were in the mentoring program and controlled group at Walla Walla University during the 2007-2008 who returned to WWU for Fall Quarter of the 2008-2009 school year.
**Seventh-day Adventist Academies:** Day and boarding high schools operated and grounded in the Seventh-day Adventist faith.

**Seventh-day Adventist Freshman Students:** Those who were in the mentoring program and controlled group at Walla Walla University and claimed to be Seventh-day Adventists on their enrollment application.

**Staff Mentor:** A full-time staff member working at Walla Walla University who worked with first-time freshman students in the pilot mentoring program during the 2007-2008 school year.

**Delimitations**

Delimitations refer to how the study is narrowed in scope (Creswell, 1998). The following delimitations narrow the scope of this study.

I have elected to delimit the scope of this study to the mentoring program during the 2007-2008 school year at Walla Walla University. Second, a longitudinal study would have provided a long-term ongoing relationship with mentees which potentially could improve social and academic integration and connection with the institution. A long-term study would have followed these students through 4 years at WWU to determine graduation and attrition rates and perhaps provide an in-depth examination into the mentoring program.

Lastly, mentoring research indicates that effective mentors possess specific personality characteristics and interpersonal traits (Blackburn, Cameron, & Chapman, 1981; W. B. Johnson, 2002). I chose not to measure these traits through testing or through direct observation of mentor-mentee interactions in order to preserve the intimacy, confidentiality, and sacredness of the relationship.
Organization of the Study

Chapter 1 introduces the problem and includes the background and rationale for the study, a statement of the problem, the purpose of the study, research questions, method, delimitations, and definitions of the terms. The theoretical foundation of the study will link mentoring with Astin’s (1984) Theory of Involvement, Bandura’s (1986) Social Learning Theory, and Tinto’s (1975) Theory of Departure.

The literature review begins in chapter 2, where a historical overview of mentoring undergraduates is explored. The literature review will also examine: definitions of mentoring, a historical prospective of mentoring efforts within church-related colleges and universities, and theoretical frameworks related to Astin’s (1984) Theory of Involvement, Bandura’s (1986) Social Learning Theory, Tinto’s (1975) Theory of Departure, and the theoretical basis of mentoring in relation to academic success and retention.

Chapter 3 provides detailed information regarding methodology and design, population, collection of data, analysis of data, research questions, hypotheses, limitations, and assumptions for this study. Chapter 4 describes data analysis and summarizes the results from this study. Chapter 5 summarizes the study findings with conclusions, discussion, limitations, and recommendations for further research.
CHAPTER 2

REVIEW OF LITERATURE

The purpose of this chapter is to examine the literature in the field of mentoring as it relates to higher education. Specific topics in the review will include: retention issues for college freshman students, an overview of mentoring, formal and informal mentoring, a review of the current literature related to mentoring undergraduate students, and studies within Adventist education with regard to mentoring and retention efforts. Also included in this chapter is the theoretical literature and conceptual framework related to mentoring.

Retention Issues for Freshman College Students

Historically, studies on retention efforts within higher education have been a topic of interest within the United States (Beal & Noel, 1980; Cash, 1990; Salinitri, 2004). The plethora of research which surfaced in the 1960s and 1970s was primarily simple correlation studies lacking theoretical basis, making it difficult to synthesize results and improve outcomes (Cash, 1990). Vincent Tinto’s model of student retention sparked the emergence of the theoretical development and refined conceptualization of student departure in higher education (Tinto, 2005).

Within the past 20 years, few subjects have gained as much popularity among college administrators as student retention research (Barefoot, 2004). Bean and Creswell (1980) found that between 1913 and 1962, 35 student attrition studies indicated that the attrition rate from 4-year colleges was approximately 50% and little had changed between
1913 and 1980. By 2006, the American College Testing Program indicated that retention rates for first-time freshman at 4-year colleges were 73% (Minnick, 2007). With troubling graduation rates in the United States, accountability in higher education has become an important mandate, utilizing graduation statistics as a measure of quality (Barefoot, 2004; Tinto, 2005). Colleges and universities are driven to identify reasons for attrition and find creative methods to improve retention rates.

With the hope of impacting student dropout came the development of retention research which focused on the students and their environments. Themes began to emerge postulating that student psychological, sociological, economical characteristics, and organizational attitudes may play a role in student persistence (Tinto, 2005). A number of variables associated with college persistence have been studied, such as personality and background characteristics, demographic variables, academic variables, and student aspiration and motivation variables. Significant variances in the research findings were due to the vast complexity of attrition and the differences in college settings (Braxton et al., 2004; Cash, 1990; Illanz, 2002; Sexton, 1965; Tinto, 2005).

In testing personality characteristics as a contributing factor in student persistence, Illanz (2002) conducted a study to examine student background characteristics, student social and institutional integrations, and their relation to attrition rates of traditional and nontraditional freshman students at a public Midwestern university, where students traveled to attend. A random sample was obtained and an instrument was used to gather information about the students’ personal and background characteristics, academic level, involvement in social activities, and commitment to graduate. Findings indicated three student characteristics—length of commute to college,
living arrangements, and financial obligations—contribute to matriculation. Illanz found there was a significant relationship between students persisting in college and having to drive a greater distance, living with parents or relatives, and not being concerned about paying financial obligations. Some researchers have found interaction with faculty and goals setting to be an important factor in persisting. Illanz tested the Interaction with Faculty Scale and discovered that there were no significant differences between students who left and those who stayed in college.

With a high percentage of attrition occurring before the sophomore year of college, many researchers have focused their attention on freshman dropouts. Sadler, Cohen, and Kockesen (1997) conducted research at New York University to determine predictive variables associated with freshman dropout. The following factors at NYU increased the odds of retention: receiving tuition benefits, being from the state, being of Asian descent, having a higher high-school GPA, attending orientation in the summer, and not being undecided about an undergraduate major. After 3 weeks in college the researchers also identified additional items linked to retention such as: having a higher percentage of financial aid, attempting larger number of credits, and having a higher number of transfer or advanced placement credits.

In 2001, Nora and Lang conducted a study to identify and define psychosocial factors which would impact a student’s ability to become socially integrated into the college setting. Findings indicated there were pre-college factors which were positively correlated with persistence. Positive attitudes toward challenges such as resiliency, enthusiasm, and self-efficacy had a positive effect on persistence. Students who experienced warm, close, and communicative interactions with others in their high-school
years would also translate into positive social experiences in college and increase the likelihood of persistence. Students who were actively involved in leadership experiences in high school were also found to have higher retention rates in college. Persisters were also more likely to have parents who valued education and encouraged student involvement on campus. The researchers concluded that mentoring services should focus on strategies to assist students in developing relationships, and provide positive social and academic experiences leading to success.

As research on retention continued, many studies began to focus on the university’s role on retention and the support the institution could provide in order to assist students in successful completion of their degrees (Woolfolk-Hill, 2009). According to Woolfolk-Hill, external motivation and implementation of supportive programs can play a substantial role in encouraging the student to continue through to degree completion.

In 2009, Montero conducted a study on a peer leader program within the First-Year Seminar and how it affected persistence, GPA, and social integrations. Results indicated that males, females, and minorities who participated in the peer lead First-Year Seminar (FYS) had higher persistence from first to second year and higher GPAs with regard to persistence from first to second year and GPA among FYS students (Montero, 2009).

In 2007, Minnick conducted a phenomenological study to determine why students were leaving college. Minnick found students lamented over the fact there was no assistance available to freshman students to navigate the system and achieve success. Students who left the college felt a sense of isolation, unconnected, and uncared for.
Minnick indicated robust freshman integration programs should be available to guide both at-risk students as well as academically successful students because both need institutional support to improve retention. Minnick declared that her study parallels the axiom: “The success of an institution and the success of the students are inseparable.”

Terenzini et al. (1994) likewise discovered connectiveness and a sense that someone at the college cared about their success was an important factor in retention for freshman students regardless of race, sex, age, or institution they attended. What becomes clear is that it is necessary to employ multi-dimensional, campus-wide commitment to the welfare of students in order to increase retention efforts (Minnick, 2007).

**Overview of Mentoring**

The concept of mentoring had its beginnings in ancient Greek mythology around 1200 B.C. (Busen & Engebretson, 1999; Homer, 1880). In Homer’s Odyssey, King Odysseus appointed his good friend Mentor to be a surrogate to his baby, Telemachus, while his father was fighting in the Trojan War. During Odysseus’s 20-year absence, Mentor was accountable not only for the boy's education, but for the shaping of his character, for practical insight, the clarity and steadfastness of his purpose, and the critical transition to manhood (Busen & Engebretson, 1999; Homer, 1880). According to mythology, Mentor was effective in his role and Telemachus became a successful and well-loved ruler. From this ancient literary figure, the concept of mentoring was derived and adopted (Wolfe, 2007).

Since these early times, the guiding figure known as a mentor has evolved and taken on a diverse meaning. Mentoring was popularized through the work of Levinson (1978) in the publication of *The Seasons of a Man’s Life*. This groundbreaking research
describes the complex and integral role of a mentor and the value it brings to lives of young adults. Levinson described the role as one of the most complex and developmentally important roles which serves in supporting and facilitating the mentees in realizing and achieving their dreams.

The concept of mentoring continued to gain popularity within many disciplines, and each viewed the phenomenon through a different lens (Meriam, 1983). A literature search in 2009 revealed a substantial and diverse body written in the field of mentoring, with many articles published relating to business, education, and psychology.

According to Jacobi (1991), the phenomenon of mentoring in business is conceptualized as learning from the expertise and experience of someone in the position of power. Yet it takes on a different dimension from the field of education where it is viewed from the perspective as having an experienced individual, ideally a professor, taking a student under his or her wing, assisting them to develop goals and successfully enter into professional circles. Although some have contended that a mentor is traditionally an older and wiser advisor, others have found age is not essential, but what is crucial is experience (Anderson, Dey, Gray, & Thomas, 1995, Levinson, 1978). In fact, in academia peer mentoring has become popular with documented success in psychosocial support and growth (Austad, 1988; Glass & Walter, 2000; Grant-Vallone & Ensher, 2000). It becomes apparent that age in itself may not be as critical as the dynamics of the relationship. Mentorship instead should focus on the unique enduring bonded relationship that incorporates a wide range of roles, helping others to reach their fullest potential (W. B. Johnson, 2002; Stoddard, 2003).
Although there is some diversity in defining the term *mentoring*, researchers have generally supported the concept in which mentoring relationships are threefold: focusing on growth and accomplishment, supporting of professional and career goals, and mentoring relationships which are mutually beneficial and reciprocal (Campbell & Campbell, 2000; Crisp & Cruz, 2009; Salinitri, 2004).

The theoretical construct of mentoring is supported by the work of Nora and Crisp (2007), which indicates mentoring is providing psychological and emotional support to the mentee, supporting the act of setting goals and choosing a career path, providing academic subject knowledge to assist in advancing the mentee’s knowledge relevant to their chosen field, and the existence of a role model, learning from the mentor’s achievements and failures (see also Anderson & Shannon, 1988).

Within the field of mentoring, it appears mentor effectiveness is characterized by high degrees of emotional intelligence resulting in the emotional attachment inherent in a committed relationship. Mentoring is ultimately about creating meaningful quality relationships with another person (W. B. Johnson, 2004; Salinitri, 2004). Stoddard (2003) describes a beautiful approach to mentoring that is congruent with the mission of Walla Walla University:

> Effective mentoring begins with the heart, motivates from the inside and manifests itself outwardly – not the other way around. If mentoring focuses only on expected outcomes, we inevitably forget that the central focus of mentoring is the people involved. More than just a sound business practice, mentoring is really a stewardship issue. It’s an opportunity to give of ourselves – our experiences, our expertise, and our gifts – and take advantage of opportunities to help someone. Those who mentor from the heart have discovered a foundational principle: The secret to living is giving. (p. 29)

Although it is important for mentors to understand the meaning of mentoring, it is equally important that mentors have a passion for developing and inspiring students and
possess the gift of serving others. In higher education, mentors have the ability to create
an enduring relationship that will assist college students in developing self-confidence
and positive beliefs about their potential. Mentors also can assist mentees in developing
strategies to foster success in attaining their goals, support them in acquiring advanced
knowledge and expertise in their fields of study, offer verbal encouragement, be
interactive, transferring success through model behaviors, whereby the potential for
social isolation can be potentially alleviated through this relationship. Mentorship can
ultimately lead to a more resilient student, connecting them with the institution, which
ultimately leads to a high degree of satisfaction with the institution, increased
connectedness, the development of the whole person and positive gains for the
university’s most valuable resources, its students.

**Formal and Informal Mentoring**

Today, mentoring is frequently viewed as a deliberate matching of a more skilled
person with a less skilled person. However, a literature review clearly defines two
separate structures for mentoring: formal and informal. The mentoring process itself can
develop spontaneously and informally or in some cases be structured and formally
established through programs within institutions. According to the literature, there are
both advantages and disadvantages of formal and informal mentoring relationships
(Klein, 2006).

Informal mentoring is often a natural relationship that develops with both
participants voluntarily engaging in a relationship that is generally loosely structured
(Allen, Eby, & Lentz, 2006; Gallimore, 1992). When two people choose to have a
relationship, commonly there is chemistry innately existing, drawing them together with
a high level of compatibility and mutual trust, which may enhance the mentoring experience. In addition, researchers have found informal mentoring relationships often last 3 to 6 years compared to formal relationships, which are generally contracted and continue only for 6 months to 1 year (Sosik, Lee, & Bouquillon, 2005). A mentoring relationship that endures for many years has the potential to make the greatest impact on a student’s life.

Unfortunately, disadvantages also exist in informal mentoring relationships. The informal mentoring relationship with its absence of structure may lack the necessary elements of a formal program and have highly variable results. Second, because informal mentors meet when desired with their goals changing over time, this flexibility may not meet the needs of organizations with time-specific goals (Sosik et al., 2005).

According to Brown-Minis (1999), natural or informal mentoring occurs most often between two people who are predominately similar. It is possible for students, who view themselves as culturally or socially different, to not automatically enter into an informal mentoring relationship thereby excluding a valuable but potentially at-risk population from the benefits of mentoring.

In contrast to informal mentoring, formal mentoring is more purposeful and planned with goals and expectations (Brown-Minis, 1999). Formal mentoring partners are generally matched by a third party rather than through mutual attraction, which may lead to a poor interpersonal fit (Sosik et al., 2005). Kram (1985) suggests a proper relationship fit will influence the mentoring relationship dynamics, and the mentor/mentee match becomes an important aspect to success. Jacobi (1991) suggests the culture within the United States values choices, and formal arrangements may have limited success.
With structure present, formal mentoring programs possess a mutual commitment to the relationship from the beginning, with clearly defined objectives and goals (Brown-Minis, 1999). Formal mentoring programs do not leave outcomes to chance, but instead promote an environment with structured objectives leading to an increased likelihood of successful outcomes. Formal mentoring provides students with the sense they are valued, resulting in psychological comfort, which empowers them to successfully remain in college (Redmond, 1990).

**Mentoring Undergraduates and Academic Success**

It has been well documented that approximately only half of the students who enter into colleges and universities actually graduate (Barefoot, 2004). Many young people attending 4-year colleges have never experienced being away from the home, which places them in a precarious social situation, trying to fit into a foreign environment and find a connection to people they do not know or trust. For others it is compounded when they are the first-generation attendees and cannot rely on parental support to assist them in navigating through this phase of life (Anderson, 2008). As college administrators became aware of the vast numbers of students leaving their institutions, a concerted effort was made in developing mentoring programs for undergraduate students, creating an environment where they could thrive socially and academically. Academic integration and success represents means by which higher education is attempting to explain the benefits from formal mentoring programs gracing college and university campuses within the United States.

In a qualitative study by Bragg (1994) who investigated the relationship between adjustment to college and freshman retention, results indicated freshman students needed
assistance during the vulnerable first 6 weeks of college life. Bragg concluded that involvement in social organizations and activities on campus positively assisted freshman college students to persist. Having realistic expectations appears to also be beneficial in persistence. According to Bragg, graduation rates of disillusioned students were 55% compared to 86% for non-disillusioned. The increased competition experienced on college campuses can also contribute to the decline in the freshman students’ self-esteem and disappointment in their perceived success. Bragg’s research indicates that early intervention strategies such as freshman orientation courses and faculty mentoring are imperative to student adjustments and ability to cope in stressful situations leading to persistence.

Unlike the findings from Bragg (1994), a study was conducted by Huggins (1987) on the effect of a mentor program on the academic success and college satisfaction among freshmen with much differing results. Huggins evaluated a mentoring program at Francis Marion College, a small state-funded college located in South Carolina. A comparison group was used to determine differences found between mentored and non-mentored students. Mentoring was not found to be academically beneficial, but there was a positive correlation between mentoring and college satisfaction.

Petruolo (1998) explored the effectiveness of a formal mentoring program and its relationship to academic persistence and academic outcomes. The researcher specifically explored the effectiveness of the mentor relationship and how it translates into student success. The hope was to provide guidelines for mentoring programs to improve outcomes. The results of this research found it was the quantity and not the quality of the mentoring which led to academic persistence.
In a similar study completed at a small Kansas City community college, data were collected to determine the effects of a college mentoring program on retention rates and academic performance for full-time credit-seeking freshman students (Brown-Minis, 1999). For a period of 2 years, retention rates, cumulative GPA, and number of courses completed were compared between a mentored group and non-mentored group. According to Brown-Minis, students who were mentored were more likely to complete more college courses than non-mentored students, supporting previous studies linking mentoring with academic success. The primary findings with regard to retention rates were that mentoring did not appear to significantly impact outcomes.

