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ABSTRACT

READINESS FOR INTER-INSTITUTIONAL COLLABORATION AMONG
ADVENTIST INSTITUTIONS OF HIGHER EDUCATION IN NORTH
AMERICA: STAGES OF CHANGE

by

Robert Arthur Paulson Jr.

Chair: Shirley Freed

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: READINESS FOR INTER-INSTITUTIONAL COLLABORATION AMONG
ADVENTIST INSTITUTIONS OF HIGHER EDUCATION IN NORTH
AMERICA: STAGES OF CHANGE

Name of researcher: Robert Arthur Paulson Jr.

Name and degree of faculty chair: Shirley Freed, Ph.D.

Date completed: December 2009

Problem

The current sociological and economic environment faced by higher education in North America has inspired many institutions to form consortiums in an attempt to enhance institutional viability. The Association of Adventist Colleges and Universities (AACU) is a consortium of 15 Seventh-day Adventist institutions of higher education in North America. This consortium was formed as an attempt to increase collaboration, enhance quality, and augment institutional viability. The purpose of this study was to describe the current inter-institutional environment for collaboration among AACU member institutions. Currently, there has not been formal research into the collaborative environment of the Association of Adventist Colleges and Universities. Without an

understanding of the status of inter-institutional collaboration in Adventist higher education, the path to increased inter-institutional collaboration is likely to fail.

Method

This study was a quantitative study using survey research methodology in which a survey developed by James Prochaska was adapted to assess inter-institutional collaboration among Adventist colleges and universities in North America. The survey was administered via web-based technology (Zoomerang) to faculty and administrators at the 15 Adventist institutions of higher education in North America.

In particular, this survey and the Transtheoretical Model were chosen as they have been used to measure organizational change relative to elements of collaboration but have not been used within an inter-institutional setting.

Results

Analysis of stage of inter-institutional collaboration among Adventist institutions of higher education in North America found that approximately 57% of the participants are at the precontemplative or contemplative stages whereas about 42% are at the action or maintenance stages. Stage of collaboration is not related to gender, whereas work assignment as faculty or administration, age of the participant, and years of experience in Adventist higher education do have a significant relationship with stage of inter-institutional collaboration. The majority of faculty are at precontemplation whereas the majority of administrators are in maintenance. The data suggest that older participants tend to be further along in the stage of inter-institutional collaboration than are younger participants. Further investigation into the significance of the relationship of age and

stage demonstrated that when faculty and administrator were analyzed by work assignment and age, there was no significant relationship between age and stage of inter-institutional collaboration. Years of experience was found to have a significant relationship with stage of inter-institutional collaboration. Analysis would suggest that more experienced participants are further along on the stage of inter-institutional collaboration, but when years of experience was analyzed by work assignment only, faculty demonstrated a significant relationship between stage and years of experience in Adventist higher education. Data analysis with respect to the relationship between stage of inter-institutional collaboration and the outcome measures of the Transtheoretical Model indicated a significant relationship between stage and behavioral frequency, decisional balance, and self-efficacy.

There is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance, self-efficacy, and behavioral frequency. However, there is no significant interaction effect between stage of inter-institutional collaboration and the demographic characteristics of gender, age, years of experience in Adventist higher education, and work classification as faculty or administrator. The data suggest that the relationship between stage of inter-institutional collaboration and the linear combination of decisional balance, self-efficacy, and behavioral frequency does not depend on demographic characteristics.

Conclusions

Adventist higher education in North American is in the process of developing a more inter-institutionally collaborative system. This study described the environment for inter-institutionally collaboration within Adventist higher education and identified a

variety of group-related stage differences. With group differences in mind, failure to match change processes with the stage of inter-institutional collaboration will decrease the likelihood of continued collaborative growth within Adventist higher education in North America. This study indicated that the Transtheoretical Model of human change is reliable across demographic characteristics and appropriate in the organizational environment.

Andrews University

School of Education

READINESS FOR INTER-INSTITUTIONAL COLLABORATION AMONG
ADVENTIST INSTITUTIONS OF HIGHER EDUCATION IN NORTH
AMERICA: STAGES OF CHANGE

A Dissertation

Presented in Partial Fulfillment
of the Requirements for the Degree

Doctor of Philosophy

by

Robert Arthur Paulson Jr.

December 2009

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STAGES OF CHANGE

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Robert Arthur Paulson Jr.

APPROVAL BY THE COMMITTEE:

Chair: Shirley Freed

Dean, School of Education
James Jeffery

Member: Jimmy Kijai

Member: Richard Osborn

External: Emilio Garcia-Marenko

Date approved

To my wife Lisa and daughter Joy for their love and support.

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CHAPTER 1

INTRODUCTION

Background to the Problem

Ivy covered buildings nestled among old oak and maple trees, eager students in small classes guided by talented professors with access to the best equipment possible. Is this what we envision when we think about a small liberal arts college or university learning experience? Is this reality for students attending one of the 838 four-year, co-ed institutions of higher education with fewer than 2,000 students in the United States? Institutions of higher education are increasingly under siege in the changing financial and social environment of the 21st century (Twigg, 2002). Basic challenges can be divided into three categories—changing expectations, increased competition, and insufficient resources (Twigg, 2002).

Changing expectations are outgrowths of the society within and outside of higher education. As faculty and those closely involved in higher education cling to the tradition of a liberal arts education, the world around them focuses on career and certification (Ruch, 2001). The world outside of higher education is concerned with the work application of the degree, and students are demanding tangible results for their higher education tuition dollars thus forcing higher education to increasingly function within the business model. Change is not limited to the philosophical base of curriculum development (Ruch, 2001). As knowledge becomes more accessible and students become

more aware of the possibilities open to them, institutions of higher education are experiencing greater pressure to meet student expectations and offer a greater variety of programs. Zephyr Teachout (2009) suggests that a “virtual revolution is brewing for colleges.” Colleges and universities are no longer the gatekeepers of knowledge, and students are looking for enhanced flexibility and access in the learning environment. Teachout declares, “Within the next 40 years, the majority of brick-and-mortar universities will probably find partnerships with other kinds of services, or close their doors” (p. A4). As the student of 20 years ago demanded palatable food in the cafeteria, clean classrooms, and teachers with talent and dedication to their subject, the student of today has added access to quality technology equipment, teachers with technological skills, and high-speed Internet connectivity (Twigg, 2002). Meeting these needs has put an increased demand on the already limited funds of all institutions and especially tuition-driven small colleges.

The competitive business world of higher education is expanding with an increasing number of players from previously untapped sources such as online and for-profit providers (Ruch, 2001). This generation of learners demands flexibility in their educational environment, and the technology of asynchronous online education is offering this form of creative learning environment. For-profit providers such as Phoenix and DeVry University offer students a career-centered approach. For years DeVry University has used the phrase, “Get in, get out and get on with life,” as the center of its institutional marketing strategy. Recently it added the phrase, “Your future, Your terms.” DeVry offers a variety of online and web-centric learning environments with a career-centered approach (DeVry University, 2008). Phoenix University is now the largest

private university in North America with over 200 campuses (Phoenix, 2009). There are other examples of this type of movement away from the traditional liberal arts approach and towards a more career-centered model (Rush, 2001).

Changing expectations and increased competition exert increased stress on the limited funds of any institution of higher education (Twigg, 2002). In the case of small institutions, the challenge is magnified by a limited endowment and the fluctuation of enrollment (Edington, 2006). These tuition-driven institutions are taking creative steps in an attempt to meet the challenge. Evidence of collaboration in higher education can be found in the increasing number of consortiums in North American and the world (Bandura, 1977; Castagnera, 2004). Consortium agreements have been centered on issues as small as shared student parking and food service, to broader issues such as shared class offerings, joint assignment of professors, and advancement efforts (Claremont Colleges, 2008; Five Colleges Inc., 2008). By working together institutions have found they can do things they would not otherwise be able to accomplish. For example, there is a group of 16 institutions of higher education located in the Southeastern United States, which have formed the Associated Colleges of the South (2008) with the following mission statement.

Incorporated in August of 1991, the Associated Colleges of the South has a mission to make the case for liberal arts education and to strengthen academic programs of the member institutions. . . . ACS is a mechanism through which member colleges and universities can create and build programs in a way, which would not be possible on an individual basis. Their ideas and resources are shared, thereby raising the efficiency of operations and the effectiveness of programs. And, the ultimate beneficiary is the student.

By using systems-like behavior, this group of autonomous institutions of higher education has enhanced the quality of their learning environments, met student needs, and been true to the mission of their individual institutions.

One of the more progressive consortiums in the United States is The Five Colleges Incorporated (2008), based near Boston, Massachusetts, and consisting of Amherst College, Mount Holyoke College, Smith College, University of Massachusetts Amherst, and Hampshire College. These institutions represent both small colleges and larger state institutions with a great diversity of mission and motive for involvement in the consortium. Despite a wide range of tuition challenges, the five colleges have found a motive and modality for cross-registration of classes at no extra charge to the students. The consortium shares a bus system for the transportation of students between campuses, a combined student life program, shared faculty appointments, and even cafeteria cards that work at the other institutions.

The British Columbia community colleges and university colleges in Canada have successfully shared resources at both the faculty and administrative levels (Gaber, 2003). These institutions of higher education are autonomous yet involved in a highly coordinated agreement where students can transfer between 2-year institutions and degree-granting institutions. This relationship gives students greater flexibility in scheduling, and increased variety of class offerings and interaction with a broad spectrum of faculty.

A recent example of higher education collaboration is the South Eastern Pennsylvania Consortium for Higher Education (2008). This group was established in

1993 and its mission statement and statement of purpose for cross-registration of classes reads as follows.

The SEPCHE Cross Registration Program is designed to provide increased educational access to all eight-member institutions for students at any member school. Through this program, students can take courses that might not be available to them at their home campus and experience the varied and diverse resources on member campuses across the Delaware Valley.

One of the oldest consortiums in North America is The Claremont Colleges of Southern California (2008). The Claremont Colleges are a consortium of five undergraduate colleges and two graduate institutions. In their mission statement they declare, “The eight institutions support and strengthen each other to become more than the sum of their parts.” By working together, “students at the Claremont Colleges enjoy the individualized academic attention of a small college and the resources of a major university.” By working together these and other consortiums of small institutions of higher education are accomplishing things they would not be able to do alone (Gaber, 2003).

In summary, the world of higher education is facing the challenges of changing expectations, increased competition, and insufficient resources in creative and progressive ways. By working together and forming relationships, institutions are fostering quality learning environments for current and future generations of learners.

Context of the Study

The current financial and sociological environment of North America is a challenging gauntlet for institutions of higher education to navigate (Ruch, 2001; Twigg, 2002). This journey is even more challenging for small liberal arts institutions and close to impossible for those institutions with little or no financial support and inadequate

enrollments (Van Der Werf, 1999). Into this landscape we find 15 Seventh-day Adventist institutions of higher education. These small institutions have little or no endowment (Osborn, 2007), a limited and diminishing student market, a dwindling financial support base, and despite their close religious affiliation are very territorial and have a strong desire to remain institutionally autonomous. For example, the institutions of Adventist higher education have a mean endowment per FTE of \$9,280. According to the National Association of College and University Business Officers (2008) report, institutional financial health requires a minimum of \$147,770 per FTE for small independent institutions of higher education. Institutions with large endowments are not completely protected from declines in the greater economic environment or a decrease in the value of their investments but these do give them a greater buffer of protection than those with little or no endowment. Without an appropriate endowment for institutional size, institutions are increasingly tuition driven and at the whim of enrollment trends (Twigg, 2002; Ruch, 2001).

The Problem Statement

The challenges faced by higher education in North America are both economic and sociological and are being addressed in a collaborative manner by many institutions of higher education (Bradburd & Mann, 1993; Twigg, 2002). The Association of Adventist Colleges and Universities (AACU), a consortium of 15 Adventist institutions of higher education in North America, is working to enhance inter-institutional collaboration among member institutions in hopes of meeting these challenges now and into the future (AACU, 2002). Currently there is no formal research relative to the collaborative environment among AACU member institutions. Without an understanding

of the status of collaboration among AACU members, the path to increased inter-institutional collaboration is less likely to succeed.

The Purpose of the Study

The purpose of this study is to describe the current inter-institutional collaborative environment among Adventist colleges and universities in North American. For the purpose of this study the following was used as the definition of inter-institutional collaboration among Adventist colleges and universities in North America: Inter-Institutional Collaboration, by Seventh-day Adventist Institutions of higher education in the North American Division (NAD), involves the creation of opportunities to share educational assets with the goal of maximizing the learning environment in Adventist Higher Education.

Theoretical Framework

This study used the Transtheoretical Model developed by James O. Prochaska (Prochaska, Velicer, & DiClemente, 1988; Prochaska, Norcross, & Diclemente, 1994; Prochaska & Norcross, 2003; Prochaska et al., 2005) to describe the current status of inter-institutional collaboration among Adventist institutions of higher education in North America. The Transtheoretical Model (TTM) has been used to evaluate changes in human behavior in a wide variety of health-related studies (Grimley, 1996; Norcross, 1985, 2002; Prochaska, 1998) and in recent years to describe organizational change (Levesque, J. M. Prochaska, & J. O. Prochaska, 1999; Prochaska & Norcross, 2001; Patton, 2005; Smith, 2000). The TTM has two parts: the stages of change and the processes of change.

The stages of change represent attitudes, intentions, and behaviors related to a person or organization's status in the cycle of behavioral change (Prochaska & Norcross, 2003). The stages of change are precontemplation (not even thinking about change), contemplation (change is now something being considered), preparation (ready to take action and looking for ways to make the change in behavior), action (information has been gathered and change is taking place), and maintenance (the desired change has been made and now the person or organization is working to maintain the change).

There are 10 processes of change, which are covert and overt activities that people or organizations use to proceed from one stage to the next (Prochaska, Velicer, DiClemente, & Fava, 1998). The processes can be divided into two categories, experiential and behavioral. The experiential processes (used in the stages of precontemplation, contemplation, and preparation) are consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-reevaluation. The behavioral processes (used in the stages of preparation, action, and maintenance) are stimulus control, helping relationships, counter conditioning, reinforcement management, and self-liberation. The stage-matching process increases the likelihood of behavioral change (Prochaska, 1984). When evaluating an organization that may have groups of people at different stages, identifying the groups and their stage of change will enhance the prospect of organizational change (Levesque et al., 1999).

Research Questions

This study attempted to answer the following questions relative to the perception and actions of faculty and administrators at Adventist colleges and universities in the North American Division.

1. What is the status of inter-institutional collaboration among Adventist colleges and universities in North America?

2. What is the relationship between the stages of inter-institutional collaboration and the following selected demographics: gender, age, years of experience in Adventist higher education, and classification as faculty or administrator?

3. What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency?

4. In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency?

Research Design

This study used a survey design. The survey was a behavior-specific adaptation of the survey developed by James O. Prochaska (1984) to evaluate change in behavior. The survey is designed to measure the participant's stage of change, decisional balance, self-efficacy, and behavioral frequency relative to the desired target behavior. For the purpose of this study, the survey was modified to evaluate the status of inter-institutional collaboration among Adventist colleges and universities in North America.

Significance of the Study

Adventist higher education is facing a time of real challenge; some would say crisis (Osborn, 2007). The purpose of this study was to increase understanding of inter-institutional collaboration among Adventist institutions of higher education in North

America. A review of current pertinent literature as related to the challenges faced by small liberal arts institutions in North America demonstrated a movement towards inter-institutional collaboration (Strosnider, 1998; Van Der Werf, 1999). Once stage of change has been established, individuals, departments, and institutions can be matched with appropriate processes for change. The matching of processes and stage of change increases the prospect of successfully changing organizational behavior (Levesque et al., 1999). Another significance of this study is an increased understanding of the Transtheoretical Model and its relationship to demographic data. An analysis of this data will give evidence of trends in behavior that will significantly impact inter-institutional collaboration among Adventist colleges and universities in North America.

Definition of Terms

For the purpose of clarity I present the following definitions of terms that may not be common to the general population.

Seventh-day Adventist Church Structure

The context of this study is within the Seventh-day Adventist (SDA), or Adventist, church and its educational system. The SDA church is a global organization with the General Conference of Seventh-day Adventists as the governing body of the world church. The General Conference is divided into divisions such as the North American Division (NAD). The divisions are divided into unions such as the Pacific Union. Since the inception of Adventist higher education, the unions have been the sponsors and driving force behind institutional growth in the Adventist system of higher

education. The unions are further divided into conferences such as the Central California Conference.

Inter-institutional Collaboration

For the purpose of this study inter-institutional collaboration is defined as follows: Inter-institutional Collaboration, by Seventh-day Adventist Institutions of higher education in the North American Division (NAD), involves the creation of opportunities to share educational assets with the goal of maximizing financial, human, and intellectual resources.

Faculty

For the purpose of this study, a faculty member is defined as a full- or part-time employee working at Adventist institutions of higher education in North America, whose job responsibility is that of a teacher or professor.

Administrator

For the purpose of this study, an administrator includes institutional presidents, vice-presidents, deans of schools, and chairs of departments working for an Adventist institution of higher education in North America.

Delimitation of the Study

The participants in the study were limited to the population of faculty and administrators at Adventist institutions of higher education in North America.

Limitations of the Study

The population of the study was limited by the participant's willingness to participate in the survey process and degree of reluctance to submit information that may be associated with the participant's department or institution. By nature, surveys ask participants to respond to questions rather than gathering data by observing the participant's behavior, thus the results are simply the participant's responses to questions (Ritter & Sue, 2007).

Summary and Organization of the Study

Chapter 1 provides the background of the challenges facing small liberal arts colleges in North America, challenges specific to Adventist colleges and universities in the same region, collaborative initiatives at non-Adventist small colleges, a statement of the problem, the purpose of the study, research questions, methodology, limitations, and delimitations.

Chapter 2 contains a review of pertinent literature on the subjects of the challenges faced by small liberal arts colleges and universities in North America, the challenges specific to Adventist institutions of higher education in the same geographical region, and collaboration in higher education.

Chapter 3 describes the methodology used in the analysis of the current inter-institutional collaborative environment among NAD institutions of higher education. The Transtheoretical Model of human behavioral change, developed by James Prochaska, is studied in detail. This chapter gives a detailed description of research design as well as information on the process of participant selection, the instrument, the process of data collection, and the procedures used for data management.

Chapter 4 is a description of the study population and analysis of data. The analysis of data is presented in response to each of the four research questions with a summary of data to follow.

Chapter 5 contains a discussion related to the background of the study, theoretical framework, the problem and purpose, and the results of the study. The chapter also presents conclusions and recommendations for further research.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

This chapter reviews literature pertinent to the subjects of the challenges faced by small colleges and universities in North America, those specific to Adventist institutions of higher education, collaboration in small institutions of higher education, and collaboration in Adventist higher education in North America. This chapter also reviews in depth the theoretical framework used in this study.

