

AZUSA PACIFIC UNIVERSITY

**COLLEGE STUDENT THRIVING:
A COMPARISON OF INNOVATIVE EXTENSION
SITES TO THE TRADITIONAL COLLEGE CAMPUS**

by

Andrew E. Miller

A dissertation submitted to the
School of Behavioral and Applied Sciences
in partial fulfillment of the requirements
for the degree Doctor of Philosophy in Higher Education

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Laurie A. Schreiner, Ph.D., Committee Chair

Eric J. McIntosh, Ph.D., Committee Member

Eileen E. Hulme, Ph.D., Committee Member

Robert K. Welsh, Ph.D., ABPP, Dean, School of Behavioral and Applied Sciences

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DEDICATION

To my beautiful wife, Rachael, and our wonderful children, Grace and Noah, I am forever grateful for your love, encouragement, and sacrificial support throughout this journey. May this dissertation serve as a testament that you can do all things through Christ who is the source of your strength. I love you with all my heart.

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ABSTRACT

COLLEGE STUDENT THRIVING: A COMPARISON OF INNOVATIVE EXTENSION SITES TO THE TRADITIONAL COLLEGE CAMPUS

Andrew E. Miller
Doctor of Philosophy in Higher Education, 2019
Azusa Pacific University
Advisor: Laurie A. Schreiner, Ph.D.

The U.S. higher education system faces an unprecedented convergence of financial challenges that have the potential to negatively affect the operations of smaller institutions (Denneen & Dretler, 2012; Eide, 2018). These forces have increased the expectation for institutions to adopt innovative educational models that will ensure the financial sustainability of the institution. One such innovation is the church-based extension site program at a private, Christian university in the southeastern region of the United States. The extension site program provides affordable pathways to baccalaureate degrees through a combination of experiential learning and classroom experiences within a local church context. The Christian university that was the focus of this study has experienced dramatic enrollment growth since the program's inception, with more than 2,400 students enrolled at 112 locations across the United States. Given the growth of this educational modality, this study evaluated whether the church-based extension site program is an effective alternative to the traditional campus experience. The *Thriving*

Quotient, a reliable and valid instrument that measures students' academic, interpersonal, and intrapersonal well-being (Schreiner, 2016), was utilized to examine the differences in thriving levels and pathways to thriving among extension site and traditional students at the target university. After matching students through propensity score analysis, the results of the univariate and multivariate analyses of variance indicated that extension site students ($M = 5.12$, $SD = .45$) reported significantly higher thriving scores than their matched counterparts on the traditional campus ($M = 4.82$, $SD = .49$, $F[1, 616] = 62.871$, $p < .001$, $\eta^2 = .093$). Structural equation modeling with multiple-group analysis further indicated significant differences in the pathways to thriving among extension site and traditional students, with each model accounting for 73% and 62% of the variation in college student thriving, respectively. Spirituality, faculty commitment to diverse students, and psychological sense of community represented the largest contributors to extension site student thriving. The study recommends the expansion of the extension site model at Christian institutions as an effective alternative to the traditional experience for a particular group of students and offers implications for practice that will support student thriving within the extension site context.

Keywords: disruptive innovation, extension sites, experiential learning, student success, college student thriving

TABLE OF CONTENTS

Dedication.....	iii
Acknowledgments.....	iv
Abstract	vi
List of Tables	xiv
List of Figures.....	xvi
Chapter	Page
1. Introduction.....	1
Purpose of the Study.....	6
Significance of the Study.....	7
Definitions.....	8
Disruptive Innovation.....	9
Extension Education	9
Experiential Learning.....	10
Psychological Sense of Community	12
Institutional Integrity.....	12
Spirituality	13
Faculty Commitment to Diverse Students and Perspectives.....	13
Student-Faculty Interaction	14
Thriving.....	14

Chapter	Page
Research Questions	15
2. Literature Review.....	16
Innovation in Higher Education	16
Disruptive Innovation Theory	21
Disruptive Innovation Theory Meta-Analysis.....	24
Relevance of Disruptive Innovation Theory to this Study.....	32
Extension Education.....	36
Experiential Learning	40
Philosophical Roots of Experiential Learning.....	41
Social Psychology Roots of Experiential Learning	45
Psychological Roots of Experiential Learning.....	51
Pedagogical Roots of Experiential Learning.....	55
Experiential Learning Theory.....	56
Experiential Learning Research Meta-Analysis	67
Application of Experiential Learning in Higher Education	71
Application of Experiential Learning to Extension Education.....	73
Summary	77
Perspectives on Student Success	79
Theoretical Perspectives of Student Success.....	80
Student Input Characteristics and Institutional Variables Predictive of Student Success	141
Expanded Vision of Student Success.....	147

Chapter	Page
Conceptual Framework: Thriving	156
Positive Psychology Foundations	157
Human Flourishing	160
Bean and Eaton’s Psychological Model of Student Retention	164
Domains of Thriving.....	165
Thriving Quotient.....	175
Thriving as a Mediator	177
Pathways to Thriving	180
Thriving Differences Among Student Groups.....	196
Summary of Thriving Research.....	205
Conclusion	206
3. Methods	209
Research Design	209
Hypothesized Structural Model.....	216
Participants.....	217
Instrumentation.....	220
Psychological Sense of Community	226
Institutional Integrity.....	226
Spirituality	227
Faculty Commitment to Diverse Students and Perspectives.....	227
Student-Faculty Interaction	228
Other Input and Campus Experience Variables.....	228

Chapter	Page
Procedures.....	229
Data Screening Procedures.....	230
Data Analysis Procedures.....	232
Summary.....	238
4. Results	239
Propensity Score Analysis	240
Analysis of Group Differences in Mean Thriving Quotient Subscale Scores	242
Analysis of Group Differences in Mean Thriving Scores	243
Confirmatory Factor Analyses	243
Thriving.....	245
Psychological Sense of Community (PSC).....	246
Institutional Integrity.....	246
Spirituality	247
Student-Faculty Interaction	248
Faculty Commitment to Diverse Students and Perspectives	250
Structural Regression Model With Aggregate Sample.....	250
Multiple-Group Analysis	256
Structural Regression Models by Student Group.....	260
Structural Regression Model for Extension Site Students	261
Structural Regression Model for Traditional Students	267
Comparison of Structural Models by Student Group.....	272
Summary.....	275

Chapter	Page
5. Discussion.....	277
Discussion of the Findings.....	278
Differences in Thriving Between Extension Site and Traditional Undergraduates	278
Differences in Pathways to Thriving Between Extension Site and Traditional Undergraduates	285
Limitations of the Study	309
Implications for Practice.....	310
Expansion of Church-Based Extension Site Model.....	311
Expanding the Student Success Definition	312
Divine Design Curriculum	314
Psychological Sense of Community at Sites	316
Faculty as Institutional Agents	319
Academic Advising.....	322
Recommendations for Further Research.....	323
Conclusion	326
References	328
Appendix	Page
A: Thriving Quotient Instrument.....	400
B: Model Fit Statistics for SEM of Thriving in Traditional and Extension Site Students.....	414

Appendix	Page
C: Model Fit Statistics for SEM of Thriving Among Extension Site	
Students	417
D: Model Fit Statistics for SEM of Thriving Among Traditional	
Students	422

LIST OF TABLES

Table 1: Participant Characteristics	218
Table 2: Description of Variables and Coding	222
Table 3: Summary of Logistic Regression Analysis Predicting Extension Site Group Membership	241
Table 4: Mean Scores and Standard Deviations for Measures of Thriving as a Function of Program Type.....	244
Table 5: Multivariate and Univariate ANOVAs for Thriving Quotient Subscales.....	244
Table 6: Model Fit Statistics for Confirmatory Factor Analysis of First-Order Thriving	245
Table 7: Model Fit Statistics for Confirmatory Factor Analysis of PSC	246
Table 8: Model Fit Statistics for Confirmatory Factor Analysis of Institutional Integrity.....	247
Table 9: Model Fit Statistics for Confirmatory Factor Analysis of Spirituality.....	248
Table 10: Model Fit Statistics for Confirmatory Factor Analysis of Student-Faculty Interaction	249
Table 11: Model Fit Statistics for Confirmatory Factor Analysis of Faculty Commitment to Diverse Students and Perspectives.....	250