Cousert (1999) conducted a study at Ivy Tech State College in which a mentoring program was instituted for at-risk students and evaluated for course completion, academic success, and retention effectiveness. The experimental research focused on students at greatest risk for dropping out of college. After completing the College Student Inventory, students with high dropout scores were identified and placed in a high risk group. The sample was randomized and divided whereby one group was provided mentoring and the comparison group received no mentoring. The results of the study indicated the formal mentoring program had a positive effect on grade point average but no significance existed with regard to retention.

In a follow-up study conducted by Moman (2002), the researchers’ longitudinal study examined results on the mentoring program and also tried to determine dropout proneness and interventions which may assist in persistence. Moman found mentored male students were most likely to benefit from mentoring; non-traditional students
persisted more often if mentored, and dropout proneness scores were not a predictor of GPA or retention.

Salinitri (2004) conducted a study to evaluate a formal mentoring program at a midsized university in Ontario. The mixed-method study confirmed there was significant evidence the mentoring program increased the students’ overall GPA, they failed fewer classes in the first semester, and their academic status was better than non-mentored students. Salinitri’s qualitative research also supported previous studies: Astin’s (1984) Theory of Involvement, Tinto’s (1975) Theory of Departure, and Bandura’s (1986) Social Learning Theory, linking participation and involvement in the Teacher Interfaculty Mentorship Efforts program with positive academic outcomes.

Bernier et al. (2005) examined the attachment orientation and mentor’s relational style as predictors of student behavior and academic success. Subjects were recruited from three Canadian colleges that offered mentoring to their at-risk students. Throughout the program, both mentors and mentees were administered the scales to determine the degree of attachment and the perceptions of the mentoring relationship. Findings have indicated students appear to achieve greater academic success when their attachment orientation is in contrast to their mentor’s relational style.

A qualitative study conducted by Leichnitz (2006) focused on non-cognitive factors which were indicators of success for minority students attending college. Four dominate themes emerged which included: internal factors, external/social factors, resiliency factors, and relationship and responsibility to others. Mentoring was the one factor which appeared to be most powerful for each participant in achieving success. One
respondent felt compelled to mentor younger students because of the success she experienced through the program.

Peer mentoring has gained popularity within the realm of academia, and studies have been conducted to determine if the age of mentors impacts outcomes for college students. Artale (2007) examined the impact of a peer mentoring program at State University of New York and its impact on recruitment and retention of minority students. The case study served to explain the high retention rates of students participating in the peer mentoring program and the importance of recruiting and retaining minority students. The mentoring program was developed to assist freshman minority students with transition issues, and enrollment was on a volunteer basis. The qualitative research found that a sense of belonging was created through the mentoring program and students felt it impacted not only their college experience but also their lives. The longitudinal study confirmed 4-year retention and graduation rates were 10% higher for the peer-mentored group of students at State University of New York.

Rhodes (2007) investigated the effects of mentoring on the academic, cognitive, and social development of freshman students. A longitudinal study was conducted at Anderson College in which a freshman transitioning program was developed providing opportunities for academic enhancement, social development, and spiritual enrichment through mentoring. Findings support there was a positive correlation between GPAs, graduation rates, and mentoring.

Also supporting the finding of other researchers, Bourgeois (2008) investigated a mentoring program at Mississippi State University. The study concluded that mentoring
assisted freshman students to navigate the system, resulting in higher GPA and retention rates.

The majority of mentoring research in the world of academia focuses on minority and at-risk students. Kincey (2007) conducted a research project at a large traditional research college in southeastern United States focusing on whether participation in a mentoring relationship enhanced academic success, persistence, and retention for African American students who attend a predominately White university. Kincey implemented the Racial and Mentoring Experience Scale to measure qualitative and quantitative aspects of mentoring. The survey population consisted of 333 African American seniors, many of whom described the first-year experience at the university as one being filled with feelings of isolation, and many described their experience as feeling invisible on campus. Most of the study group expressed having a meaningful relationship with faculty, advisors, and staff, and having an active involvement in organizations was critical in their successes. A key finding was that many students perceived the mentoring relationship to be beneficial for guidance and support; and mentors pushed them to achieve their maximum potential. Quantitative results supported the fact that mentored students had a higher GPA and the process aided in degree attainment (see also Lee, 2000).

Likewise, in 2003 at the University of Detroit Mercy, a grant was received to establish a Professional Mentor Program Plus (Scott & Homant, 2007). The goals of the study were to increase the graduation rates of academically and economically disadvantaged students of color. A director and evaluator orchestrated the development of professional workshops and oversight of 30 volunteer mentors. Although it was difficult
to conclude the outcomes of the program due to differences in the comparison group and the mentored group, there were positive findings with regard to retention rates for the mentored group whereas the comparison group had a higher GPA.

Additionally, Bordes (2008) conducted a study focusing on persistence in Latino students at a large Southwestern university, where the researcher examined three clusters of non-academic variables: self-beliefs, social support, and academic persistence. The study concluded that both self-beliefs and social support predicted academic persistence. According to Bordes, students who graduated had a greater perception of being mentored during their freshman year and obtained a higher college GPA than students who dropped out.

**Mentoring and Retention in Adventist Education**

Adventist researchers have also conducted numerous studies within higher education, many of which are related to marketing efforts to attract students to the institutions (Blaton, 1981; Pauner, 1996; Sauder, 2008). Although it is important to attract students to Adventist institutions, it also becomes equally important to retain them once they arrive.

Regarding retention and academic success, one of the first studies conducted was by Wolford (1964) who studied characteristics of dropouts at Walla Walla College (see Walla Walla University History, 2009). As in many recent studies on retention, Wolford was able to find the connection of persistence in college with social integration and academic achievement. According to Wolford (1964), students dropped out because of a combination of factors, which intertwined make it compelling to withdraw. In his study, findings indicated scholastic difficulties, financial hardship, social pressures,
family influences, and personality differences were predictors in dropping out of Walla Walla College. Wolford concluded a dropout could be characterized as:

He is an older student whose goals and aims are somewhat vague. He is beset by problems, especially those of a financial or scholastic nature. He has little support from his family, so he must work, but still he does not have enough money. He has few extra-class achievements or, for that matter, few curricular achievements. Although he does not prize academic or social accomplishments highly, he wonders if he is getting his share of them, or is concerned because more have not come his way. He comes from a family with lower socio-economic characteristics than those in the families of his fellow students. He goes to college to prepare for a good job, but he leaves disillusioned, dissatisfied, and a little confused. (p. 145)

In 1980, a study was conducted by Bean and Creswell in which statistics were gathered to determine the retention rates of women 25 years and younger attending Union College, a 4-year Seventh-day Adventist college in Nebraska. The researchers found those who dropped out of college were further from home, came from large towns and high schools, were bored with classes, had greater family responsibilities, or were less satisfied with the college environment.

Cash (1990) conducted a study comparing freshman retention at Andrews University and Union College. Cash applied Tinto’s model of retention to these two Seventh-day Adventist organizations and found freshmen at both colleges appear to be similar to their peers at other public and private traditional and residential colleges in personal background, reason for attending, and reason for persisting and dropping out. Cash discovered that the degree to which students are committed to the institution is related to their academic and social integration. Commonalities for dropping out included lack of academic and social achievement, financial burden, and poor fit with the institution.

Parris (2006) conducted a study related to persistence in the adult degree programs at Atlantic Union College, a Seventh-day Adventist college located in
Massachusetts. A comprehensive evaluation was done to determine how the adult degree program affected student attitudes and perceptions and how institutional, familial, and personal variables influenced retention. Within the adult degree program, mentoring was instituted but less than half of the students found it was beneficial to their success. Parris found students who persisted were intrinsically motivated and more satisfied with the services and administration. According to Parris, mentoring efforts at the college also decreased attrition rates.

Few studies were found in the realm of academic success, one of which was from Maniraguha (1997), who conducted a study examining selected factors influencing academic success of first-year students in Gitwe Adventist College, Rwankeri Adventist College, and Mugonero Nursing School in Rwanda. The study concluded that higher grades in high schools influenced persistence in higher education.

With few studies documented regarding retention efforts in Adventist education, and attrition rates being 30% at Walla Walla University, interventions to improve outcomes were explored. Denney (2008) conducted the preliminary research examining a formal mentoring program and its effects on GPA, course completion, and retention rates at Walla Walla University during the Fall Quarter 2007. Prior to the academic year, 75 students were selected and participated in a mentoring program and subsequently outcomes were compared to a control group. Although there were no significant differences in overall GPA, fewer students in the mentored group maintained a GPA below 2.0. Results also indicated the mentored group dropped and failed fewer classes. To quantify the impact of this mentoring program on academic success and retention, a longitudinal study is necessary and supports the significance of this additional research.
Theoretical Framework

The theoretical and supporting framework for this study was founded on Astin’s (1984) Theory of Involvement, Bandura’s (1977) Social Learning Theory, and Tinto’s (1975) Theory of Departure. Astin’s Theory of Involvement asserts learning and student retention are related to their active involvement with the institution (Astin, 1997). Astin believed student retention was linked with institutional involvement, which incorporated investment of energy in academic and social relationships (Astin, 1975, 1984; see also Salinitri, 2005). According to Astin, student involvement refers to the quantity and quality of time a student spends engaged in academics, participating in organizations, and interactions between faculty and other students. Astin believes involvement occurs along a continuum, with different students possessing differing degrees of involvement. Academic institutions should look for passivity in students as it may be an important warning sign reflecting a lack of involvement. Extensive research suggests learning, academic performance, and retention are positively associated with institutional involvement (Astin, 1997). Students operating on a one-to-one basis with other students, such as in a mentoring relationship, can allow mentors to monitor involvement, academic progress, and ultimately increase student success (Astin, 1984; Salinitri, 2004). The important key is to find a hook which will stimulate involvement in the college experience (Astin, 1984). The key for educational institutions is to design effective programs that would effectively motivate students, which will translate into student achievement, focusing all institutional personnel on one mission, student involvement. According to Astin’s Theory of Involvement, factors such as interactions with peers and faculty in mentoring programs should increase student involvement within the university environment, improve persistence, and thereby augment graduation rates.
According to Bandura (1977), social behavior is a reciprocal interaction between cognitive, behavioral, and environmental determinants. Bandura (1989) theorizes that people learn through observing others’ behavior, and attitudes and changes are influenced and experienced through modeling. Bandura (1977) concluded that modeling in therapeutic environments was an effective means of teaching attitudes and behaviors to clients of widely divergent social and educational backgrounds. According to Bandura, people interact with their environment and the two are reciprocal determinates of each other. Furthermore, he posits that modeling influences learning primarily through exposure of modeled activities, and transforming behavior into new and beneficial choices. Bandura’s Theory supports the framework of this study as mentees may choose through observational activities and interactions with a mentor incentives that generate profound, positive, and enduring effects.

Tinto’s (1975) exemplary model has been the single theory of student departure, which generates a systematic ability to explain departure from colleges and universities (Cash, 1990). Early models focused on social and academic integration, and informal faculty-student interactions; residential influences served as a guide to further development of research in the realm of retaining college students (Cash, 1990; Pascarella & Terenzini, 1980). Central to Tinto’s theory is the idea that students persisting through graduation are strongly associated with the quality of student interactions with the academic and social systems of the college (Pascarella & Terenzini, 1980; Tinto, 1975). Tinto (2006) supported the significant role of student involvement in positive educational outcomes for college students. Tinto’s Theory of Departure states that, to persist, students need integration into formal (academic performance) and
informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems. He further indicates that frequent interactions with faculty beyond the classroom in various informal settings and interactions with student peers were an important factor in high student retention rates (Kincey, 2007; Tinto, 1993). According to Tinto’s Theory of Departure, the establishment of mentoring relationships connecting students socially and academically should be utilized to increase student integration and increase retention rates of freshman students at the university.

Figure 1 illustrates an overview of Astin’s Theory of Involvement, Bandura’s Social Learning Theory, and Tinto’s Theory of Departure and how it relates to mentoring. Astin’s Theory asserts that the one-to-one relationship that develops with the mentee has the potential to increase academic involvement. It is the mentor’s role to set academic goals and monitor the mentee’s academic progress throughout the year, supporting them in seeking interventions that would assist them in becoming academically successful. Likewise, a goal of the mentoring program is to ensure that social involvement increases through planned social activities. This, coupled with a mentor who is caring, has the potential to provide the student with a positive perception regarding the university, connecting them socially, and in so doing increasing the likelihood of matriculations and enhanced outcomes.
Mentored students in a "student-centric" environment

- **Astin's Theory of Involvement**
  - Involvement in academic and social relationships

- **Bandura's Social Learning Theory**
  - Attitudes and behaviors are changed through modeling/mentoring

- **Tinto's Theory of Departure**
  - Student persistence is predicted by quantity and quality of social and academic interaction and integration

- **Retention**

- **Academic Success**

Figure 1. Hoffer’s model of integration of Astin’s Theory of Involvement, Bandura’s Social Learning Theory, and Tinto’s Theory of Departure as they relate to mentoring.
Bandura’s (1977) Theory emphasizes that modeling in therapeutic environments has the potential to change behaviors. As a trusting relationship develops, mentoring becomes a powerful means of transferring knowledge and positive attitudes impacting personal and academic outcomes.

Tinto’s Theory attributes students’ persistence with their ability to adjust within the university setting, academically succeed, and prevent social isolation (Salinitri, 2004). Through mentoring, the quality and quantity of interactions with students have a persuasive effect on psychological and academic plans, pushing the student in developing self-confidence and leading to a desire to persist and become successful in the university setting. Connecting these three theories, and setting them into practice through mentoring, can lead to social and intellectual integration. Mentoring has the ability to motivate students, thereby improving self-confidence and developing skills for social and intellectual growth, and in so doing enhance academic success and retention of freshman students at the university (see Figure 1).
CHAPTER 3
METHODOLOGY

Introduction
The purpose of this chapter is to present the research rationale and design used to study the effects of a mentoring program at Walla Walla University. This chapter contains information regarding the population studied and the sampling processes are explained; the instrument used to collect the data is described along with the procedure for data collection and instrumentation used in this study and specific information explaining data analysis processes. This research study is part of a collaborative approach with my colleague Carolyn Denney which focuses on a Mentoring Program at Walla Walla University and the effects on retention and academic success.

Research Design
A design is used to structure the research, to demonstrate how the research data were obtained. In this research an ex-post-facto design fashioned this voluntary sample of first-time freshman students attending Walla Walla University to evaluate a formal mentoring program and its relationship to academic success and retention.

According to Polit and Beck (2010), the investigators do not have direct control of independent variables in ex-post-facto research because their manifestations have occurred previously. With this in mind, only inferences about relationships between variables and not causation can be determined (Newman et al., 1997). Although ex-post-
facto research is inherently weaker than experimental studies in explicating casual relationships, researchers can sometimes strengthen a retrospective design by implementing certain measures (Polit & Beck, 2010). The strategy used in providing partial control in ex-post-facto studies is to match the subjects using a homogenous sample with respect to as many extraneous variables as possible. Using homogenous samples restricts the generalizability of findings to a specific group, thus reducing external validity.

**Research Questions and Hypotheses**

Hypotheses are used to transform research questions into measurable statements (Salkind, 2008). Specific hypotheses developed for this study include:

**Hypothesis 1.0:** There is a significant difference in retention rates between students who participated in a mentoring program and those who did not participate in the mentoring program.

To test this hypothesis, the retention rates of mentored and non-mentored groups were compared. The mentored group was comprised of first-time, full-time credit-seeking freshman students who volunteered to participate in the mentoring program during the 2007-2008 academic school year. The comparison or non-mentored group encompassed 73 students who were randomly selected from the remaining population of incoming first-time, full-time, credit-seeking freshman students attending Walla Walla University during the 2007-2008 academic school year.

For this hypothesis, the mentored and comparison groups were treated as the independent variable. This variable is nominal with the two treatment groups, mentored and non-mentored. Retention status was treated as the dependent variable and was
measured by reenrollment during the Fall Quarter 2008 and Fall Quarter 2009. Retention status was also a nominal variable with two groups being retained or not retained.

**Hypothesis 2.0:** There is a significant difference in the GPA between students who participated in a mentoring program and those who did not participate in a mentoring program.

To test this hypothesis, the cumulative GPA of all coursework for the 2007-2009 academic years for mentored and non-mentored groups was compared. For this hypothesis, the mentored and comparison groups were treated as the independent variable. This variable is nominal with the two treatment groups, mentored and non-mentored. Cumulative GPA was treated as the dependent variable and was measured by total coursework taken during the Fall Quarter of the 2008-2009 academic year. GPA was a ratio variable with a range of 0.00 to 4.00.

**Hypothesis 3.0:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex.

To test this hypothesis, the level-100 coursework for the 2007-2008 academic year for mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.
For this hypothesis, the mentored and comparison groups were treated as the independent variables and sex was divided between male and female and controlled for. These variables are nominal with the two treatment groups being mentored and non-mentored, and sex, male or female. GPA for level-100 courses was treated as the dependent variable and was measured by total level-100 coursework taken during the 2 academic years from 2007-2009. GPA is a ratio variable with a range of 0.00 to 4.00.

**Hypothesis 3.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for race.

To test this hypothesis, the level-100 coursework for the 2007-2009 academic years for the mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.

For this hypothesis, the mentored and comparison groups were treated as the independent variables, and race was divided between Caucasian, Black, Hispanic, Asian, and Other. This variable is nominal with the two treatment groups being mentored and non-mentored and controlling for race as Caucasian, Black, Hispanic, and Asian, or Other. GPA for level-100 courses was treated as the dependent variable and was measured by total level-100 coursework taken during the 2 academic years from 2007-2009. GPA is a ratio variable with a range of 0.00 to 4.00.
Hypothesis 3.2: There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for ACT scores.

To test this hypothesis, the level-100 coursework for the 2007-2009 academic years for the mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.