Challenges Faced by Small Colleges

Higher education functions in a constantly changing world forcing it to adapt to external and internal forces (Margulus, Price, & Tracy, 2003; Millton & Vare, 1994; Twigg, 2002). Meeting the demands of change has caused institutions of higher education to move in directions they previously would not have gone. Twigg (2002) divides the major challenges faced by small colleges into three categories—changing expectations, increased competition, and insufficient resources. The following is a closer look at the issues facing small colleges in North America.

Changing Expectations

The traditional liberal arts education is being challenged by changing expectations of both students and parents. Twigg (2002) states, “At large universities, professional

programs continue to grow while the liberal arts programs continue to decline. Many prospective students and their parents view a liberal arts education as too expensive and not leading to jobs.” According to a report published by The Higher Education Research Institute at UCLA (2008), there is an increasing number of students listing the possibility of earning more money as one of the top three reasons for attending college. This shift may be associated with the number of students who face the need to finance large portions of their higher education experience, and graduate with loans that demand commencement of payment following graduation. In 2006, 69% of students indicated an increased earning potential as one of the top three reasons for attending college. This is in contrast to student responses to the same issue in 1976 with 49.9% indicating increased earning potential as one of the top three reasons for attending college. In 2006, 66.5% indicated that (Higher Education Research Institute, 2008), “the chief benefit of a college education is that it increases one’s earning power” (p. 2). Twigg (2002) also cites issues related to the globalization of knowledge, the desire for more flexible learning environments, and the need for better physical and technology infrastructure as issues influencing students’ choice of a higher education institution.

According to the Secretary of Education’s Commission on the Future of Higher Education (U. S. Department of Education, 2006), nearly one third of today’s students are over the age of 24, nearly 40% are enrolled part-time, and are more likely to take classes from multiple institutions before obtaining a degree. The same commission challenges the world of higher education to meet the needs of today’s student in a world altered by technology, demographic changes, and a global approach to learning which includes an increasing number of paradigms for learning environments.

Increased Competition

Richard Ruch (2001) in his book, *Higher Ed. Inc.*, calls the American college and university system a “Knowledge Industry.” This “industry” is now facing an increasingly competitive environment where small liberal arts colleges market to a population of learners that is well informed as to price, availability, and learning environment options (Twigg, 2002). In addition to peer institution, small colleges are encountering competition from relatively new players in the world of higher education: online and for-profit institutions (Ruch, 2001; United States Department of Education, 2006). Both forms of education offer flexible delivery mechanisms and, in most cases, lower tuition rates. The focuses of these “non-traditional” providers of higher education are work applications needed for success in the business world. According to the Commission on the Future of Higher Education appointed by the United States Secretary of Education (U.S. Department of Education, 2006): “Students increasingly care little about the distinctions that sometime preoccupy the academic establishment, from whether a college has for-profit or nonprofit status to whether its classes are offered online or in brick-and-mortar buildings. Instead, they care—as we do—about results” (p. 1). With marketing lines such as “Get in, get out and get on with life,” for-profit and online providers are increasingly competing for not only the non-traditional learner but for the traditional student (Twigg, 2002). The Commission on the Future of Higher Education (U.S. Department of Education, 2006) established the goal a higher education learning environment that is more flexible and accessible. In the future, higher education will be

an increasingly nimble and efficient environment, able to meet the needs of a changing market (U.S. Department of Education, 2006; Castagnera, 2004).

Insufficient Resources

The issue of limited resources at small colleges/universities is enhanced by the fact that most are tuition-dependent. In an article published in the *Chronicle of Higher Education*, Van Der Werf (1999) cited as an example—of the challenges faced by this kind of institution—the financial picture of a small Presbyterian liberal arts college in Kansas. Sterling College has about 475 students and has come to the conclusion that it must raise enrollment by 50% in the next decade or close. Due to a relatively small endowment—\$5.9 million—Sterling must receive about 70% of its income in the form of tuition dollars. The challenges faced by Sterling College are not unique and are reflected in data from the United States Department of Education. In 1960 about 50% of college students attended private institutions, and by 1999 the number was down to about 17% (Van Der Werf, 1999). As a faith-based institution, Sterling College has seen a decline in the number of Presbyterian students who attend. In 1976 42% of the students in attending Sterling were Presbyterian—that number had declined to 10% by 1999. The combination of the general decline in students attending private institutions and the specific decline of Presbyterian students making the choice to attend Sterling College has put the institution in a challenging financial position.

One of the financial realities faced by small liberal arts colleges/universities is that increasing enrollment is not always the easy answer. According to a 1995 report prepared by William College Project on the Economics of Higher Education, institutions the size of Sterling receive about \$5,156 per full-time equivalent compared to \$6,879 per

student at institutions with more than 750 students (Van Der Werf, 1999). The price of attending Sterling in 1999 was \$15,616, indicating a large amount of tuition discounting by the institution. According to Van Der Werf (1999), the behavior of tuition discounting is common at all institutions of higher education and small colleges are likely to discount at the same rate as larger institutions. According to Gordon C. Winston (1997), of the Williams Project on the Economics of Higher Education, there is a fundamental anomaly in higher education—colleges/universities sell a product at a price that is less than what it costs to produce the product. In 1995, \$82 billion were spent on student subsidies. In 1995 the colleges/universities in America produced an education at a cost of \$11,967 and sold it for \$3,770, giving a subsidy of \$8,197 per student per year. Winston (1997) states that with students paying less than it costs to produce the educational environment, every student added to an institution's total enrollment can be a drain on limited resources, thus making increased enrollment less likely to solve an institution's financial challenges.

Challenges Faced by Small Adventist Colleges and Universities

In this section I look at the issues specific to Adventist higher education in North America. These issues are framed in the context of issues encountered by small colleges in total in North America.

Enrollment Issues

Financial issues are a core challenge for both Adventist and non-Adventist liberal arts institutions (Osborn, 2007; Twigg, 2002). With that fact in mind it is important to look at the student population and gain an understanding as to their composition. The population of students attending an Adventist college or university in 2005 was 23,483

(General Conference of Seventh-day Adventists, 2006). This includes students enrolled in traditional undergraduate programs, distance education classes, adult or continued learning environments, and professional schools. There are 15 different Adventist institutions of higher education in North America—1 in Canada and 14 in the United States. The institutions are as follows: Andrews University, Atlantic Union College, Canadian University College, Columbia Union College, Florida Hospital College of Health Science, Griggs University, Kettering College of Medical Arts, La Sierra University, Loma Linda University, Oakwood College, Pacific Union College, Southern Adventist University, Southwestern Adventist University, Union College, and Walla Walla University.

In 2006, enrollment ranged from 3,087 at Andrews University to 399 at Canadian University College. According to the North American Division Year-End Report in 2005, of the institutions that reported student enrollment by religious affiliation, 90% of the students in traditional undergraduate programs were either Adventists or came from homes where either one or both parents are Adventists (North American Division of Seventh-day Adventists, 2006). In the same academic year the student enrollment in K-8 was 75% Adventist and in Grades 9-12 was 85% Seventh-day Adventist (General Conference of Seventh-day Adventists, 2006). Data from years 1988-2004 demonstrate a similar trend in student body composition at the different levels of Adventist education. As a student progresses from kindergarten to higher education, the percentage of Seventh-day Adventists within his or her class will increase (General Conference of Seventh-day Adventists, 2004). With Adventists making up the vast majority of student

enrollment at all levels, an analysis of Adventism in North America would shed light into the future of Adventist higher education.

Aging Church Population and Church Growth

One of the greatest challenges the Adventist church faces is the age of its membership. This organizational aging process has an impact on the growth of the church and higher education in particular. The median age of an Adventist in North America, including the un-baptized children of members, is 58 years of age, in comparison to the general population in the United States at 36. As the membership of the Adventist church continues to age, the number of school-age Adventists proportionally declines (Osborn, 2007). Not only is the age of the Adventist church continuing to increase but also the growth of the membership in the Adventist church in North America is slowing (General Conference of Seventh-day Adventists, 2006). In the year 2005, with a membership of a little more than one million in North America, the church added 37,334 members, lost more than 27,000 to death, apostasy, or missing for a net gain of 9,829 (General Conference of Seventh-day Adventists, 2006). This gives the Adventist church in North America a growth rate of less than 1% (General Conference of Seventh-day Adventists, 2006). With a growth rate of less than 1% can Adventist higher education expect the same rate of growth?

Demographic Challenges

Slow church growth in itself is a challenge, but the greater challenge for higher education may be where the growth in membership is coming from. An indication of church growth by race can be found in the Pacific Union (2006), which monitors growth

by race. Statistics from the Pacific Union indicate a total membership of 210,475 with 7,540 new members added in 2005. The ethnic breakdown of church growth was as follows; 3,089 Caucasian and 2,893 from the Hispanic population (Pacific Union, 2006). In total the Hispanic population of Adventists in the Pacific Union is 21% yet accounting for 38% of growth. The retention rate among Hispanics is the highest among all races in the Pacific Union, 47.6 % (Pacific Union, 2006). Growth and retention among minority groups is positive and important to the growth and stability of the Adventist church in North America.

The issue for higher education is the pattern of participation in higher education by ethnic groups. According to the United States 2005 census, Hispanics make up 14.4% of the population of the United States and yet make up only 8% of the student population in higher education (National Center for Educational Statistics, 2007). At the same time Whites (Non-Hispanics) make up 69.9% of the student population in the United States. Whites (Non-Hispanics) have the lowest growth rate of any ethnic group in the Pacific Union at .8% (Pacific Union, 2006). The trend in the Pacific Union is similar to other Unions within the North American Division of Seventh-day Adventists. In short, the membership of the Adventist church, the primary market for Adventist higher education in North America, is showing its strongest growth in minorities, a group that is least likely or financially capable of participating in Adventist higher education (Pacific Union, 2006).

Change Theory in Higher Education

Isaac Netwon's first law of motion states that a body persists in a state of rest or of uniform motion unless acted upon by an external force—commonly referred to as the

law of inertia (Cohen, Whitman, & Bodenz, 1999). This basic law of physics can tell us much relative organizational change, in particular, change in higher education. Perlmutter (2005) supports the principal of organizational inertia in higher education, relative to the culture, by noting that teachers tend to teach the same subjects and tend to prefer the ritual of repetition in contrast to upset and uncertainty. Higher education has been credited for much social change yet clings to tradition thus making it a challenging environment in which to overcome organizational inertia (Clark, 1983).

The change process as described by Lewin (1951) is one that involves three basic phases. The first phase involves a thawing or unfreezing process. This thawing process allows the organization to overcome the tendency to remain static. The second stage is where the implementation of change in the organization takes place. As in the law of inertia there are forces involved in every phase of the change process. Without a time of thawing, change could not take place and without forces, both internal and external, the frozen organization would fail to implement change. The third phase is that of refreezing or resistance to further change. At this point change has been accomplished and the organization is once again at rest or frozen. Failure to refreeze is failure to make the change secure. Ashby (1964) makes it clear that the forces that are involved in Lewin's three-phase approach must be a combination of top-down and bottom-up pressures in order for the process of change in knowledge-based organizations such as higher education to be successful.

Fullan (1991) evaluated Lewin's change theory of unfreezing, change, and refreezing, and described the phases relative to knowledge organizations as adoption, implementation, and institutionalization. During the adoption stage the organization is

given a reason to consider change, and small groups of people embark on the change process thus initiating a change in organizational inertia. Fullan's second stage is implementation or, as Lewin would describe it, the change phase. During this stage organizational inertia is given new direction and the change process gains momentum. The final stage is the refreezing. During this stage organizational inertia has been established in the desired direction and the change has become part of the organizational structure.

Jones and Lewis (1991) seem to support the three-stage process of change described by both Lewin (1951) and Fullan (1991) by listing three key elements necessary for successful change.

1. The identification of a group within the organization that is ready for change and subsequently the identification of key decision makers within that group
2. Identify a problem or issue within the organization that is generally accepted as being in need of change or modification
3. Develop an appropriate staff development program.

The first element is part of the unfreezing process and utilizes key members of the organization who are likely to participate in the change process. These small groups gain momentum and assist in the unfreezing or preparation for change. Key element 2 is a continuation of the unfreezing process with an emphasis on key-change initiatives in the hope of further establishing a climate receptive to change. The third of the key elements establishes a development staff with the goal of sustaining the organizational change process.

According to Fullan (1991), change is a learning process and if change is to be successful, opportunities for acquiring the necessary skills, enhancing knowledge, and developing a positive attitude relative to the desired change must be created. In short, the organizational climate needs to foster acceptance and build support for the change process.

Prochaska (1984) expanded the stages of change into a five-stage approach. Lewin's stage of unfreezing was expanded into three smaller stages of pre-contemplation, contemplation, and preparation. During these stages the individual or organization becomes increasingly receptive to a change in behavior and moves closer to making the desired change. Prochaska's fourth stage aligns closely with Lewin's change stage and is titled the action stage. During Prochaska's action stage, change is being implemented but has not yet been adopted or, as Fullan describes it, as institutionalized. Prochaska's final stage, maintenance, is the stage at which the behavioral change has become part of the individual's or organization's normal behavior and could be described as permanent or institutionalized. Prochaska differs from Fullan (1991) and Lewin (1951) in that he recognizes the potential for regression to past behavior at any point during the change process including during the maintenance stage.

Change Agents in Higher Education

Factors that motivate change in higher education are generally economic in nature and include enrollment trends, shrinking endowments, and the global and national economic climate (Vintere & Malijnovska, 2009). Evidence of economic and workplace influence within higher education can be seen in the rise of the for-profit provider. Richard Ruch, in his book *Higher Ed Inc.* (2001), suggests that the rise of for-profit

education has been made possible by the for-profit provider's clear understanding of their customers and how to meet their needs, interests, and demands.

Kaufman (2005) suggests that in order for institutions of higher education to survive economic and sociological challenges their leaders must overcome the desire to maintain a sense of equilibrium and be willing to embrace a bold vision. She further suggests that leaders or change agents must be willing to challenge the status quo of cherished assumptions regarding mission, academic programs, fundraising strategies, and community relations. Kaufman recognizes the need for change agency leadership in higher education that promotes buy-in to enhance the capacity for change and move an organization from a state of disbelief to belief in what is possible. Kaufman suggests that the successful change leadership in higher education can increase the prospects for success by doing the following:

1. Demonstrate confidence in a vision and the passion to carry it through.

Leadership is willing to take the risk of articulating a bold vision and focus on what is possible.

2. Use inclusive leadership. Successful change leaders are willing to engage diverse constituent groups to enhance buy-in to overcome entrenched agendas and positions.

3. Lead through influence more than position power. A change agent is willing to engage detractors, as well as the natural followers in the change process.

4. Overcoming cultural obstacles. Resistance to change can be expected from long-tenured players who resist changes to the status quo.

In a study by Susan Smith (2004), faculty and administrators were evaluated for their role in the implementation of online learning at Seventh-day Adventist institutions of higher education in North America. The results indicated that mid-level administrators perceived their role as involving more visioning, planning, and policy-making than upper-level administrators. Smith's finding concluded that mid-level administrators such as deans, chairpersons, and directors are campus change agents. This finding is in line with Zemsky's (2009) assumption that successful change must come from within an organization or institution. Robert Zemsky suggests a few lessons that can be learned from previous attempts at change initiatives involving institutions of higher education:

1. Rhetoric changes little or nothing.
2. Demands for reform must be internal.
3. Outsiders cannot prescribe change but must create the conditions that make change possible.
4. Truly systemic changes have the best prospect of success.

Robert Sevier (2003) lists three major obstacles to change in higher education—organizational culture, fear, and complacency. In order for a change initiative to be successful, especially in higher education, the change agent must understand the culture and the influences of culture on change. Fear, as an obstacle, involves the perception of loss of power and prestige, the reallocation of resources, a loss of autonomy, personal domain intrusion, altered reward systems, and a need for retraining. Unaddressed, the fear of change can cause the change agent to be unsuccessful or, at the very least, force unnecessary delays in the change process. The human capacity to deny the need for change, or to be complacent with the status quo, can cause institutions of higher

education to fail to recognize market changes that drive the need for change. Contributors to complacency include the lack of a crisis, the human capacity to deny, low performance standards, a lack of feedback, and misdirected perception of reality (Sevier, 2003).

Malcolm Gladwell (2000) suggests, in his book *The Tipping Point*, that in order for an initiative to move forward, the initiative needs to become highly contagious or even epidemic in nature. Sevier (2003) supports the goal of contagious change with 10 suggestions for change agents in higher education:

1. Build a guiding coalition. Successful change initiatives involve a handful of people with shared vision.
2. Flood the organization with information. Participants in the organization must understand the consequences of not changing.
3. Create a sense of urgency. Reduce the fear of change and make clear the challenge involved in not changing.
4. Get the vision right. The vision needs to be a realistic, credible, attractive future for the organization.
5. Communicate for buy-in. Increase the degree of understanding relative to the vision for change in an attempt to create a critical mass of individuals who buy-in to the change process.
6. Lead those willing to be led. Don't be paralyzed by naysayers and those unwilling to participate in the change process.
7. Empower for action. Make sure that those who have a clear understanding of what needs to be done have the resources to do the job and the authority to act.

8. Create short-term wins. Success inspires success and the change agent should make sure that some success comes early in the change process.

9. Reward right. Share the rewards that the change initiative generates with those involved in the change process.

10. Don't let up. Keep on trying despite the naysayers and the fringe.

In summary, those involved in the change process in higher education need to understand the culture within higher education, communicate a vision for change, cultivate those willing to change, and support the change process from inception to completion.

Collaboration in Small College Higher Education

How do small colleges and universities meet the challenges of finance, student expectation, and an increasingly competitive environment? In this section I look at some of the creative ways small colleges and universities in North America are meeting these challenges and continuing to offer a quality learning environment to their students.

Meeting Challenges Together

The challenges facing small colleges in North America can be divided into three basic categories—changing expectations, increased competition, and insufficient resources. One example of how small colleges are collaboratively facing these challenges is the Associated Colleges of Central Kansas (ACCK, 2008). In 1966, the Associated Colleges of Central Kansas, a group of six small church-affiliated liberal arts institutions, was founded. Their organization was created with the goal of enhancing each institution through cooperation that provides economic support and enrichment of academic

programs; yet preserves institutional identity through a unique emphasis of each institution. The ACCK has six simple reasons for existence – provide facilities and services for advancement of higher education, advance interests and effectiveness of members, improve efficiency of operations for members, develop additional sources of revenue, maximize the advantages of geographic proximity, and promote collegiality. All of these are centered on financial and product issues such as advancing the interests and effectiveness of numbers, developing additional sources of revenue, and promoting collegiality. Among other activities the ACCK offers joint programs in Athletic Training, Secondary Methods, Special Education, and Technology. In a combined format they collaboratively offer what they could not have done alone (ACCK, 2008).