Table 12: Standardized Direct, Indirect, and Total Effects on Thriving for Aggregate	
Sample	252
Table 13: Goodness of Fit for Invariance Analysis Across Student Group	257
Table 14: Multi-Group Parameter Estimates Above the Critical Ratio Threshold.....	259
Table 15: Standardized Direct, Indirect, and Total Effects on Thriving by Student	
Group	261

LIST OF FIGURES

Figure 1: Hypothesized Structural Model	216
Figure 2: Final CFA Model for First-Order Thriving	246
Figure 3: Final CFA Model for PSC.....	247
Figure 4: Final CFA Model for Institutional Integrity	248
Figure 5: Final CFA Model for Spirituality	249
Figure 6: Final CFA Model for Student-Faculty Interactions	249
Figure 7: Final CFA Model for Faculty Commitment to Diverse Students and Perspectives.....	251
Figure 8: Omnibus Model for Aggregate Sample	252
Figure 9: Structural Model for Extension Site Students	263
Figure 10: Structural Model for Traditional Students.....	268

CHAPTER 1

INTRODUCTION

The U.S. higher education system faces an unprecedented convergence of internal and external pressures that highlight the need for significant transformation. Numerous factors motivate this appeal for change, including surging tuition rates, unfettered student debt, diminishing government funding, the changing demands of consumers, and rapid technological advances (Brewer & Tierney, 2012, p. 43; Christensen, Horn, Caldera, & Soares, 2011; Webber, 2017). Various scholars of higher education (e.g., Bleed, 2007; Christensen et al., 2011; Selingo, 2013; Zemsky, 2013) have noted increased demands on the higher education community and the necessity for institutions to embrace innovation. These pressures have led some analysts to predict that significant financial concerns are on the horizon for many colleges and universities (Christensen et al., 2011; Denneen & Dretler, 2012; Suster, 2013). Moreover, the current path of many institutions is unsustainable, particularly the finances of smaller, private institutions (Denneen & Dretler, 2012; Eide, 2018; Lederman & Jaschik, 2018).

Despite the general observation that institutions of higher education are slow to change and adopt new strategies (Murray, 2008), these external pressures are forcing the sector to adapt. Trainum (2015), who recently completed a study on disruptive innovation in higher education, noted the need for traditional universities “to keep costs down, use resources better, compete in new ways, provide access to more students, and

respond to for-profit competition” (pp. 5-6). One such adaptation for Christian universities is the development of church-based extension sites that provide accessible and affordable education for students who may be unable to enroll at a university’s main campus.

One such church-based extension site program has been established at a mid-sized Christian university in the southeastern region of the United States. It serves as an innovative model that offers private Christian higher education at an affordable tuition rate and in an experiential learning context (as defined by Kolb, 1971, 1984, 2015), specifically churches. The program could represent a disruptive innovation (as defined by Christensen, 1997) in the higher education sector, with the potential to disrupt the programs of other colleges. Christensen and his colleagues (2015) found a disruptive innovation provides a substitute experience or product at a lower cost, which ultimately disrupts the market by unseating incumbent organizations.

Bower and Christensen (1995) first introduced disruptive innovation by theorizing why larger incumbent organizations lose market share to smaller, less funded organizations. The authors first applied the theory to the technology field and then universally to all disciplines (Christensen, 1997). Early research on the theory differentiated between sustaining innovations, which improve existing products or services and meet the demands of existing or mainstream customers, and disruptive innovations, which present products and services that offer a unique value proposition for a new set of customers (Christensen, 1997). Although the disruptive innovation theory emerged in the technology management field and extended into other industries, it also gained momentum as a philosophy for improving higher education. Christensen and his

colleagues (Christensen & Eyring, 2011; Christensen et al., 2011) have applied disruptive innovation principles to describe the growth and development of innovative higher education practices.

The primary critique of Christensen's theory is the absence of a formal methodology for evaluating the disruptiveness of an innovation (Barney, 1997; Cohan, 2000; Danneels, 2004; Govindarajan & Kopalle, 2005, 2006a; Lepore, 2014), which further complicates its application to higher education innovations (Archer, Anderson, & Garrison, 1999; Christensen, 1997; Kamenetz, 2010). To address the gap in the literature of applying the disruptive innovation theory to higher education, only three studies have focused on areas related to the gap my research addresses. First, Jensen (2015) analyzed the formation and development of a disruptive innovation within an institution through a case study of the College Unbound organization, which sought to educate underrepresented students through highly individualized and student-centered curriculum. Second, Trainum (2015) researched the concept of disruptive innovation and institutional (change) theory in relation to Massive Online Open Courses (MOOCs). Last, deClercq (2015) conducted a qualitative multiple-case study of how educational institutions responded to disruptive innovations, particularly online learning. No existing doctoral dissertations or scholarly journal articles have measured the effects of disruptive innovation in higher education.

To resolve the methodological concerns related to disruptive innovation theory, this study contends that potential disruptive innovations in higher education may be identified through an evaluation of program effectiveness. One pathway to evaluate program effectiveness is the measurement of student success in the college environment.

Scholars of higher education have considered a variety of student success perspectives, including *sociological* (Braxton, 2000b; Braxton, Hirschy, & McClendon, 2004; Spady, 1970, 1971; Tinto, 1975, 1987, 1993), *psychological* (Astin, 1977, 1993; Bean & Eaton, 2000, 2001), *organizational* (Bean, 1980, 1983, 1985; Berger & Braxton, 1998), *cultural* (Attinasi, 1989, 1992; Bensimon, 2007; Guiffrida, 2006, 2009; Museus, 2014; Rendon, Jalomo, & Nora, 2000; Tierney, 1992a, 1999), and *economic* (Cabrera, Nora, & Castañeda, 1992; Cabrera, Stampen, & Hansen, 1990; Hossler, Hu, & Schmidt, 1999; Paulsen & St. John, 1997; St. John, Paulsen, & Starkey, 1996). The challenge, however, of these perspectives is an over-reliance upon an assessment of student success through persistence and graduation rates.

As an alternative approach, a viable assessment of student success involves measuring the levels of student thriving as self-reported on the Thriving Quotient (TQ) instrument (Schreiner, 2012). Thriving is conceptualized as students functioning at an optimal level in the areas of academic engagement, interpersonal relationships, and psychological well-being (Schreiner, 2012; Schreiner, McIntosh, Nelson, & Pothoven, 2009). Moreover, students who report high levels of thriving also exhibit important student success outcomes, including intent to graduate, positive college GPA, overall satisfaction with the college experience, and positive perceptions of tuition worth (Conn, 2017; Nelson, 2015; Schreiner, McIntosh, Kalinkewicz, & Cuevas, 2013; Schreiner, Nelson, McIntosh, & Edens, 2011). The assumption is that measuring thriving among students in an innovative program could validate the effectiveness of the educational model and subsequently position the model as a disruptive innovation and alternative for traditional forms of education.

There is a gap in the thriving literature by virtue of the types of students who complete the TQ instrument. The vast majority of participants include students attending a traditional campus or enrolled in graduate programs (Petridis, 2015). Assessing thriving among church-based extension site students will provide a unique opportunity to expand the student thriving literature to innovative educational models. Second, this study will further enhance the thriving literature by utilizing the TQ instrument as a tool for evaluating program effectiveness, which represents a novel application of the concept and instrument. To date, no other thriving studies have assessed the effectiveness of an educational model based on students' self-reported thriving scores. Thus, an opportunity exists to increase the utility of the college student thriving concept to support institutional improvement and innovation projects in higher education. Last, this study will advance the disruptive innovation literature by positioning the church-based extension site as a potential disruption in the higher education industry by offering a suitable alternative for the traditional college experience.

In summary, thriving is a viable construct for assessing academic and psychosocial factors that contribute to student success and persistence (Schreiner et al., 2009). In addition, scholarly studies have not analyzed student thriving in innovative programs, such as the church-based extension site program. Thus, an opportunity exists to evaluate the effectiveness of the church-based extension site model through the lens of thriving among students in the target university's church-based extension site program, utilizing a quantitative research methodology.