For this hypothesis, the mentored and comparison groups were treated as the independent variables and ACT scores. The mentored and comparison group variable is nominal and was controlled for the ACT scores, which are considered an interval variable with ranges from 1 to 36. GPA for level-100 courses was treated as the dependent variable and was measured by total level-100 coursework taken during the 2 academic years from 2007-2009.

Hypothesis 4.0: There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for SDA religion.

To test this hypothesis, the level-100 coursework for the 2007-2009 academic year for mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman
courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.

For this hypothesis, the mentored and comparison groups were treated as the independent variables, and religious affiliations were divided between SDA and non-SDA. These variables are nominal with the two treatment groups being mentored and non-mentored, and controlled for SDA or non-SDA affiliation. GPA for level-100 courses was treated as the dependent variable and was measured by total level-100 coursework taken during the 2 academic years from 2007-2009. GPA is a ratio variable with a range of 0.00 to 4.00.

**Hypothesis 4.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for remedial coursework.

To test this hypothesis, the level-100 coursework for the 2007-2009 academic years for mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.

For this hypothesis, the mentored and comparison groups were treated as the independent variables, and I controlled for the independent variable of students taking remedial coursework and those who did not. These variables are nominal with the two
treatment groups being mentored and non-mentored, and taking remedial work or not taking remedial work was controlled for.

**Hypothesis 4.2:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for undecided major.

To test this hypothesis, the level-100 coursework for the 2007-2009 academic years for mentored and non-mentored groups was compared. Students entering into college will routinely enroll in a variety of courses offered on campus. To keep equivalent course dimensions for each group of students, only level-100 freshman courses, which included English, General Psychology, Humanities, History, and Religion, were extrapolated and a cumulative GPA determined for this group of coursework for each student in both the mentored and non-mentored groups.

For this hypothesis, the mentored and comparison groups were treated as the independent variables and students who were either decided or undecided with regard to a major. This variable is nominal with the two treatment groups being mentored and non-mentored, and decided or undecided major was controlled for. GPA for level-100 courses was treated as the dependent variable and was measured by total level-100 coursework taken during the 2 academic years from 2007-2009.

**Hypothesis 5.0:** There is a significant difference in GPA between students who were mentored by faculty and those students mentored by hired mentors.

To test this hypothesis, the cumulative GPA of all coursework for the 2007-2009 academic years for freshman students in the mentoring group was determined. The mentored group was comprised of first-time, full-time credit-seeking freshman students
who volunteered to participate in the mentoring program during the 2007-2008 academic school year. This group was mentored by faculty or hired mentors. The group was divided, and cumulative GPA was determined for students who were mentored by faculty and for students who were not mentored by faculty.

For this hypothesis, the students mentored by faculty and students who were not mentored were treated as the independent variable. This variable is nominal with the two treatment groups mentored by faculty and not mentored by faculty. Cumulative GPA was treated as the dependent variable and was measured by total coursework taken during the 2008-2009 academic year.

**Hypothesis 5.1:** There is a significant difference in retention between students who were mentored by faculty and those students mentored by hired mentors.

To test this hypothesis, the mentored group was comprised of first-time, full-time credit-seeking freshman students who volunteered to participate in the mentoring program during the 2007-2008 academic school year. This group was mentored by faculty or hired mentors. The group was divided, and retention rates of students who were mentored by faculty and those mentored by hired mentors were compared.

For this hypothesis, students mentored by faculty and those who were not were treated as the independent variable. This variable is nominal, with the two treatment groups mentored by faculty and not mentored by faculty. Retention status was treated as the dependent variable and was measured by reenrollment during the Fall Quarter 2008 and Fall Quarter 2009. Retention status was also a nominal variable with two groups being retained or not retained.
Hypothesis 5.2: There is a significant difference in the number of dropped courses between students who were mentored by faculty and those students mentored by hired mentors.

To test this hypothesis, the mentored group was comprised of first-time, full-time credit-seeking freshman students who volunteered to participate in the mentoring program during the 2007-2008 academic school year. This group was mentored by faculty or hired mentors. The group was divided into two groups and number of courses dropped by students who were mentored by faculty and those mentored by hired mentors were compared.

For this hypothesis, students mentored by faculty and those who were not were treated as the independent variable. This variable is nominal with the two treatment groups mentored by faculty and not mentored by faculty. Courses dropped was treated as the dependent variable and was measured by number of courses dropped during the 2008-2009 academic year. Courses dropped is a continuous variable with numbers from no classes dropped to as many as the students were enrolled in.

Hypothesis 6.0: There is a significant difference between individual fidelity scores of faculty mentors and hired mentors.

To test this hypothesis, the faculty group was comprised of volunteers who mentored first-time, full-time credit-seeking freshman students during the 2007-2008 academic school year. The hired mentors were a group hired to perform mentoring duties for first-time, full-time credit-seeking freshman students during the 2007-2008 academic school year. Fidelity scores were determined using the Mentor Assessment tool and
calculated for all mentors participating in the mentoring program during the 2007-2008 academic school year. Fidelity scores of faculty and hired mentors were compared.

For this hypothesis, faculty mentors and hired mentors were treated as the independent variable. This variable is nominal with two treatment groups mentored by faculty or mentored by hired mentors. Fidelity scores were treated as the dependent variable and were measured by individual scores on the Fidelity Assessment tool. Fidelity scores are ordinal variables with a five-item Likert scale ranging from *Never*, *Rarely*, *Sometimes*, *Often*, or *Always*. A score of 0 was given for *Never*, 1 for *Rarely*, 2 for *Sometimes*, 3 for *Often*, and 4 for *Always*.

**Hypothesis 6.1:** There is a significant difference between total fidelity scores of faculty mentors and hired mentors.

To test this hypothesis, the faculty group was comprised of volunteers who mentored first-time, full-time credit-seeking freshman students during the 2007-2008 academic school year. The hired mentors were a group hired to perform mentoring duties for first-time, full-time credit-seeking freshman students during the 2007-2008 academic school year. Fidelity scores were determined using the Mentor Assessment tool and calculated for all mentors participating in the mentoring program during the 2007-2008 academic school year. Total fidelity scores of faculty and hired mentors were compared.

For this hypothesis, faculty mentors and hired mentors were treated as the independent variable. This variable is nominal with two treatment groups mentored by faculty or mentored by hired mentors. Total fidelity scores were treated as the dependent variable and were measured by total scores on the Fidelity Assessment tool. Fidelity scores are ordinal variables with a five-item Likert scale ranging from *Never*, *Rarely*, *Sometimes*, *Often*, or *Always*.
Sometimes, Often, or Always. A score of 0 was given for Never, 1 for Rarely, 2 for Sometimes, 3 for Often, and 4 for Always.

**Hypothesis 7.0:** There is a significant difference in college GPA for mentored students who had a high-school GPA of 2.5 or less.

To test this hypothesis, the college cumulative GPA of all coursework for the 2007-2009 academic years for freshman students in the mentoring and comparison group was determined. The mentored group was comprised of first-time, full-time credit-seeking freshman students who volunteered to participate in the mentoring program during the 2007-2008 academic school year. The cumulative high-school GPA was determined for the mentored and comparison groups, and students with a GPA of 2.5 or less were identified. The college cumulative GPA was compared between students with a high-school GPA of 2.5 or less in the mentored and comparison groups.

For this hypothesis, the students mentored and students who were not were treated as the independent variable. This variable is nominal with the two treatment groups mentored and not mentored or a high-school GPA 2.5 or below or above. The college cumulative GPA was treated as the dependent variable and was measured by total coursework taken during the 2008 and 2009 academic year.

**Hypothesis 8.0:** There is a significant difference in retention rates for mentored students who had a GPA of 2.5 or less.

To test this hypothesis, the retention rates for Fall 2008 and Fall 2009 for freshman students in the mentoring and comparison groups were determined. The mentored group was comprised of first-time, full-time credit-seeking freshman students who volunteered to participate in the mentoring program during the 2007-2008 academic
school year. The cumulative high-school GPA was determined for the mentored and comparison groups, and students with a GPA of 2.5 or less were identified. The retention rates for Fall 2008 and Fall 2009 were compared between students with a high-school GPA of 2.5 or less in the mentored and comparison groups.

For this hypothesis, the students mentored and students who were not were treated as the independent variable as well as a high-school GPA 2.5 or below. This variable is nominal with the two treatment groups mentored and not mentored or a high-school GPA 2.5 below or above. The retention rates for the Fall Quarter 2008 and Fall Quarter 2009 was treated as the dependent variable and was measured by reenrollment for Fall Quarter 2008 and Fall Quarter 2009. Retention rates are nominal, with two categories retained or not retained and were used to determine if there was a significant difference between the two groups.

The key to designing research is to examine what research variables could possibly be related to relationships. Table 1 illustrates the hypothesis, independent variables, and the dependent variables used in this research study.

**Research Setting**

The chosen site for this study was Walla Walla University, located in eastern Washington, offering professional, technical, and liberal arts graduate and undergraduate education in the Seventh-day Adventist tradition.

Walla Walla College was founded in 1892 with a student body of 80 and faculty of nine. The mission of Walla Walla College was to provide young people with an environment that would promote and support the development of Christian character within a spiritual educational environment.
Table 1

Description of Variables

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Mentoring</td>
<td>Retention Rates</td>
</tr>
<tr>
<td>2.0</td>
<td>Mentoring</td>
<td>GPA</td>
</tr>
<tr>
<td>3.0</td>
<td>Mentoring/ Sex</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>3.1</td>
<td>Mentoring/Race</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>3.2</td>
<td>Mentoring/ACT Scores</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>4.0</td>
<td>Mentoring/SDA Affiliation</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>4.1</td>
<td>Mentoring/Remedial</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>4.2</td>
<td>Mentoring/Undecided</td>
<td>GPA 100 Courses</td>
</tr>
<tr>
<td>5.0</td>
<td>Faculty Mentor</td>
<td>GPA</td>
</tr>
<tr>
<td>5.1</td>
<td>Faculty Mentor</td>
<td>Retention Rates</td>
</tr>
<tr>
<td>5.2</td>
<td>Faculty Mentor</td>
<td>Dropped Courses</td>
</tr>
<tr>
<td>6.0</td>
<td>Faculty Mentor</td>
<td>Individual Fidelity Score</td>
</tr>
<tr>
<td>6.1</td>
<td>Faculty Mentor</td>
<td>Total Fidelity Score</td>
</tr>
<tr>
<td>7.0</td>
<td>HS GPA 2.50/Mentoring</td>
<td>College GPA</td>
</tr>
<tr>
<td>8.0</td>
<td>HS GPA 2.50/Mentoring</td>
<td>Retention</td>
</tr>
</tbody>
</table>
In 1902 Walla Walla College was incorporated in the state of Washington and became authorized to grant degrees, and then the college received accreditation in 1935. Enrollment began to climb in the mid-1950s and a large building program culminated in the 1960s with the addition of major buildings including the College Church, Kretschmar Hall, Rigby Hall, and the Melvin K. West Fine Arts Center.

After incorporating graduate programs, Walla Walla College was renamed Walla Walla University in 2007 to reflect the extent of existing educational opportunities. The University currently enrolls over 1,100 students in a range of professional, liberal arts, and technical programs, offering six bachelor’s degrees with majors in 42 areas of study. Graduate programs are offered in biology, education, psychology, and social work. Satellite campuses include a School of Nursing in Portland, Oregon; Master’s of Social Work in Missoula and Billings, Montana, and a marine biology station near Anacortes, Washington.

**Mentor Program Development**

During the 2007-2008 academic year, the experimental mentoring program proposal was presented to the administration at Walla Walla University for the purpose of improving student academic success and retention. A Mentor Program Advisory Council was selected to assist in the planning and implementation of the program. Five individuals served on this council. Three people were the primary program initiators, one was the University Director of Academic Advisement, and two were faculty with a particular interest in student retention. The primary responsibilities of the Mentoring Program Advisory Council were developing policy, hiring and maintaining qualified staff, evaluating the Program Director, and evaluating and providing direction for the
pilot program. Additionally, it was the responsibility of the Advisory Council to provide quarterly reports to administration regarding information, progress, and outcomes of the Mentoring Program. For accountability purposes a reporting structure was developed (see Figure 2).

![Organizational structure of mentoring program at Walla Walla University, Washington state.](image)

**Figure 2.** Organizational structure of mentoring program at Walla Walla University, Washington state.

**Mentor Selection**

In order to establish a successful mentoring program it was essential to attract and hire exceptional mentors. Job descriptions were written which outlined responsibilities and expectations of the mentors (see Appendix A). Jobs were then posted in Human Resources, and the Advisory Board conducted performance-based interviews (see Appendix B).

Vital to the success of the program was the hiring of a skilled Program Director who was familiar with the organization. Equally important was the director’s ability to
ensure that the components of the mentoring program were faithfully implemented according to the program theory and philosophy. Care was given in this process, and the University was able to secure a well-qualified PhD-prepared Director who had a love for students and had previous work experience at Walla Walla University in Admissions and Records and other equally important administrative positions. Important job responsibilities for the program director included: acting as a support person for the mentors, supplying backup, coordinating training, reassigning mentees as needed to maximize results, managing the budget, and providing regular progress reports to the Advisory Council.

Mentor applicants were abundant and it was possible to interview and select the six most qualified applicants with the best fit for the job. The mentor group was composed of a diverse group and included three Social Work graduate students living in the community with extensive knowledge of Walla Walla University, who also had training in counseling; three additional long-term residents of College Place who were graduate students pursuing degrees in Social Work, Psychology, and Education; two faculty members, one from the School of Nursing, the other an Instructor of Philosophy, and one staff who worked extensively with students in Student Records.

**Mentor Training**

A pivotal aspect of the mentoring program was a consistent training program which outlined the essential concepts and understanding of the position. Mentors were required to attend an 8-hour orientation conference to ensure that the philosophy of the mentoring program was understood. Training was provided by contracted faculty members at WWU to assist the mentors in understanding the importance of maintaining
professionalism and confidentiality within ethical guidelines of the relationship as outlined by Family Educational Rights and Privacy (see Appendix C), and to be acquainted with resources offered within the University. Topics addressed during training included: what it means to be a mentor; how to build quality relationships; risks and boundaries in mentoring; indicators of emotional, academic, and social health; and support services available at WWU and in the community. Mentors participated in ongoing training via webinars on mentoring, and fellow mentor presentations and discussions at regularly scheduled weekly meetings.

Mentors were expected to contact the mentee once a week by email, by phone, or in person to establish a trusting and caring relationship. Additionally, mentors were expected to work with mentees to develop personal, academic, and career goals on a quarterly and long-term basis, provide early interventions for mentees experiencing academic or social challenges, and assist mentees to complete the registration process. The use of tracking devices submitted by the mentor to the Director provided for a focused, progressive, and systematic means to determine consistency in implementing the mentoring program. Mentors were responsible to the Program Director for regularly submitting mentor activity logs, time cards, and attending weekly mentor meetings (see Appendix D).

**Mentor Matching Process**

Research contains copious suggestions on how to best match mentors and mentees. Many formal mentoring programs routinely assign mentees in a way which could lead to a poor relational fit. To improve the likelihood the relationship would succeed, the researchers felt it would be important to allow mentees the opportunity to
connect with the mentors. Mentors and mentees were invited to a mentoring program kick-off dinner prior to the first week of classes in the fall, during the 2007-2008 academic year. The purpose of this meeting was to allow mentees the opportunity to meet the mentors and to develop an understanding of the philosophy of the mentoring program. Mentees were asked to complete a student contact information form, which also allowed them to indicate their top three preferences for a mentor and sign a program commitment statement (see Appendix E). The researchers and the Program Director matched the mentees according to sex and preferences. Once the process was completed, each mentor was provided with a list of mentees and their contact information.

**Sample**

The population of students in this study was comprised of first-time, full-time credit-seeking students enrolled at Walla Walla University during the Fall Quarter 2007. At the beginning of the academic year, a list of first-time freshman students for Fall Quarter 2007 was extracted and downloaded into an Excel file. Each student was assigned a number using the randomization function. The list was then sorted by random number to select a group of 125 students. Letters were sent out to 125 freshman students who were attending a “Jump Start” program at Walla Walla University, explaining the mentoring program and an invitation to participate (see Appendix F). During the week of freshman orientation, 76 of the students who received the invitation volunteered to participate in the Mentoring Program and comprised the experimental group.

Using a randomized number chart, the comparison group was randomly selected from the remaining freshman class at Walla Walla University and was comprised of first-time, full-time credit-seeking freshmen attending Walla Walla University during Fall
Quarter 2007. The list of the comparison group was extracted and downloaded into an Excel file.

**Comparison Group**

Comparing characteristics of the studied groups will be valuable in determining legitimate inferences. Table 2 demonstrates the equivalencies between the mentor and the comparison groups in size, sex, race, religion, and credit load. Additionally, t test results indicate there was no significant difference between the high-school GPAs of students in the mentor group (\(M= 3.316, SD = .299\)) and high-school GPAs of students in the comparison group (\(M=3.336, SD = 2.43\)), \(t (.025, 149) = 1.976, p > .05\). Therefore no adjustments will be made in computing results (see Table 2).

**Data Collection**

The study employed quantitative research methods using an ex-post-facto design. Ex-post-facto studies look to the past to explore and observe the differences between variables providing a deeper insight into a phenomenon (LoBiondo-Wood & Haber, 1998). McNeil, Newman, and Kelly (1996) further indicate ex-post-facto research contains a quality or assigned variable which can reveal only relationships, not cause for the outcome after the variation has occurred. This non-experimental, ex-post-facto design, done in conjunction with Carolyn Denney, utilizes quantitative research to evaluate a formal mentoring program and its relationship to retention among freshman students at Walla Walla University.