Motives and Avenues of Collaboration

According to Hoffman-Johnson (2005) partnerships exist between institutions of varying levels of academic stature, such as premiere engineering universities and community colleges. The success of the partnership and collaborative relationship depends on factors such as significant environmental motive, common goals, the capacity to develop infrastructure through negotiation, interdependence among stakeholders, the attitude of faculty, and the centrality of a champion. In a case study by Calvert (2004), the partnership between education and industry was examined for motivation. The study found that stakeholders listed the following reasons to collaborate—sharing of programs, equipment and facilities, location, and “the fact that it just made sense to do so.”

Lancaster (2005) found that business and university partnerships could provide training resources that business is looking for while offering forms of sponsorship to higher education. The collaboration between higher education and business provided

tangible benefits to both parties. In another study of collaboration between education and industry, Scricca (2006) found that motivation for collaboration can bring to the relationship a desire to expand organizational capabilities, realize mission and purpose, and obtain a competitive advantage. Central to all motivating factors is organizational growth and survival. Caro (2007) found similar results with the addition of a need for academic flexibility and resilience in the changing partnership of education and industry. Caro (2007) states that there is a need for a partnership or collaborative champion within the organization. As the collaborative relationship is created and implemented, senior administrative commitment within the academic institution is fundamental for success. With commitment on the part of leadership and the reality of a mutually beneficial partnership, the prospect of successful collaboration is enhanced.

Characteristics of Successful Collaboration

Czajkowski (2006) studied the factors necessary for a successful inter-institutional collaboration and found five specific aspects—those elements are respect and trust, common purpose and goals, clear roles and responsibilities, frequent communication, and adequate human resources. Czajkowski (2006) also found factors needed for successful inter-institutional collaboration: collaboration must benefit the institution, there needs to be a favorable political and social climate for collaboration, and an appropriate cross-section of members must be involved in the process. Prigge (2006) found similar needs for establishing and maintaining the collaborative relationship with a core category of a mutually beneficial partnership. On an individual level, Edington (2006) found that collaboration between chief academic officers (CAOs) was enhanced when engagement between CAOs becomes more personal and there is recognition of

mutual concerns. The study indicated that supporting better lines of communication between CAOs could help collaboration among CAOs. Butler (2007) found similar results relative to communication as a key factor in effective collaboration.

Joyce (2005) demonstrated the need for common and specific motivation in the collaborative relationship with a look at regional branding by colleges, universities, and their community partners. The groups banded together to promote the benefits of living and studying in their region, Baltimore, Maryland. The common goal was to improve the brand of the region with the goal to increase their collective ability to recruit the best and brightest undergraduate and graduate students. The study found that by working in a collaborative partnership the parties did have a positive impact on the region. They learned that single institutions acting alone couldn't accomplish what the group could collectively achieve.

In summary, successful inter-institutional collaboration is much like other relationships. Lines of quality communication need to be established with the goal of enhancing understanding, fostering trust, and informing all participants of the value of the relationship.

Collaboration in Adventist Higher Education

Adventist higher education in North America is comprised of 15 institutions, all operating under the support of the Adventist church yet functionally autonomous. One group that seems to lead the way in collaborative efforts at many institutions of higher education—both within Adventist higher education and in higher education in general—is librarians. Dunfee (1988) cites librarians as creating a culture of collaboration, transforming culture, and preparing for the future. In a paper presented to the Association

of Seventh-day Adventist Librarians at their annual meeting in June of 1998, Osborn recognized the leadership position held by librarians in the area of inter-institutional collaboration.

Seventh-day Adventist librarians are leading the way in helping higher education in the North American Division see the possibility of a new paradigm for collaboration between institutions that frequently compete rather than cooperate with each other. (p. 1)

In the last 30 years Adventist higher education in North America has taken steps in the direction of inter-institutional collaboration. The following is a quote from an article written by Myron Widmer (1994) for the *Adventist Review* entitled “Brainstorming the Future of Adventist Colleges and Universities.”

No one knows exactly what Adventist colleges and universities in North America will look like in the future. But with certainty we can say they won’t be the same as today. In fact, if they don’t respond creatively to the intense challenges even now, they just might cease to exist or lose their distinct mission. (p. 15)

He goes on to outline five basic challenges faced by all institutions of higher education—economic pressures, demographic changes, racial and cultural tensions, scientific advances, and a national crisis of values. At the time this article was written the structure of the North American Division of Seventh-day Adventists included a Board of Higher Education founded in the 1970s and replaced by the Higher Education Cabinet in 1995 (Osborn, 1998). This board was created with the goal of becoming a central coordinating body for the Adventist institutions of higher education in North America. By the time the article by Myron Widmer (1994) was written, the Adventist Board of Higher Education had become a forum for sharing information and ideas with very little governing power.

In February of 1994, a taskforce appointed by the Adventist Board of Higher Education presented a report on the trends of the Adventist Church and Adventist education. The taskforce outlined both national and church-related trends in higher education. The national trends included the decline of school-age youth, rising tuition prices, decreasing financial support from industry, an increase in jobs that don't need a college education, competition from nontraditional educational sources, and an increase in governmental regulations. The taskforce cited similar challenges facing Adventist-sponsored higher education with the addition of an aging church population, changing church demographics, a decrease in financial support to the church by its members, financial influence from outside the Adventist church, Adventist youth failing to participate in Adventist education, decline in a mission-centered approach to education, and increased competition between Adventist institutions of higher education (Widmer, 1994).

With these challenges in mind, the taskforce listed six options for the future, all but two requiring a systems approach to Adventist education. The first was the liquidation of all Adventist colleges and universities and maintaining only a seminary for theological studies. The second option presented was the consolidation of all institutions into a few larger institutions with no central governing body. The third option looked at the possibility of specialization by each of the colleges. The fourth would require a centralized structure much like the California State University system, with a few campuses placed in strategic geographical locations. The options continued with the possibility of privatizing the colleges and universities and making greater connections with financial support outside of the Adventist church. The final suggestion is the one the

majority of Adventist colleges and universities have followed in the 15 years since the printing of this report (Widmer, 1994)—informed continuation of structural organization. This option asked the colleges and universities to continue to operate autonomously but do a better job of selling their product to the Adventist market (Osborn, 1998; Widmer, 1994).

In February of 1998, at a joint meeting of the North American Division of Higher Education Cabinet and the Adventist Association of College and University Presidents, Richard Osborn, the then Vice President for Education in the North American Division of Seventh-day Adventists, presented a paper. In the paper entitled, “Toward Collaboration in North American Division Seventh-day Adventist Higher Education,” Vice President Osborn outlined four basic essentials of collaboration among Adventist colleges and universities—cost savings, improved quality, more students, and diversity (Association of Adventist Colleges and Universities, 2002). As a result, the Association of Adventist College and University Presidents voted to authorize the appointment of a North American Division Commission for Collaboration in Adventist Higher Education. In January of 2002 the Commission developed the concept for the establishment of a Consortium of Adventist Colleges and Universities, and in February of the same year the Association of Adventist College and University Presidents voted to strongly support the idea of a system-wide consortium and directed the North American Division office of Education to work on the specifics to create the consortium (Association of Adventist Colleges and Universities, 2002). In May of 2002, at a meeting of all of the chief executive officers, chief academic officers, and chief financial officers on the campus of

Florida Hospital College of Health Sciences, bylaws were adopted and the Association of Adventist Colleges and Universities (AACU) was created.

The constituency of AACU consists of the presidents, chief academic officers, and chief financial officers of member institutions and a Board of Directors composed of the presidents and chief executive officers of member institutions and the NAD Vice President for Education (Association of Adventist Colleges and Universities, 2002).

Looking back at the article written by Myron Widmer (1994) and the suggestions made by the taskforce on the challenges and solutions in Adventist higher education, we can see that after 8 years a structure was being put in place to address the issues. In an AACU portfolio and status report entitled *Creative Collaboration for Mutual Growth* (2002)—four core goals were set forth, reducing inter-institutional barriers; finding ways of maximizing finances, both human and technological resources; coordinating program offerings, and exploring and implementing specific strategies to support and strengthen member institutions.

In January of 1999 a meeting of teachers and administrators in Orlando, Florida, resulted in the creation of Adventist Virtual Learning Laboratory (Eggers, 2001). The organization was later given the name Adventist Virtual Learning Network (AVLN). The mission of this group of Adventist faculty and administrators was “to promote global collaboration for life-long learning among Seventh-day Adventists and other faith-based organizations” (AVLN, 2008). AVLN is a completely voluntary organization comprised of teachers and administrators from K-Higher Education. This group sponsors annual meetings, hosts continuing education classes, and facilitates discussion on topics of collaboration at all levels of educational environments (AVLN, 2008).

As an outgrowth of meetings by members of the Association of Adventist Academic Administrators in September of 1999, a recommendation was made to the Association of Adventist College and University Presidents. The recommendation suggested that a board be created to govern and facilitate technology-mediated learning environments in the North American Division. This recommendation received support and was adopted in 2000. The name given to the board was Adventist Distance Education Consortium and has since been changed to Adventist Digital Education Consortium (ADEC). The mission of this board is to “facilitate collaboration and to enhance Christian education among member institutions with the aid of digital technology” (ADEC, 2008). Since its inception ADEC has launched a website to market online and distance education classes offered by Adventist colleges and universities in North America, and negotiated a joint purchasing agreement for a common course management system, Desire2Learn (ADEC, 2008).

In May of 2004 a taskforce created by the Association of Adventist Colleges and Universities board made a presentation to the AACU board on the subject of marketing Adventist education (AACU, 2004). The taskforce included members of the Adventist Enrollment Association—enrollment and marketing administrators from the 15 Adventist colleges and universities. The presentation was focused on a collaborative marketing plan which included a website, database of prospective students, advertising, resources such as guidebooks and posters, and an organizational structure which would include a system-based marketing committee. In February of 2005 the AACU board voted to financially support the report of the taskforce on marketing (AACU, 2005). This action has resulted in a more collaborative effort by enrollment personnel in Adventist higher education and

the hiring of a full-time employee for marketing and enrollment at the North American Division level.

The Adventist Intercollegiate Association is comprised of student leaders from the 15 Adventist colleges and universities in North America. This group meets once a year and holds a business session. At their meeting in April of 2004 the ADEC board developed a set of recommendations that were passed on to the board of AACU in May of 2004. Their recommendations were as follows (AACU, 2004): make the transfer of credits from one institution to another easier, establish an AACU internship and job placement network, develop a website for communication between students at AACU member institutions, allow students at member institutions to use ADEC courses towards their degree within the transfer credit limitations of individual institutions, and allow ADEC courses taken by students from AACU member institutions to be included in the block credits (tuition plan) of the student's institution (AACU, 2004).

Another group that has been very active in the collaborative efforts of Adventist higher education in North America is the Association of Seventh-day Adventist Librarians (ASDAL). This group has worked collaboratively to make library resources available to all North American Adventist higher education institutions regardless of institutional boundaries (Eggers, 2001). There are also long-standing Adventist academic organizations in the fields of Religion, Physical Education, English and others that attempt to open lines of communication between colleagues and institutions.

A review of events associated with Adventist higher education in North America has highlighted a variety of attempts at inter-institutional collaboration since 1994, with an increased pace in the last 5 years. This history of attempting inter-institutional

collaboration initiatives gives evidence of a possible behavioral change within the organization.

Theoretical Framework

The focus of this study is Adventist higher education in North America and inter-institutional collaboration. The Transtheoretical Model (TTM) of human behavioral change developed by James Prochaska (J. O. Prochaska et al., 1988; Prochaska & Norcross, 1992; Prochaska, Norcross, & DiClemente, 1994; Prochaska & Norcross, 2001; Prochaska et al., 2005) provides the theoretical foundation for this study. The Transtheoretical Model has two parts: the assessment of the current stage of change and the processes of change. It is assessment of the stage of change that allows us to give a quantifiable description of the state of inter-institutional collaboration among Adventist colleges and universities in North America. Once the participant's stage of change has been established, processes of change can be matched with the participant's stage of change, thus enhancing the likelihood of continued behavioral change (Levesque et al., 1999).

The Stages of Change

The first aspect of the Transtheoretical Model is the stages of change (Levesque et al., 1999; Prochaska, 1984). The participant's stage of change represents describable points of attitudes, intentions, behaviors related to a person or organization's status in the cycle of behavioral change. Each stage represents not only a point on the cycle of change but a set of tasks required for advancement to the next stage. The stages are precontemplation (not even thinking about change), contemplation (change is now

something up for consideration), preparation (ready to take action and is looking for ways to make the change in behavior), action (information has been gathered and change is taking place), and maintenance (the desired change has been made and now the person or organization is working to maintain the change). The following are descriptions and examples of the five stages of change.

Before a person or organization can make a change in behavior there needs to be an understanding of the need for change. In the precontemplation stage the person or organization is not aware of any problems in behavior much less the need for change. In the case of a smoker, there is no understanding that smoking can lead to serious health problems if a change in behavior is not made.

Once a person or organization has gained knowledge about a problem behavior and understands that change may be appropriate, the person or organization is said to be in contemplation. The person or organization understands the need for change but has not yet made a commitment to change.

After a person or organization has reached the preparation stage, they are ready to take action within a very short period of time. The person or organization is making final adjustments and gathering the last pieces of information before beginning to change the behavior.

The point at which people or organizations modify their behavior is called the action stage. This stage requires the greatest amount of commitment of time and energy as the decision has been made and action is taking place.

The last stage is called maintenance. The behavior has been changed and there must be a constant effort to prevent regression into the previous behavior.

The Transtheoretical Model includes stage-associated intermediate/outcome measures. These measures are decisional balance, self-efficacy, and behavioral frequency. The assessment of these measures enhances the power of the TTM to accurately detect a person or organization's stage and any changes in stage (Prochaska et al., 1988; Prochaska et al., 1994; J. O. Prochaska & Norcross, 2001; J. Prochaska & Norcross, 2003, J. Prochaska et al., 2005). For example, as a person or organization moves from the precontemplative stage to maintenance, the participant sees the change in behavior as increasingly positive and decreasingly negative. This change in the participant's perception of changing is called decisional balance. At this point we will take a more detailed look at each of the intermediate/outcome measures.

The concept of decisional balance and its role in the decision-making process was developed by Irving Janis and Leon Mann (1977). As a person moves from the early stages of change to the more advanced stages, the degree of negative or con associated with the change in behavior declines and the degree of positive or pro associated with the change is increased. In a variety of studies, Prochaska, Norcross, et al. (1994) found that the balance of pros and cons was systematically related to stage of change. The point at which the pros outweigh the cons generally happens in the middle stages of contemplation and preparation and continues into the stages of action and maintenance. Research has found that in order for a person or organization to progress from precontemplation to action involves a 1.0 standard deviation increase in the pros of making the change and a 0.5 standard deviation decrease in the cons of making the change in behavior (Levesque et al., 1999).

Likewise, Prochaska, Norcross, et al. (1994) found a strong relationship between a person's stage of change and degree of self-efficacy towards the change process. Self-efficacy is the self-held belief that he or she is in control of the change process and has the capacity to attain the desired behavior. As the process of changing behavior moves from the early stages to the more advanced stages, the degree of self-efficacy increases.

Behavioral frequency evaluates the rate to which the person or organization participates in the desired behavior. As the participant moves from precontemplation to maintenance, the frequency of participation in the desired behavior is systematically increased across the stages of change. Thus, the multivariate use of intermediate/outcome measures in the Transtheoretical Model increases the likelihood of accurately assessing the person or organization's stage of change.

Once a person or organization's position on the stages of change has been accurately assessed, the Transtheoretical Model suggests appropriate processes which enhance the likelihood of successful progression to the next stage in the process of acquiring the desired behavior.

Processes of Change

The second dimension of the Transtheoretical Model is the processes of change (Prochaska et al., 1988; Prochaska et al., 1992; Prochaska et al., 1994; Prochaska & Norcross, 2001; J. Prochaska et al., 2005). These processes are either covert or overt activities engaged in by people or organizations to alter emotion, thinking, behavior, or relationships (Prochaska, 1984; Levesque et al., 1999). There are 10 processes used to help move people along the stages of change. The first 5 are experiential in nature and most effective in the early stages of precontemplation, contemplation, and preparation.

The experiential processes are consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-reevaluation. The second 5 are behavioral in nature and most effective when used in the stages of action and maintenance. These processes are stimulus control, helping relationships, counter conditioning, reinforcement management, and self-liberation (Prochaska, Velicer, Rossi, Goldstein, & Marcus, 1994; Prochaska & Norcross, 2003). The 10 processes are now examined in greater detail.

The process of consciousness raising is when the person or organization becomes aware of the cause, consequences, and modalities to change the current behavior. For example, a person who is trying to stop smoking becomes aware of the health hazards associated with smoking. The action of consciousness raising increases the information available to the participant, thus improving the likelihood of moving forward or making a change in behavior.

Dramatic relief or catharsis is a process that provides the person or organization with an affective and motivating experience relative to the problem behavior. To continue with the smoking example, the smoker hears the testimony of someone who has had a brush with lung cancer and has stopped smoking. This experience heightens emotions and reduces the negatives associated with the change of behavior (Prochaska et al., 1992).

Environmental reevaluation is a process that helps the individual or organization understand with greater clarity the impact the behavior has on others. In the case of the smoker, the smoker realizes the impact of second-hand smoke on those he or she lives with or becomes aware of the increase in insurance premiums associated with having a smoker in the house, thus increasing the motivation to change the behavior (Prochaska & Norcross, 2001).

Becoming aware of and using social or environmental conditions that support a change in behavior is called social liberation. An example would be smoke-free zones in restaurants, and legislation that limits exposure to second-hand smoke helps make it easier for the smoker to become a non-smoker.

An individual or organization experiencing self-reevaluation gives thoughtful and emotional reappraisal of the problem behavior and gains a better understanding of what life after a behavioral change would be like. In the case of the smoker, he or she begins to understand some of the joys experienced by non-smokers such as the ability to climb stairs without running out of breath, enjoying the taste of your food, or just not being looked down on by others for smoking (Prochaska & Norcross, 2001).

Learning to pay attention to stimuli that reinforce problem behavior and taking steps to control or counter that stimulus is called stimulus control (Prochaska, Velicer, et al., 1994). For example, the smoker who needs to smoke in specific environments should avoid those environments and look for environments where not smoking is supported.

Asking for help and the creation of a supportive network of friends and family who are willing to extend a helping hand in time of need is called the helping relationship. Making changes in behavior is not something that must be done alone and the chances of accomplishing the desired goal can be enhanced by the use of a network of supportive friends and family (Prochaska, Norcross, et al., 1994).

Replacing problem behaviors with positive ones is called counterconditioning or countering (Prochaska, Norcross, et al., 1994). At this point the person or organization receives the reinforcement of new behaviors and the realization that old behaviors are not

as important. In the case of the smoker, exercise replaces smoking and the smoker realizes how enjoyable life can be without the use of tobacco.