Purpose of the Study

The purpose of this study is to measure student success in an innovative experiential learning program through the lens of college student thriving, with the aim to evaluate the effectiveness of the church-based extension site model. Evaluating the effectiveness of the model assessed whether extension site students are academically, interpersonally, and intrapersonally (Schreiner, 2012) successful in these nontraditional learning environments. The evaluation of program effectiveness assisted with a secondary analysis of whether the church-based extension site program is a viable alternative to the traditional college experience and if the model represents a potential disruptive innovation in the higher education sector.

Based on the literature pertaining to college student thriving, univariate and multivariate analyses of variance sought to understand the thriving and *Thriving Quotient* (TQ) subscale score differences between extension site and traditional residential students at the target university. Additionally, a structural model depicting the different pathways to thriving for extension site and traditional residential students was developed and then tested using structural equation modeling (SEM) with multiple-group analysis (MGA) techniques.

This study incorporated propensity score analysis (PSA) to create a matching dataset that controlled for the differences in these two student groups, thereby establishing the most equivalent comparison group between extension site and traditional students. By incorporating PSA, this study reduced selection bias and improved the statistical power of all subsequent analyses (Grunwald & Mayhew, 2008). The U.S. Department of Education recommends PSA for grant efficacy testing when the study

involves a quasi-experimental design (U.S. Department of Education, 2017). Indeed, other disciplines, such as economics, sociology, psychology, political science, and biomedical sciences utilize PSA to control for group differences when a study cannot ethically or logistically incorporate a randomized controlled trial (RCT) design in which treatment and control groups may be established (Rickles, 2016).

Significance of the Study

This study has significance for both practitioners and scholars. From a practical standpoint, the higher education sector faces significant challenges that require new and disruptive approaches to delivering postsecondary education (Christensen et al., 2011). Financial analysts relate the higher education industry to the housing bubble of the mid-2000s. Denneen and Dretler (2012) summarized the current financial situation in higher education as follows: “Institutions have more liabilities, higher debt service, and increasing expenses without the revenues or cash reserves to back them up” (p. 1). In addition to various financial sustainability strategies (e.g., reducing costs and freeing capital), many analysts have urged institutions to invest in innovative models (Christensen & Eyring, 2011; Christensen et al., 2011; Denneen & Dretler, 2012). The findings of this study may be beneficial in encouraging faculty and administrators to investigate church-based extension sites or similar models as a possible alternative or supplemental model in higher education to address the unsustainability of traditional education, particularly among smaller Christian universities.

Conducting this study with the target university’s extension site students benefits the university by measuring whether the innovative program is a truly effective model for students. In the event the results of this study show an equal or greater level of program

effectiveness, defined as student thriving, then the extension site model might be interpreted as a disruptive innovation. As Christensen (1997) theorized, a disruptive innovation begins as a low-cost, low-quality product or service that gradually improves and gains acceptance as a suitable replacement product or service. Accordingly, a truly effective extension site program may gain widespread acceptance as a suitable replacement for the traditional college experience. This potential outcome is significant for both nontraditional and traditional education providers. Nontraditional institutions that operate church-based extension site programs or similar programs may grow exponentially, while traditional institutions may digress and the financial viability of the traditional experience may diminish.

Moreover, the study will enable the target university to identify student experiences and outcomes where specific interventions may aid students. Such interventions may further enhance the effectiveness of the educational model. Last, this study will contribute to the literature by further analyzing disruptive innovation theory and its application to higher education. The goal, then, is to utilize the results of this study to assist the target university and to stimulate additional research that will benefit the higher education field.

Definitions

This study includes a variety of terms, variables, and theories to describe and assess student success in the church-based extension site model. Provided herein is a review of the theories and terms identified in this study, including disruptive innovation theory, extension education, experiential learning, college student thriving, as well as variables utilized in the study, such as psychological sense of community, institutional

integrity, spirituality, faculty commitment to diverse students and perspectives, and student faculty interaction.

Disruptive Innovation

This study examines the importance of innovation in higher education, given the unprecedented convergence of internal and external pressures on the higher education market. A helpful framework for assessing innovation in higher education is disruptive innovation theory. Christensen, Raynor, and McDonald (2015) defined a disruptive innovation as a product or service that meet the needs of low-end emergent consumers, often at a lower price and with lower performance than traditional products or services. Disruptive innovations progressively improve in quality and price and subsequently diffuse upmarket to serve the needs of mainstream consumers. As a result of upward market movement, the innovative product or service potentially disrupts incumbent organizations, which may or may not lead to organizational failure. At the very least, incumbent organizations lose market share and must adapt to the new competitive landscape.

Extension Education

A possible disruptive innovation in higher education, for the purpose of this study, is the church-based extension site model that combines experiential learning and accredited education in a local church context. In this instance, the study considers the church-based extension site program at a private Christian university that partners with churches across the United States to host educational programs at the church campuses and utilizes the church personnel, ministries, and facilities to provide experiential training opportunities for students. Although various extension site or regional campus models

exist in higher education, this study exclusively evaluates the model operated by the target university.

A few distinctive elements of the church-based extension site program include the following. These church programs often enroll traditionally-aged college students in an array of academic programs designed to prepare students for ministry and marketplace vocations (e.g., business, leadership, psychology, and design). Students complete their coursework through a mixture of face-to-face courses at the site or online, while gaining academic credit through practical work experiences (i.e., practicum) in one or more of the local church ministries. Working in the local church context enables students to connect the theory and content of the classroom with the practical realities of church work. Moreover, these learning opportunities provide students with first-hand experiences that will help secure future positions and support their long-term development. The additional value for the student is the low tuition and fee structure for the program, which totals approximately \$10,000 annually, thus enabling students to earn an accredited degree at a significant discount. In summary, the church-based extension site model provides students with an accessible and affordable pathway to a baccalaureate degree that includes traditional and online course experiences, as well as experiential learning opportunities.

Experiential Learning

The foundation of the church-based extension education model is the ability for the student to earn a higher education degree while engaging in experiential learning activities in the local church. These experiences enable the student to receive the benefits of traditional education with the added value of experiential learning. As noted in the

previous section, students enrolled at a church-based extension site complete their coursework through face-to-face or online courses and also engage in practical work experiences within the local church. The purpose of such experiential learning opportunities is to connect the theory and content of the course experience with the practical realities of church work. Students typically work between 10 to 25 hours per week during each academic term within a ministry of the local church. Students document their experiential learning through reflective assignments and assessments that measure students' presence and contributions in the local church context.

The bedrock of such practical experiences is experiential learning theory (ELT) from Kolb (1971, 1984, 2015). ELT offers a holistic framework for interpreting and evaluating learning within and beyond the traditional educational environment. Learning is a process, not a single action, that involves a series of experiences (Kolb, 2015). These experiences enable knowledge to be created and recreated in the psyche of the learner.

Within Kolb's (1971, 1984, 2015) ELT model, the learner engages in the four modes of the learning cycle in a continuous manner while being responsive to the environment and learning content. Navigating this learning cycle is dependent on the individuals' learning styles as described in Kolb's Learning Styles Inventory (LSI). A central component of the learning process is the space where the learner is free to explore and mature. ELT posits that learning and the individual's learning style are not fixed but are in a dynamic state based on the impact of continual learning experiences. These experiences enable the learner to engage in deep learning that promotes further development and maturation. The church-based extension site program provides such space for students to explore and mature in the ministry context through a series of

practical and reflective experiences. It is expected that students will develop a theoretical understanding of their discipline within the traditional course experience and a practical framework within the context of the local church.

Psychological Sense of Community

Psychological Sense of Community (PSC) is an individual's perceptions of membership, commitment, and responsibility within a group (McMillan & Chavis, 1986; Sarason, 1974). Schreiner (2006) applied this concept to the college environment and established the *Psychological Sense of Community on Campus Index*. A later adaptation of the index as a 4-item scale gauged students' perceptions of "belonging, mattering, and interdependence on campus" (Ash & Schreiner, 2016, p. 43). PSC functions as a latent variable of college student thriving in this study. Thriving studies have found PSC to significantly predict thriving among college students (McIntosh, 2012; McIntosh, 2015; Schreiner, 2016; Schreiner, Kalinkewicz, McIntosh, & Cuevas, 2015).