Data used in this study were collected from the WWU administrative software system. Information relative to the participants’ high-school performance, sex, and religion, as well as first quarter GPA, number of courses failed and/or dropped, and
retention were extracted and placed in a separate database. This database was stored on a University server, was secured by password, and could be accessed only via the

Table 2

*Mentor and Control Group Comparisons*

<table>
<thead>
<tr>
<th>Item</th>
<th>Mentor Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Students</td>
<td>76</td>
<td>73</td>
</tr>
<tr>
<td>Males</td>
<td>39</td>
<td>37</td>
</tr>
<tr>
<td>Females</td>
<td>37</td>
<td>36</td>
</tr>
<tr>
<td>Minority</td>
<td>21.0%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Seventh-day Adventist</td>
<td>89.5%</td>
<td>87.6%</td>
</tr>
<tr>
<td>Mean High-School GPA</td>
<td>3.316</td>
<td>3.336</td>
</tr>
<tr>
<td>Enrolled Credit Fall Quarter</td>
<td>1,169</td>
<td>1,200</td>
</tr>
</tbody>
</table>

registrar’s computer. Sex, race, and high-school grade point averages were collected for all participants in this group. The two groups were then compared to determine equality as to sex, number of minorities, and high-school grade point averages, and were found to be very balanced in each of the three areas (see Table 1).

A database was then created to compare (a) the GPA (Grade Point Average) of first-year university freshman students level-100 courses in each group for all quarters, (b) the total GPA at the end of each quarter, (c) number of credits failed or dropped by each student in each group during the 2007-2008 academic year, and (d) student retention
at the beginning of Winter Quarter 2008 and 2009. This database was secure and password protected.

**Statistical Analysis**

The quantitative data in this study involved a descriptive analysis using the Statistical Package for Social Science (SPSS). The $F$ test was used to test the statistical significance of the proposed relationship in the hypothesis. The $F$ tests were chosen because they have been found to be the most robust in statistical multiple comparison among group mean. The assumption of random selection of subjects and normal distribution of the variables can be violated without doing serious harm to the procedure (Newman et al., 1997).

Analysis of covariance is an analytical approach utilized by researchers to increase the precision of comparisons between groups (Fraas & Newman, 1994). Analysis of covariance measures the difference among group means and uses a statistical technique measuring alternative hypotheses to equate the groups under study in relation to an important variable (LoBiondo-Wood & Haber, 1998). Multiple linear regressions were chosen because they are more flexible than traditional analysis of variance. With multiple linear regressions one can write the models that reflect the specific research question being asked. In addition, with multiple linear regressions the researcher can test relationships between categorical variables, between categorical and continuous variables, or between continuous variables (McNeil et al., 1996).

The point biserial correlation coefficient pertains to the case where one variable is dichotomous and the other is non-dichotomous. It is used to estimate the degree of relationship between a naturally occurring dichotomous nominal scale and an
interval/ratio scale and is analogous to the $t$ test. If the point biserial is significant, the $t$ test is also significant (McNeil et al., 1996).

To test the relationships of those variables where the direction of the correlation may be uncertain, a two-tail test of significance was used. One-tailed test of significance was used where the direction of the correlation is quite certain based on research and experience.

The .05 level of significance was used since the consequences of rejecting a true null hypothesis are not so serious as to warrant a more stringent confidence level. In addition, cross validation was used to estimate the stability of the findings (McNeil et al., 1996).

Many researchers convey the need to control for Type I error rates (Newman, Fraas, & Laux, 2000). The probability of committing a Type I error is equal to the alpha level. Employing the Bonferroni type adjustment will determine a more stringent alpha level (Fraas & Newman, 1994). Newman et al. (2000) suggest a non-mechanical approach requiring the researcher to reflect on three elements of the adjustment process: (a) error rate unit, (b) tests which are directional and based on theory or previous results, and (c) the alpha levels for the non-directional test in a given error rate unit adjusted for the number of such test.

**Limitations**

Limitations identify potential weakness of the study (Creswell, 1998). This study has several potential weaknesses. Limitations affecting this study include the usage of a volunteer sample of students attending a “Jump Start” program at Walla Walla University who volunteered to participate in the study while enrolled as first-time freshmen.
According to Patten (2002), volunteerism is a major source of bias. As we look at this assumption, it is possible that those who chose against participation may differ from those who elected to participate and may yield a study group that is not representative of the University. Those who volunteered to participate in the study may have been more concerned about their education and more motivated to succeed.

Individual student attitudes toward college attendance such as goal commitment, academic self-efficacy, social consciousness, and attitude toward attending college were not measured for the sample and comparison group. Hines (1998) indicated that one’s attitude toward attending college may play an important role in persistence. Not having these data may skew results unintentionally among the sample group and the comparison group.

Another limitation which is beyond the scope of the researcher to control is the fidelity of the actual mentoring experience. Although mentors were trained and tightly managed through weekly meetings with the Director of the Mentoring Program, it remains difficult to control the amount of dedication, caring, and enthusiasm each mentor holds for each mentee.

**Summary**

In summary, this chapter describes the methodology used to address the research. The data for this study were gathered from the University academic software package and used with permission by the University. Quantitative analysis relative to the comparison and pilot group was determined relative to GPA, retention, failed courses, and major. Demographic data were likewise evaluated. To further enhance the understanding of the results, mentors were asked to complete the survey tool and these were compared to the
findings submitted by the Director of the mentoring program. This ex-post-facto design research project provided data to draw conclusions pertaining to a formal mentoring program and its relationship to academic success and retention rates of freshman students at Walla Walla University.
CHAPTER 4

ANALYSIS OF THE DATA AND RESULTS

The purpose of this chapter is to present the outcomes of the analysis derived from the data collected and to evaluate the effects of the mentoring program at Walla Walla University. The results of the analysis for the hypotheses are presented here. They are presented in four sections. The first section is descriptive statistics for the predictor variables used in this investigation: sex, religion, race, remedial coursework, and ACT scores below 20. The second section presents the hypotheses related to the mentoring program at Walla Walla University. Section three provides the correlation data on the predictor variables, and the final section presents a chapter summary of the results.

Demographic Descriptive Statistics

The descriptive statistics related to the variables under investigation are reported in Tables 3 and 4. Table 3 contains the frequencies and percentages of the variables sex, ethnicity, remedial courses taken in college, ACT scores below 20, retention rates for the Fall Quarter 2007 and 2008, and SDA religion. The information provided shows the mentored group was comprised of 76 first-time freshmen who were enrolled Fall Quarter 2007 and the comparison group consisted of 73 first-time, full-time freshmen who were enrolled Fall Quarter 2007. The participants in this study were equally divided according to sex. Males comprised 39 of the mentored group and 37 of the comparison group.
Table 3

Demographics and Academic Characteristics for Freshman Student Groups

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mentored Group</th>
<th>Comparison Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequencies</td>
<td>Percentage</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39</td>
<td>51</td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
<td>49</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>60</td>
<td>79</td>
</tr>
<tr>
<td>Black</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Remedial Coursework</strong></td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td><strong>ACT Scores below 20</strong></td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td><strong>Retention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2008</td>
<td>52</td>
<td>68</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>39</td>
<td>51</td>
</tr>
<tr>
<td><strong>SDA</strong></td>
<td>68</td>
<td>89</td>
</tr>
</tbody>
</table>

Females comprised 37 of the mentored group and 36 of the comparison group. The majority of participants were Caucasian. There was an equal distribution of Caucasians in both groups, the mentored group which was 78.9% compared to 80.8% of the comparison group. With regard to remedial coursework, more than double (25%) of the comparison group took remedial courses in the 2007 school year compared to the (11%) mentored group. There were 16 students in the comparison group who scored below 22 on their ACT and only 10 in the mentored group.
Table 4

*Means and Standard Deviations of Predictor Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2007 GPA</td>
<td>149</td>
<td>3.05</td>
<td>.802</td>
</tr>
<tr>
<td>Winter 2008 GPA</td>
<td>149</td>
<td>2.87</td>
<td>1.06</td>
</tr>
<tr>
<td>Spring 2008 GPA</td>
<td>149</td>
<td>2.71</td>
<td>1.24</td>
</tr>
<tr>
<td>Fall 2008 GPA</td>
<td>149</td>
<td>1.91</td>
<td>1.64</td>
</tr>
<tr>
<td>Winter 2008 GPA</td>
<td>149</td>
<td>1.91</td>
<td>1.63</td>
</tr>
<tr>
<td>Spring 2008 GPA</td>
<td>149</td>
<td>1.88</td>
<td>1.62</td>
</tr>
<tr>
<td>GPA 100 Courses</td>
<td>149</td>
<td>3.04</td>
<td>.81</td>
</tr>
<tr>
<td>High-School GPA</td>
<td>149</td>
<td>3.25</td>
<td>.70</td>
</tr>
<tr>
<td>ACT Scores</td>
<td>99</td>
<td>22.13</td>
<td>3.83</td>
</tr>
</tbody>
</table>

The mentored group was 89% Seventh-day Adventist and the comparison group was comprised of 88% Seventh-day Adventist. Table 4 provides the mean and standard deviation of the predictor and criterion variables.

**Hypotheses**

**Hypothesis 1.0:** There is a significant difference in retention rates between students who participated in a mentoring program and those who did not participate in the mentoring program in 2008 and 2009.

To test this hypothesis, an independent *t* test was used to determine if there were statistical differences in the retention rates of the students who participated in the mentoring program and those who did not. For this hypothesis, the student groups were
treated as the independent variable. Retention status was treated as the dependent variable and was measured by reenrollment of students who returned to the University Fall semester of the 2008 and 2009 academic years. For Fall 2008, the $t = -1.206 \ (p=.230)$, on average the students who were mentored were retained at a higher rate than students who were not, but not at a significant rate (see Table 5). Fifty-two students were retained in the mentoring group (68%) compared to 43 students (59%) in the comparison group. The research hypothesis would be rejected for Fall 2008 (see Table 6).

For Fall 2009, the mentoring of these students did not continue, but we continued to examine differences between the two groups. For Fall 2009, the $t = -243 \ (p=.885)$, there was no significance observed between students who participated in the mentoring program and those who did not regarding retention rates and therefore the hypothesis must be rejected (see Table 7).

Table 5

*Independent Sample t test for Retention Rates 2008 for Groups*

<table>
<thead>
<tr>
<th>Levene’s Test for Equality of Variances</th>
<th>$t$ test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention equal Variances assumed</td>
<td>$F$</td>
</tr>
<tr>
<td></td>
<td>5.308</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>
Table 6

*Means for Retention Rates by Student Groups*

<table>
<thead>
<tr>
<th>Fall 2008</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>.68</td>
<td>.468</td>
<td>76</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>.59</td>
<td>.468</td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fall 2009</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>.51</td>
<td>.503</td>
<td>76</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>.49</td>
<td>.503</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 7

*Independent Sample t test for Retention Rates 2009 for Groups*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Retention equal Variances assumed</td>
<td>.021</td>
<td>.885</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td>-.243</td>
<td>146.7</td>
</tr>
</tbody>
</table>

**Hypothesis 2.0:** There is a significant difference between the GPA of students who participated in a mentoring program and those who did not participate in a mentoring program.
To test this hypothesis, an independent t test was used to determine if there were statistical differences in the GPA of freshman level-100 courses with regard to the students who participated in the mentoring program and those who did not. For this hypothesis, the student groups were treated as the independent variable. GPA was treated as the dependent variable and was measured by all level-100 freshman English, Psychology, Humanities, and Religion classes taken by the students during the 2007-2008 academic year. The average GPA for level-100 courses for the mentored group was 3.05 and 3.03 for the group that did not participate in the mentoring program (see Table 8). The \( t = -.150 \) (\( p = .881 \)), no significance was observed between students who participated in the mentoring program and those who did not regarding GPA for level-100 courses; therefore the research hypothesis must be rejected (see Table 10).

With regard to cumulative GPA for 2008-2009 academic years, the \( t = -.601 \) (sig. = .549), there was no difference between cumulative GPA of students who participated in the mentoring program and those who did not (see Table 11). The mentored group obtained an average GPA of 3.06; whereas students who were not mentored had a cumulative GPA average of 2.99 (see Table 9). No significance was observed between students who participated in the mentoring program and those who did not regarding cumulative GPA; therefore the research hypothesis must be rejected (see Table 10).

**Hypothesis 3.0:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex.
Table 8

*Means for GPA 100-Courses by Student Groups*

<table>
<thead>
<tr>
<th>Level-100 GPA</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>3.05</td>
<td>.818</td>
<td>76</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>3.03</td>
<td>.807</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 9

*Means for Cumulative GPA by Student Groups*

<table>
<thead>
<tr>
<th>Cumulative GPA</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>3.06</td>
<td>.681</td>
<td>76</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>2.99</td>
<td>.691</td>
<td>73</td>
</tr>
</tbody>
</table>

Table 10

*Independent Sample t test for GPA 100-Courses by Student Groups*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>Sig.</td>
</tr>
<tr>
<td>GPA 100 equal Variances assumed</td>
<td>.146</td>
<td>.702</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11

*Independent Sample t test for Cumulative GPA by Student Groups*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Cumulative GPA equal Variances assumed</td>
<td>.272</td>
<td>.603</td>
</tr>
<tr>
<td>Equal Variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for sex. With regard to level-100 course GPA, controlling for sex, the $F=5.74$ (sig.= .004), there was not a significant difference between GPA of students who participated in the mentoring program and those who did not, controlling for sex; therefore the research hypothesis is rejected (see Table 12).

When testing for a statistically significant difference between sex and GPA, the $t = -3.39$ (sig.= .001), a statistical difference was observed among women. Females scored higher on level-100 courses independent of mentoring. Females who were mentored had a mean GPA on level-100 courses of 3.33 compared to females who were not mentored whose mean GPA was 3.20 (see Table 13). Female students had a mean GPA of 3.27 compared to their male counterpart with a mean GPA of 2.83.

Of interest was the finding that the nine students who received a cumulative GPA below 2.0 were all male; five were not mentored and four were mentored (see Table 14).
Hypothesis 3.0

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$T$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a positive relationship between GPA of level-100 courses between students who participated in the mentoring program independent of sex.</td>
<td>.073</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUMIMP =

- Constant: $3.250$, $28.870$, $.000$
- Mentored: $.029$, $.221$, $.825$
- Male: $-.436$, $-3.380$, $.001$

Note. SUMIMP is the sum of all the importance variables. For the overall model, $F=5.74$; Bonferroni correction sig. = .004.

Table 13

GPA 100 by Group and Sex

<table>
<thead>
<tr>
<th>Group</th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>3.06</td>
<td>.818</td>
<td>76</td>
</tr>
<tr>
<td>Male</td>
<td>2.80</td>
<td>.909</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>3.33</td>
<td>.600</td>
<td>36</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>3.03</td>
<td>.807</td>
<td>73</td>
</tr>
<tr>
<td>Male</td>
<td>2.87</td>
<td>.865</td>
<td>37</td>
</tr>
<tr>
<td>Female</td>
<td>3.20</td>
<td>.751</td>
<td>36</td>
</tr>
</tbody>
</table>
Table 14

<table>
<thead>
<tr>
<th>Group</th>
<th>%</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>100</td>
<td>.000</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>.000</td>
<td>0</td>
</tr>
</tbody>
</table>

**Hypothesis 3.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for race.

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for race. With regard to level-100 course GPA, the $F= 4.22$ (sig.= .000), there was not a significant difference between cumulative GPA of students who participated in the mentoring program and those who did not, controlling for race; therefore the research hypothesis was rejected (see Table 15).

When testing for a statistically significant difference between race and GPA, a difference was observed among Caucasians and Asians. Caucasians and Asians scored higher on level-100 courses independent of mentoring. Caucasian students had a mean GPA of the level-100 courses of 3.15 and Asians had a mean GPA of 3.24. Blacks maintained a lower GPA on level-100 courses during their freshman year ($M=2.59$, $SD .873$) (see Table 16).
Hypothesis 3.1

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$t$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td>-1.770</td>
<td>.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Mentoring</td>
<td></td>
<td>.000</td>
<td>-.003</td>
<td>.998</td>
</tr>
<tr>
<td>Caucasian</td>
<td></td>
<td>3.150</td>
<td>4.120</td>
<td>.000</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td>2.590</td>
<td>3.170</td>
<td>.002</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td>2.600</td>
<td>3.310</td>
<td>.001</td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td>3.240</td>
<td>3.790</td>
<td>.000</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>2.990</td>
<td>3.520</td>
<td>.001</td>
</tr>
</tbody>
</table>

Note. SUMIMP is the sum of all the importance variables. For the overall model, $F=4.22$; Bonferroni correction sig. = .000.

Table 16

GPA of Level-100 Courses by Race

<table>
<thead>
<tr>
<th>GPA 100</th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>3.15</td>
<td>.731</td>
<td>118</td>
</tr>
<tr>
<td>Asian</td>
<td>3.24</td>
<td>.406</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.63</td>
<td>.949</td>
<td>16</td>
</tr>
<tr>
<td>Black</td>
<td>2.59</td>
<td>.873</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>2.99</td>
<td>.657</td>
<td>4</td>
</tr>
</tbody>
</table>
Additionally, there were no significant differences in the GPA of female minorities for WWU level-100 courses between the mentor group (3.058) and the comparison group (2.87). There were no differences observed between the GPA of level-100 courses between male minorities in the mentor group (2.20) and in the comparison group (2.40) (see Table 17).