The reward system of behavioral contract is also called reinforcement management. This process requires the creation of a rewards system for the reinforcement of the desired behavior. In the before-mentioned case of the smoker, a reward for not smoking would be something positive that the smoker would enjoy doing. This creates incentive to continue the change in behavior (Prochaska & Norcross, 2003).

The process of change requires that the person or organization feels empowered to make change. During the process of self-liberation the person or organization has a greater feeling of self-efficacy and feels empowered to make change. With each hour or day he or she resists the negative behavior; he or she feels more like making the behavioral change as something that can be done (Prochaska & Norcross, 2001).

Summary

In summary, institutions of higher education in North America are experiencing an environment defined by changing expectations, increased competition, and insufficient resources (Teachout, 2009). In response, many institutions of higher education have turned to consortiums and other forms of inter-institutional collaboration as a way of meeting the challenges and enhancing quality.

Adventist institutions of higher education in North America not only face the challenges that are common to all of higher education in North America but are encountering pressures that are specific to the Adventist target market. The Adventist-specific challenges include an aging church population, slowing church growth, and changes in Adventist membership demographics. The changes in the Adventist target

market are decreasing the size of the Adventist population likely to have the economic ability and the desire to attend an Adventist institution of higher education in North America.

A review of the collective activities of Adventist higher education reveals a variety of attempts at inter-institutional collaboration in an effort to meet economic and sociological challenges. Successful changes in behavior depend on knowledge of current status and the implementation of effective change processes. The purpose of this study was to describe the current status of inter-institutional collaboration among Adventist institutions of higher education in North America. Once described, appropriate processes for advancing inter-institutional collaboration among Adventist institutions of higher education in North America can be suggested.

The Transtheoretical Model (TTM) used in this study quantifies behavioral change into five stages: precontemplation, contemplation, preparation, action, and maintenance. These stages of change are associated with intermediate/outcome measures of decisional balance, self-efficacy, and behavioral frequency, which combine to establish a powerful and accurate multivariate method of evaluating the change process (Prochaska, Norcross, et al., 1994; Prochaska & Norcross, 2003). Once stage of inter-institutional collaboration is described, the TTM was used to recommend change processes that will increase the likelihood of successfully enhancing the environment for inter-institutional collaboration among Adventist institutions of higher education in North America. The Transtheoretical Model was chosen for use in this study due to its extensive use in the evaluation of human behavioral change and its more recent use in the process of describing organizational behavior.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study is to describe the current collaborative environment in North American Adventist higher education. In this section I describe the problem, purpose, research questions, research design, a description of the population and rationale for selection, the process of instrument development (including issues of selection reliability and validity), procedure, and method of data analysis.

Research Questions

This study attempts to answer the following questions relative to the perception and actions of faculty and administrators at Adventist colleges and universities in the North American Division.

1. What is the status of inter-institutional collaboration among Adventist colleges and universities in North America?
2. What is the relationship between the stages of inter-institutional collaboration and the following selected demographic characteristics: gender, work classification, age, and years of experience in Adventist higher education?
3. What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency?

4. In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency?

Research Design

This study was a quantitative and used survey research methodology in which an instrument developed by James Prochaska, Norcross, et al. (1974) was adapted to assess inter-institutional collaboration among Adventist colleges and universities in North America. The survey was administered via web-based technology (Zoomerang) to faculty and administrators at the 15 Adventist institutions of higher education in North America. By nature, surveys are broad in scope and fit well to the process of describing present practices or opinions within a specific population (Thomas, 1990).

Population and Sample

Participants in this study are full- and part-time faculty and administrators at the 15 Adventist institutions of higher education in North America. This population includes approximately 2,214 faculty and 364 administrators (NAD, 2006). The rationale for including all members of the population is twofold. First, return rates on web-based surveys are traditionally low (Andrews, Nonnecke, & Preece, 2003) and by sampling the entire population data were gathered from a larger portion of the population. Second, the web-based technology available to sample the entire population can be done at no additional expense.

The Instrument and Its Development

The instrument used in this study was a behavior-specific version of the stages of change survey used in the Transtheoretical Model developed by James O. Prochaska, Norcross, et al. (1994). The instrument was initially used to evaluate readiness for behavioral change, decisional balance, self-efficacy, and behavioral indicators relative to issues such as exercise, weight reduction, smoking, and sexual activity (Grimley et al., 1996; Norcross et al., 1985; Norcross & Prochaska, 2002; Prochaska et al., 1998). In recent years the instrument has been used to evaluate not only changes in behavior by individuals but also the readiness for change by organizations (Levesque et al., 1999; Phillips, 2004).

According to Levesque et al. (1999), there are two steps that must be adhered to when applying the Transtheoretical Model to organizational change. The first step is to identify the target behaviors followed by the customization of the survey or instrument. The customization of the instrument is done relative to the target behaviors. The TTM instrument used in this study was a behavior specific modification of the instrument used by Levesque et al. (1999) to evaluate readiness to participate in collaborative service delivery at the University of Rhode Island.

Identification of Target Behavior

A definition of inter-institutional collaboration was developed from a review of current collaborative behaviors by successful inter-institutional consortia in higher education organizations (Associated Colleges of the South, 2008; Colleges of the Fenway, 2008; Five Colleges Inc., 2008), discussion with leaders in those organizations, and a review of documents relative to published goals for collaboration set forth by the

Association of Adventist Colleges and Universities (AACU, 2002). For the purpose of this study the target behavior, inter-institutional collaboration among Adventist colleges and universities, is defined as follows: Inter-institutional Collaboration, by Seventh-day Adventist Institutions of higher education in the North American Division (NAD), involves the creation of opportunities to share educational assets with the goal of maximizing financial, human, and intellectual resources. Successful Inter-institutional Collaboration requires that Faculty/Administrators:

1. Work with faculty/administrators from other NAD institutions of higher education by providing funding and or planning opportunities for inter-institutional academic/administrative programs;
2. Are involved in inter-institutional purchasing or financial projects/ventures with the goal of minimizing costs and maximizing financial resources;
3. Share professional resources such as teaching or administrative documents and procedures;
4. Participate at least once a term in brainstorming sessions with colleagues of like job assignments on topics such as scholarly exchange, and discussion of pedagogical or administrative issues.

Customization of the TTM Instrument

Once the target behavior is established, the TTM instrument must be customized to match the target behavior (Levesque et al., 1999). There are four components to the instrument: stage of change, decisional balance, self-efficacy, and behavioral frequency. Modifications to the TTM instrument used by Levesque et al. (1999) were done in consultation and with the support of the instrument's authors. The following is a look at

the four components of the TTM instrument and a discussion of the adaptations made to each. The instrument scales and response format remained the same and were entered into digital format to accommodate the survey's web-based delivery (see Appendix A). The instrument contains five sections, which evaluate stage of inter-institutional collaboration, behavioral frequency, decisional balance (pro and con), self-efficacy, and demographics of the study participants (see Table 1).

The status of inter-institutional collaboration or stage of change is established by the participant's response to a single question, Given your role in Adventist higher education, to what degree have you been involved in inter-institutional collaborative behaviors? The possible responses are: Not at all, and do not intend to within the next 6 months (precontemplation); Not at all, but I intend to within the next 6 months (contemplation); Not at all, but I intend to within the next 30 days (preparation); I have, but for less than 6 months (action); I have for more than 6 months (maintenance). This component of the instrument was adapted by changing the target behavior participants were asked to reference as they responded to the stage-reporting question.

Adaptations to behavioral indicators were similar to those of the stage of change question. Behaviors common to successful inter-institutional collaborations were substituted for those behaviors listed in the original instrument by Levesque et al. For example, the instrument by Levesque et al. (1999) asked participants to evaluate the frequency of behavior related to the University of Rhode Island change over to a more integrated service delivery program.

Table 1

Instrument Item Specifications

Variables	Measure	Item Numbers
Inter-institutional collaboration	Participants' stage of inter-institutional collaboration	1
Behavioral Frequency	Frequency of participation in the target behavior	2-10
Decisional Balance		
Pro	Degree to which change is positive	11,14,16,17,20,23,24,25,28
Con	Degree to which change is negative	12,13,15,18,19,21,22,26,27
Self-efficacy	Degree of self-held belief that he or she is in control of the change process	29-42
Demographics	Gender, age, institutional affiliation, teaching experience, and work assignment	43-50

One question asked participants to rate the frequency of their collaboration with colleagues from other departments and was modified by asking participants to evaluate the frequency of their involvement with colleagues from another NAD college/university on projects relevant to his or her current assignment.

Decisional balance is a concept developed by Irving Janis and Leon Mann (1977) and included as part of the TTM by Prochaska, Velicer, et al. (1994). As people make decisions, they either consciously or unconsciously evaluate the consequences of their action relative to four main categories of the decisional balance, which are as follows:

1. *Utilitarian gains and losses for self.* In this category the decision maker looks at the expected instrumental effects of the decision with regard to practical objectives. How will this decision affect my personal welfare?

2. *Utilitarian gains and losses for significant others.* At this point the decision is made with respect to the consequences or impact on those people or organization to

which he or she is identified or affiliated. How will this decision affect the well-being of the organization or the people I am affiliated with?

3. *Self-approval or disapproval.* The consequences of the decision are now weighted against moral standards, ego ideals, and components of self-image. Will I feel proud or ashamed if I make this choice?

4. *Approval or disapproval by significant others.* The decision maker now asks the question of approval relative to the organization or persons to whom he or she is affiliated or identified with. Will the people I work with or the organization feel I have made a good decision?

The decisional balance component of the survey was adapted to meet the target behavior. This adaptation involved minor changes in wording from the instrument used by Levesque et al. (1999) to better meet the description of inter-institutional collaboration. For example, a question on the original instrument asked participants to rate the level of importance the disapproval of co-workers had on his or her decision to become involved in the collaborative service delivery at the University of Rhode Island. This question was modified so that the participant was asked to rate the level of importance the disapproval of colleagues would have on the participant's decision to become involved in inter-institutional collaboration among Adventist institutions of higher education in North America.

The self-efficacy component of the survey was also adapted to better fit the wording of the target behavior of inter-institutional collaboration among Adventist institutions of higher education in North America. For example, questions on the instrument used by Levesque et al. (1999) asked participants to rate their level of

confidence relative to continued involvement in a more collaborative service delivery at the University of Rhode Island and included issues of autonomy and work load. These questions were modified and asked the participants to rate their level of confidence relative to involvement in inter-institutional collaboration among Adventist institutions of higher education in North America. All adaptations to the instrument used by Levesque et al. (1999) were made in consultation with the authors.

Reliability and Validity

The Transtheoretical Model (TTM) has proven to be robust in its ability to describe behavioral change in the health and fitness field (Prochaska et al., 1988; Prochaska, Norcross, et al., 1994; Prochaska & Norcross, 2003; Prochaska et al., 2005) and in the organizational environment (Levesque et al., 1999; Phillips, 2004). The instrument used in the TTM has four components: stage of change, behavioral indicators, decisional balance pro, decisional balance con, and self-efficacy.

The first step in the modification of the original instrument (Levesque et al., 1999) was to identify and define the target behavior. A committee of experts on the subject of inter-institutional collaboration, in particular inter-institutional collaboration among Adventist institutions of higher education in North America, reviewed and gave input to the establishment of the target behavior. The committee included two presidents and two vice-presidents of Adventist institutions of higher education, two vice-presidents for education in the North American Division of Seventh-day Adventists, the previous president of the Adventist Virtual Learning Network, and four faculty members working at Adventist institutions of higher education in North America. The first component of the instrument established stage of change by asking the participant to review the target

behavior and rate his or her involvement in the behavior on a 5-point scale. Each point on the scale represents one of the stages of change: precontemplation, contemplation, preparation, action, and maintenance.

In an effort to maintain construct validity, modifications to portions of the original instrument that evaluate the outcome measure of decisional balance pro and con, self-efficacy, and behavioral frequency were done in consultation with the authors of the original instrument.

The concept of decisional balance, developed by Irving Janis and Leon Mann (1977), was found to have a strong relationship with the behavioral change process (Prochaska, Velicer, et al., 1994). As people make the decision to change behavior, they either consciously or unconsciously evaluate the consequences of their action relative to four main categories of decisional balance. As a person or organization progresses from precontemplation to maintenance, the negatives or cons of changing the behavior diminish and the positives or pros increase. Research has indicated that changes in decisional balance (pro and con) are systematically related to stage of change (Prochaska, Velicer, et al., 1994). The cons of making a behavioral change should outweigh the pros in the stage of precontemplation, and by the stage of preparation the pros should surpass the cons and remain so into the stage of maintenance. Research has found that in order for a person or organization to progress from precontemplation to action, the person or organization needs to increase the pros of making the change in behavior by 1.0 standard deviation and decrease the cons by 0.5 standard deviations (Prochaska, Velicer, et al., 1994). For the purpose of this study participants are asked to evaluate, on a 5-point scale, the level of importance 18 decisional factors have on their decision to become involved in

inter-institutional collaboration. Cronbach's Alpha was used to test the internal consistency and reliability of the instrument and found both the nine questions related to decisional balance pro ($\alpha=.90$) and con ($\alpha=.92$) to be highly consistent and reliable.

The behavioral frequency portion of the instrument asks participants to rate their involvement in a series of inter-institutional collaborative behaviors (Levesque et al., 1999). These behaviors are closely linked to the definition of inter-institutional collaboration used in the initial self-reported stage of change. To maintain construct validity the list of behaviors was taken from the definition of inter-institutional collaboration, a list of behaviors used by successful inter-institutional organizations, and the Association of Adventist Colleges and University goals (2002). The list was also reviewed by a panel of experts on the subject of inter-institutional collaboration, in particular inter-institutional collaboration among Adventist institutions of higher education in North America. Participants were asked to describe the frequency of their involvement in the listed behaviors over the last 5 months. Responses were on a 5-point scale with 1 representing not at all in the past 5 months and 5 as repeatedly over the past 5 months. Tests of internal consistency and reliability for the 14 items used to measure behavioral frequency were found to be highly reliable and consistent ($\alpha=.91$).

The self-efficacy portion of the survey is used to evaluate the participant's confidence in his or her ability to change to the target behavior. A strong relationship has been found between the degree of self-efficacy and a person's stage of change (Prochaska, 1984). As a person moves from precontemplation to maintenance, the degree to which the person feels empowered to make the behavioral change increases. For the purpose of this study and to maintain construct validity, the survey used by Levesque et

al. (1999) was only slightly modified to fit the definition of inter-institutional collaboration. Tests for internal reliability and consistency found the instrument to be highly reliable and consistent ($\alpha=.93$) for the 13 items that measure self-efficacy.

Procedures

A behavior-specific version of the TTM stages of change survey was entered into the web-based survey tool, Zoomerang. The survey included all elements of the stage of change survey developed by James Prochaska (1984) and includes requests for demographic data pertinent to this study. Participants received an email invitation to participate in the study along with a link. Both the invitation and the survey contained a statement of confidentiality and assurance of anonymity for both the participant and the institution of employment.

The survey process involved approval by the Andrews University Institutional Research Board, and a request for permission to survey faculty and administrators was made to the Presidents and Chief Academic Officers at each of the 15 Adventist colleges and universities in North America. Permission was granted to survey faculty and administrators at all 15 Adventist institutions of higher education in North America. By participating in the survey, participants gave implied consent with the realization that their involvement in the study was both voluntary and anonymous. The identity of the individual institutions is protected and references within this study are kept to a generic format.

Treatment of the Data

For the purpose of this study, the Transtheoretical Model and its stages of change, decisional balance, self-efficacy, and behavioral indicators (Prochaska, Norcross, et al., 1994) were used to describe the status of the inter-institutional collaborative environment in Adventist higher education in North America. In this section I present the common methods of analysis used to evaluate data gathered from each element of the TTM instrument followed by the method of analysis used to respond to each of the four research questions.

Prior to analysis, surveys were screened for completeness. Participants who failed to respond to question 1, stage of inter-institutional collaboration, were excluded along with participants who failed to respond to at least 80% of the remaining questions. Of the 797 participants who responded to the invitation to participate in the study, 154 participant surveys were excluded, yielding 643 surveys for data analysis. Demographic data relative to age of participant were transformed from birth year to age of participant.

Stage of Change

This study used a behavior-specific version of the stage of change instrument developed by Prochaska, Norcross, et al. (1994) and later modified by Prochaska and Levesque et al. (1999) to evaluate organizational collaborative behavior at the University of Rhode Island. Participant response on the first question of the TTM instrument establishes stage of change. For the purpose of this study, stage is relative to the status of inter-institutional collaboration among Adventist institutions of higher education in North America. There were five possible responses, each establishing a different stage of change. The status of inter-institutional collaboration, or stage of change, was established

by summing the frequency of responses to each of the five possible selections and establishing the mean score for each demographic group (Lavesque et al., 1999).

Decisional Balance

The decisional balance is a two-part outcome measure of stage-change process within the TTM instrument. The two parts are perceived pros, or the positive aspect of changing a specific behavior, and cons, or the negative aspect of making the specific behavioral change. As a person or organization changes, the pros of making the change increase and the cons decrease (Phillips, 2004). Changes in the decisional balance are miniscule, thus scores for decisional balance pro and con must be standardized for evaluation. The survey used in this study offers 18 questions related to decisional balance (9 pros and 9 cons) with responses on a 5-point scale. The procedure used to analyze decisional balance results was to sum the participant's responses to questions related to decisional balance, establish the mean for decisional balance (pro and con), then convert the means to a *t* score. The following formula was used to convert individual mean scores for decisional balance (pro and con) into *t* scores:

$$T = 50 + 10(X - Y) / Z \text{ (Levesque et al., 1999).}$$

X = Raw score of participant

Y = Average Score of the whole sample

S = Standard Deviation

Once converted to a standard score, results for decisional balance (pros and cons) were plotted on a graph for comparison. Inferential statistics was used to evaluate the relationship between the results from other aspects of the TTM instrument such as stage of change, self-efficacy, and behavioral frequency. The evaluation of decisional balance

included a comparison of the participant's stage-associated pro and con scores. Research has indicated that, across a variety of behaviors and populations, participants need, on average, a 1.0 standard deviation increase in the pro scores and a 0.5 standard deviation decrease in the con scores (Levesque et al., 1999).

Self-efficacy

The portion of the TTM instrument, which involves analysis of a participant's confidence in his or her ability to change, or self-efficacy in the change process, contains questions and uses a 5-point scale for the participant's response. Summing the participant's responses to 14 questions and calculating means establishes the participant's degree of self-efficacy relative to inter-institutional collaboration.

Behavioral Frequencies

As individuals or organizational groups move from one stage of inter-institutional collaboration to the next, frequency to which they participate in behaviors that are more collaborative is known as behavioral frequencies (Levesque et al., 1999). This portion of the TTM measure had nine questions and asked the participant to rate his or her frequency of participation in inter-institutional collaboration on a 5-point scale with 1 as never and 5 for repeatedly. Summing the scores for the 14 questions and calculating means establishes the participant's behavioral frequency.