Institutional Integrity

Institutional integrity is students' perceptions of "the degree of congruence between the espoused mission and goals of a college or university and the actions of administrators, faculty, and staff" (Braxton et al., 2014, p. 88). Early research concluded that institutional integrity had a significant effect on students' social integration (Braxton & Hirschy, 2004; Braxton et al., 2004) and academic development (Braxton et al., 2014) in the college environment. Students perceive institutional integrity based on the fair processing of institutional policies (Braxton & Hirschy, 2004) and alignment between expectation and reality (Helland, Stallings, & Braxton, 2002). Ash and Schreiner (2016) utilized a 3-item scale based on the original work from Braxton et al. (2004) to measure

student perceptions of (a) mission-congruent activities among institutional staff, (b) realized expectations with campus experiences, and (c) the accurate representation of the campus experience in institutional marketing and admission processes. Thriving studies have found that institutional integrity, which represents a latent variable in the thriving model, contributes directly to PSC and indirectly and directly to college student thriving (Ash & Schreiner, 2016; Romero, 2016).

Spirituality

Spirituality relates to students' reliance upon their belief pertaining to the meaning and purpose of life, particularly during challenging seasons (Schreiner, 2016), and functions as "a lens through which to perceive and interact with the world" (McIntosh, 2015, p. 18). Spirituality represents a latent variable in the thriving model and is measured by three survey items adapted from the College Students' Beliefs and Values (CSBV) survey (Astin, Astin, & Lindholm, 2011a). The spirituality scale assesses the extent to which the student's spirituality or religious belief system provides (a) a source of strength in challenging moments, (b) a source of direction for life, and (c) a foundation for life's activities. Thriving studies have found that spirituality directly contributes to college student thriving (Cuevas, 2015; Richardson, 2017; Seppelt, 2016), especially among students of color (Ash & Schreiner, 2016; McIntosh, 2015).

Faculty Commitment to Diverse Students and Perspectives

Faculty commitment to diverse students and perspective, which functions as a latent variable in this study, relates to the sensitivity of faculty to diverse learners inside and outside the classroom (Ash & Schreiner, 2016; Cole, 2007). A significant collection of research has demonstrated the impact of faculty-student interactions (Cole, 2007,

2008a, 2008b, 2010b; Kim & Sax, 2009, 2011, 2017) on students of color. Ash and Schreiner (2016) found that faculty interactions with students of color at private Christian universities inform students' perceptions of institutional integrity and commitment to student welfare, which had an indirect effect on PSC, institutional fit, college student thriving, and intent to graduate. The faculty diversity scale assesses the extent to which students are satisfied with (a) the inclusion of diverse perspectives in classroom activities, (b) faculty sensitivity to diverse student needs, and (c) faculty encouragement of diverse student contributions in the classroom.

Student-Faculty Interaction

Student-faculty interaction represents the degree to which faculty interact with students outside the classroom environment and in relation to academic issues and long-term planning (Kim & Sax, 2017; Schreiner, 2016). Mayhew, Rockenbach, Bowman, Seifert, and Wolniak (2016) considered student-faculty interactions to be one of the most researched factors of the college environments, with recent research emphasizing conversations that encourage intellectual and career development (Kuh & Hu, 2001). Items assessing student-faculty interaction measure the extent to which students (a) engaged with faculty outside the classroom, (b) discussed long-term plans with faculty, (c) discussed academic matters with faculty, and (d) connected with faculty during office hours.

Thriving

The construct of college student thriving expands the definition of student success to include student well-being. Providing the conceptual framework for this study, the thriving construct represents the application of positive psychology concepts to the work

of higher education. Thriving is defined as a student being “fully engaged intellectually, socially, and emotionally in the college experience” (Schreiner, 2010c, p. 4). Thriving students exhibit a commitment to deep learning, monitor their progress to ensure focused attention to educational and personal goals, value the perspectives and differences of others, engage in positive relationships, and view their current reality and future through a positive lens (Schreiner, 2010c). As an outcome, students are academically successful and experience a sense of community and psychological well-being, thus promoting persistence to graduation and enabling students to gain the maximum benefit from the college experience (Schreiner, 2010c).

Research Questions

The research questions for the study are as follows: (a) To what extent does thriving and the Thriving Quotient (TQ) subscale scores differ between extension site and traditional residential students at a private Christian university, after controlling for entering characteristics? and (b) Are there significant differences in the structural pathways to thriving between extension site and traditional residential students at a private Christian university? In Chapter 2, the literature regarding innovation in higher education, extension education, experiential learning, perspectives on student success, and college student thriving is reviewed to provide a context for the study.

CHAPTER 2

LITERATURE REVIEW

The purpose of the study is to measure student success in an innovative experiential learning program through the lens of college student thriving, with the aim to evaluate the effectiveness of the church-based extension site model. Included in this chapter is a thorough review of the literature to support the study. The first section considers the role of innovation in higher education, with special emphasis given to disruptive innovation theory from Christensen (1997). The second section examines literature pertaining to the church-based extension site program as an innovative program with references to examples in agricultural and theological education. Experiential learning theory (Kolb, 1984, 2015) is reviewed in the third section as the theoretical framework for the church-based extension site program that provides ministry training opportunities. Shifting attention away from the innovation topic, section four reviews the student success literature and examines the historical understanding of student success in the college environment. The final section examines the college student thriving concept as the conceptual framework for the study and presents the thriving concept as a means for evaluating the effectiveness of the church-based extension site program.

Innovation in Higher Education

Higher education is an ever-evolving system that develops based on a panoply of institutional and society factors. From the advent of higher education in the United States

during the colonial years to the Morrill Act of 1862 and the 2006 Spellings Report, higher education has been in a constant state of transition (Thelin, 2011). During this period, institutions have invested in innovations to ensure the ongoing improvement of the U.S. higher education system. Innovations reflect “new ideas, methods, or devices [technologies]” (White & Glockman, 2007, p. 98) that support quality in all facets of institutional life. Examples include new curricular strategies, educational modalities, technologies, and organizational structures. Regardless of the size and scope of the institution, innovation is an important and essential endeavor to address the financial and quality concerns in higher education. White and Glockman (2007) poignantly stated, “The challenge is to motivate innovation in the mature enterprise that higher education has become” (p. 100).

A central argument of this study is that innovation helps institutions address systemic challenges by identifying potential solutions in the form of new pedagogies, educational modalities, and business models (Christensen & Eyring, 2011; Christensen et al., 2011). Specific systemic challenges that influence this study on innovation in higher education include the external and internal financial pressures on the industry (Christensen et al., 2011; Denneen & Dretler, 2012; Suster, 2013), as well as lagging student success rates among college students (U.S. Department of Education, 2015).

The U.S. higher education system faces an unprecedented convergence of internal and external financial pressures. Specific external pressures include diminishing government funding (Delaney & Doyle, 2014; McLendon, Hearn, & Mokher, 2009; Pew Charitable Trusts, 2015; Tandberg & Hillman, 2014; Webber, 2017) and increased federal regulatory oversight (American Association of Universities, 2011; American

Council on Education, 2011; Ehrenberg, 2012). Internal pressures include increased instructional costs (Archibald & Feldman, 2008; Desrochers & Kirshstein, 2014; Ehrenberg, 2012), inordinate growth in administrative staffing and expense (Archibald & Feldman, 2008; Desrochers & Kirshstein, 2014), rapid development of student services (Desrochers & Hulbuert, 2016; Ehrenberg, 2012; Webber & Ehrenberg, 2010), and the expansion of intercollegiate athletic programs at institutions of all sizes (Cheslock & Knight, 2015).

These internal and external financial pressures have led to surging tuition rates and subsequently unfettered student debt, as institutions and students attempt to meet financial demands (Christensen et al., 2011). Moreover, these pressures have led some analysts to predict significant financial concerns are on the horizon for many colleges and universities (Christensen et al., 2011; Denneen & Dretler, 2012; Suster, 2013). The current path of many institutions is unsustainable, particularly smaller private institutions (Denneen & Dretler, 2012; Eide, 2018; Lederman & Jaschik, 2018).