Table 17

<table>
<thead>
<tr>
<th>Minority Group</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>2.54</td>
<td>.785</td>
<td>18</td>
</tr>
<tr>
<td>Male</td>
<td>2.20</td>
<td>.834</td>
<td>8</td>
</tr>
<tr>
<td>Female</td>
<td>2.89</td>
<td>.768</td>
<td>10</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>2.67</td>
<td>.785</td>
<td>15</td>
</tr>
<tr>
<td>Male</td>
<td>2.47</td>
<td>1.460</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>2.87</td>
<td>1.070</td>
<td>10</td>
</tr>
</tbody>
</table>

**Hypothesis 3.2:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for ACT scores.

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for ACT scores. With regard to GPA for level-100 courses, the $F=10.46$ (sig.=.000), there was not a significant difference between cumulative GPA of students who participated in the mentoring program and
those who did not, controlling for ACT scores; therefore the research hypothesis was rejected (see Table 18).

When testing for a statistically significant difference between GPA and ACT, a statistical difference was observed. ACT scores are a good predictor of academic success. Students who scored 23 or above on their ACT scores also had an average GPA for level-100 courses of 3.56. The students who scored 20 or above on their ACTs had an average 3.30 GPA for level-100 courses compared to 2.68 for those who scored below 20 on their ACT (see Table 19). Students scoring 19 and below on their ACT maintained a significantly lower GPA on level-100 courses and averaged a 2.66.

Table 18

**Hypothesis 3.2**

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$t$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a positive relationship between GPA of level-100 courses between students who participated in the mentoring program independent of ACT scores.</td>
<td>.179</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUMIMP =

\[
\begin{array}{ccc}
1.130 & 2.590 & .011 \\
-.060 & -.397 & .692 \\
.090 & 4.540 & .000 \\
\end{array}
\]

*Note.* SUMIMP is the sum of all the importance variables. For the overall model, $F=10.46$; Bonferroni correction sig. = .000.
Table 19

ACT Scores and GPA of Level-100 Courses by Student Group

<table>
<thead>
<tr>
<th>Groups</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>3.11</td>
<td>.447</td>
<td>49</td>
</tr>
<tr>
<td>ACT 20 or above</td>
<td>3.26</td>
<td>.413</td>
<td>39</td>
</tr>
<tr>
<td>ACT 19 or below</td>
<td>2.66</td>
<td>.421</td>
<td>10</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>3.07</td>
<td>.447</td>
<td>49</td>
</tr>
<tr>
<td>ACT 20 or above</td>
<td>3.23</td>
<td>.471</td>
<td>34</td>
</tr>
<tr>
<td>ACT 19 or below</td>
<td>2.67</td>
<td>.471</td>
<td>15</td>
</tr>
</tbody>
</table>

**Hypothesis 4.0:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for SDA religious affiliation.

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for SDA religion. With regard to GPA for level-100 courses, the $F = .670$ (sig. = .000), there was no difference between cumulative GPA of students who participated in the mentoring program and those who did not, controlling for SDA religion; therefore the research hypothesis was rejected (see Table 20).

When testing for a statistically significant difference between the GPA of level-100 courses and SDA religion, a difference was observed. SDA religion was a predictor of a higher GPA on level-100 coursework regardless of whether they were mentored or not. SDA students had a mean GPA for level-100 courses of 3.075 compared to the non-
SDA students whose mean GPA for level-100 courses was 2.835. The non-SDA students who were mentored had a higher GPA for level-100 courses than the non-SDA students who were not mentored (see Table 21).

Table 20

**Hypothesis 4.0**

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$t$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is not a positive relationship between GPA of level-100 courses between students who participated in the mentoring program independent of SDA religion.</td>
<td></td>
<td></td>
<td></td>
<td>.009</td>
</tr>
</tbody>
</table>

**SUMIMP =**

<table>
<thead>
<tr>
<th></th>
<th>Constant</th>
<th>2.830</th>
<th>14.130</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring</td>
<td>.013</td>
<td>.094</td>
<td>.925</td>
<td></td>
</tr>
<tr>
<td>SDA</td>
<td>.235</td>
<td>1.140</td>
<td>.253</td>
<td></td>
</tr>
</tbody>
</table>

*Note. SUMIMP is the sum of all the importance variables. For the overall model, $F=0.67$; Bonferroni correction sig. = .000.*

Table 21

**SDA Religion and GPA of Level-100 Courses by Student Group**

<table>
<thead>
<tr>
<th>GPA Level-100</th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>2.95</td>
<td>.502</td>
<td>76</td>
</tr>
<tr>
<td>SDA</td>
<td>3.07</td>
<td>.800</td>
<td>68</td>
</tr>
<tr>
<td>Non-SDA</td>
<td>2.89</td>
<td>.879</td>
<td>8</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>2.93</td>
<td>.511</td>
<td>73</td>
</tr>
<tr>
<td>SDA</td>
<td>3.08</td>
<td>.800</td>
<td>61</td>
</tr>
<tr>
<td>Non-SDA</td>
<td>2.78</td>
<td>.879</td>
<td>12</td>
</tr>
</tbody>
</table>
**Hypothesis 4.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for remedial coursework.

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for remedial coursework. With regard to GPA for level-100 courses, the $F=12.03$ (sig.=.000), there was not a significant difference between cumulative GPA of students who participated in the mentoring program and those who did not, controlling for remedial coursework; therefore the research hypothesis was rejected (see Table 22).

When testing for a statistically significant difference between the GPA of level-100 courses and remedial work taken, a difference was observed. Remedial work taken was a predictor of a lower GPA on level-100 coursework independent of mentoring. Students taking remedial work had a mean GPA for level-100 courses of 2.32 compared to the students taking no remedial coursework whose mean GPA for level-100 courses was 3.185. The students who were mentored had a lower GPA for level-100 courses than the students who were not mentored (see Table 23).

**Hypothesis 4.2:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for undecided major.

The analysis of variance for multiple regression was used to determine if there is a difference in GPA of level-100 courses between students participating in the mentoring program and those who did not, controlling for undecided major. With regard to GPA for
Table 22

Hypothesis 4.1

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$t$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is not a positive relationship between GPA of level-100 courses between students who participated in the mentoring program independent of remedial classes.</td>
<td>.142</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUMIMP =

- Constant $\quad 3.230$ $\quad 33.190$ $\quad .000$
- Mentoring $\quad -.095$ $\quad -.754$ $\quad .452$
- Remedial Courses $\quad -.815$ $\quad -4.900$ $\quad .000$

Note. SUMIMP is the sum of all the importance variables. For the overall model, $F=12.03$; Bonferroni correction sig. = .000.

Table 23

Remedial Coursework and GPA of Level-100 Courses by Student Group

<table>
<thead>
<tr>
<th>GPA Level-100</th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>2.64</td>
<td>.499</td>
<td>76</td>
</tr>
<tr>
<td>Remedial Work</td>
<td>2.13</td>
<td>.889</td>
<td>8</td>
</tr>
<tr>
<td>No Remedial Work</td>
<td>3.16</td>
<td>.724</td>
<td>68</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>2.86</td>
<td>.471</td>
<td>73</td>
</tr>
<tr>
<td>Remedial Work</td>
<td>2.51</td>
<td>.889</td>
<td>18</td>
</tr>
<tr>
<td>No Remedial Work</td>
<td>3.21</td>
<td>.724</td>
<td>55</td>
</tr>
</tbody>
</table>
level-100 courses, the $F=.112$ (sig.=.000), there was no difference between cumulative GPA of students who participated in the mentoring program and those who did not, controlling for undecided major (see Table 24).

Undecided major was not a predictor of a lower GPA on level-100 coursework independent of mentoring. Students with an undecided major had a mean GPA for level-100 courses of 3.11 compared to the students who had a declared major whose mean GPA for level-100 courses was 3.035. The students who were mentored had a lower GPA for level-100 courses than the students who were not mentored, independent of an undecided major (see Table 25).

There was no significant difference between students who were mentored and those who were not with regard to GPA for level-100 courses controlling for undecided major; therefore the research hypothesis is rejected.

**Hypothesis 5.0:** There is a significant difference in GPA between students who were mentored by faculty and those students mentored by hired mentors.

When comparing the cumulative GPA between faculty mentors and hired mentors, the mean cumulative GPA for students who were mentored by faulty was 3.17 compared to 3.05 mean cumulative GPA (see Table 26). There was no significant difference between students who were mentored by faculty and those who were mentored by hired mentors with regard to cumulative GPA; therefore the research hypothesis is rejected.

**Hypothesis 5.1:** There is a significant difference in retention between students who were mentored by faculty and those students mentored by hired mentors.

A chi-squared test was administered to compare the number of students who were
Table 24

**Hypothesis 4.2**

<table>
<thead>
<tr>
<th>Hypothesis and Model</th>
<th>$R^2$</th>
<th>$B$</th>
<th>$t$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is not a positive relationship between GPA of level-100 courses between students who participated in the mentoring program independent of undecided major.</td>
<td></td>
<td></td>
<td></td>
<td>.039</td>
</tr>
<tr>
<td>SUMIMP =</td>
<td>.020</td>
<td>.3050</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.024</td>
<td>.179</td>
<td>.858</td>
<td></td>
</tr>
<tr>
<td>Mentoring</td>
<td>.087</td>
<td>.450</td>
<td>.653</td>
<td></td>
</tr>
<tr>
<td>Undecided Major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. SUMIMP is the sum of all the importance variables. For the overall model, $F=.112$; Bonferroni correction sig. = .000.*

Table 25

**Undecided Major and GPA of Level-100 by Student Group**

<table>
<thead>
<tr>
<th>Major</th>
<th>$M$</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor Group</td>
<td>3.06</td>
<td>.507</td>
<td>76</td>
</tr>
<tr>
<td>Undecided Major</td>
<td>3.05</td>
<td>.693</td>
<td>9</td>
</tr>
<tr>
<td>Decided Major</td>
<td>3.06</td>
<td>.830</td>
<td>67</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>3.09</td>
<td>.830</td>
<td>73</td>
</tr>
<tr>
<td>Undecided Major</td>
<td>3.17</td>
<td>.501</td>
<td>12</td>
</tr>
<tr>
<td>Decided Major</td>
<td>3.01</td>
<td>.507</td>
<td>61</td>
</tr>
</tbody>
</table>
Table 26

*Means for Cumulative GPA by Mentored Groups*

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-Mentored Group</td>
<td>3.17</td>
<td>.614</td>
<td>9</td>
</tr>
<tr>
<td>Hired Mentored Group</td>
<td>3.05</td>
<td>.695</td>
<td>66</td>
</tr>
</tbody>
</table>

retained Fall 2008 by faculty mentors and hired mentors. A statistical difference was found in that 100% of students mentored by faculty were retained compared to 64% of the hired mentored group (see Table 27). The $\chi^2 = 4.712 (.05, 1)$, with a $p$ value of .030; therefore the research hypothesis is accepted (see Tables 28 and 29).

A chi-squared test was administered to compare the number of students who were retained Fall 2009 by faculty mentors and hired mentors. In 2009 although the rates dropped for both groups, the faculty continued to retain at a higher percentage, 67% compared to the hired mentor group of 49% (see Table 27). The $\chi^2 = .963 (.05, 1)$, with a $p$ value of .326; therefore the research hypothesis is rejected.

**Hypothesis 5.2:** There is a significant difference in the number of dropped courses between students who were mentored by faculty and those students mentored by hired mentors.

A chi-square test was performed to determine if there was a difference in the number of courses dropped by students who were mentored by faculty compared to students who were mentored by hired mentors. The number of credits dropped for first-time freshmen in the faculty mentor group was 3 compared to the number of credits dropped by first-time freshmen in the hired mentored group, which was 42.
Table 27

*Percentages for Retention Rates for 2008 and 2009 by Mentored Groups*

<table>
<thead>
<tr>
<th>Retention 2008</th>
<th>Percentage Retained</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-Mentored Group</td>
<td>100</td>
<td>.614</td>
<td>9</td>
</tr>
<tr>
<td>Hired Mentored Group</td>
<td>64</td>
<td>.695</td>
<td>66</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Retention 2009</th>
<th>Percentage Retained</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-Mentored Group</td>
<td>69</td>
<td>.500</td>
<td>9</td>
</tr>
<tr>
<td>Hired Mentored Group</td>
<td>49</td>
<td>.504</td>
<td>66</td>
</tr>
</tbody>
</table>

Table 28

*Chi-Square Retention Rates for 2008 by Faculty-Mentored and Hired Mentored Groups*

<table>
<thead>
<tr>
<th>Chi-Square Test</th>
<th>4.712</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>1</td>
</tr>
<tr>
<td>Level of Significance</td>
<td>.050</td>
</tr>
<tr>
<td>p value</td>
<td>.030</td>
</tr>
</tbody>
</table>

*Note.* One cell had an expected count less than 5.

Table 29

*Chi-Square Retention Rates for 2009 by Faculty-Mentored and Hired Mentored Groups*

<table>
<thead>
<tr>
<th>Chi-Square Test</th>
<th>.963</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>1</td>
</tr>
<tr>
<td>Level of Significance</td>
<td>.050</td>
</tr>
<tr>
<td>p value</td>
<td>.326</td>
</tr>
</tbody>
</table>

*Note.* Two cells had an expected count less than 5.
Thirty-three percent of the faculty-mentored students dropped a class compared to 54% of the hired mentored group (see Table 30). Since $\chi^2 = 1.59 (0.05, 4)$ with a $p$ value of .809, it was not statistically significant that first-time freshmen in the faculty mentor group at WWU dropped fewer credits than first-time freshmen in the hired mentored group; therefore the research hypothesis is not significant and is rejected (see Table 31).

**Hypothesis 6.0:** There is a significant difference between individual fidelity scores of faculty mentors and hired mentors.

When comparing individual fidelity scores among mentor groups, the hired mentors scored higher in maintaining mentor logs, attending weekly meetings, contacting the mentees by phone, e-mail or texting, meeting the mentees in person, and using the college resources when needed. The faculty mentors on the other hand scored higher on having the students submit personal goals, encouraging the students to make an appointment with their academic advisors, and attending social gatherings. Although very marginal, the hired mentors scored higher in their perception as being a good mentor. Comparison data revealed some differences in scores, but there were no significant differences in the fidelity scores of faculty mentors or hired mentors; therefore the research hypothesis was rejected (see Table 32).

Table 30

<table>
<thead>
<tr>
<th>Courses Dropped</th>
<th>Percentage of Dropped Courses</th>
<th>$SD$</th>
<th>$N$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-Mentored Group</td>
<td>33</td>
<td>.167</td>
<td>9</td>
</tr>
<tr>
<td>Hired Mentored Group</td>
<td>54</td>
<td>.084</td>
<td>66</td>
</tr>
</tbody>
</table>
Table 31

Credits Dropped by Faculty Mentor and Hired Mentor

<table>
<thead>
<tr>
<th>Chi-Square Test</th>
<th>1.598</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>4</td>
</tr>
<tr>
<td>Level of Significance</td>
<td>.05</td>
</tr>
<tr>
<td>p value</td>
<td>.809</td>
</tr>
</tbody>
</table>

*Note.* Please note one cell had an expected count less than 5.

Table 32

Mean Comparison of Individual Fidelity Scores by Mentor Groups

<table>
<thead>
<tr>
<th>Individual Categories</th>
<th>Hired Mentor N=6</th>
<th>Faculty Mentor N=4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentor log completed</td>
<td>3.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Attended weekly meetings</td>
<td>4.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Contacted by phone, e-mail or texting weekly</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Met mentee in person weekly</td>
<td>3.6</td>
<td>3.2</td>
</tr>
<tr>
<td>Submitted personal goals</td>
<td>3.3</td>
<td>3.5</td>
</tr>
<tr>
<td>Appropriate resources utilized</td>
<td>3.8</td>
<td>3.75</td>
</tr>
<tr>
<td>Appointment with academic advisor</td>
<td>3.6</td>
<td>3.75</td>
</tr>
<tr>
<td>Social gatherings</td>
<td>3.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Successful as mentor</td>
<td>3.8</td>
<td>3.75</td>
</tr>
</tbody>
</table>
**Hypothesis 6.1:** There is a significant difference between total fidelity scores of faculty mentors and hired mentors.

Comparison data found some differences in the mean total fidelity scores of faculty mentors and hired mentors. The mean total fidelity score was 3.46 for faculty mentors and 3.64 for hired mentors (see Table 33). Of notable differences were the scores of the hired mentors by sex. Female hired mentors scored notably higher in all aspects of mentoring as compared to males (see Table 34). Comparison data revealed some differences in total fidelity scores for faculty mentors and hired mentors, but they were not significant; therefore the research hypothesis was rejected (see Table 33).

**Hypothesis 7.0:** There is a significant difference in cumulative college GPA for mentored students who had a high-school GPA of 2.5 or less.

To test this hypothesis, an independent t test was used to determine if there were statistical differences in the cumulative college GPA of freshman students who had a high-school GPA of 2.5 or less and participated in the mentoring program and those who did not. For this hypothesis, the student groups were treated as the independent variable. Cumulative GPA was treated as the dependent variable and was measured by all classes taken by the students during the 2007-2008 academic years.

When comparing cumulative college GPA, the $t=.453 \ (p=.185)$, the cumulative college GPA for the mentored group was 2.93 and 2.70 for the group that did not participate in the mentoring program (see Table 35). Although the mentored students maintained a higher cumulative college GPA, it was not significant; therefore the research hypothesis must be rejected (see Table 36).
Table 33

*Mean Comparisons for Total Fidelity Scores*

<table>
<thead>
<tr>
<th>Courses Dropped</th>
<th>Means</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-Mentored Group</td>
<td>3.46</td>
<td>.371</td>
<td>4</td>
</tr>
<tr>
<td>Hired Mentored Group</td>
<td>3.64</td>
<td>.235</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 34

*Mean Comparisons for Total Fidelity Scores of Hired Mentors by Sex*

<table>
<thead>
<tr>
<th>Courses Dropped</th>
<th>Means</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female Mentors</td>
<td>4.00</td>
<td>.000</td>
<td>2</td>
</tr>
<tr>
<td>Male Mentors</td>
<td>3.52</td>
<td>.165</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 35

*Independent Sample t test for Cumulative College GPA for Groups With High-School GPA Below 2.50*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Retention equal variances assumed</td>
<td>1.79</td>
<td>.185</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>.602</td>
<td></td>
</tr>
</tbody>
</table>
Table 36

Means for Cumulative College GPA for Students With High-School GPA Below 2.50 by Student Groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>2.93</td>
<td>.499</td>
<td>6</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>2.70</td>
<td>.509</td>
<td>6</td>
</tr>
</tbody>
</table>

**Hypothesis 8.0:** There is a significant difference in retention rates for mentored and non-mentored students who had a cumulative college GPA of 2.5 or less.