Research Questions and Data Analysis

In this section I list each of the research questions and describe the statistical tool used to evaluate data. In general, the format is an attempt to disclose relationships and differences between groups.

Research Question 1

What is the status of inter-institutional collaboration among Adventist colleges and universities in North America? The participants' stage of change is established by responding to question 1 on the survey. The frequency distribution was generated to summarize the stage of inter-institutional collaboration, thus the percentage of respondents in each stage indicates the nature of inter-institutional collaboration among Adventist institutions of higher education in North America.

Research Question 2

What is the relationship between the stages of inter-institutional collaboration and the following selected demographic characteristics: gender, work classification, age, and years of experience in Adventist higher education? Chi-Square tests of association were used to examine the relationships between demographic characteristics and the stage of inter-institutional collaboration. Both stage of collaboration and demographic characteristics were categorical variables.

Research Question 3

What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency? Because question 3 involves the interaction of one independent variable and multiple dependent variables, a

one-way MANOVA was used to examine the relationship between the stage of inter-institutional collaboration and the four dependent variables of self-efficacy, decisional balance (pro and con), and behavioral frequency. Data for decisional balance, self-efficacy, and behavioral frequency were analyzed for distribution and the degree of central tendency by stages of collaboration. The Box test of equality of covariance matrices was done to test the assumption of equality of covariance matrices across all independent variables and the Pillai's Trace was used as the multivariate test (Akey, Green, & Salkind, 2000; Tabachnick, 2007).

Research Question 4

In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency? To study the relationship between independent variables of the stage of inter-institutional collaboration and other aspects of the transtheoretical model, and dependent variables of demographics or age, years of experience in Adventist higher education, gender, and work classification, a two-factor MANOVA was performed. The two-factor MANOVA was used because it allows for interaction analysis of two independent factors and multiple dependent variables.

Of particular importance in answering question 4 is the effect of stage on the linear combination of behavioral frequency, decisional balance pro and con, and self-efficacy. A significant stage effect on this linear combination would support the Transtheoretical Model (TTM) and its stage-dependent outcome measures. Once the relationship of stage and outcome measure has been established, the combined interaction

effect of stage of inter-institutional collaboration and demographic characteristics can be tested. A significant interaction effect of stage and demographic characteristics on the linear combination of behavioral frequency, decisional balance pro and con, and self-efficacy would suggest that the Transtheoretical Model is demographic dependent. A lack of significant interaction effect by stage and demographic characteristics on the linear combination of outcome variables would demonstrate the consistency of the TTM instrument across demographic characteristics.

The Box test of equality of covariance matrices was done to test the assumption of equality of covariance matrices resulting in the use of the Pillai's Trace test as the multivariate test (Akey et al., 2000; Tabachnick & Fidell, 2007) and the level of statistical significance was subjected to the Bonferroni adjustment.

Summary

The focus of this study was the evaluation of the status of inter-institutional collaboration among Adventist institutions of higher education in North America. The Transtheoretical Model was chosen because of its ability to capture and describe the status of behavioral change. In addition to the Transtheoretical Model's descriptive nature, the integration of stage and processes of change will guide the selection of interventions, which will increase the likelihood of enhancing the environment for inter-institutional collaboration among Adventist institutions of higher education in North America.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to evaluate the current collaborative environment among Adventist institutions of higher education in North America. In this chapter I present a description of the study population and analysis of data. The analysis of data is presented in response to each of the four research questions. Data analysis was done using the Statistical Program for Social Sciences (SPSS).

Description of the Sample Population

Participants in this study were full- or part-time faculty and administrators at the 15 Adventist institutions of higher education in North America. This population includes approximately 2,214 faculty and 364 administrators for a total population of 2,578 (NAD, 2006). The rationale for including all members of the population is two-fold. First, return rates on web-based surveys are traditionally low (Andrews et al., 2003) and by sampling the entire population data were gathered from a greater percentage of the population. Second, the web-based technology available to sample the entire population was done at no additional expense.

The study population consists of representation from 15 of the 15 Adventist institutions of higher education in North America. The total population of faculty and administrators working at Adventist institutions of higher education in North America is

2,578. There were 631 participants in the study or 25% of the total population of faculty and administrators working at Adventist institutions of higher education in North America. Thirty-eight percent of the administrators and 22% of the faculty working at Adventist institutions of higher education in North America participated in the study. The participants within the study consisted of 301 females (46.8%) and 330 males (51.3%), 494 faculty (76.8%), and 137 administrators (21.5%). The study participants had a mean age of 52.5 years of age ($SD = 11.26$), with faculty at 52 ($SD = 11.70$) and the administrators at 54 ($SD = 9.29$) years of age. The mean for years of experience among the participants was 15.5 ($SD = 10.94$) years, with administrators at 17.7 ($SD = 10.77$) and faculty at 14.9 years of experience within Adventist higher education ($SD = 10.92$). Of the 631 participants, 389 (60.5%) have had experience outside of Adventist higher education. Of the participants with experience outside of Adventist higher education, 273 (42.5%) participants had experience in Non-Adventist higher education, 122 (19.0%) in secondary education, and 78 (12.1%) at the kindergarten to eighth-grade level. The survey listed 20 possible teaching assignments for faculty with nursing as the most often selected (14%) among faculty participants. Four of the 15 presidents participated in the study. Of the vice-presidents, the highest degree of participation came from the vice-presidents for student services, with 8 participating out of a possible 14. A summary of the participant frequency distribution can be seen in Table 2.

Table 2

Study Participants by Demographic Groups

Variable	Frequency	Percentage
Gender		
Female	301	46.8
Male	330	51.3
Work Assignment		
Faculty	494	76.8
Administration	138	21.5
Experience in Adventist HE		
0–10 Years	232	36.1
11–20 Years	172	26.7
21–More	160	24.9
Age of Participant		
< 30 Years	101	15.7
31–40 Years	149	23.2
41–50 Years	186	28.9
> 50 Older	162	25.2

Results

Research Question 1

What is the status of inter-institutional collaboration among Adventist colleges and universities in North America?

Approximately 57% of the participants are at the precontemplative or contemplative stages whereas about 42% are at the action or maintenance stages. A little over 1% of the population is at the preparation stage. The participants' stage status may be related to demographic issues and is addressed in response to research question 2. The stage frequencies and percentages of respondents are shown in Table 3.

Table 3

Frequencies and Percentages of Participant's Stage of Inter-institutional Collaboration

Stage of Change	Frequency	Percentage of Total
Pre-Contemplative	298	46.3
Contemplative	68	10.6
Preparation	7	1.1
Action	68	10.6
Maintenance	199	30.9
Total	640	100.0

From this point onward, due to a small number of participants ($N = 7$ or 1.1%) in the preparation stage, participants in the preparation stage were combined with the participants in the contemplation stage. The rationale for this combination is that participants in the preparation stage are still in the decision-making processes and actual implementation of the change has not occurred. In the action stage, participants have made the decision to change and started implementing the change of behavior. The shift from thought to implementation of change at the action stage makes the combination of preparation and contemplation a natural combination.

Research Question 2

What is the relationship between the stages of inter-institutional collaboration and the following selected demographic characteristics: gender, work classification, age, and years of experience in Adventist higher education?

Chi-Square analyses were done with the demographic groupings as the independent variables and stage of change as the dependent variable. The following are results by demographic group.

Gender

A Chi-Square analysis indicated that stage of collaboration is not related to gender ($\chi^2 = 1.75, df=3, p=0.627$). As the data in Table 4 indicate, the proportions of males and females at each stage of collaboration are approximately the same. For example, there are about 46% females in the precontemplation stage compared to 47% of males in the same stage. Also, 30% of females are in the maintenance stage compared to 32% of males.

Table 4

Stage Frequencies and Percentages by Gender

Variable/Stage	Contemplation			
	Precontemplation	Preparation	Action	Maintenance
Female	137 (45.7)	35 (11.7)	37 (12.3)	91 (30.3)
Male	154 (47.0)	38 (11.6)	30 (9.1)	106 (32.3)

Note. Numbers in parenthesis are percentages; $\chi^2 = 1.75, df=3, p=0.627$.

Work Assignment

A Chi-Square analysis indicates that there is a significant relationship between stage of collaboration and work assignment ($\chi^2 = 33.52, df=3, p=0.000$). A standardized residual of +/-2 indicates a significant difference between faculty and administrators is at the precontemplative stage, with 52% of faculty in precontemplation compared to 26% of administrators. Likewise there was a significantly larger portion of administrators at the maintenance stage (48.9%) compared to faculty (26.2%). For complete work classification frequency and percentage, see Table 5.

Age of Participant

For the purpose of this study, participants were placed into four groups according to age. The Pearson Chi-Square test for age-related variations of stage indicated that there is a significant relationship between stage of collaboration and age of the participant ($\chi^2 = 23.33$, $df=9$, $p=0.005$). Standardized residuals of +/-2 appear to indicate that the differences between age groups are in maintenance and contemplation/preparation stages.

Table 5

Stage Frequencies and Percentages by Work Classification

Variable/Stage	Contemplation			
	Precontemplation	Preparation	Action	Maintenance
Faculty	256 (52.0)	56 (11.4)	51 (10.4)	129 (26.2)
Administration	36 (26.3)	17 (12.4)	17 (12.4)	67 (48.9)

Note. Numbers in parenthesis are percentages; $\chi^2 = 33.52$, $df=3$, $p=0.000$.

A significantly smaller portion of age group 1 is in maintenance (18.8%) in comparison to age groups 2 (29.5%), 3 (37.0%), and 4 (36.6%). Likewise a significantly smaller portion of age group 4 (4.3%) is in contemplation/preparation in comparison to groups 1 (15.8%), 2 (12.8%), and 3 (13.0%). For complete age-related frequency and percentages, see Table 6.

When the relationship of age and stage of inter-institutional collaboration was analyzed within work classification groups, there was no significant relationship found between stage of inter-institutional collaboration and the age of faculty ($\chi^2 = 16.57$, $df=9$, $p=0.056$), or administrator ($\chi^2 = 15.04$, $df=9$, $p=0.090$).

Years of Experience

Participants were divided into three groups based on their years of experience in Adventist higher education. The Chi-Square analysis indicated that there is a significant relationship between stage of collaboration and years of experience in Adventist higher education ($\chi^2 = 18.21$, $df=6$, $p=0.006$).

Table 6

Stage Frequencies and Percentages by Age Groups

Age Group (Age)	Contemplation			
	Precontemplation	Preparation	Action	Maintenance
1 (<30)	53 (52.5)	16 (15.8)	13 (12.9)	19 (18.8)
2 (31–40)	73 (49.0)	19 (12.8)	13 (8.7)	44 (29.5)
3 (41–50)	70 (38.0)	24 (13.0)	22 (12.0)	68 (37.0)
4 (> 50)	79 (49.1)	7 (4.3)	16 (9.9)	59 (36.6)

Note. Numbers in parenthesis are percentages; $\chi^2 = 23.33$, $df=9$, $p=0.005$.

Standardized residuals of +/-2 appear to indicate that the difference between groups is in the maintenance stage, participants in group 1 (21.6%) were significantly lower than expected in comparison to groups 2 (35.5%) and 3 (38.0%). For complete frequency and percentage analysis, see Table 7.

Table 7

Stage Frequencies and Percentages by Experience Groups

Experience Group (Years)	Contemplation			
	Precontemplation	Preparation	Action	Maintenance
1 (<10)	122 (52.6)	31 (13.4)	29 (12.5)	58 (21.6)
2 (11–20)	71 (41.3)	21 (12.2)	19 (11.0)	61 (35.5)
3 (>20)	72 (45.6)	10 (6.3)	16 (10.1)	60 (38.0)

Note. Numbers in parenthesis are percentages; $\chi^2 = 18.21$, $df=6$, $p=0.006$.

Further analysis of the relationship of the years of experience and stage of inter-institutional collaboration revealed that within work assignment groups only faculty ($\chi^2 = 15.65$, $df=6$, $p=0.016$) demonstrated a significant relationship between years of experience and stage of inter-institutional collaboration. Standardized residual of +/-2 indicates a significant difference between faculty experience groups in the maintenance stage where participants classified as group 1 (17.8%) were lower than expected in comparison to groups 2 (31.6%) and 3 (31.9%). For complete frequency and percentage analysis, see Table 8.

Table 8

Stage Frequencies and Percentages by Age and Work Assignment—Faculty

Experience Group (Years)	Contemplation			
	Precontemplation	Preparation	Action	Maintenance
1 (<10)	122 (52.9)	25 (12.7)	29 (12.7)	35 (17.8)
2 (11–20)	62 (46.6)	17 (12.8)	12 (9.0)	42 (31.6)
3 (>20)	61 (54.0)	6 (5.3)	10 (8.8)	36 (31.9)

Note. Numbers in parenthesis are percentages; $\chi^2 = 15.65$, $df=6$, $p=0.016$.

Research Question 3

What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency?

One-way MANOVA was used to examine the relationship between the participant's stage of inter-institutional collaboration and the dependent variables of self-efficacy, decisional balance, and behavioral frequency. Data for decisional balance, self-efficacy, and behavioral frequency were analyzed for distribution and the degree of central tendency by stages of collaboration (see Table 9).

The Box test of equality of covariance matrices indicated a significant (Box's $M=145.102, p=0.000$) departure from the assumption of equality of covariance matrices across all independent variables thus I used Pillai's Trace as the multivariate test (Akey et al., 2000; Tabachnick, 2007). The results of the Pillai's Trace test indicated statistical significance in at least one of the dependent variables of self-efficacy, behavioral frequency, and decisional balance (see Table 10).

To control for type 1 error, the level of statistical significance was subjected to the Bonferroni adjustment with a result of $\alpha \leq .01$. The test of between-subject effects indicates a significant relationship between stage and decisional balance pro ($p=.000$), decisional balance con ($p=.010$), self-efficacy ($p=.000$), and behavioral frequency ($p=.000$). For a complete presentation of between-subjects effects, see Table 11.

Levene's test indicated that decisional balance pro ($p=.000$), self-efficacy ($p=.001$), and behavioral frequency ($p=.000$) violated the assumption of homogeneity of variance, thus the Games-Howell post hoc test was used to analyze the stage and dependent variable relationship (Akey et al., 2000; Tabachnick, 2007).

Decisional balance pro had two combinations of stage that indicated a significant difference. Participants in the precontemplation stage had significantly lower decisional balance scores than those in the maintenance ($p=.000$), and participants in the contemplation/preparation stage had significantly higher scores than those in precontemplation ($p=.000$). Decisional balance con also had two combinations of stage that indicated a significant difference. Participants' scores at precontemplation ($p=.021$) and contemplation/preparation ($p=.046$) were significantly higher than those in the action stage.

Table 9

Descriptive Statistics by Stage and Dependent Variable

Dependent Variables	Stage	Mean	SD	N
Decisional Balance Pro	Precontemplation	47.28	11.07	257
	Contemplation/Preparation	53.98	9.02	67
	Action	49.93	9.04	60
	Maintenance	52.54	7.56	181
	Total	50.04	9.96	565
Decisional Balance Con	Precontemplation	51.34	9.96	257
	Contemplation/Preparation	51.94	10.27	67
	Action	47.37	9.29	60
	Maintenance	49.36	9.92	181
	Total	50.36	9.99	565
Self-efficacy	Precontemplation	2.15	.68	257
	Contemplation/Preparation	2.32	.80	67
	Action	2.39	.85	60
	Maintenance	2.57	.89	181
	Total	2.33	.80	565
Behavioral Frequency	Precontemplation	1.46	.48	257
	Contemplation/Preparation	1.66	.47	67
	Action	2.00	.52	60
	Maintenance	2.73	.84	181
	Total	1.95	.84	565

Table 10

Pillai's Trace Multivariate Test

Value	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>P</i>	Effect Size
.507	28.479	12.000	1680.000	.000	.169

Table 11

The Relationship Between Stage and Outcome Measures of Decisional Balance Pro and Con, Self-efficacy, and Behavioral Frequency

Dependent Variable	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared
Source / Stage						
Behavioral Frequency	175.910	3	58.637	151.272	.000*	.447
Decisional Balance Pro	4123.911	3	1374.637	14.874	.000*	.074
Decisional Balance Con	1132.971	3	377.657	3.840	.010*	.020
Self-efficacy	18.675	3	6.225	10.070	.000*	.051
Source / Error						
Behavioral Frequency	217.456	561	.388			
Decisional Balance Pro	51845.786	561	92.417			
Decisional Balance Con	55178.713	561	98.358			
Self-efficacy	346.776	561	.618			
Source / Corrected Total						
Behavioral Frequency	393.366	564				
Decisional Balance Pro	55969.697	564				
Decisional Balance Con	56311.684	564				
Self-efficacy	365.451	564				

* $p \leq .01$.

Participants' scores for self-efficacy demonstrated significant difference as participants went from precontemplation to maintenance ($p=.000$). Stage-related scores for behavioral frequency were significantly different in all stage combinations. The complete post hoc analysis can be seen in Table 12.

Research Question 4

In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency?

To study the interaction between the independent variables of stage of inter-institutional collaboration and the demographic characteristics of age, years of experience in Adventist higher education, gender, and work classification and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency, a two-factor MANOVA was performed.

The Box test of equality of covariance matrices indicated that the assumption of equality of covariance matrices was violated. Thus I used the Pillai's Trace test of significance as the multivariate test (Akey et al., 2000; Tabachnick, 2007). The level of significance for any follow-up analysis using univariate analysis of variance was set at 0.01 (using Bonferroni adjustment) in order to control for Type I error inflation. Means and standard deviations by stage of inter-institutional collaboration and by gender for each dependent variable are shown in Table 13. Two-way MANOVA indicated that there is a significant relationship between stage of inter-institutional collaboration and

Table 12

Games-Howell by Stage and Dependent Variables

Dependent Variable	Stage	Stage	Sig.
Decisional Balance Pro	Precontemplation	Contemplation/Preparation	.000*
		Action	.213
		Maintenance	.000*
	Contemplation/Preparation	Action	.061
		Maintenance	.650
		Action	.191
Decisional Balance Con	Precontemplation	Action	.021*
		Maintenance	.170
		Precontemplation	.973
	Contemplation/Preparation	Action	.046*
		Maintenance	.291
		Action	.493
Self-efficacy	Precontemplation	Contemplation/Preparation	.394
		Action	.203
		Maintenance	.000*
	Contemplation/Preparation	Action	.971
		Maintenance	.154
		Action	.478
Behavioral Frequency	Precontemplation	Contemplation/Preparation	.014*
		Action	.000*
		Maintenance	.000*
	Contemplation/Preparation	Action	.002*
		Maintenance	.000*
		Action	.000*

* $p \leq .05$.