In addition to these financial challenges, the demand for higher education has dramatically increased over the past 30 years (Snyder, de Brey, & Dillow, 2016). Total college enrollment expanded from 8.5 million in 1970 to 20.2 million in 2015 (Snyder et al., 2016), with students of color representing the fastest growing segment of the population (Kumar & Hurwitz, 2015). In the same period, institutions have invested billions of dollars in programming designed to improve students' chances of persisting and graduating from the institution (Hennessy, 2010). Despite these investments, student success rates have changed little. Less than 60% of full-time students who enter college for the first-time graduate with a baccalaureate degree within 6 years (U.S. Department of

U.S. Department of Education, 2015), a metric that has remained consistent since the 1980s. A particularly important concern is the lack of improvement in the persistence rates among historically underrepresented students compared to their White and Asian counterparts. More than 70% of Asian and 62% of White students at 4-year institutions graduate within 6 years compared to 52% of Hispanic and 40% of Black students (U.S. Department of Education, 2015).

The financial and student success pressures reflect major issues that have the potential to cripple higher education institutions and students. Despite a growing population of college-ready students, institutions are encumbered by financial challenges that they pass to students in the form of tuition and fees. Although institutions invest significantly into student services (Desrochers & Hulbuert, 2016; Ehrenberg, 2012; Webber & Ehrenberg, 2010), student success as measured by graduation rates is still a major concern (U.S. Department of Education, 2015).

To this end, higher education researchers have examined the extent to which the industry can innovate to solve complex problems. Advocates for innovation in higher education include internal leaders as well as external pundits. The following is a review of the most notable mentions. For example, Selingo (2013), the current editor for the *Chronicle of Higher Education* and educational contributor for the *Washington Post*, argued that institutions need to re-envision their academic programs to ensure students graduate with skills necessary for the job market. Selingo predicted that technology, in the form of online learning and MOOCs, will be a driver for future innovation in higher education. Carey (2015), a higher education policy analyst at New America, argued that technology will serve as a significant force to reduce costs in the industry. Carey calls

for the destruction of the meritocracy that is prevalent in traditional higher education institutions and the emancipation of learning through technological means.

Crow and Dabars (2015) chronicled the innovations at Arizona State University, where Crow serves as the president. Crow's vision for the new American university involves a commitment to both research and teaching in a way that serves a diverse student population and the broader community. Not unlike his contemporaries, DeMillo (2013, 2015), former dean at the Georgia Institute of Technology, argued for the investment in technology to provide a more accessible education. DeMillo, in particular, argued that institutions should focus on innovations that promote the common good. Gallagher (2016), chief strategist at Northeastern University's Global Network, noted the importance of credentialing as an output of higher education. Gallagher found that innovative educational models, such as online learning and competency-based education, have the best potential to prepare students for future employment opportunities. A variety of other scholars and pundits have analyzed innovative models in higher education; however, their research has not argued for a particular outcome, only that the industry needs to change (Blumenstyk, 2014; Cavagnaro & Fasihuddin, 2016; Denneen & Dretler, 2012; Hearn, Warshaw, & Ciairimboli, 2016; Jensen, 2015; Kamenetz, 2010; Katz, 2015; Staley, 2015; Trainum, 2015; Weise, 2014).

A final stream of research on innovation relates to the disruptive innovation theory that originated outside higher education. First proffered by Christensen (1997), disruptive innovation theory describes a phenomenon where less-resourced organizations unseat incumbent organizations with a particular product or service. Christensen and his colleagues would later apply this theory to higher education as a tool for describing how

particular educational innovations have unseated incumbent institutions that have long dominated the higher education space. The following section reviews disruptive innovation theory, including a meta-analysis of disruptive innovation research, and applies the theory to this study.

Disruptive Innovation Theory

Bower and Christensen (1995) introduced the disruptive technologies concept to describe how new strategies or products transform industries. The authors described a pattern of failure among technology organizations that failed to account for changes in the industry and were unseated by less-resourced organizations. Bower and Christensen described these organizations that disrupted the mainstream providers as “small, hungry organizations” that were “good at agilely changing product and market strategies” (p. 50) to meet the demands of consumers and the industry trends.

Christensen (1997), an expert in innovation and growth, later expanded the concept of disruptive technologies into disruptive innovation theory. This theory describes why new products or services might (a) underperform mainstream expectations, (b) perform better in underserved market segments, (c) improve to the point of mainstream acceptance, and (d) ultimately disrupt the market by unseating incumbent organizations with an acceptable lower-cost product or experience. Christensen cited the advances of IBM in personal computing in the 1970s as an example of disruptive innovation. Although originally undervalued, IBM’s innovations in personal computing destabilized the technology industry by weakening the relevance of the dominant mainframe computers, leading to the elimination of these systems. In addition,

Christensen utilized disruptive innovation theory to describe similar phenomena in other non-technology industries.

Christensen et al.'s (2015) central thesis in disruptive innovation theory is that a disruptive innovation provides a substitute experience or product at a lower cost, which ultimately disrupts the market by unseating incumbent organizations. Disruptive innovations originate from smaller organizations with less resources. As incumbent organizations focus on sustaining their existing products or services, these organizations exceed or ignore the expectations of lower-end market segments. Consequently, the disruptive organization successfully targets these lower-end customers with a suitable lower-cost product or service. Incumbent organizations often ignore these advances by the disruptive organizations, which allows the new entrants to improve in both quality and cost. The result is eventual mainstream acceptance of a particular product or service, which negatively affects the financial viability of mainstream

Christensen, Johnson, and Rigby (2002) identified two primary consumers of disruptive innovations: the non-consumers, who do not utilize mainstream products or services for primarily financial reasons, and (b) the over-served or least demanding consumers, who will purchase a middle-of-the-road product or service that is less expensive than other offerings. Within the academic community, the non-consumer might be represented by the students and families who do not enroll in a traditional higher education degree program due to personal financial limits. The over-served consumer might include those adult learners who do not select institutions based on rankings, facilities, or other common quality factors (Jensen, 2015).

Christensen and his colleagues applied disruptive innovation theory to higher education in two publications. First, Christensen and Eyring (2011) applied the theory to higher education in *The Innovative University*. The authors proffered the following outcomes of a disruptive innovation in higher education: (a) unique institutional structures, (b) new educational models, (c) improved quality, (d) lowered costs for the student and institution, and (e) increased access for students. To illustrate these points, Christensen and Eyring compared and contrasted Harvard University as the dominant mainstream provider with Brigham Young University (BYU) Idaho as the disruptive entrant in the higher education market. The authors pointed to the success of BYU Idaho in online learning and curricular transformation as a means of stimulating change in higher education institutions.

Christensen et al. (2011) offered a second application of disruptive innovation theory to higher education in a white paper through the Center for American Progress. In addition to describing the theory, Christensen et al. illustrated the disruption phenomenon through the historical example of the steel industry. Dominant steel mills were disrupted by mini-mills that gained entry into the steel industry through the fabrication of low-cost rebar and ultimately gained market share that was traditionally reserved for standard steel products. Higher education examples of disruptive innovation include online learning, the evolution of community colleges into 4-year institutions, the growth and development of for-profit institutions, and the advent of competency-based education programs (e.g., Western Governors University). Christensen et al. encouraged the adoption of these innovations to advance the next generation of learning models (e.g., competency-based

education), to provide more value while lowering costs, and to correct the higher education business model.

To summarize, disruptive innovation theory emerged from the technology management field to describe the phenomenon of dominant organizations being displaced by smaller less-resourced organizations. Central to the theory is the importance of aligning an organizational strategy to meet the needs of lower income customers and progressively move toward mainstream acceptance. Christensen and his colleagues (Christensen & Eyring, 2011; Christensen et al., 2011) applied this theory to higher education, noting the advancements of online learning and competency-based education programs among lower income and underserved students in the higher education market.

Disruptive Innovation Theory Meta-Analysis

Following the original theory formulation by Christensen (1997) in the *Innovator's Dilemma*, disruptive innovation has captured the imagination of CEOs, policymakers, and researchers and has informed a national discussion on the importance of innovation in nearly every sector of economy (Lepore, 2014). The national appeal toward disruptive innovation has led to a hyperbolic view that organization should “disrupt or be disrupted” (Lepore, 2014, p. 16). Given the appeal of disruptive innovation theory, the research community offered a two-fold critique of Christensen’s theory, questioning both its definition of disruptive innovation and its capacity to predict potential disruptive innovations. Although the public warmly received Christensen’s views, many researchers proffered significant criticisms, including concerns related to subjectivity, arbitrary definitions, and unsubstantiated claims. In addition, scholars have raised concerns about its application to higher education. Provided in this section is a

review of these external assessments and the responses to these criticisms from Christensen and other prominent scholars.