To test this hypothesis, an independent $t$ test was used to determine if there were statistical differences in the retention rates of freshman students who had a college GPA below 2.5 and participated in the mentoring program and those who did not. For this hypothesis, the student groups were treated as the independent variable. Retention rates were treated as the dependent variable and were measured in students returning to WWU Fall 2008 and Fall 2009.

When comparing retention rates for Fall 2008, the $t=-2.19$ ($p=.036$), the retention rates for the mentored group were 67% and 29% for the group that did not participate in the mentoring program. Significance was observed between students whose GPA was below 2.5 and participated in the mentoring program and those who did not regarding retention for the 2008 academic year, therefore the research hypothesis was accepted (see Table 37).

When comparing retention rates for Fall 2009, the $t=-.165$ ($p=.870$), 20% of students who were mentored and had a college GPA below 2.50 returned to WWU Fall 2009, compared to 17% of students in the comparison group (see Table 38).
Table 37

*Independent Sample t test for Retention Rates 2008 for Students’ GPA Below 2.50*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>F</em></td>
<td>Sig.</td>
</tr>
<tr>
<td>Retention equal variances assumed</td>
<td>.211</td>
<td>.650</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 38

*Independent Sample t test for Retention Rates 2009 for Students’ GPA Below 2.50*

<table>
<thead>
<tr>
<th></th>
<th>Levene’s Test for Equality of Variances</th>
<th>t test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>F</em></td>
<td>Sig.</td>
</tr>
<tr>
<td>Retention equal variances assumed</td>
<td>.033</td>
<td>.856</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No significance was observed between students having a college GPA below 2.50 who participated in the mentoring program and those who did not regarding retention for the 2009-2010 academic year; therefore the research hypothesis must be rejected for the 2009 academic year (see Table 39).
Table 39

Means for Retention Rates for Fall 2008 and Fall 2009 for Students With College GPA Below 2.50

<table>
<thead>
<tr>
<th></th>
<th>Retention 2008</th>
<th>%</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>67</td>
<td>.487</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Comparison Group</td>
<td>29</td>
<td>.469</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Retention 2009</th>
<th>%</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentored Group</td>
<td>20</td>
<td>.414</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Comparison Group</td>
<td>17</td>
<td>.383</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

A sign test was administered to determine if observed differences between the mentored and non-mentored groups were significant, the paired observations between the mentored and non-mentored groups were calculated by counting the results of number of positive findings on hypothesis 1, 2, 3, 4, 7 and 8. Hypothesis 5 and 6 were not used as these specifically addressed the differences with regards to faculty and hired mentor groups and with fidelity. Findings indicated that 8 of the 11 hypotheses were in the predicted direction, the \( p = .113 \). Therefore, with a 90% level of confidence the positive results of the findings were unlikely due to chance (Fraas & Newman, 1994).

Summary

Chapter 4 identified the results of this study regarding inferential statistics resulting from analysis with regard to the specific research hypotheses identified in chapter 3. The primary purpose of this study was to determine the influences of the mentoring program on the retention and academic success of first-time freshman students.
at Walla Walla University during the 2007-2008 academic year. The results summarized in Table 40 indicate there was not a significant relationship with the academic success of students who participated in the mentoring program. The results also indicated that there were minor differences in the retention rates of students who were mentored. However, there was a statistical difference in the retention rates for mentored students whose college GPA fell below 2.50 and faculty mentors appear to have a positive effect on retention. With findings indicating that eight of the eleven hypotheses were in the predicted direction, the sign test indicates with a 90% level of confidence the positive results of the findings were unlikely due to chance. These findings are further examined in chapter 5.
### Summary Table of Research Hypotheses

<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Hypothesis</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>There is a significant difference in retention rates between students who participated in a mentoring program and those who did not participate in the mentoring program Fall 2008.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>1.0</td>
<td>There is a significant difference in retention rates between students who participated in a mentoring program and those who did not participate in the mentoring program Fall 2009.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>2.0</td>
<td>There is a significant difference in the GPA between students who participated in a mentoring program and those who did not participate in a mentoring program.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3.0</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3.1</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for race.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3.2</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for ACT scores.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Hypothesis Number</td>
<td>Hypothesis</td>
<td>Significant</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>4.0</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for SDA religion.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>4.1</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for remedial coursework.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>4.2</td>
<td>There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for undecided major</td>
<td>Not Significant</td>
</tr>
<tr>
<td>5.0</td>
<td>There is a significant difference in GPA between students who were mentored by faculty and those students mentored by hired mentors.</td>
<td>Not Significant</td>
</tr>
<tr>
<td>5.1</td>
<td>There is a significant difference in retention between students who were mentored by faculty and those students mentored by hired mentors.</td>
<td>Significant</td>
</tr>
<tr>
<td>5.2</td>
<td>There is a significant difference in the number of dropped courses between students who were mentored by faculty and those students mentored by hired mentors.</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>
Table 40—Continued.

<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Hypothesis</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>There is a significant difference between individual fidelity scores of</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>faculty mentors and hired mentors.</td>
<td></td>
</tr>
<tr>
<td>6.1</td>
<td>There is a significant difference between total fidelity scores of faculty</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>mentors and hired mentors.</td>
<td></td>
</tr>
<tr>
<td>7.0</td>
<td>There is a significant difference in college GPA for mentored students</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>who had a high-school GPA of 2.5 or less.</td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>There is a significant difference in retention rates for mentored students</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td>who had a GPA of 2.5 or less.</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a brief summary regarding the purpose of this study, a review of the findings and discussion, followed by recommendations for mentoring programs for institutions of higher learning.

Purpose of Study

Across the United States a concerted effort is being made to develop mentoring programs for undergraduate students, creating an environment where they could thrive socially and academically. Academic success and retention represent the means by which higher education is attempting to explain the benefits from formal mentoring programs gracing college and university campuses within the United States.

This study sought to explore and evaluate Walla Walla University’s Mentoring Program on mitigating the performance of student groups that benefited from this program during their freshman year. The fundamental questions surrounding the research were raised to determine if a formal mentoring program for first-time freshman students at WWU would positively impact retention rates and academic success.

The study explored differences achieved in retention rates for students participating in the mentoring program and comparing outcomes to a comparison group for the Fall 2008 and Fall 2009 academic years. The findings of this research provided quantitative evidence that supports successful outcomes for some components of the
mentoring program with regard to retention. As statistical information was reviewed, there did not appear to be obvious benefits of the mentoring program with regard to academic success.

Demographics

Comparing characteristics of the studied groups is valuable in determining legitimate inferences. Statistical results demonstrated that equivalencies between the mentor and the comparison groups in size, gender, ethnicity, religion, and credit load were present. The information provided shows the mentored group was comprised of 76 first-time freshmen who were enrolled Fall Quarter 2007 and the comparison group consisted of 73 first time, full-time freshmen who were enrolled Fall Quarter 2007. The participants in this study were equally divided according to sex. Males comprised 39 of the mentored group and 37 of the comparison group. Females comprised 37 of the mentored group and 36 of the comparison group. The majority of participants were Caucasian. There was an equal distribution of Caucasians in both groups; the mentored group was 78.9% Caucasian compared to 79.4% for the comparison group. The mentored group was 89% Seventh-day Adventist and the comparison group was 88% Seventh-day Adventist.

Differences noted were in regards to remedial coursework, with more than double of the comparison group (25%) having taken remedial courses in the 2007 school year compared to the mentored group (11%). Within this research study, of the nine students who obtained a cumulative college GPA below 2.0, only two had taken remedial coursework, one in the mentored group and one in the comparison group.
There were 16 students in the comparison group who also scored below 22 on their ACT and only 10 in the mentored group. Within this research study, of the nine students who obtained a cumulative GPA below 2.0, the mean ACT score for the mentored group was 19.75 and 20.2 for the comparison group. The mean ACT score for students as a whole in this study was 22. Low ACT scores appear to have predictive qualities for academic success and may increase the likelihood of involuntary dropout.

**Analysis of Research Questions**

The conclusion of this study is presented as outlined by the eight research questions. This section discusses the general findings based on the interpretation of the data.

**Research Question 1**

Are there differences between the retention rates of students who participated in a mentoring program and students who did not participate in a mentoring program?

As higher education becomes an important link to success in society, there is an increasing trend mandating that higher educational institutions improve accountability and outcomes related to graduation rates (Tinto, 1993). With the worsening economy, competition for resources makes retention efforts vital for college campuses.

Recent studies on college campuses indicated that mentoring was a core indicator of persistence in the college setting (Bordes, 2008; Campbell & Campbell, 2000; Tinto, 2005). Mentoring programs are designed to provide social support and assistance to freshman students as they transition away from their homes and communities. It was our hope that the mentoring relationship would enhance the students’ social integration and positively impact their commitment to the University.
As indicated in this study, students who were mentored were retained at a higher rate than students who were not, but not at a significant rate. Fifty-two students were retained in the mentoring group (68%) compared to 43 students (59%) in the comparison group. Although perhaps statistically insignificant, the retention of nine students for 1 year can have a significant impact on the budget in these grave economic times. According to Education-Portal.com, the average private 4-year annual tuition rate is $26,273. Taking these data and multiplying it by the addition of nine students results in over a quarter of a million dollars in assets for the institution annually. It is easy to place a price tag on the tangible benefits of this impact, but greater than the tangible results are perhaps the intangible capital gained by the students who were retained and were able to succeed because someone gave so selflessly. I propose to you these results are priceless.

Research Question 2

Are there differences between the cumulative grade point average of students who participated in a mentoring program and students who did not participate in a mentoring program?

All students whether prepared or underprepared academically experience adjustments and having a support system in place can contribute to their academic success (Anderson, 2008). With the inception of the mentoring program one expectation was that mentoring would increase academic success for mentored students as measured by a higher GPA.

To control for differences in the courses taken by students from differing majors, I extracted GPA scores for level-100 courses that are core classes for all majors at the University. Statistical analysis for this research question revealed that students who were
mented did not perform better academically than non-mentedored students with regard to level-100 courses. The average GPA for level-100 courses for the mentored group was 3.05 and 3.03 for the group that did not participate in the mentoring program. The mentored group obtained a cumulative average GPA of 3.06, whereas students who were not mentored had a cumulative GPA average of 2.99. Consequently, the notion that mentoring can dramatically enhance academic outcomes was not supported in this research. Although improved scores were expected, Brown-Minis (1999) found most mentoring programs have been recent practices for universities and the effects of these programs on GPA are not yet available to determine a national trend, and this effect may require additional investigation.

In this mentoring program mentors were trained to work with mentees in establishing goals in order to motivate and contribute positively to their academic performance. Evidence-based research has indicated that college students without clear, realistic goals were identified as a dropout-prone population that flounders academically (Astin, 1975; Cox, 2009; Veenstra, 2009).

To assist in understanding the importance of goal setting with regard to mentoring, individual mentor fidelity scores on goal setting were examined to determine if a low mentor score correlated with lower GPAs. The mentor who scored lowest among goal setting was extracted and the mentee’s GPA was averaged. Results for this study indicated that there was no significant correlation between low goal-setting scores and low GPA. The mean cumulative GPA for the students whose mentor claimed they did not always set goals with their students was 3.58, which is higher than the average GPA of participants in the program of 3.03. With what appears to be very motivated students who
were successfully obtaining high grades, this mentor may have recognized these students were self-directed and goal-oriented and consciously elected to focus on other aspects of the mentoring relationship that would improve integration into the college environment, thereby increasing retention as well. A qualitative study would be beneficial in supporting this conclusion.

To further explain the differences seen in this study, characteristics of students may need to be taken into consideration that may have an impact on academic outcomes. Astin (1997) states that human performance can be classified into two broad domains: cognitive and non-cognitive. It becomes clear that non-cognitive factors such as student attitudes, values, maturation, self-concept, self-governance, self-efficacy, and aspirations are important factors to consider in calculating the academic success of students. Goal setting and mentoring alone do not seem to improve academic outcomes (Astin, 1997; Bandura, 1997; Salinitri, 2004). Examining key characteristics of students may be helpful information in assisting mentors meet the needs of their mentees.

Research Question 3

Are there differences in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex, race, and ACT scores? This research question was addressed in three specific hypotheses.

**Hypothesis 3.0:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for sex.
The results of this study indicated there was not a significant difference between the GPA of students who participated in the mentoring program and those who did not, controlling for sex. The statistics indicated that females scored significantly higher on level-100 courses independent of mentoring. Females had a mean GPA of 3.27 compared to their male counterparts who maintained a mean GPA of 2.83.

Literature supports the fact that whereas males’ and females’ SAT scores are not significantly different, males typically obtained a lower GPA in the school setting (Wiens, 2008). This study also supported this finding and discovered that of the nine students who maintained a GPA below 2.0, all were male. Although it is difficult to accurately determine the success of these individuals after leaving WWU, by Fall 2009, more than half of these students had returned to colleges within the United States. Reenrollment in the college setting did not seem to be related to the mentoring program; both groups equally returned to college campuses. A longitudinal study would be beneficial to determine the effects of mentoring on these low-achieving students with regard to graduation rates.

**Hypothesis 3.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for race.

With approximately 20% minority students attending WWU, these students may have a difficult time adjusting to the campus, which is composed of a dominant Caucasian culture. With this in mind, efforts were made to also have multi-cultural mentors. It was the hope of Carolyn Denney and I that alternative strategies such as a
mentoring program could potentially establish cohesion among the racial and ethnic student population allowing matriculation to occur.

A significant difference was not observed for students participating in the mentoring program, controlling for race. The study found there was a significant difference in GPA among races, with Caucasians and Asians obtaining the highest GPAs. Caucasian students had a mean GPA of 3.15 for level-100 courses and Asians had a mean GPA of 3.24. Black (2.59) and Hispanic (2.63) students maintained a lower GPA for level-100 courses.

Only 42% of Black students returned to WWU Fall 2008, with the mean cumulative GPA of 2.23 for the students who left at the end of the school year. Two of the four students who left the University had a cumulative GPA over 3.0 and left for reasons other than academic difficulties. One must reflect on the psycho-social and socio-cultural challenges that these African American students face in order to fit into a predominately White environment. Thus, institutional fit and assimilation must be considered as predictors of departure for this group of students.

According to Rodgers and Summers (2008), predominately White colleges have not been as effective in retaining Black students and more disconcerting is the fact that a disproportionate number graduate. Institutional fit is an important factor to consider for students in predominately White institutions. The African American student must find support from students and faculty in sub-cultures within the institution to bridge the differences and perpetuate a sense of belonging. Rodgers and Summers indicate that the African-American students’ sense of belonging is perpetuated by social acceptance and
professors’ pedagogical of caring and openness to diversity. These behaviors are critical to retaining students in predominately White colleges.

Hispanic students were retained at 68% for Fall 2008. The mean GPA for Hispanic students who left at the end of the 2007-2008 school year was 1.71. Four of the five students who left would have been placed on academic probation and this likely contributed to the high attrition rate.

Two of the three Asian students were retained Fall 2008. The one student who left ended the school year with a cumulative GPA of 2.56. Interviewing this student would assist the University in further understanding why matriculation did not occur.

Students of color face overwhelming social and academic challenges and consequently many are conquered by difficulties resulting in extraordinary high levels of attrition during college years (Snowden, Jackson, & Flower, 2002). According to Harper (2007), longstanding obstacles such as racism still stand as barriers to academic success. Tinto (1993) asserts that the student’s perception of support will have a positive effect on the student’s rate of persistence and academic success.

**Hypothesis 3.2:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and students who did not participate in the mentoring program, controlling for ACT scores.

This hypothesis was explored to determine if mentoring in and of itself had a positive effect on GPA of level-100 courses. This study determined there was not a significant difference between cumulative GPA of students who participated in the mentoring program and those who did not, controlling for ACT scores. However, ACT scores appear to have a predictive value for college GPA and may also influence a
student’s decision to stay. Students who scored 23 or above on their ACT scores also had an average GPA for level-100 courses of 3.56. Students who scored 20 or above on their ACTs had an average 3.30 GPA for level-100 courses compared to 2.68 for those who scored below 20 on their ACT. Students scoring 19 and below on their ACT maintained a significantly lower GPA on level-100 courses and averaged a 2.66.

Denney (2008), from a study at Walla Walla University, found that by the end of the first quarter of implementation of a mentoring program all 15 mentored students who entered the University with an ACT score of 20 or below avoided university GPAs below 2.0, whereas 5 of the 16 students in the control group ended the first term with a university GPA of less than 2.0. By Fall 2008, this study indicated that after participating in 1 year of mentoring at WWU, only one mentored student had an ACT score below 20 and finished the year with a GPA below 2.0, compared to two students who were not mentored. Mentoring may have a more substantial impact on students with low ACT scores; further studies could substantiate this hypothesis.

Although mentoring did not appear to positively affect the GPA of level-100 courses for students, universities that are seriously evaluating retention rates may want to consider using higher entrance ACT scores as a factor in academic success, which may decrease attrition. According to Marsh, Vandehey, and Diekhoff (2008), institutions that are more selective based on Standardized Achievement Test can expect to have higher retention rates. Furthermore, Marsh et al. discovered that combining General Psychology grades to entrance exams can be a better predictor of academic success in college and alert colleges early of students at risk for failure and potential departure.
Research Question 4

Are there differences in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for SDA religion, remedial coursework, and undecided major? This research question will be addressed in three specific hypotheses.