Table 13

Decisional Balance Pro and Con Descriptive Statistics Related to Stage and Gender

Stage	Gender	Mean	SD	N
<i>Decisional Balance Pro</i>				
Precontemplation	Female	48.97	11.38	121
	Male	45.94	10.51	133
Contemplation/Preparation	Female	55.69	9.44	31
	Male	52.03	8.49	34
Action	Female	51.08	7.52	32
	Male	48.18	10.44	27
Maintenance	Female	53.58	7.58	83
	Male	51.75	7.37	96
Total	Female	51.43	9.95	267
	Male	48.78	9.71	290
	Total	50.05	9.91	557

Decisional Balance Con

Precontemplation	Female	52.78	9.56	121
	Male	50.07	10.17	133
Contemplation/ Preparation	Female	53.99	11.38	31
	Male	50.23	9.18	34
Action	Female	48.45	9.15	32
	Male	46.42	9.53	27
Maintenance	Female	51.70	10.25	83
	Male	47.33	9.19	96
Total	Female	52.06	10.02	267
	Male	48.84	9.75	290

Table 13—*Continued.*

Stage	Gender	Mean	SD	N
<i>Self-efficacy</i>				
Precontemplation	Female	2.19	.69	121
	Male	2.14	.68	133
Contemplation/Preparation	Female	2.29	.75	31
	Male	2.29	.82	34
Action	Female	2.46	.86	32
	Male	2.33	.84	27
Maintenance	Female	2.46	.84	83
	Male	2.67	.93	96
Total	Female	2.32	.77	267
	Male	2.35	.83	290
<i>Behavioral Frequency</i>				
Precontemplation	Female	1.41	.43	121
	Male	1.51	.52	133
Contemplation/Preparation	Female	1.76	.56	31
	Male	1.57	.37	34
Action	Female	2.01	.44	32
	Male	2.00	.61	27
Maintenance	Female	2.76	.89	83
	Male	2.70	.80	96
Total	Female	1.94	.85	267
	Male	1.96	.82	290

the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency (Pillai's Trace=0.505, $F_{(12,1644)}=27.701$, $p=0.000$). However, there was no significant interaction effect between stage of inter-institutional collaboration and gender (Pillai's Trace=0.018, $F_{(12,1644)}=0.805$, $p=0.646$). This suggests that, while stage of inter-institutional collaboration is related to the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency, this relationship does not depend on gender.

Means and standard deviations by stage of inter-institutional collaboration and by age for each dependent variable are shown in Table 14. Two-way MANOVA indicated that there is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency (Pillai's Trace=0.129, $F_{(9,1596)}=7.959$, $p=0.000$).

However, there was no significant interaction effect between stage of inter-institutional collaboration and gender (Pillai's Trace=0.032, $F_{(9,1569)}=0.646$, $p=0.919$). This suggests that, whereas stage of inter-institutional collaboration is related to the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency, this relationship does not depend on age.

Means and standard deviations by stage of inter-institutional collaboration and by years of experience in Adventist higher education for each dependent variable are shown in Table 15.

Table 14

Descriptive Statistics Related to Stage and Age

Stage	Age Group (Age)	Mean	SD	N
<i>Decisional Balance Pro</i>				
Precontemplation	<30	51.07	8.90	49
	31–40	46.48	11.67	64
	41–50	46.77	10.92	58
	>50	46.19	10.85	68
Contemplation/Preparation	<30	54.31	11.05	15
	31–40	52.40	9.08	19
	41–50	53.71	8.43	21
	>50	56.40	4.27	5
Action	<30	54.65	8.04	13
	31–40	48.94	8.17	12
	41–50	50.75	6.69	17
	>50	44.33	10.90	14
Maintenance	<30	54.47	5.96	18
	31–40	50.84	7.59	42
	41–50	54.00	7.18	62
	>50	52.23	7.34	51
Total	<30	52.71	8.73	95
	31–40	48.85	10.12	137
	41–50	50.96	9.39	158
	>50	48.60	10.04	138

Table 14—Continued.

Stage	Age Group	Mean	SD	N
<i>Decisional Balance Con</i>				
Precontemplation	<30	54.73	8.60	49
	31–40	52.17	9.85	64
	41–50	50.31	10.43	58
	>50	49.12	10.34	68
Contemplation/Preparation	<30	54.66	11.20	15
	31–40	49.66	9.72	19
	41–50	51.04	10.13	21
	>50	52.32	9.68	5
Action	<30	51.41	8.77	13
	31–40	48.60	9.99	12
	41–50	48.86	9.47	17
	>50	42.09	7.93	14
Maintenance	<30	53.42	9.29	18
	31–40	49.33	9.64	42
	41–50	51.41	9.95	62
	>50	45.63	9.73	51
Total	<30	54.02	9.12	95
	31–40	50.64	9.78	137
	41–50	50.68	10.04	158
	>50	47.23	10.09	138

Table 14—Continued.

Stage	Age	Mean	SD	N
	Group			
<i>Self-efficacy</i>				
Precontemplation	<30	2.41	.70	49
	31–40	2.08	.64	64
	41–50	2.15	.71	58
	>50	2.09	.67	68
Contemplation/Preparation	<30	2.49	.78	15
	31–40	2.14	.80	19
	41–50	2.39	.78	21
	>50	1.93	.53	5
Action	<30	2.69	.59	13
	31–40	2.46	1.06	12
	41–50	2.14	.62	17
	>50	2.41	1.08	14
Maintenance	<30	2.80	.67	18
	31–40	2.57	.82	42
	41–50	2.49	.86	62
	>50	2.62	1.00	51
Total	<30	2.53	.70	95
	31–40	2.27	.79	137
	41–50	2.32	.78	158
	>50	2.31	.88	138

Table 14—Continued.

Stage	Age Group	Mean	SD	N
<i>Behavioral Frequency</i>				
Precontemplation	<30	1.27	.34	49
	31–40	1.49	.48	64
	41–50	1.45	.39	58
	>50	1.62	.59	68
Contemplation/Preparation	<30	1.55	.55	15
	31–40	1.67	.55	19
	41–50	1.72	.37	21
	>50	1.80	.42	5
Action	<30	1.96	.48	13
	31–40	2.03	.42	12
	41–50	2.11	.56	17
	>50	1.83	.58	14
Maintenance	<30	2.54	.82	18
	31–40	2.92	.76	42
	41–50	2.69	.90	62
	>50	2.73	.79	51
Total	<30	1.65	.70	95
	31–40	2.00	.86	137
	41–50	2.04	.85	158
	>50	2.06	.84	138

Table 15

Descriptive Statistics Related to Stage and Years of Experience

Stage	Experience Group (Years)	Mean	SD	N
<i>Decisional Balance Pro</i>				
Precontemplation	<10	49.35	9.97	104
	11-20	46.26	11.75	63
	>20	45.57	11.35	62
Contemplation/Preparation	<10	52.21	10.21	28
	11-20	51.95	9.34	18
	>20	55.35	6.47	8
Action	<10	51.92	8.22	27
	11-20	48.38	8.89	17
	>20	46.48	10.47	13
Maintenance	<10	54.17	5.30	48
	11-20	52.01	8.19	55
	>20	51.37	7.20	51
Total	<10	51.19	9.07	207
	11-20	49.23	10.28	153
	>20	48.45	10.05	134
<i>Decisional Balance Con</i>				
Precontemplation	<10	53.46	8.83	104
	11-20	49.76	10.11	63
	>20	48.98	11.20	62
Contemplation/Preparation	<10	51.05	10.46	28
	11-20	52.21	9.55	18
	>20	50.03	9.22	8
Action	<10	47.73	9.27	27
	11-20	47.82	9.20	17
	>20	46.47	9.96	13
Maintenance	<10	51.66	8.91	48
	11-20	49.09	10.04	55
	>20	49.03	10.59	51
Total	<10	51.97	9.27	207
	11-20	49.59	9.89	153
	>20	48.82	10.67	134

Table 15—Continued.

Stage	Experience Group (Years)	Mean	SD	N
<i>Self-efficacy</i>				
Precontemplation	<10	2.24	.68	104
	11-20	2.13	.64	63
	>20	2.08	.74	62
Contemplation/Preparation	<10	2.26	.85	28
	11-20	2.16	.66	18
	>20	2.76	.73	8
Action	<10	2.38	.83	27
	11-20	2.40	.77	17
	>20	2.32	1.00	13
Maintenance	<10	2.78	.74	48
	11-20	2.51	.81	55
	>20	2.49	1.07	51
Total	<10	2.39	.77	207
	11-20	2.30	.74	153
	>20	2.30	.92	134
<i>Behavioral Frequency</i>				
Precontemplation	<10	1.33	.39	104
	11-20	1.48	.41	63
	>20	1.60	.55	62
Contemplation/Preparation	<10	1.58	.43	28
	11-20	1.81	.49	18
	>20	1.50	.36	8
Action	<10	1.90	.43	27
	11-20	2.16	.62	17
	>20	1.93	.54	13
Maintenance	<10	2.65	.90	48
	11-20	2.60	.72	55
	>20	2.92	.86	51
Total	<10	1.74	.77	207
	11-20	2.00	.76	153
	>20	2.13	.92	134

Two-way MANOVA indicated that there is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency (Pillai's Trace=0.116, $F_{(9,1503)}=6.689$, $p=0.000$). However, there was no significant interaction effect between stage of inter-institutional collaboration and years of experience in Adventist higher education (Pillai's Trace=0.026, $F_{(18,1503)}=0.737$, $p=0.775$). This suggests that, whereas stage of inter-institutional collaboration is related to the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency, this relationship does not depend on years of experience in Adventist higher education.

Means and standard deviations by stage of inter-institutional collaboration and by classification as faculty or administrator for each dependent variable are shown in Table 16. Two-way MANOVA indicated that there is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency (Pillai's Trace=0.066, $F_{(9,1707)}=4.237$, $p=0.000$). However, there was no significant interaction effect between stage of inter-institutional collaboration and classification as faculty or administrator (Pillai's Trace=0.015, $F_{(9,1707)}=0.976$, $p=0.458$). This suggests that, whereas stage of inter-institutional collaboration is related to the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency, this relationship does not depend on classification as faculty or administrator.

Table 16

Descriptive Statistics Related to Stage and Work Classification

Stage	Work Assignment	Mean	SD	N
<i>Decisional Balance Pro</i>				
Precontemplation	Faculty	47.09	11.00	223
	Administration	50.15	10.28	31
Contemplation/Preparation	Faculty	54.84	7.77	50
	Administration	50.22	12.15	15
Action	Faculty	49.90	9.11	47
	Administration	50.04	9.15	13
Maintenance	Faculty	52.30	7.10	118
	Administration	52.86	8.58	60
Total	Faculty	49.68	9.94	438
	Administration	51.51	9.57	119
<i>Decisional Balance Con</i>				
Precontemplation	Faculty	51.69	9.93	223
	Administration	49.73	10.11	31
Contemplation Preparation	Faculty	52.57	10.60	50
	Administration	50.21	9.75	15
Action	Faculty	47.64	9.07	47
	Administration	46.38	10.39	13
Maintenance	Faculty	49.74	10.12	118
	Administration	48.47	9.54	60
Total	Faculty	50.83	10.05	438
	Administration	48.79	9.74	119

Table 16—Continued.

Stage	Work Assignment	Mean	SD	N
<i>Self-efficacy</i>				
Precontemplation	Faculty	2.16	.64	223
	Administration	2.21	.93	31
Contemplation/Preparation	Faculty	2.31	.79	50
	Administration	2.21	.79	15
Action	Faculty	2.40	.86	47
	Administration	2.35	.82	13
Maintenance	Faculty	2.48	.85	118
	Administration	2.74	.95	60
Total	Faculty	2.29	.76	438
	Administration	2.50	.94	119
<i>Behavioral Frequency</i>				
Precontemplation	Faculty	1.42	.45	223
	Administration	1.77	.62	31
Contemplation/Preparation	Faculty	1.63	.48	50
	Administration	1.76	.46	15
Action	Faculty	2.04	.53	47
	Administration	1.82	.46	13
Maintenance	Faculty	2.60	.77	118
	Administration	3.02	.88	60
Total	Faculty	1.83	.76	438
	Administration	2.41	.96	119

Summary

The study population was faculty and administrators from 15 of 15 Adventist institutions of higher education in North America. Of a population of 2,560, 631 or 25% participated in the study. There were 301 females and 330 males. The participants had a mean age of 52.5 with the faculty at 52 and the administrators at 54 years of age. The mean for years of experience among the participants is 15.5 years, with administrators at 17.7 and faculty at 14.9.

Approximately 57% of the participants are at the precontemplative or contemplative stages whereas about 42% are at the action or maintenance stages. A little over 1% of the population is at the preparation stage.

A Chi-Square analysis indicated that stage of collaboration is not related to gender, whereas work assignment as faculty or administration, age of the participant, and years of experience in Adventist higher education do have a significant relationship with stage of inter-institutional collaboration.

The work assignment associated difference appears at the stages of precontemplation and at maintenance, with the majority of faculty at precontemplation and the majority of administrators in the maintenance stage. Only faculty demonstrated a significant relationship between stage and years of experience in Adventist higher education.

Data analysis indicated that there is a significant relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency.

There is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance, self-efficacy, and behavioral frequency. However, there is no significant interaction effect between stage of inter-institutional collaboration and the demographic characteristics of gender, age, years of experience in Adventist higher education, and work classification as faculty or administrator.

CHAPTER 5

SUMMARY, DISCUSSION, AND RECOMENDATIONS

Introduction

In an environment filled with increased financial and social challenges, institutions of higher education are becoming increasingly creative in their attempts to offer their students quality learning environments. The primary challenges facing higher education can be divided into three categories: changing expectations, increased competition, and insufficient resources (Twigg, 2002). The 21st-century student is expecting an educational process focused on a career and flexibility in delivery. This shift away from the traditional liberal arts education is exacerbated by the success of for-profit providers offering a mix of online and face-to-face delivery systems. Today's students are very aware of their choices and demand the most for dollars spent on tuition (Ruch, 2001).

The marketplace challenges faced by higher education are daunting, causing even the largest of institutions to make significant changes in the way they deliver the educational product (Edington, 2006). Limited endowments and fluctuating enrollments have caused many smaller institutions to respond to the challenge by forming consortiums such as Claremont colleges and the Five Colleges Inc. By working together, these institutions are able to accomplish what they would not be able to do on their own.

The 15 Seventh-day Adventist institutions of higher education in North America add environmental challenges from within and outside the target market of the Seventh-

day Adventist church (Osborn, 2007; Van Der Werf, 1999; Widmer, 1994). The specific demographic changes faced by Adventist higher education in North America are an aging church membership, declining economic status among members, and membership growth in ethnic populations that traditionally do participate in higher education. In recent times Adventist higher education has increasingly looked for opportunities to collaborate between institutions in hopes of increasing the quality of the learning environment and maximizing financial and intellectual assets.

The Purpose of the Study

The purpose of this study was to describe the current status of inter-institutional collaboration among Adventist institutions of higher education in North American. Without a clear understanding of the status of inter-institutional collaboration and the demographic issues involved, the outlook for moving the organization forward to a more inter-institutionally collaborative environment is bleak (Prochaska et al., 1988; Levesque, et al., 2001).

Research Questions

This study answered the following questions relative to the perception and actions of faculty and administrators at Adventist colleges and universities in the North American Division of Seventh-day Adventists.

1. What is the status of inter-institutional collaboration among Adventist colleges and universities in North America?

2. What is the relationship between the stages of inter-institutional collaboration and the following selected demographics: gender, age, years of experience in Adventist higher education, and classification as faculty or administrator?

3. What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency?

4. In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency?

Theoretical Framework

The Transtheoretical Model (TTM) of human behavioral change was used to evaluate the status of inter-institutional collaboration among Adventist institutions of higher education in North America. This model was developed by James O. Prochaska and has been used to assess a variety of behavioral changes, such as smoker to non-smoker, within health-related fields (Prochaska et al., 1988; Prochaska et al., 2005; Prochaska, Norcross, et al., 1994; Prochaska & Norcross, 2003) and recently to describe organizational change (Levesque et al., 1999). The model has two parts: the stages of change and the processes by which change occurs. The stages are precontemplation (not thinking about changing the behavior), contemplation (thinking about changing the behavior), preparation (looking for ways to change the behavior), action (working to change the behavior), and maintenance (the behavior has been changed and the person or organization is working to maintain the change) (Prochaska, Velicer, et al., 1994).

As part of stage-of-change assessment the Transtheoretical Model includes intermediate outcome measures that are stage-associated and enhance the power of the TTM to accurately assess the person or organization's stage of change. These measures are decisional balance (pro and con), self-efficacy, and behavioral frequency. As the person or organization moves from precontemplation to maintenance, the participant sees the change of behavior as increasingly positive or pro, decreasingly negative or con. The participant's confidence in his or her ability to make the change increases along with frequency of participation in the desired behavior.

Once the status or stage of change has been evaluated, the Transtheoretical Model suggests activities or processes that increase the likelihood of inspiring change. These processes or activities are either covert or overt activities engaged in by people or organizations to alter emotions, thinking, behaviors, or relationships (Prochaska, 1984; Levesque et al., 1999). There are 10 processes used to help move people along the stages of change. The first 5 are experiential in nature and are most productive during the stages of precontemplation, contemplation, and preparation. The experiential processes are consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-reevaluation. The second 5 are behavioral in nature and are best suited for participants in the stages of action and maintenance. The behavioral processes are stimulus control, helping relationships, counter conditioning, reinforcement management, and self-liberation (Prochaska, Norcross, et al., 1994; Prochaska & Norcross, 2003).

Research Design

This study was quantitative in design using survey research methodology developed by James Prochaska, Norcross, et al. (1994) and was adapted to assess inter-

institutional collaboration among Adventist institutions of higher education in North America. The survey was administered via web-based technology (Zoomerang) to faculty and administrators at 15 of the 15 Adventist institutions of higher education in North America. The survey attempted to collect data from the entire population of faculty and administrators working at Adventist institutions of higher education in North America. The rationale for inclusion of the entire population was twofold. First, the return rate on web-based surveys is traditionally low (Andrews et al., 2003) and by sampling the entire population, data were gathered from a larger percentage of the total population. The actual return rate for this study was 32% or 797 out of the total population of 2,578. Andrews et al. (2003) found that response rates of as low as 20% would not be considered uncommon for this type of survey. Secondly, web-based surveys make it possible to survey the entire population at no additional expense.

Results

The study population had representation from 15 of the 15 Adventist institutions of higher education. Of the participants who responded to demographic questions, there were 301 females and 330 males, 494 faculty, and 137 administrators. Thirty-eight percent of the administrators and 22% of the faculty working at Adventist institutions of higher education in North America participated in the study.