Definition of the disruptive innovation theory. The first critique of disruptive innovation theory questioned Christensen's (1997) definition and scope of a disruptive innovation, which led to a heated debate among scholars (Adner, 2002; Christensen, 2006; Danneels, 2004; Govindarajan & Kopalle, 2006a, 2006b; Schmidt & Druehl, 2008; Sood & Tellis, 2011; Tellis, 2005). Some scholars added their own perspective to Christensen's definition, and the remainder debated the merits of the theory altogether.

In partial support of Christensen (1997), Adner (2002) argued that markets adopt a disruptive innovation when the utility of a mainstream product or service decreases, in addition to the value proposition and pricing factors Christensen included in his theory. An especially noteworthy contribution was Govindarajan and Kopalle's (2006b) view of disruptive innovation. Govindarajan and Kopalle introduced the importance of high-end and low-end disruptive innovations. The low-end disruption reflects Christensen's definition; however, high-end disruptions represent products or services that are inferior in performance yet have a high price value. An example of a high-end disruption is the cellular phone, which entered the market as inferior to the land-line phone but at a higher price. Over time, cellular phones improved in quality and price, leading to mainstream adoption. Ultimately, Govindarajan and Kopalle defined a disruptive innovation as a product that (a) is inferior in performance to mainstream products, (b) offers a new value proposition for the consumer, (c) is sold at a lower price eventually, and (d) improves within a market from niche to mainstream.

In addition to the critique from Govindarajan and Kopalle's (2006b), Schmidt and Druehl (2008) distinguished between a disruptive innovation and a new-market disruption. Similar to Christensen's (1997) theory, they postulated that a disruptive innovation exists when a product enters on the low-end of an existing market and ultimately gains acceptance as a mainstream product. The new-market disruption, an addition from Schmidt and Druehl, represents a product that serves a fringe or detached market, where the needs of the consumers are different from those in the low-end market. In this framework, new markets might include those that serve fringe interests or detached groups. A follow-up study from Druehl and Schmidt (2008) recognized that these new-market disruptions meet a detached need and allow the organization to price the experience at a higher rate, even if the experience is less than the traditional standards of quality. An example of a new-market disruption, provided by Druehl and Schmidt, is the original cellular phones that served the niche, affluent consumers who wanted the mobile conveniences provided by such devices.

Meanwhile, scholars such as Danneels (2004), Tellis (2005), and Sood and Tellis (2011) criticized the ambiguity of disruptive innovation theory. Danneels' concern was that the theory lacked a precise and consistent definition of a disruptive innovation. Tellis expressed a similar argument about an imprecise definition and argued it is difficult to differentiate between an underperforming product and an inferior product that ultimately becomes a disruptive innovation. In a similar fashion, Sood and Tellis raised concerns about the definition and presented an alternative interpretation. In Sood and Tellis' view, a disruptive innovation involves both incumbent and entrant organizations,

does not offer a price advantage over older products, and rarely leads to the disruption of other organizations.

A common thread among the critiques from Danneels (2004), Tellis (2005), and Sood and Tellis (2011) was their assessment that Christensen (1997) defined disruptiveness in *post hoc* terms. This critique suggests the definition of disruptiveness derives from Christensen's observations after the fact that the failure of an incumbent organization was due to a new low-cost product that served a non-affluent consumer. In this view, disrupted organizations always become failed or discontinued organizations.

Christensen (2006) responded to his harshest critics, noting that the theory derived from historical accounts of business failures. However, the disruptiveness definition exists independent of the potential outcome (e.g., failure of business). Christensen adamantly opposed a *post hoc* definition and noted that the correlation of disruptiveness with failure is a misapplication of his theory. To this end, Christensen noted that Andy Groves, the former CEO of Intel, described the disruption phenomenon as the "Christensen Effect" (p. 42) as to avoid the negative connotations of the disruption terminology. For Andy Grove, the disruption theory or "Christensen Effect" was a tool to describe the impact of new low-cost products for non-affluent consumers that had the potential to disrupt the future of Intel.

Predictive value of the disruptive innovation theory. Beyond a critique of its definition, the research community also questioned the predictive value of disruptive innovation theory. Barney (1997) and Cohan (2000) argued that Christensen (1997) identified cases that best illustrated the disruptive innovation theory. Barney stated that "it may simply be the case that some firms are lucky in their technology choices" (p.

440). As such, Barney suggested that Christensen selected these lucky cases, reviewed their situation, and generalized the criteria for success based on these isolated instances.

In similar fashion and consistent with other critiques, Danneels (2004) noted that Christensen lacked a clear methodology for identifying test cases and seemed to pick at random the examples that would support his theory. Thus, Danneels questioned the predictive capacity of disruptive innovation theory and argued for the development of a reliable and valid methodology to measure the disruptiveness of a particular innovation. Lepore (2014) raised similar concerns about the theory, noting that Christensen's (1997) analysis method of disruptive innovations seemed arbitrary and lacked sophistication. In particular, Lepore noted that Christensen identified arbitrary performance metrics for successful organization and often cited questionable data sources. Lepore also questioned the application of disruptive innovation theory to higher education, noting that the theory contributed to instability on college campuses by stoking fears of imminent disruption.

Govindarajan and Kopalle (2005) also noted that disruptive innovation theory lacked a clear methodology for measuring the potential disruptiveness of an innovation. In response, they developed a 5-item scale to measure the disruptiveness of innovations based on the definitions from Christensen and colleagues (Christensen, 1997; Christensen & Raynor, 2003). The disruptiveness scale was found to have high reliability as well as discriminant and convergent validity in its measurement of low-end disruptions. Their instrument measured *disruptiveness* as the extent to which the emergent customer segment sees value in the disruptive product. Central to the disruptiveness construct is the measurement of *radicalness*, or the extent to which an innovation introduces a

substantially new product or service (Govindarajan & Kopalle, 2006b). Govindarajan and Kopalle (2006b) argued that a measurement of radicalness and disruptiveness is necessary to predict the potential of the disruptive product or experience. Moreover, the emphasis should be on *ex ante* prediction, where the analysis helps predict potential products or services that would disrupt the market.

Beyond these criticisms, other scholars have improved the predictive value of disruptive innovation theory. The following are several examples. Schmidt (2004) presented a model that provided a tool for organizations to determine whether a new or existing market is ripe for disruption. According to Schmidt, if a product exceeds the expectations of a particular market, then a lower-priced product might excel by serving the lesser needs of the market consumer, while sacrificing its performance. Gradual improvements in product performance would result in upmarket movement, otherwise known as low-end disruption. Paap and Katz (2004) argued that organizations could identify potential disruptive innovations by identifying the market drivers, or the connection between market need and the product. In other words, organizations would benefit from an evaluation of consumer needs and how such needs will be met by a product or service.

Beyond these traditional markers, several research groups developed more complex assessments of the conditions that promote disruptive innovation. The following are notable examples. Yu and Hang (2010) found the conditions favorable to disruptive innovation rely upon four drivers: (a) internal organization capacity, (b) external awareness of consumer needs, (c) orientation to existing and emerging consumers, and (d) strategic ability to create products that meet consumer need. Hang, Chen, and Yu

(2011) developed a tool to assess the existence and sophistication of these drivers. Their goal was to assess organizational awareness for disruptive innovation.

Application of disruptive innovation to higher education. Although the disruptive innovation theory emerged in the technology management field and extended into other industries, it also gained momentum as a philosophy for improving higher education. Christensen and his colleagues (Christensen & Eyring, 2011; Christensen et al., 2011) applied the disruptive innovation principles to describe the growth and development of innovative higher education practices. Policymakers have warmly received the theory and called for action (Neem, 2012), yet others have raised serious objections to its application in higher education policy discussions. Notable objections include the commentary from Bok (2004), Kirp (2003), Washburn (2005), and Slaughter and Rhoads (2004), who did not directly critique Christensen's (1997) theory but raised serious concerns about the implications of a market-based strategy in higher education.