**Hypothesis 4.0:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for SDA religion.

The mentoring program did not have a significant relationship with GPA when controlling for SDA religion. What was of interest was students who were Seventh-day Adventist maintained a higher GPA independent of mentoring. When comparing ACT scores for the Seventh-day Adventist and non-Seventh-day Adventist groups, results indicated that the mean ACT score for SDAs was 22.3 compared to the non-SDAs, which was 19.6. Clearly differences were evident in this research and lower entrance exam scores may explain the lower GPA findings. However, findings may be two-fold: SDA students may also have an academic advantage in the level-100 courses where Bible class outcomes were averaged into the GPAs of level-100 courses. Many SDA students may have previously attended church schools and regularly attended churches, which would have exposed them to Bible doctrines and teachings, and made mandatory Bible classes easier for this group of students.

**Hypothesis 4.1:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for remedial coursework.
To evaluate the effects of the mentoring program, performances of students who were mentored did not maintain a significantly higher GPA on level-100 courses. When testing for a statistically significant difference between the GPA of level-100 courses and remedial work taken, a difference was observed. Remedial work taken was a predictor of a lower GPA on level-100 coursework independent of mentoring. Students taking remedial work had a mean GPA for level-100 courses of 2.32 compared to the students taking no remedial coursework scored a mean GPA for level-100 courses of 3.185.

Academic preparedness has been an issue that institutions have faced and only about 32% of high-school graduates are qualified to enter a 4-year college (Herzog, 2005). With many students obtaining low results on entrance exam test scores, college remediation becomes necessary (E. Anderson, 2008). Students who struggle to read or write at the college level or perform college mathematics do not have the basic skills to be successful in college (D. Johnson, 2008). Mentoring in and of itself is not sufficient for students who are struggling academically. Minson (2009) conducted a study in which volunteer mentors worked with at-risk high-school students and found mentors expressed dissatisfaction in working with this group. It may be that mentors themselves may sense frustration because they lack the skills necessary to facilitate change and improve academic success.

Colleges may need to take a fresh approach in assisting these identified remedial students so when they arrive on campus they are academically prepared to face the rigorous challenges within the classroom. According to D. Johnson (2008), developmental education should have a comprehensive approach that places them in an orientation program and provides them with classes in critical thinking and study skills,
in addition to remedial classes. Carranza (2007) discovered developmental education should include behavioral awareness and goal-setting activities in order for these students to recognize barriers to success and increase their chances of obtaining a degree. By developing the mentoring program whereby mentors are working together with the developmental education specialist to set realistic goals and increase self-awareness, barriers may be removed to improve the probability of mastering educational material resulting in academic success for this group of students. The heart of mentoring lies in the hands of leadership with important goals of providing a supportive environment for students where they can develop the skills that allow them to survive and thrive.

**Hypothesis 4.2:** There is a significant difference in the GPA of level-100 courses between students who participated in the mentoring program and those who did not participate in the mentoring program, controlling for undecided major.

Student indecision regarding selection of a major can be caused by many factors such as a lack of personal, academic, and career information; lack of developmental skills necessary to make decisions; and social or personal tribulations that obstruct career choice (Noel et al., 1991). The relationship between undecided major and academic success has become a topic of interest in higher education (Durbin, 2000). With increasing student populations entering into college settings with undeclared majors, interest in this subject has generated numerous studies to determine what academic outcomes are for this student population. Some researchers have determined that students who are uncommitted to an academic track are prone to frustration, dropout, and poor grades (Astin, 1975; Leppel, 2001; Noel et al., 1991).
Although research has supported the notion that students who have not declared a major maintain a lower GPA, this was not the case for this study. In exploring this hypothesis no differences were found between cumulative GPA of students who participated in the mentoring program and those who did not for students of undecided majors. Undecided major was not a predictor of a lower GPA on level-100 coursework independent of mentoring. Students with an undecided major had a mean GPA for level-100 courses of 3.11 compared to the students who had a declared major whose mean GPA for level-100 courses was 3.035. The students who were mentored had a lower GPA for level-100 courses than the students who were not mentored.

Further investigation into individual majors indicated significant differences in GPA. When comparing cumulative GPA among the majors, the $t=2.02$ ($p=.045$), a significance was noted for music majors. The cumulative GPA for music majors was 3.70, scoring significantly higher in comparison to other majors. There also was a significant difference when comparing automotive majors to other majors. The $t=2.06$ ($p=.041$) indicated that the automotive majors scored significantly lower in cumulative GPA than other majors and maintained a mean GPA of 2.04. Accordingly, the low GPA also translated into low retention rates. The two automotive majors were not retained Fall 2008 and maintained a mean GPA just above academic probation category.

Research Question 5

Are there differences in GPA, retention rates, and courses dropped between students who were mentored by faculty and staff and those students who were mentored by hired mentors? This research question will be addressed in three specific hypotheses.
**Hypothesis 5.0:** There is a significant difference in GPA between students who were mentored by faculty and those students mentored by hired mentors.

When comparing the cumulative GPA between faculty mentors and hired mentors, the mean cumulative GPA for students who were mentored by faculty was 3.17 compared to 3.05 mean cumulative GPA for hired mentors. Although no significance was discovered in this study, other researchers have found a positive correlation between frequent faculty contact and academic success (Anderson, 2008; Brown-Minis, 1999). Anderson (2008) suggests that students who are academically superior are more likely to receive mentoring from faculty which in turn promotes their academic achievement. If indeed this is true, a formal mentoring program where students are assigned to faculty would not likely reproduce these findings.

**Hypothesis 5.1:** There is a significant difference in retention between students who were mentored by faculty and those students mentored by hired mentors.

A statistical difference was found when comparing retention rates of hired mentors and faculty mentors. Results from this study indicated that 100% of students mentored by faculty were retained compared to 64% of the hired mentored group. This study supports Tinto (1993), who found that frequent contacts with faculty appear to be an important element related to retention in college. Retention rates were greater when student contact extended beyond the formal boundaries of the classroom (Kinsey, 2007). Heisserer and Parette’s (2002) findings support regular faculty-student interaction as the most important factor in student motivation and retention for college freshman students. Brown-Minis’s (1999) research indicates that faculty who display caring attitudes can make a difference in success or failure and decisions of students to stay or leave colleges.
they are attending. Involvement of faculty and staff matters, and at no point does it matter more than during the freshman year of college when student attachments are so tenuous and the pull of the institution so weak (Tinto, 2003). According to Nordquist (1993), interactions that faculty have with students make a difference in the student’s academic and social integration and at the very least influence their attitudes toward the institution.

**Hypothesis 5.2:** There is a significant difference in the number of dropped courses between students who were mentored by faculty and those students mentored by hired mentors.

Although many studies determine academic success by college GPA, course completion may likewise quantify positive academic outcomes. Brown-Minis (1999) found mentoring was linked to improved course completion and should be used as an indicator of academic success.

With respect to dropping classes, there was not a statistically significant difference between the mentor group and the comparison group. In the mentor group, 45 credits were dropped, compared to 32 credits in the comparison group and this finding did not support previous studies. In this study, however, it was determined that a fewer number of credits were dropped for first-time freshmen in the faculty-mentored group. There were 3 dropped credits for faculty-mentored students compared to the number of credits dropped by first-time freshmen in the hired mentored group, which was 42. Thirty-three percent of the faculty-mentored students dropped a class, compared to 54% of the hired mentored group. One possible explanation for this finding may be related to the faculty’s heightening awareness of barriers to academic success, and their intuition may provide early interventions for students who are struggling academically. Second,
the faculty may have a collegial relationship with departments that provide interventions for struggling students and intercede on their behalf. Dropping classes can have a detrimental effect on a student’s self-esteem and also may carry financial implications. Students who are dropping more classes may face additional struggles with parental financial support and be at risk for lower graduation rate.

Research Question 6

Are there differences in each of the fidelity variables or the total fidelity scores between faculty and staff mentors and hired mentors? This research question will be addressed in two specific hypotheses.

**Hypothesis 6.0:** There is a significant difference between individual fidelity scores of faculty mentors and hired mentors.

Within research, scholars are seeking evidenced-based programs as their promise of effective results. When programs are implemented according to the original program design, it is referred to as program fidelity (O’Conner et al., 2007). Assessing implementation of fidelity to increase adherence is important in determining that the research results can be related to the interventions and not other factors (Sloboda et al., 2009). Although fidelity has not been measured in previous mentoring programs, this study sought to measure fidelity in order to assess whether the program was faithfully implemented to the intended program model, that mentors provided analogous services, and that replicating the program will provide similar results (Clay, 2005).

When comparing individual fidelity scores among mentor groups, very few differences were revealed. The hired mentors scored higher in: maintaining mentor logs, attending weekly meetings, contacting the mentees by phone, e-mail or texting, meeting
the mentees in person, and using the college resources. The faculty mentors on the other hand scored higher on having the students submit personal goals, encouraging the students to make an appointment with their academic advisors, and attending social gatherings. Although very marginal, hired mentors scored higher in their perception as being a good mentor. Comparison data revealed some differences in scores, but there were no significant differences in the fidelity scores of faculty mentors or hired mentors; therefore the research hypothesis was rejected.

When mentors are just fulfilling a job duty rather than focusing on the mentoring relationship, a negative mentoring experience and dysfunctional relationship may exist, impeding mentoring outcomes (Wolfe, 2007). Mentoring done on a voluntary basis is thought to come from intrinsic values and passion, which may propel students to more profitable outcomes more readily than someone who is merely performing assigned job duties. One explanation as to why differences in outcomes between hired and volunteer mentors were not discovered was that during the interview process, questions posed were designed to find hired mentors who likewise had a passion for mentoring and would selflessly give to students. Many hired mentors in the interview process were able to relate stories of mentorship they had engaged in previous to this appointment, linking mentoring with personal values. Overall, fidelity of the mentoring program appeared in general to be carried out uniformly by hired mentors as well as faculty and staff.

**Hypothesis 6.1:** There is a significant difference between total fidelity scores of faculty mentors and hired mentors.

Comparison data found some differences in the mean total fidelity scores of faculty mentors and hired mentors. The mean total fidelity score was 3.46 for faculty
mentors and 3.64 for hired mentors. Of notable differences were the scores of the hired mentors by sex. Female hired mentors scored notably higher in all aspects of mentoring as compared to males. With this aspect revealed, I extracted the cumulative GPA and retention rates for the students by the sex of the mentors. There were no significant differences found. Results indicated that the retention rates for students who were mentored by male hired mentors were 55% and 56.5% for female hired mentors. Likewise the cumulative GPA was compared for both groups and the results indicated that the cumulative GPA for the students who were mentored by male hired mentors was 2.64 compared to 3.03 for female hired mentors. It is difficult to determine if higher fidelity scores of mentors were indicative of higher GPA, because female mentors also had higher ratios of female mentees and this study revealed that female students overall had a higher GPA than male students. Few studies have been conducted regarding empirical outcomes of mentoring related to sex differences, but Rose (2005) indicates that no differences exist.

Comparison data revealed some differences in total fidelity scores for faculty mentors and hired mentors, but they were not significant; therefore the research hypothesis was rejected. Fidelity of the program appeared in general to be carried out uniformly by hired mentors as well as faculty and staff, and outcomes can be used to generalize outcomes.

Research Question 7

Are there differences in college GPA for mentored students who had a high-school GPA of 2.5 or less?
Research data suggest a rigorous high-school curriculum is the strongest predictor of college success (Ashburn, 2007; Hebel, 2007). Salinitri (2005) in a study found first-year low-achieving students who were mentored failed fewer courses and maintained a higher GPA. When comparing cumulative college GPA, the cumulative college GPA for the mentored group was 2.93, compared to 2.70 for the group that did not participate in the mentoring program. Although the mentored students maintained a higher cumulative college GPA, a statistical significance was not found; therefore the research hypothesis must be rejected. A possible reason why a more notable difference was not seen is that mentors may not be well-equipped to meet the demands or challenges this group of students faces. It may be unfair and inaccurate to generalize that these students do not have the ability to perform, when in fact factors which lead up to low high-school GPA can range from basic needs not being met to psychiatric disorders, addictions, or enduring abusive environments. All students do not enter into private institutions healthy and unscathed from a dreadful past. It may take years of a trusting relationship and perseverance for mentors to piece together why some students perform poorly, assisting them to dramatically recover and thrive, which sometimes is not adequately allowed for in mentoring relationships.

Research Question 8

Are there differences in retention rates for mentored students who had a college GPA of 2.5 or less?

Although academic performance in high school has been attributed to persistence in college, college GPA may be relevant to the decisions of undergraduates to remain enrolled in college (Marsh et al., 2008; Tinto, 2005). Research supports the fact that first-
to second-year persistence is influenced by how students perform academically and ultimately their decision to withdraw from college (Nora & Cabrera, 1996). The transition of students away from home, leaving their support system behind, the group of friends who have become familiar, and moving from dependence to independence can result in difficulties affecting their academic performance. As in any college setting, there is a significant group of students that is teetering on the brink of failing academically and may be too embarrassed to seek the guidance of more knowledgeable individuals who can assist in the recovery.

In this study as we compared retention rates for Fall 2008, for mentored and non-mentored students whose college GPA was below 2.5, significance was observed. The retention rates for the mentored group were 67% and 29% for the group that did not participate in the mentoring program and the research hypothesis was accepted. Our research would also support the findings of Beal and Noel (1980), who conclude that high-risk and/or low academic performance target groups are most likely to be positively affected by academic support programs.

**Discussion**

Based on the interpretation of the data collected for this study, it can be concluded that a relationship exists between a formal mentoring program and retention rates. Primarily, there was a relationship between faculty mentoring and the retention of college students for Fall 2008. Tinto proposed that academic and social integration were necessary in order to retain students. The inherent power that faculty hold may likewise contribute to the powerful results seen in this study and should be examined. As a trusting relationship develops, mentoring becomes a powerful means for faculty to transfer
knowledge and positive attitudes impacting personal and academic outcomes, which can have a life-changing result for students. Through mentoring, the individualized interactions with students have a persuasive effect on psychological and academic plans, pushing the student in developing self-confidence and leading to a desire to persist and become successful in the university setting. Faculty holds unique opportunities to implement proactive measures in building relationships with students outside the classroom that contribute to persistence at WWU.

Second, with regard to retention, students who maintained a college GPA 2.50 or less and were mentored were also retained at a significantly higher rate than those students who were mentored by hired mentors. As previous research indicates, interactions with students outside the classroom have a significant relationship with intellectual development, leading to a stronger sense of satisfaction with the college and enhancing retention rates (Astin, 1977; Chickering, 1969; Pascarella & Terenzini, 1977). Our research would also support the findings of Beal and Noel (1980), who conclude that high-risk and/or low academic performance target groups are most likely to be positively affected by academic support programs.

There was no evidence that mentoring impacted GPA or the number of courses dropped. Ultimately, measures of success may go much deeper than GPA and staying in college; the gains received through mentoring may have life-long effects that cannot be qualitatively measured. Mentoring need not focus solely on the goals or inevitably we will forget that the central focus is the people involved (Stoddard, 2003).

Student attrition is a challenge for higher education; the dynamics of the relationship between students and colleges have changed, whereby students are
demanding “more bang for their buck” (Illanz, 2002). Like other high-powered organizations across American, higher education must begin to explore the importance of customer satisfaction. Institutions of higher learning need to become student-centric, where administration, faculty, and staff are genuinely devoted to improving customer satisfaction and are supportive of measures such as mentoring that are perceived to be helpful. Quality interactions with students, affirming the spirit of compassion where there is genuine regard for every aspect of their college education, will promote an environment where students cannot imagine leaving and will likewise thrive.

**Recommendations for Future Study**

Based on the findings and conclusion of this study the following suggestions are offered:

1. Conduct a longitudinal study at WWU to provide a clearer perspective of mentoring outcomes, in particular, student retention rates, persistence to graduation, and overall GPA.

2. Redesign the mentoring program with a more robust training program for mentors, focusing on the six elements of mentoring developed by Brzoska, Jones, Mahaffy, Miller, and Mychals: (a) Informal Contact, (b) Role Modeling, (c) Direct Assistance, (d) Demonstration, (e) Observation and Feedback, and (f) Professional Development Planning and Assistance (Wolfe, 2007). Institutions of higher learning may also want to develop other ongoing workshops to develop the skills of mentors, with topics such as: motivational interviewing techniques, self-efficacy, locus of control, problem solving, communication techniques, developing academic and intellectual
competence, establishing and maintaining interpersonal relationships, and developing personal identity.

3. Routinely evaluate mentoring activities, in order to evaluate fidelity and verify adherence to the program goals. Developing and testing an instrument to measure program fidelity would be a valuable contribution to the body of mentoring research.

4. Findings in research have identified students’ pre-entry skills and attitudes that influence their academic and social adjustment and college persistence (Nora & Lang, 2001). Identification of students at risk prior to enrollment through the development of a data-collection questionnaire may provide a proactive approach to this population. Identification could provide early interventions and lessen the likelihood of isolation, academic failure, and dropout. Effective instruments and study designs would serve as a useful evaluation tool to determine the effectiveness of mentoring programs. Previously tested instruments such as The Academic and Intellectual Development Scale and the Institutional and Goal Commitment Scale should be evaluated by the institution for possible use.

5. Students are vulnerable to social isolation and adjustments during their first year on campus and often feel anonymous (Jacobi, 1991). The extremely high attrition during the freshman year gives credence to the importance of a qualitative study to measure students’ perspective on college satisfaction, adjustment issues, involvement, and campus connections that would assist in determining Tinto’s Theory of Inclusion. Offering freshman students the option of choosing one free club to become a member of may also assist in integrating them into the college campus quickly.
6. It would be advantageous to evaluate the departure rates of minority students on campus, conduct a qualitative study to determine causes of departure, and institute a more robust program to increase their assimilation in a predominately White institution.