The participants had a mean age of 52.5 years, with the faculty at 52.1 and the administrators at 54.0 years of age. The mean for years of experience in Adventist higher education was 15.5 years, with administrators at 17.7 years and faculty at 14.9. Of the 631 participants, 389 (60.5%) have had experience outside of Adventist higher education. Of the participants with experience outside of Adventist higher education, 273 (42.5%)

participants had experience in non-Adventist higher education, 122 (19.0%) in secondary education, and 78 (12.1%) at the kindergarten to eighth-grade level. The survey listed 20 possible teaching assignments for faculty, with nursing as the most often selected at 14% of the participating faculty. Of the possible 15 presidents, 4 participated with vice-presidents for student services as most participatory group of vice-presidents.

Research Question 1

What is the status of inter-institutional collaboration among Adventist colleges and universities in North America?

As a population, 57% of the participants are in the stages of precontemplation and contemplation whereas 42% place themselves at the stages of action and maintenance. For further analysis, the 1% of participants in the preparation stage was combined with the participants in contemplation. A graphic representation of the stage distribution can be seen in Figure 1. Note that the majority of participants are either in the preparation or maintenance stage. Very few are in the process of making a decision to participate in inter-institutional collaboration; likewise, there are very few in the early stages of taking action.

Research Question 2

What is the relationship between the stages of inter-institutional collaboration and the following selected demographic characteristics: gender, work classification, age, and years of experience in Adventist higher education?

A Chi-Square analysis indicated that stage of collaboration is not related to gender

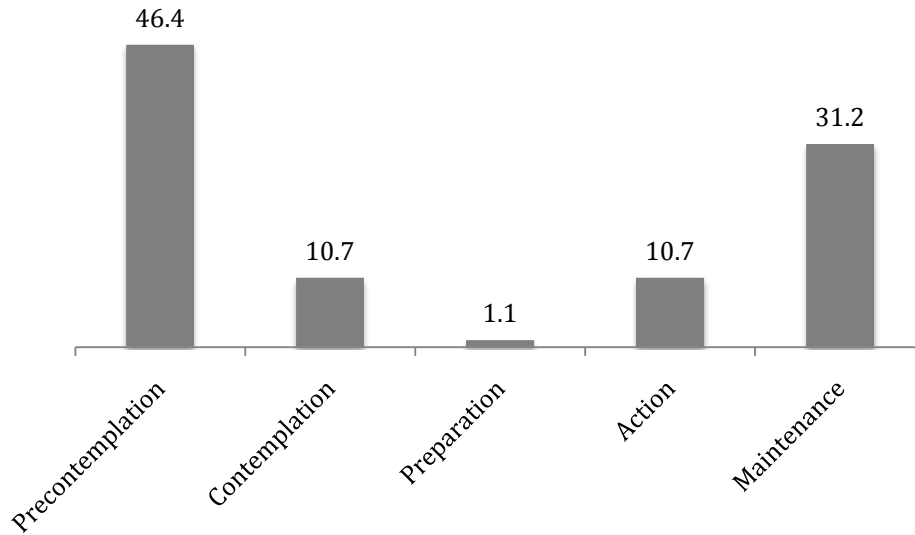


Figure 1. Participants' stage frequency distribution in percentage of total.

($\chi^2 = 1.75, df=3, p=0.627$), whereas work classification as faculty or administration ($\chi^2 = 33.52, df=3, p=0.000$), age of the participant ($\chi^2 = 23.33, df=9, p=0.005$), and years of experience in Adventist higher education ($\chi^2 = 18.21, df=6, p=0.006$) do have a significant relationship with stage of inter-institutional collaboration. A graphic presentation of stage of inter-institutional collaboration relative to work classification can be seen in Figure 2. Both work classification groups have significant portions of their populations at one extreme or the other of the stages for change, with very few in the middle stages of contemplation, preparation, and action. This kind of stage-polarization indicates that the majority of participants are either not thinking about inter-institutional collaboration (precontemplation) or have been involved in the change behavior for an extended period of time (maintenance). The data also indicate that even though the majority of a work classification group may be at one extreme, there is still a considerable number of that group at the other end of the stages of change.

Further investigation into the significance of the relationship of age and stage demonstrated that when faculty ($\chi^2 = 16.57, df=9, p=0.056$), and administrators ($\chi^2 = 15.04, df=9, p=0.090$) were analyzed separately, there was no significant relationship between age and stage of inter-institutional collaboration.

Further analysis of the relationship of the years of experience and stage of inter-institutional collaboration revealed that when work assignment groups were analyzed separately, only faculty demonstrated a significant relationship between years of experience and stage of collaboration ($\chi^2 = 8.77, df=3, p=0.033$).

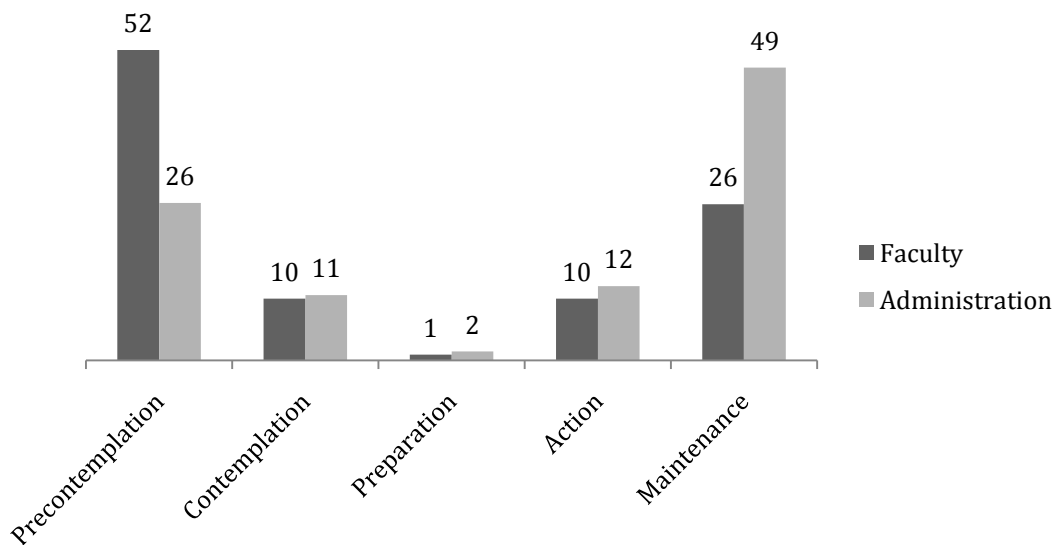


Figure 2. Participants' stage frequency distribution percentages within work classification.

Research Question 3

What is the relationship between stage of inter-institutional collaboration and scores on decisional balance, self-efficacy, and behavioral frequency?

A significant ($\alpha \leq .01$) relationship was found between stage of inter-institutional collaboration and participants' scores on decisional balance (pro, $p = .000$; con, $p = .010$); self-efficacy ($p = .000$), and behavioral frequency ($p = .000$). A graphic representation of the stage-associated changes in decisional balance can be seen in Figure 3.

Post hoc analysis identified areas of significant change in pro scores to be between precontemplation and contemplation/preparation ($p = .000$) and again from precontemplation to maintenance ($p = .000$). The con scores demonstrated significant stage-associated difference between the stages of precontemplation and action ($p = .021$) and between contemplation/preparation and action ($p = .046$).

Participants' self-efficacy scores at precontemplation had a mean value of 2.15 and 2.56 at maintenance. Post-hoc analysis identified participants' self-efficacy scores at precontemplation to be significantly different from scores at maintenance ($p = .000$). A graphic representation of this stage-associated change in self-efficacy can be seen in Figure 4. This kind of increase in participants' self-efficacy, related to behavioral change, is in line with the Transtheoretical Model and gives evidence of its use in the organizational setting.

Participant stage-associated scores for behavioral frequency were found to be significantly different in all stage combinations. A graphic presentation of the progression of behavioral frequency from precontemplation to maintenance can be seen in Figure 5. The survey questions related to behavioral frequency are target-behavior-associated and support the definition of inter-institutional collaboration used in this study. The fact that the data in this study demonstrated significant stage-associated changes in behavioral

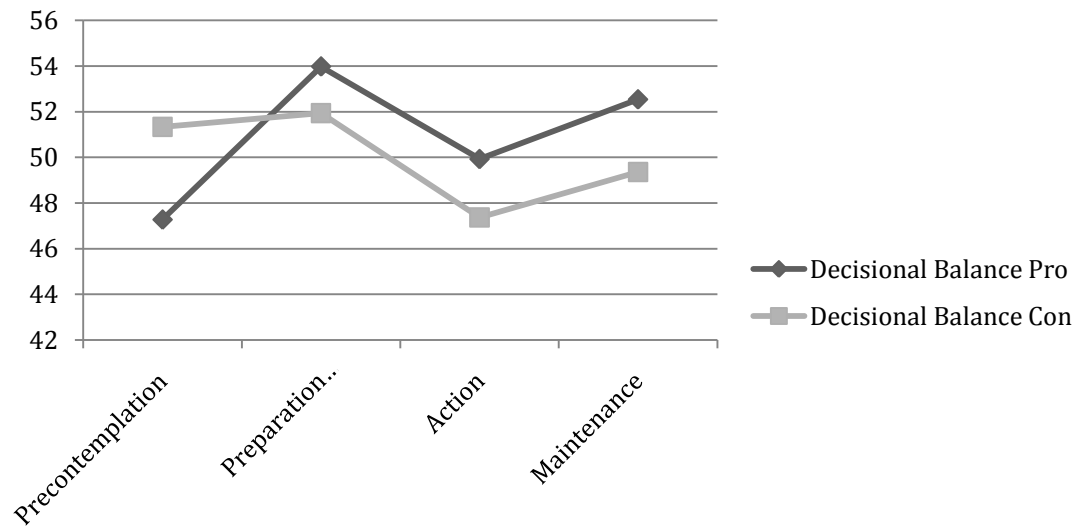


Figure 3. Stage-associated changes in decisional balance.

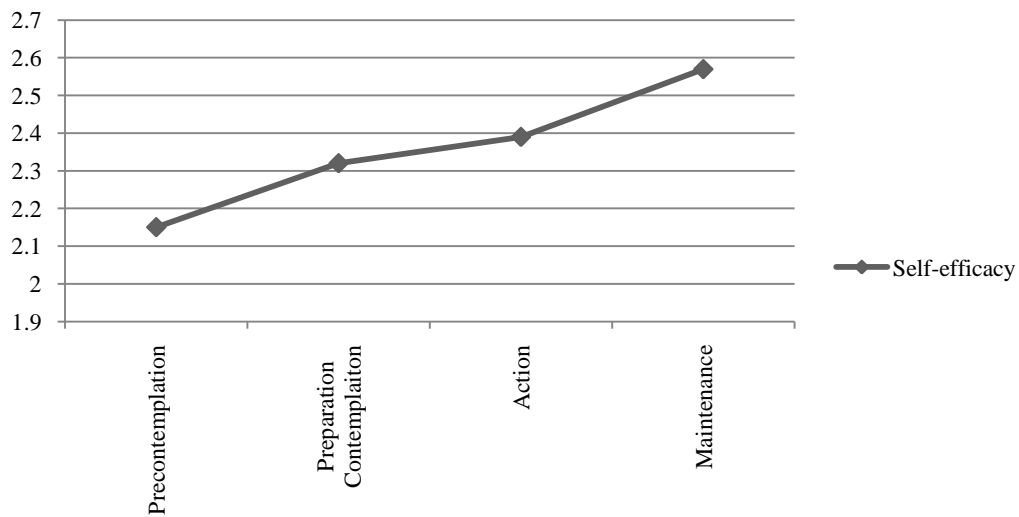


Figure 4. Stage-associated changes in self-efficacy.

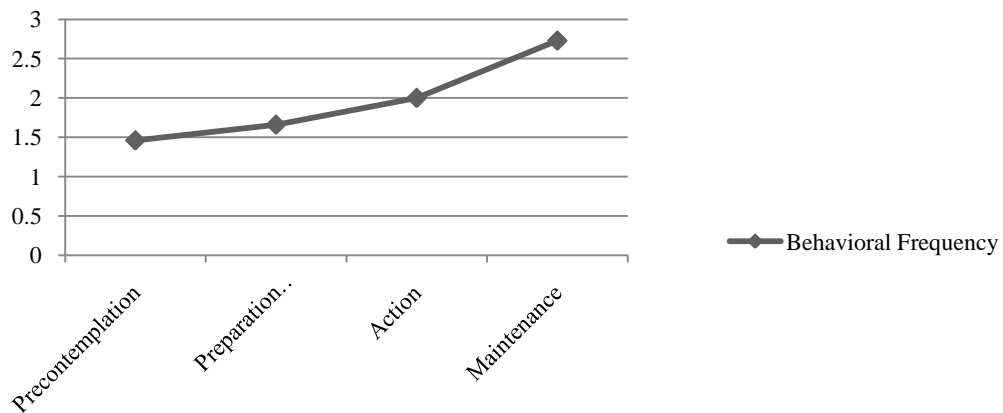


Figure 5. Stage-associated changes in behavioral frequency.

frequency supports the theory of intermediate outcome measures within the Transtheoretical Model.

Research Question 4

In the context of gender, age, years of experience in Adventist higher education, and classification as faculty or administrator, what is the relationship between the stage of inter-institutional collaboration and scores of decisional balance, self-efficacy, and behavioral frequency?

There is a significant relationship between stage of inter-institutional collaboration and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency. However, there is no significant interaction effect between stage of inter-institutional collaboration and the demographic characteristics of gender (Pillai's Trace=0.505, $F_{(12,1644)}=27.701$, $p=0.000$), age (Pillai's Trace=0.129,

$F_{(9,1596)}=7.959, p=0.000$), years of experience in Adventist higher education (Pillai's Trace=0.116, $F_{(9,1503)}=6.689, p=0.000$), and work classification as faculty or administrator (Pillai's Trace=0.066, $F_{(9,1707)}=4.237, p=0.000$). The data suggest that the relationship between stage of inter-institutional collaboration and the linear combination of decisional balance pro and con, self-efficacy, and behavioral frequency does not depend on the demographic characteristics of gender (Pillai's Trace=0.018, $F_{(12,1644)}=0.805, p=0.646$), age (Pillai's Trace=0.032, $F_{(9,1569)}=0.646, p=0.919$), years of experience in Adventist higher education (Pillai's Trace=0.026, $F_{(18,1503)}=0.737, p=0.775$), and classification as faculty or administrator (Pillai's Trace=0.015, $F_{(9,1707)}=0.976, p=0.458$).

Discussion

Perspective and greater understanding of the results can be gained by a review of the definition of inter-institutional collaboration used in this study: Inter-institutional Collaboration, by Seventh-day Adventist Institutions of higher education in the North American Division (NAD), involves the creation of opportunities to share educational assets with the goal of maximizing financial, human, and intellectual resources.

Successful Inter-institutional Collaboration requires that Faculty/Administrators:

1. Work with faculty/administrators from other NAD institutions of higher education by providing funding and or planning opportunities for inter-institutional academic/administrative programs/institutive;
2. Are involved in inter-institutional purchasing or financial projects/ventures with the goal of minimizing costs and maximizing financial resources;
3. Share professional resources such as teaching or administrative documents and procedures;

4. Participate at least once a term in brainstorming sessions with colleagues of like job assignments on topics such as scholarly exchange, discussion of pedagogical or administrative issues.

The definition is conservative and was set in hopes of documenting any collaborative initiatives, small or large, within Adventist higher education. In Kezar and Lester's book *Organizing Higher for Collaboration* (2009) they make the following statement: "To make collaboration successful, organizations need to be redesigned to enhance group and cross-divisional work, which otherwise typically fails" (p. 36). The definition used in this study asks little in the way of redesign for Adventist higher education, but does require open lines of communication, respect, and a willingness to trust colleagues from other institutions. Central to the definition is an understanding that there are areas of commonality in mission and philosophical underpinnings that drive individuals and institutions. When participants describe themselves as in the maintenance stage of inter-institutional collaboration, they are describing themselves as someone who has worked with colleagues from other Adventist institutions of higher education in a spirit of collaboration, communication, and trust.

The assessment of stage of inter-institutional collaboration clearly divided the participants into two groups. One group of participants was in the stages of precontemplation and contemplation (56.9%), and the other group of participants had progressed to action and maintenance (41.5%). There is very little middle ground, with approximately 1% in the preparation stage. The stage of inter-institutional collaboration was work-classification-associated. Faculty members at Adventist institutions of higher education in North America tend to be in the early stages of inter-institutional

collaboration. The majority of them have not started thinking about inter-institutional collaboration (51.8%) and only a small number of faculty members contemplate the prospect of collaborating (10.3%) with colleagues from other Adventist institutions of higher education. With that said, there is a considerable portion of the population of faculty who are in the action and maintenance stages. The question arises, with the vast majority of faculty at the stage of precontemplation, why are some faculty not only thinking about inter-institutional collaboration but have been participating long enough to be considered in maintenance? The data do not support age alone as a contributory factor but do indicate that years of experience in Adventist higher education play a part in faculty stage of inter-institutional collaboration. This demographic relationship indicates that faculty with fewer years of experience are less likely to be at the maintenance stage of inter-institutional collaboration. This does not explain the fact that there are a sizable number of faculty members at the stage of maintenance when the majority of their colleagues are in precontemplation. A review of current faculty initiatives and organizations demonstrates that within Adventist higher education, small informal, and, to a limited extent, formal networks of faculty have been created. These small networks have crossed institutional boundaries and connect like-minded individuals, opened avenues of trust, and broadened the members' understanding of Adventist higher education and the need for inter-institutional collaboration. Casual networking has been made possible by subject-area national meetings, the job-related transition of faculty members to other Adventist institution of higher education, or by the close-knit connections that exist within the Adventist church in North America. One such casual network that became formal was the creation on the Adventist Virtual Learning Lab

(AVLL) or, as it is now known, Adventist Virtual Learning Network (AVLN). In 1999, a group of faculty recognized the need for collaboration in distributed or online learning and organized a conference in Orlando, Florida. The conference involved discussions related to collaboration in online learning but was driven on the collective understanding that “Together we stand, divided we fall” (Eggers, 2001). From that small gathering in 1999, AVLN has grown into an organization with worldwide membership and has sponsored face-to-face conferences in Michigan, Tennessee, Canada, and California along with several online conferences all focused on collaboration. The organization’s mission is “To promote global collaboration for life-long learning among Seventh-day Adventists and other faith-based organizations.” On a more formal basis, faculty are involved in academic organizations, which have been established by department or academic disciplines such as English, Physical Education, and Religion. These organizations meet in conjunction with national conventions but attendance is limited due to budgetary constraints.