Bok (2004) contended a corporate strategy interferes with the institutional forces that promote academic excellence and instead emphasizes the standards established by the student-consumer. The perceptions of students as consumers shifts assessment of quality from the learning to student outcomes (e.g., job placement). In a similar fashion, Kirp (2003) railed against the market mindset that introduced corporate terms into the higher education psyche, including product development, branding, pricing strategy, and more. Thus, decisions about faculty and curriculum focus on national rankings and prospective student perceptions as opposed to evaluations of learning and scholarship. Washburn (2005) offered evidence of the corporatist mindset in higher education, including the systematic elimination of traditional humanities subjects such as history,

philosophy, and religion, and the expansion of market-sensitive programming that meets the expectations of the student-consumer.

These concerns are similar to the issue raised by Slaughter and Rhoads (2004) in their theory of academic capitalism. According to their theory, higher education institutions have adopted a corporate or market mindset that conflicts with the educational mission of said institutions. Activities such as intellectual property development, research activities, and athletic programs have reengineered the operations of institutions to serve the expectations of students and external consumers. Slaughter and Rhoads argued that educational leaders are “redrawing the boundaries between universities and the corporate sectors” (p. 25). These activities naturally increase the price of higher education that push down costs to students through tuition and fee structures.

Although the disruptive innovation theory does not directly apply the market perspective to higher education, its emphasis on meeting the needs of low-end market segments reflects a commitment to market principles. Thus, some have contended the theory perpetuates the corporatization and marketization of higher education (Lepore, 2014; Neem, 2012). Proponents of such concerns fear the replacement of the academic culture in higher education with a corporate, consumeristic mindset.

Several scholars, however, have offered counter-proposals and have argued that disruptive innovation theory offers a helpful framework for higher education. Jensen (2015) posited the theory offers direction for future research in higher education by addressing the needs of an expanding student population, predicting innovations that reduce costs, and offering a tool for analyzing innovation in higher education. Jensen’s

observations support the assertions of Christensen et al. (2011) that the theory is applicable to the higher education field. In stating his case, Jensen (2015) argued that significant opportunities exist “to solidify the literature by both strengthening and refining the disruptive innovation theory as it applies to higher education” (pp. 41-42). Similarly, Trainum (2015) argued that disruptive innovation provides helpful language to facilitate the necessary changes in higher education.

In summary, disruptive innovation theory offers a framework to identify and nurture new products and services. Such innovations meet the needs of low-end emergent consumers, often at a lower price and with lower performance than traditional products or services. Disruptive innovations progressively improve in quality and price and subsequently serve the needs of mainstream consumers. As a result of this mainstream acceptance, the innovative product or service potentially disrupts incumbent organizations, which may or may not lead to organizational failure. At the very least, incumbent organizations lose market share and must adapt to the new competitive landscape (Christensen et al., 2015).

Relevance of Disruptive Innovation Theory to this Study

The relevance and importance of the disruptive innovation theory to higher education relates to the purpose of this study, which involves the measurement of student success in an innovative experiential learning program through the lens of college student thriving. Such data collection will evaluate the effectiveness of the church-based extension site model through a determination of whether extension site students exhibit academic and psychosocial success in this nontraditional learning space. Should the results of this study demonstrate the church-based extension site program is an effective

program by virtue of student success rates, then the extension site model might be identified as an alternative for the traditional college experience. Consequently, the model may be positioned as a disruptive innovation in higher education, with the capacity to disrupt traditional education providers.

Notwithstanding the evaluation of program effectiveness, other elements of the extension model position it as a disruptive innovation. As Christensen (1997) theorized, a disruptive innovation is a product or service that serves low-end consumers and gradually improves in quality, thus becoming a viable alternative to traditional or mainstream offerings. Accordingly, the extension site program at the target university offers a truly affordable pathway to a baccalaureate degree at a significant discount. Tuition and fee totals in the program generally do not exceed \$10,000 annually. From the low-quality perspective, the extension site experience does not provide the same benefits of a traditional program, including access to an array of local support resources, ubiquitous access to faculty, or the academic and social spaces common on college campuses. Access to support resources exists primarily through electronic means, faculty often fill professional roles outside the classroom, and educational experiences occur in church facilities not intentionally designed as learning spaces. Despite the absence of these qualities, the model still provides a suitable experience for certain consumers.

To explain this phenomenon, Christensen et al. (2002) postulated that disruptive innovations serve two primary consumers: (a) the non-consumers who do not utilize mainstream products or services for primarily financial reasons, and (b) the over-served or least demanding consumers, who will purchase a middle-of-the-road product or service that is less expensive than other offerings. Christensen et al. (2015) described these

individuals or groups as low-end emergent consumers. Non-consumers of traditional education, particularly at private institutions, include students and families who cannot afford the traditional college experience or wish to mitigate the impact of educational debt. The over-served consumers of traditional education include students and families who are not enamored by the benefits of the traditional experience. To this end, the extension site program offers the ideal alternative to the traditional college experience by providing non-consumers with an affordable education and over-served consumers with a suitable experience.

Enrollment trends at the target university are further evidence that the church-based extension site program is a potential disruptive innovation. The program was initiated in 2012 with less than 50 students at six locations in the southeastern region of the United States. Since its origin, the program has grown to more than 2,400 students at 112 locations in fall 2018. The target university currently predicts that the program will exceed 3,000 students at more than 150 locations across the United States by fall 2019. Student enrollment comprises mostly traditionally-aged populations between the ages of 18 and 25 years, not unlike enrollment in traditional programs. As a comparison, the enrollment gains in the extension site program far exceed the trends in the target university's traditional program. In effect, the extension program functions as a suitable alternative for a growing number of students who would otherwise enroll at a traditional college campus.

The extension education program is not unlike the online learning model, which has grown exponentially in the past 2 decades. Online learning originally served students who did not attend a traditional campus due to financial and time restraints. Additionally,

these students were not concerned about the traditional campus benefits in their pursuit of a degree. These student groups coalesce with the over-served consumers and non-consumers that Christensen et al. (2002) identified. A primary difference, however, between the online and the church-based extension site models is the financial value proposition for students. With a few exceptions, many online learning providers charge equivalent tuition rates for face-to-face and online course experiences (Lieberman, 2018), whereas the tuition for the church-based extension site program is significantly less than that of the traditional and online programs.

To this end, evaluating program effectiveness offers an opportunity to assess the extension site program and to validate the model as an alternative to the traditional college experience, especially given the other factors that position the model as a disruptive innovation. This potential outcome is significant for both nontraditional and traditional education providers. Nontraditional institutions that operate church-based extension site programs, or similar models, may grow exponentially as is being experienced at the target university, while traditional institutions may experience subsequent enrollment declines. The alternative approach would initially serve a low-end emergent student population at a reduced tuition price (Christensen & Eyring, 2011; Jensen, 2015) and then gradually gain mainstream acceptance as a suitable replacement. Such upmarket movement has the potential to disrupt the operations of incumbent (i.e., traditional) higher education institutions. Traditional institutions may not be disrupted to the point of closure, but these organizations may lose significant market share, with enrollment and financial consequences.

To help frame this study, the remaining portions of this literature review provide a comprehensive examination of the research related to extension education, experiential learning, student success, and college student thriving. First, the review of research on extension education highlights the use of this educational practice at the target university and elsewhere. Second, the experiential learning theory (Kolb, 1984, 2015) is reviewed as the theoretical framework for extension education. Third, the literature review shifts to an examination of the student success research, including the major theoretical perspectives that define how students succeed in the college environment. The final section presents the college student thriving concept as the conceptual framework for this study. The goal, then, of this literature review is to provide a comprehensive and current review of research in these fields to guide the evaluation and development of the extension education model, both in this study and beyond.

Extension Education

As noted in the previous section, a possible disruptive innovation in higher education is the church-based extension education model that combines experiential learning opportunities with traditional classroom experiences in a local church context. This study evaluates the church-based extension site model of a private Christian university in the southeastern region of the United States. The target university partners with churches across the country to offer degree programs, utilizing church facilities, leadership, and ministries to provide experiential learning opportunities.