7. The length of time to fulfill a successful mentoring relationship is not clearly understood. A longitudinal study should be developed and tested which would provide long-term (greater than 1 year) intensive mentoring to high-risk groups such as men, minorities, and students with low high-school GPAs and ACT scores to determine the impact of this intervention.

8. Faculty members are the key to successful retention programs (Tinto, 2005). In a study conducted by G. Anderson et al. (1995), 44% of the students surveyed said faculty had not taken a personal interest in their progress, and one third were unsatisfied with their ability to find a faculty or staff mentor. Strategies to improve faculty involvement may include: the development of a mentoring steering committee to assist in heightening the faculty’s awareness of the value of faculty mentoring on students, improve faculty and staff participation in mentoring programs, and to change the culture within organizations of higher education that builds student-centric colleges. It would be of value for the committee to consider improving policies supporting mentoring, collect and analyze anecdotal information regarding students who fail and succeed, and explore instructional methods and program approaches to develop learning communities, which would allow more social integration and connection with the institution and address cultural and diversity issues.

9. Remedial education is a problem which arises on most college campuses, some students enter into the college system not realizing there is basic coursework
necessary before core classes can be taken. With the cost of private colleges, this may be a financial deterrent and may diminish the self-esteem of students who want to be similar to their peers. It may be wise for colleges and universities to provide a less expensive comprehensive approach to remedial education outside the college setting providing on-line courses in critical thinking, study skills, goal setting, behavior awareness, and remedial classes that may assist in their future success in the college setting.

In conclusion, this study addressed the impact mentoring had on first-time freshman GPA, course completion, and retention. The study explored differences achieved in retention rates for students participating in the mentoring program and comparing outcomes to a comparison group for the Fall 2008 and Fall 2009 academic years. The findings of this research provided quantitative evidence that supports successful outcomes for retention. A relationship exists between faculty mentors’ participation in a formal mentoring program and retention rates for Fall 2008, and further studies may provide clarity regarding the impact for institutions of higher learning. Mentors likewise retained mentored students who maintained a college GPA of 2.50 or below at a significantly higher rate. As statistical information was reviewed, there did not appear to be obvious benefits of the mentoring program with regard to academic success. With results found in this study, WWU elected to institute a mentoring program for all freshmen.
APPENDIX A

JOB DESCRIPTION
Job Description
Director of Student Mentoring Program

Walla Walla University seeks applicants for part-time temporary position as Director of Student Mentoring Program who shares passion for young people and Christian education. This self-directed leadership position offers a unique opportunity for service.

➢ POSITION DESCRIPTION: Provide leadership and collaboration with Retention Advisory Council in developing and supporting student success mentoring program. Director would be expected to coordinate, supervise and evaluate mentors by holding regular meetings, arranging for appropriate education and training, and providing ongoing support.

➢ REQUIRED QUALIFICATIONS: Minimum of bachelor’s degree is required. Preference will be given to individuals with education and/or background in counseling and social sciences. Needs ability to problem solve, communicate effectively, and build relationships. Must have personal computer with internet access.

➢ SALARY: Salary commensurate with qualifications and experience on contract basis.

➢ INTERESTED APPLICANTS: Please send application to Carolyn Denney and Sallieann Brewer at:

Walla Walla University
204 S College Ave.
College Place, WA 99324 or
Fax to 509-527-2574
WALLA WALLA UNIVERSITY
MENTORING PROGRAM DIRECTOR POSITION
JOB DESCRIPTION

General Statement of Duties:

The Director of Student Mentoring Program will share a passion for young people and Christian education. The Program Director will provide leadership and collaboration with Retention Advisory Council in developing and supporting student success mentoring program. Director would be expected to coordinate, supervise and evaluate mentors by holding regular meetings, arranging for appropriate education and training, and providing ongoing support.

Examples of Duties:

- Interview and hire mentors
- Manage a caseload of 75 student/mentor matches
- Plan and implement at least one activity per month
- Make weekly contact with mentors
- Maintains records of attendance and outcomes for mentors and mentees
- Submits weekly timecards for mentors
- Participate in mentor training sessions
- Plan three training workshops per year
- Ensure mentors meet program operational goals;
- Ensure program services are carried out, such as activities, follow-up support to matches and life skills workshops;
- Assist in other programmatic functions as required, such as special events, to support the program;
- Manage evaluation data collection;
- Compile monthly data into an operational summary;
- Maintain ongoing communication to the advisory board and the campus;
- Identify, evaluate and propose solutions to program areas which need special attention;
- Work with other program staff (both paid and volunteer) to coordinate best effort on behalf of each mentee and provide support for other special projects.
WALLA WALLA UNIVERSITY
JOB DESCRIPTION
STUDENT MENTOR

Walla Walla University seeks applicants for part-time temporary position as Mentor in Student Mentoring Program who shares passion for young people and Christian education.

➢ **POSITION DESCRIPTION:** Collaborate with Program Director in providing mentoring support services to incoming freshman students. Mentor will be expected to participate in an ongoing training program; provide students with strategies in transitioning from high school to university life. Mentor will not be expected to provide psychological counseling, academic advising, or act as a tutor.

➢ **REQUIRED QUALIFICATIONS:** Preference will be given to individuals with bachelor’s degree and/or background in counseling and social sciences. Needs ability to problem solve, communicated effectively, and build relationships. Must have personal computer with internet access.

➢ **SALARY:** Salary commensurate with qualifications and experience on contract basis.

➢ **INTERESTED APPLICANTS:** Interested applicants may send application to Carolyn Denney and Sallieann Brewer at:

Walla Walla University
204 S College Ave.
College Place, WA 99324 or
Fax to 509-527-2574.
WALLA WALLA UNIVERSITY
MENTOR POSITION JOB DESCRIPTION

Seeking part-time temporary position as Mentor in Student Mentoring Program who shares passion for young people and Christian education. Collaborate with Program Director in providing mentoring support services to incoming freshman students. Mentor will be expected to participate in an ongoing training program; provide students with strategies in transitioning from high school to university life.

Qualifications:

- Sincere desire to be personally involved with a first-time freshman to help him or her achieve personal and career goals
- Ability to communicate openly and nonjudgmental
- Strong listening skills
- Ability to establish a relationship based on equal responsibility and respect
- Practical problem-solving skills and ability to suggest options and alternatives
- Sensitivity to persons of different educational, economic, cultural or racial backgrounds.

Responsibilities:

Make a minimum one academic year commitment to developing and maintaining a mentor relationship:

- Attend mentor orientation and training sessions before meeting mentee
- Attend ongoing mentor training and support sessions
- Meet with mentee on a regular basis (once per week) to establish working relationship and to support mentee in goals
- Assist mentee in connecting with campus and campus resources
- Assist mentee in solving personal and university-related problems which interfere with mentee’s success at school
- Attend organized mentor/mentee social gatherings
- Attend weekly mentor meetings with Program Director
- Keep time logs and other information as requested by Program Director
APPENDIX B

INTERVIEW FORMS
WALLA WALLA UNIVERSITY
MENTOR INTERVIEW FORM

Date: ________________________________
Mentor Name: __________________________
Application Reviewed: ____________________

1. How did you hear about the program?
2. Why do you want to be a mentor?
3. Why would you make a good mentor?
4. Briefly describe any experience you’ve had working with young people in either a professional or volunteer capacity.
5. If you have no experience, what skills could you share with a young person?
6. What kinds of extracurricular activities were you involved in as a high school student?
7. What do you feel are your strengths?
8. What do you feel are your limitations?
9. What are your interests and hobbies?
10. What are your personal goals?
11. Think of a special person in your life while you were growing up. What were some of the special characteristics that person had, and why do you think he/she made such an impact on your life?
12. What qualities are you looking for in a mentee?
13. Do you have any preferences regarding the student you wish to be matched with?
   Yes ☐ No ☐
14. If yes:
   ☐ Ethnicity: ___________________
   ☐ A student facing normal challenges
   ☐ Grade level __________________
   ☐ Student experiencing some difficulties in school, family or social life
   ☐ Other: ________________________

15. Realistically, how much time do you have to devote to a student?
16. Do you have any questions or concerns about becoming a mentor?
17. Is there anything else which might help us match you with the most appropriate student for you?
WALLA WALLA UNIVERSITY
INTERVIEWER COMMENTS

Applicant’s initial impression, please rate the following and provide supporting comments:

1. Positive demeanor 1 2 3 4 5
2. Ability to answer questions 1 2 3 4 5
3. Enthusiasm/interest in helping youth 1 2 3 4 5
4. Does the applicant understand his/her role as a mentor? □ Yes □ No

________________________________________

Signature of Interviewer
APPENDIX C

FERPA DOCUMENT
WALLA WALLA UNIVERSITY
FERPA POLICY
(Family Education Rights and Privacy Act)

In accordance with the Family Educational Rights and Privacy Act (commonly referred to as FERPA, or the "Buckley Amendment,"), Walla Walla University has adopted the following policies and procedures to protect the privacy of education records. Students will be notified of their FERPA rights annually by publication in the Bulletin and on the WWU homepage.

Definitions:

Walla Walla University uses the following definitions in this policy:

- Student: any person who attends or has attended WWU.
- Education records: any record maintained by the university which is directly related to a student, with the following exceptions:
  - Personal records kept by university employees which are in the sole possession of the maker and are not accessible or revealed to any other person except a temporary substitute;
  - Employment records unless the employment records are contingent on the fact the employee is a student;

Right of the University to Refuse to Provide Copies

Walla Walla University reserves the right to deny copies of transcripts or other records (not required to be made available under FERPA), if the student has an overdue financial obligation to the university or if there is an unresolved disciplinary or academic dishonesty action against the student.

Fee for Copies of Records

The fee for a transcript of the student's permanent academic record is $5.00 per copy. The fee for copies of other education records is $.50 per page.

Disclosure of Education Records

Walla Walla University will disclose information from a student's education records only with the written consent of the student, except:

To school officials who have a legitimate educational interest in the records.
A school official is:

a. A person employed by the university in an administrative, supervisory, academic, research, or support staff position
b. A person elected to the Board of Trustees
c. A person employed by or under contract to the university to perform a special task, such as legal counsel or an auditor
d. A student serving on an official committee, such as a disciplinary or committee, or assisting another school official in performing his or her task

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her task. Examples include:

a. Performing a task which is specific in his or her job description or by a contract agreement
b. Performing a task related to a student's education
c. Providing a service or benefit relating to the student or student's family, such as health care, counseling, job placement, or financial aid
d. To officials of another school, upon request, in which a student seeks or intends to enroll
e. To certain officials of the U.S. Department of Education, the Comptroller General, and state and local educational authorities, in connection with certain state or federally supported education programs
f. If required by a state law requiring disclosure which was adopted before November 19, 1974
g. To accrediting organizations to carry out their functions
h. To comply with a judicial order or a lawfully issued subpoena
i. To appropriate parties in a health or safety emergency
j. To an alleged victim of any crime of violence or sexual harassment offense of the results of any institutional disciplinary proceeding against the alleged perpetrator with respect to that crime or offense

Record of Requests for Disclosure

Walla Walla University will maintain a record of all requests for and/or disclosure of information from a student's education records. The record will indicate the name of the party making the request, any additional party to whom it may be re-disclosed, and the legitimate interest the party had in requesting or obtaining the information. The record may be reviewed by the student.

Directory Information

Walla Walla University designates the following categories of student information as public or “Directory Information.” Such information may be disclosed by the institution at its discretion.
1. Name
2. Current enrollment status
3. Telephone number.
4. Date and place of birth, dates of attendance, class standing, previous institution(s) attended, major field of study, awards, honors (including Dean's List), degree(s) conferred (including dates), and full-time or part-time status.
5. E-mail addresses.

Currently enrolled students may withhold disclosure of Directory Information. To withhold disclosure, written notification must be received in the Academic Records Office at: Walla Walla University, 204 S College Ave., College Place, WA 99324. Directory Information will then be withheld indefinitely until the Academic Records Office receives in writing a revocation of the request for nondisclosure.

Walla Walla University will honor a request to withhold information listed but cannot assume responsibility to contact the student for subsequent permission to release the requested information. Regardless of the effect upon the student, the institution assumes no liability as a consequence of honoring instructions directory information be withheld.

**Correction of Education Records**

If students believe any information contained in their education records is inaccurate, misleading, or in violation of their privacy rights, they may request in writing the office which contains those records amend them. Students should identify the part of the record they want changed and specify why they believe it is inaccurate, misleading, or in violation of their privacy rights.

That office will reach a decision and inform students in a reasonable amount of time after receiving the request. If the records custodian refuses to amend the record, students have the right to a hearing. This hearing will be conducted by an appropriate committee appointed by the Academic Vice President of the University. The hearing will be held within a reasonable amount of time after the request for a hearing has been made. The hearing committee will notify the student, reasonably in advance, of the date, place, and time of the hearing.

Students will be afforded a full and fair opportunity to present evidence relevant to the issue raised. Students may be accompanied by one or more other persons. The committee will make its decision in writing based on the evidence presented at the hearing. The decision will include a summary of the evidence presented and the reasons for the decision.

If the hearing committee supports the complaint, the education record will be amended accordingly and students will be so informed. If the hearing committee decides not to amend the education record, students have the right to place in the education record a statement commenting on the challenged information and/or stating the reasons for disagreeing with the decision. This statement will be maintained as part of the education record as long as the contested portion is maintained, and whenever a copy of the education record is sent to any party, the student's statement will be included.
APPENDIX D

ADMINISTRATIVE DOCUMENTS
WALLA WALLA UNIVERSITY
MENTOR AGREEMENT

August 24, 2007

Dear Mentor,

Thank you for joining us in the new Mentor Pilot Program. It is exciting to see your enthusiasm, talent, passion, and commitment to young people and Christian education. We appreciate the invaluable support you will be providing to ensure student success on our campus. Please return one copy of this agreement by September 5, 2007.

Listed below is a brief outline of our basic mentor expectations. Please read the agreement carefully and sign it at the bottom if you concur with the terms listed.

As a mentor in the Walla Walla University Mentoring Program, I agree to:

- Attend all training sessions, scheduled meetings and social gatherings as required
- Notify the program director if I am unable to keep my weekly mentoring session
- Contact each mentee weekly, generally 30 minutes. At least 50% of the contacts will be face-to-face
- Accept assistance from my mentee’s teacher and/or school support staff
- Keep discussions with my mentee confidential
- Complete and submit Mentor Activity Log weekly
- Ask program director when I need assistance, do not understand something or am having difficulty with my mentoring relationship
- Notify the program director of any changes in my employment, address and telephone number
- Notify the program director of any significant change in my mentee

Acknowledgement:

I acknowledge I have received, read, and agree to the expectations outlined above. I also understand and agree the information contained in this agreement does not constitute an employment contract between Walla Walla University and me, and either I or Walla Walla University may terminate the employment relationship at any time, with or without cause.

<table>
<thead>
<tr>
<th>WWU Mentoring Project Coordinator</th>
<th>Date</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>WWU Mentor</td>
<td>Date</td>
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APPENDIX E

POLICY DOCUMENTS
WALLA WALLA UNIVERSITY
MENTORING PROGRAM OUTLINE

Mission:

To positively impact the lives of incoming freshmen by providing social, academic, and spiritual one-on-one mentoring to encourage student success and retention.

Goals/Purpose:

➢ Promote for first-year students a positive adjustment and assimilation into the university
➢ To help students to balance their freedom with a sense of responsibility as part of the process of enhancing self knowledge, self-confidence and spiritual development
➢ To help students learn and develop a set of adaptive study, coping, critical thinking, logical problem solving and survival skills
➢ To help students make friends and develop a support group
➢ To assist students in using helpful resources of the institution including the library, career center, health and wellness services, and teaching-learning services
➢ To help students develop personal career and academic major planning goals and to master processes/means of achieving these goals

Program Guidelines:

Mentors and mentees will meet for 20-30 minutes every week during the academic quarter. In addition to the weekly meetings, mentors and mentees will be invited to participate in monthly in-home soup suppers. Mentors must attend a training session, weekly meetings with the program director, and a program kick-off.

Benefits:

It is anticipated mentees will:

➢ Improve academic attitudes and performance, and build self-confidence.
➢ Obtain higher GPAs
➢ Pass more/drop less classes
➢ Have higher retention rates
APPENDIX F

MENTOR SURVEY
Mentor Assessment Form

Walla Walla University
Mentor Survey
Mentoring Program 2007-2008

Please answer the questions below by checking the appropriate box indicates your perception and experience as a mentor in the Pilot Mentoring Program for the 2007-2008 academic year at Walla Walla University.

<table>
<thead>
<tr>
<th></th>
<th>NEVER</th>
<th>RARELY</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
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<tbody>
<tr>
<td>1.</td>
<td>I completed and sent my mentoring logs to the Director each week</td>
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<td>2.</td>
<td>I attended the weekly mentoring meetings</td>
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<tr>
<td>3.</td>
<td>I contacted my mentees by phone, e-mail or through texting each week</td>
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<tr>
<td>4.</td>
<td>I met with my mentees in person each week</td>
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<tr>
<td>5.</td>
<td>I required my mentee to develop academic and personal goals</td>
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<tr>
<td>6.</td>
<td>I was able to connect mentees with appropriate resources to assist them in succeeding</td>
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<tr>
<td>7.</td>
<td>I assisted and encouraged my mentees to make an appointment with their academic advisor as needed</td>
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<tr>
<td>8.</td>
<td>I participated in social gatherings with my mentee</td>
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<tr>
<td>9.</td>
<td>I was successful as a mentor</td>
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