In contrast to the faculty, administrators describe themselves as predominately in the maintenance stage (48.6%) of inter-institutional collaboration with a significant portion (26.1%) in precontemplation. The degree of availability and the extent of networking opportunities for collaboration inherent in the job of administrator may be a contributory factor. Administrators at Adventist institutions of higher education in North America are members of a variety of committees or organizations functioning at the North American Division level. Those committees or organizations include the Association of Adventist Colleges and Universities (AACU), the Adventist Distance Education Consortium (ADEC), Adventist Student Personnel Association (ASSPA), and

the North American Division Association of College and University Business Officers (NAD-ACUBO). These organizations meet on a regular basis and stay in touch with their members via newsletters and email distribution lists. This kind of networking enhances the opportunity for collaboration and opens the doors of communication between colleagues across institutional boundaries. The question must be asked, Why are a significant number of administrators in the precontemplative stage (26.3%)?

With the availability of networking opportunities and job descriptions that demand clear understanding of institutional challenges, why do some administrators seem to fail to consider inter-institutional collaboration as holding potential for enhancing institutional viability? One might suggest that as institutions are faced with greater financial challenges, administrators become consumed in the process of maintaining their own institution and lose sight of the prospect of a systems approach to meeting institutional challenges. As a member of the Adventist Digital Education Consortium (ADEC) I have observed this kind of institutional focus in action. One of the recent projects undertaken by ADEC is a cross-registration program for online classes. This program would make online classes offered at Adventist institutions of higher education in North America available, within block tuition plans, to students attending other Adventist institutions of higher education in North America. After many attempts, the cross-registration program has failed to reach implementation due to individual institutional financial concerns. The inability to enact this type of inter-institutionally collaborative program demonstrates behavior congruent with a population at the precontemplative stage of inter-institutional collaboration.

The Transtheoretical Model of behavioral change has been used to describe change in a variety of health-related behaviors (Prochaska, Velicer, et al., 1994) and was recently used to describe organizational changes (Levesque et al., 2001). This study demonstrated a significant relationship between stage of inter-institutional collaboration and the intermediate outcome measures of decisional balance, self-efficacy, and behavioral frequency, thus supporting the appropriateness of the Transtheoretical Model in attempts to describe organizational behavior. Of particular interest in this study were the results relative to the two aspects of decisional balance.

Review of the data from this study demonstrates that during the combined stages of contemplation/preparation the perception of the change to inter-institutional collaboration became increasingly positive and outweighed the negatives into the stages of action and maintenance. As long as people involved in the change process believe that the change process is inherently negative, they will resist making the desired change in behavior. Previous research has observed average increases in decisional balance pro scores of 1.0 standard deviations and decreased in con scores of 0.5 standard deviations in the transition between precontemplation and action (Prochaska, Norcross, et al., 1994). The previous research involved a variety of populations and behaviors and does not suggest that the degree of change in stage-associated decisional balance scores observed in this study is out of the norm. What is of particular interest is the drop in pro scores as the participant moves from contemplation/preparation to action. The decline in participants' positive attitude relative to a change in behavior may be caused as the person initiates implementation of inter-institutional collaborative activities and encounters unanticipated challenges. In other words, as people in an organization move

from the decision-making stage to the implementation or action, their initial feelings of optimism, relative to the change in behavior, are diminished by the reality making the change. For example, after working for many years, members of ADEC and AVLN were excited after hearing that the AACU board had given approval to the concept and implementation of a cross-registration program for students in Adventist higher education. This program would make available online classes taught at AACU member schools available, free of charge, to students at students attending other AACU member institutions. At the time of this research, cross-registration intuitive has experienced several years of failed implementation caused by a variety of economic and institutional challenges. What was a point of high expectation has degraded into frustration. It is this kind of organizational change challenge that could easily decrease attitudes relative to the positive nature of inter-institutional collaboration.

This study found that the intermediate/outcome measures of decisional balance, self-efficacy, and behavioral frequency had a significant relationship with stage of inter-institutional collaboration within the total participant population and within demographic groups. This kind of stage-associated behavior supports the Transtheoretical Model's hypothesis that as a person or organization moves from precontemplation to maintenance, there will be stage-associated changes in the intermediate/outcome measures, thus enhancing the model's ability to describe behavioral change.

Recommendations

In light of the results of this study, I recommend a stage-matched approach focused on enhancing the environment for inter-institutional collaboration among Adventist institutions of higher education in North America. This approach would

include a variety of strategic initiatives with opportunities for involvement by participants at all stages of inter-institutional collaboration. Without the support of individual institutions, conferences, divisions, and the General Conference of Seventh-day Adventists, attempts to enhance inter-institutional collaboration in Adventist higher education will likely fail.

Stage Matching

The following processes for change are divided into two categories: processes for participants in the stages of precontemplation and contemplation (experiential in nature), and processes intended for participants in action and maintenance (behavioral in nature).

Precontemplation and Contemplation

In general terms participants in precontemplation and contemplation need the interventions that are experiential in nature and include the processes of consciousness raising, dramatic relief, environmental reevaluation, social liberation, and self-reevaluation. The following recommended interventions meet the change needs of participants in the stages of precontemplation and contemplation:

1. Communication with participants in regard to the value of and goals for inter-institutional collaboration in Adventist higher education
2. Opportunities to inspire interest in inter-institutional collaboration and alleviate participants' anxiety associated with the change
3. Communication that increases understanding of the interconnected nature of Adventist higher education and how individual institutions can benefit from increased inter-institutional collaboration

4. A concerted effort on the part of leadership to express commitment to inter-institutional collaboration. Expressions of commitment need to be clear and financially supported at all levels of administration from the individual institutions to the General Conference of Seventh-day Adventists.

Action and Maintenance

In general terms, participants in action and maintenance need interventions that are more behavioral in nature and include the processes of stimulus control, helping relationships, counter conditioning, reinforcement management, and self-liberation. The following recommended interventions meet the change needs of participants in the stages of action and maintenance:

1. The creation of a structure that produces incentives to maintain or advance stages of inter-institutional collaboration
2. Provide financial support for individuals and institutions desiring to explore greater involvement in inter-institutional collaboration
3. Develop and publicize a strategic plan for inter-institutional collaboration among Adventist institutions of higher education in North America.

Strategic Initiatives

The following recommended strategic initiatives offer environments that are both experiential and behavioral in nature. Special attention should be given to guiding participants into aspects of the activities that meet stage-related needs.

1. Support the creation of a higher education convention, which would include all faculty and administrators working at Adventist institutions of higher education in North

America. The convention would offer participants an opportunity to network with colleagues from other institutions, share experiences in the field of inter-institutional collaboration, and explore the possibilities of involvement in inter-institutional collaboration initiatives. At the same time, participants at the stages of action and maintenance could be given recognition for their participation in inter-institutional collaboration and support for further exploration within the concept of collaboration.

2. Financially support the creation and utilization of a variety of asynchronous communities focused on areas of interest to faculty and administrators and matched to the participants' stage of inter-institutional collaboration. Communication in these communities would be via discussion forums, distribution lists, podcasts, and newsletters. Geographic and time issues are a challenge to the process of networking colleagues in Adventist higher education, thus the use of asynchronous communication would reduce those challenges and enhance networking opportunities.

3. Financially support an increase in the frequency and quality of regular synchronous communication between colleagues of similar academic, social, and work interest via face-to-face meetings, videoconferencing, and webinars. This type of interaction would be of great value to participants in the early stages of inter-institutional collaboration such as young faculty needing to establish collaborative networks.

4. Create and encourage the use of a learning object repository where intellectual assets could be shared and improved upon. Assets shared in this repository would be part of an environment for collaboration where participants would benefit from the work of others. In order to ensure success, steps need to be taken to publicize the creation of the repository and reward its use.

5. Support the creation of a Council for Collaboration in Adventist Higher Education, which would include leadership representation by faculty and administrators at the institutional, Union, North American Division, and General Conference levels. This council would be given authority to reward and provide incentives to promote inter-institutionally collaborative efforts by institutions and individuals.

6. Give faculty and administrators working at institutions of higher education in North America opportunities to take classes from other Adventist institutions of higher education in North America at no charge.

Further Research

Given the results of this study and in the light of current research, I make the following suggestions for further research:

1. A greater understanding of the matching of processes and stages could be gained by regular evaluations of the effectiveness of the processes of change within Adventist higher education in North America as the system moves to an environment more supportive of inter-institutional collaboration.

2. Research into the relationship of decisional balance and stage of change within an organization may clarify the contributory factors related to the decline in participants' positive evaluation of the change at the implementation or action stage.

3. The definition of inter-institutional collaboration used as the target behavior in this study was purposely set at a conservative level. Further research using a more aggressive definition may offer a clearer understanding of institutional and individual readiness for system-wide changes in the structure of Adventist higher education.

4. Adventist higher education is funded and supported by the constituency of the Seventh-day Adventist church. This group was not described in the current study and is critical in the processes of change to inter-institutional collaboration. An evaluation of the constituency of the Seventh-day Adventist church in North America would be helpful in charting a course for restructure and increased inter-institutional collaboration in Adventist higher education in North America.

Conclusion

Continued research into the status of inter-institutional collaboration and the effectiveness of the processes of change used by Seventh-day Adventist higher education to enhance inter-institutional collaboration would add to the body of knowledge relative to organizational change and the effectiveness of the Transtheoretical Model in the organizational environment. As Adventist higher education in North America continues to work to meet the needs of the learner and overcome the challenges of the changing financial and sociological environment of higher education, it must continually evaluate the effectiveness of its efforts and work to gain a better understanding of its inter-institutional collaborative status.

Kezar and Lester (2009) make the following statement: “To make collaboration successful, organizations need to be redesigned to enhance group and cross-divisional work, which otherwise typically fails” (p. 36). Adventist higher education is in the beginning stages of transforming into a more collaborative environment and thus needs to re-evaluate its structure, with the goal of increased inter-institutional collaboration.

Adventist higher education was founded under the mission of creating a Christ-centered learning environment for college-aged young people. Ellen White (1903), one of

the founders of the Seventh-day Adventist church and a pivotal participant in the inception and growth of Adventist higher education, described in her book, *Education*, the Adventist prospective of “True Education”:

True education is more than the pursuit of a certain course of study. It means more than a preparation for the life that now is. It has to do with the whole being, and with the whole period of existence possible to man. It is the harmonious development the physical, the mental, and the spiritual powers.
(p. 13)

If Adventist higher education is going to meet the challenge of creating a holistic educational experience within the current economic and sociological environment, the 15 Adventist institutions of higher education in North America need to work together in a spirit of collaboration for the good of all, especially the students.

APPENDIX

SURVEY OF THE STATUS OF INTER-INSTITUTIONAL COLLABORATION
AMONG ADVENTIST COLLEGES AND UNIVERSITIES
IN NORTH AMERICA

Inter-Institutional Collaboration among Adventist Colleges and Universities in North America

INSTRUCTIONS:

Please answer the following questions based on your present position or job assignment within Adventist higher education. Use the following definition of Inter-Institutional Collaboration as your frame of reference. Please select the response that best describes your involvement with inter-institutional collaboration in Adventist higher education.

Inter-institutional collaboration by Seventh-day Adventist institutions of higher education in the North American Division (NAD) involves the creation of opportunities to share educational assets with the goal of maximizing both financial and intellectual resources. Successful inter-institutional collaboration requires that faculty/administrators:

- Work with faculty/administrators from other NAD institutions of higher education by providing funding and/or planning opportunities for inter-institutional academic/administrative programs;
- Are involved in inter-institutional purchasing or financial projects with the goal of minimizing costs and maximizing financial resources;
- Share professional resources such as teaching or administrative documents and procedures;
- Participate at least once a term in an inter-institutional environment with faculty/administrators in brainstorming sessions on topics such as scholarly exchange, discussion of pedagogical or administrative issues.

1. Given your role in Adventist higher education, to what degree have you been involved in inter-institutional collaboration?

- Not at all, and I do not intend to within the next six months.
- Not at all, but I intend to within the next six months.
- Not at all, but I intend to within the next 30 days.
- I have, but for less than six months.
- I have for more than six months.

Listed below are activities that represent involvement in inter-institutional collaboration. Please rate *HOW OFTEN* you have engaged in each of the following in the last *THREE MONTHS*.

2. Worked with faculty/administrators from other NAD institutions of higher education by planning opportunities for cross-institutional academic/administrative programs.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

3. Been involved in inter-institutional purchasing or financial projects with the goal of minimizing costs and maximizing financial assets.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

4. Voluntarily shared information and resources with a colleague from another NAD college/university.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

5. Sought opportunities to understand the operations at another NAD college/university.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

6. Sought opportunities to work with colleagues from another NAD college/university on projects relevant to my current assignment.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

7. Exchanged email or phone conversation with one or more colleagues from another NAD college/university on topics of professional interest.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

8. Have participated in brainstorming sessions on topics such as scholarly exchange or discussion of pedagogical or administrative issues.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

9. Participated as a lecturer or consultant at another NAD college/university.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

10. Participated in a NAD committee with the intent to foster inter-institutional collaboration.

- Never
- Seldom
- Occasionally
- Often
- Repeatedly

The following statements represent different opinions about being involved in inter- institutional collaboration. Please rate *HOW IMPORTANT* each of the following would be in your decision to get involved in inter-institutional collaboration.

11. My involvement would save me time.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

12. My involvement would threaten my job security.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
13. My involvement would prevent me from working the way I want.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
14. My involvement would give me a sense of accomplishment.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
15. My involvement would cause disapproval from my colleagues.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
16. My involvement would provide more opportunities to collaborate and improve my productivity and professionalism.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
17. My involvement would improve the learning environment for students.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important

18. My involvement would upset colleagues in my department.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
19. My involvement would increase my stress at work.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
20. My involvement would make me feel better about my work.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
21. My involvement would cause me to lose control of the quality of my work.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
22. My involvement would force me to do things I don't want to do.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important
23. My involvement would improve the quality of an Adventist college/university education.
- Not at all important
 - Somewhat important
 - Moderately important
 - Very important
 - Extremely important

24. My involvement would reduce redundancy and improve the quality of Adventist higher education for the current students and the students of the future.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

25. My involvement would improve communication between institutions thus improving the quality of the educational experience.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

26. My involvement would create more conflict between institutions.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

27. My involvement would limit my ability to be creative.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

28. My involvement would make me feel proud to be a part of NAD higher education.

- Not at all important
- Somewhat important
- Moderately important
- Very important
- Extremely important

The following are situations or conditions, which might tempt some people to limit or resist involvement in inter-institutional collaboration. Please rate how confident you are that you would become involved in or continue your involvement in inter-institutional collaboration when faced with the following situations or conditions.

29. There is a chance that collaboration between institutions will encounter problems or challenges.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

30. Your department is upset about your involvement in inter-institutional collaboration.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

31. As a result of your involvement in inter-institutional collaboration, your workload is increased.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

32. As a result of your involvement with inter-institutional collaboration, your knowledge and skills are viewed as inadequate when compared with colleagues from other Adventist colleges/universities.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

33. Your colleagues are opposed to a shift in the environment of NAD higher education resulting in increased inter-institutional collaboration.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

34 As a result of inter-institutional collaboration, you experience increased conflict at work.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

35. As a result of increased inter-institutional collaboration, your autonomy on the job is reduced.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

36. As part of inter-institutional collaboration, your job description changes dramatically.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

37. Your participation in inter-institutional collaboration involves the taking of risks.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

38. Your supervisor (chair, president, board chairman, etc.) questions whether participating in inter-institutional collaboration is a good idea.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

39. You experience increased stress as a result of participation in inter-institutional collaboration.

- Not at all confident
- Somewhat confident

- Moderately confident
- Very confident
- Completely confident

40. The process of inter-institutional collaboration requires that you move to a different department.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

41. Becoming involved or continuing your involvement in inter-institutional collaboration causes you to have to change the way you do your job.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

42. You experience a great deal of uncertainty as a result of your involvement in inter-institutional collaboration.

- Not at all confident
- Somewhat confident
- Moderately confident
- Very confident
- Completely confident

Thanks a lot for continuing! Please answer just a few quick questions to help us better understand the status of inter-institutional collaboration in Adventist higher education.

43. What gender are you?

- Female
- Male

44. In what year were you born?

45. How many years of experience do you have in Adventist higher education?

46. Do you have teaching experience outside of Adventist higher education?

47. If you answered yes to the previous question, at what level or levels do you have teaching experience?

- Non-Adventist Higher Education
- Secondary Grades 9-12
- Elementary K-8
- Other, please specify

48. What is your current assignment?

- Faculty
- Administration (including school or college Dean)

49. If administration (including school or college dean), which best fits your current job description?

President

- Vice President for Academic Administration
- Vice President for Advancement
- Vice President for Financial Administration
- Vice President for Marketing & Enrollment
- Vice President for Student Services
- Dean of a school or college
- Chair of a department
- Chief Information Officer
- Other (please specify)

50. If faculty, which department or discipline best describes your current teaching assignment?

- Aviation
- Biology
- Business Administration and Economics
- Chemistry
- Communication
- Computer Science
- Education
- Emergency Services
- English
- Physical Education
- History
- Library
- Mathematics
- Modern Languages
- Music
- Nursing
- Psychology & Social Work
- Physics
- Religion

- Visual Arts
- Other (please specify)

51. Which institution of higher education do you work for?

- Andrews University
- Atlantic Union College
- Canadian University College
- Columbia Union College
- Florida Hospital College of Health Sciences
- Griggs University/Home Study International
- Kettering College of Medical Arts
- La Sierra University
- Loma Linda University
- Oakwood University
- Pacific Union College
- Southern Adventist University
- Southwestern Adventist University
- Union College
- Walla Walla University

52. Comments or Questions

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VITA

Robert A. Paulson Jr., M.A.
Associate Professor

- Position: Associate Professor: Exercise Science, Health,
and Nutrition , Pacific Union College 1994—
Coach: Volleyball, Walla Walla University 1993—1994
Coach/Teacher: San Gabriel Academy 1991—1993
Coach/Teacher: Takoma Academy 1981—1991
- Education: Ph.D. Candidate: *Educational Leadership*
Andrews University, Berrien Springs, MI Current
- M.A. *Kinesiology—Sport Psychology*
Sonoma State University, Rohnert Park, CA 1999
- B.S. *Physical Education*
Andrews University, Berrien Springs, MI 1981
- Credentials: American Red Cross Instructor Trainer—Water Safety
Lifeguard Training, Cardio Pulmonary Resuscitation,
First Aid 1976—Current
- Academic Experience:
Associate Professor 3 years
Assistant Professor 6 years
Instructor 4 years
High School Teacher 13 years
- Academic Committees:
Pacific Union College: Curriculum and Efficiency Committee,
Student Life Committee, Traffic Appeals Committee, Adventist
Digital Education Consortium
- Professional Organizations:
Adventist Virtual Learning Network (AVLN): President
American Association of Physical Education, Recreation,
and Dance (AAPHRD)
- Honors:
National Association of Intercollegiate Athletics: California Pacific
Athletic Association—Cross Country Coach of the Year 1997, 1998,
2001, 2005