The extension program generally enrolls a traditional-aged population of students, ranging between the ages of 18 and 30 years who enroll in a variety of degrees, including ministry, business, leadership, psychology, and design. The degree program incorporates

a mixture of face-to-face or online classroom opportunities, while also earning academic credit throughout their tenure semester through participation in practical ministry experiences (i.e., practicum). Practicum commitments typically range between 10 to 25 hours per week, wherein the student actively engages in the ministry of the local church, thus permitting students to connect the theory and content of the classroom with the practical realities of church work. In addition, these experiential learning opportunities provide students with meaningful experiences that will help enhance future job searches and support their long-term ministry preparation. As an evaluative exercise, students document and measure their learning in the church contexts through reflective assignments and assessments.

The additional benefit for the extension site student, beyond experiential learning, is the program's significantly discounted tuition and fees. On average, the extension education student will pay less than \$10,000 per year, whereas a traditional student will pay on average \$36,000 annually. In summary, the church-based extension site model is an accessible and affordable degree option that provides experiential learning opportunities that will advance students' preparation for future ministry and marketplace roles.

Extension education is not a new phenomenon in higher education. Two prominent examples from the literature include agricultural and theological extension education. Agricultural extension education originated out of the land-grant institutions, following the Morrill Act of 1862 (Thelin, 2011). Land-grant institutions established agricultural extension education centers to address regional teaching and research needs, often leading to improvements in agricultural and related economic structures (Peters,

2002). Peters (2002) described the agricultural extension model as “two-way partnerships” (p. 1) between the university and its community to assist with broader civic responsibilities. As an organizing and informing institution, the agricultural extension assists communities with crop and animal management, disease education, public health and nutrition, civic clubs (e.g., 4-H or FFA), and disaster relief. In this manner, the agricultural extension model is a service to the community as opposed to an educator of local citizens. To this end, Radhakrishna and Zu (1997) found the majority of research on agricultural extension education has often been captured in two national journals: (a) the *Journal of Extension* and (b) the *Journal of Agricultural Education*. Moreover, the vast majority of research has reflected pedagogical and research-based practices for individuals serving at agricultural extensions sites.

A second stream of research on extension education relates specifically to the growth and development of theological education by extension (TEE), which originated from seminaries preparing ministers and clergy for ordained ministry. The seminal work in the TEE field was from Winter (1969), who envisioned the expansion of seminary training in missionary contexts. The aim of this movement was to establish theological extension sites of major U.S. and U.K. seminaries in developing countries around the world. In addition to Winter, Ross (1978, 1981) further developed the theological extension education model and addressed the systematic process of establishing and evaluating such theological extensions. Instead of the learner coming to the knowledge (e.g., seminar), the knowledge came to the learner. Mulholland (1976) chronicled the inherent opportunities and challenges related to theological education in Honduras. More recent research from Kinsler (2008), Werner, Esterline, Kang, and Raja (2010), and

Winter and Jeynes (2011) reviewed the developments of theological education by extension in various regional hubs.

Although the theological education by extension (TEE) model is similar to the church-based extension site model, there are significant differences. First, the model presented in this study offers opportunities beyond ministerial education. Students at extension sites may enroll in an assortment of degree programs from general education to business and psychology. Second, the target model emphasizes undergraduate education, whereas TEE offer a primarily graduate education. Third, the TEE model focuses on preparing ministers in international contexts who cannot attend the traditional seminaries, whereas the extension site model serves students who have the ability to attend the university's main campus. Despite these differences, the TEE model does demonstrate the value of bringing knowledge or education to the learner as opposed to the learner coming to the knowledge. In doing so, the institution expands its geographic footprint and serves a broader, more diverse audience.

Beyond the agricultural extension and theological education by extension models, there is no substantive review of the church-based extension site model as presented in this study. Searches on Google Scholar related to church-based extension sites, extension education, and similar phrases did not reveal any major research in these areas. Similarly, searches on WorldCat and Azusa Pacific University's library databases did not reveal any additional findings.

Beyond the scholarly sources, a Google web search revealed extension site models at the target university, Northwest University (<https://www.northwestu.edu/cpp/>), Southwestern Assembly of God University (<https://www.sagu.edu/admissions/extension->

campuses), Lincoln Christian University (<https://legacy.lincolncchristian.edu/about-us/sites.php>), Trinity Evangelical Divinity School (<https://divinity.tiu.edu/extension-sites/>), and Asbury Theological Seminary (<http://asburyseminary.edu/academics/distance-education/asbury-memphis/>). The extension models at Northwest University and Southwestern Assembly of God University are exact replicas of the programs delivered by the target university, including opportunities for student to complete coursework through online and face-to-face instruction and gain academic credit through experiential learning opportunities. The models presented by Lincoln Christian University, Asbury Theological Seminary, and Trinity Evangelical Divinity School reflect the theological education by extension model, where seminary training is provided at a distance from the main campus. The emphasis with these seminary extensions is graduate education programs, designed exclusively for ministry students. No other church-based extension site programs are present in the Google search results.

Experiential Learning

The foundation of the church-based extension education model is the ability for the student to earn a college degree while engaging in experiential learning activities in the local church. This experience enables the student to receive the benefits of traditional education through face-to-face and online courses, with the added value of experiential learning opportunities. The bedrock of such education is Kolb's (1971, 1984, 2015) experiential learning theory. Research on the effectiveness and application of experiential learning emerged in 1971 with Kolb's (1971) initial treatise on learning styles and the 1984 development of his experiential learning theory (ELT). Kolb's theory reflected the research on adult development and learning styles that emphasized how

individuals learn, grow, and develop (Kolb, Boyatzis, & Mainemelis, 2000). The following section reviews the intellectual roots of experiential learning, offers an explanation of the experiential learning theory, and reviews the literature that applied ELT to higher education studies.

Experiential learning theory has its intellectual origins in the works of individuals whom Kolb (2015) identified as the “Foundational Scholars of Experiential Learning” (p. 1). Included in this foundational list were John Dewey, Kurt Lewin, and Jean Piaget. Kolb argued that these scholars placed experiential learning at the center of the learning process in the same vein as the dominant traditional forms of education (e.g., lecture and classroom learning). In addition, Kolb recognized the contribution of other scholars who emphasized the importance of experience in education and human development. These contributors included Williams James, Mary Parker Follett, Lev Vygotsky, Carl Jung, and Paolo Freire. Ultimately, the intellectual origins of experiential education reside in the disciplines of philosophy, social psychology, psychology, and educational pedagogy.

Philosophical Roots of Experiential Learning

The intellectual foundation of experiential learning originated in the epistemological frameworks on human development from the late 19th century. Key contributors included William James (1912), the renowned psychologist who studied human consciousness (James, 1890a, 1890b), and John Dewey (1897, 1938), the educational theorist who connected students’ experience with their learning. These contributors and their philosophical theories are the foundation of this section.

James’ philosophy of radical empiricism. Kolb (2015) identified psychologist William James (1912) as the originator of the experiential learning theory. Kolb utilized

James' philosophy of radical empiricism and dual knowledge theory as the epistemological foundation to explain the importance of experience in education. In his earlier work, Kolb (1984) did not recognize James' work as foundational to his theory; however, his second treatise (2015) on the subject promoted James' philosophy of radical empiricism and dual knowledge theory to equal status with the contributions from John Dewey, Kurt Lewin, and Jean Piaget.

According to James (1912), all learning originates and culminates in the constant process of experiencing the world. Experience, then, is the essence of all learning. James illustrated the importance of experience in the following statement: "We start with the supposition that there is only one primal stuff or materials in the world, a stuff which everything is composed . . . we call that stuff pure experience" (p. 4). Pure experience, or an individual's engagement with the natural world, relates to James' philosophy of radical empiricism that addressed the conflict between 19th-century rationalism and empiricism. Rationalists contended that knowledge could be gained independent from experience, whereas empiricists argued experience is the only method for gaining knowledge. James responded to this philosophical debate by noting the importance of both reasoning and experience for knowledge development. Radical empiricism, then, involves a dual knowledge of the world, wherein humans collect knowledge through both apprehension (i.e., experience) and comprehension (i.e., reasoning).

The interrelationship between apprehension and comprehension is an enduring philosophical debate (Kolb, 2015). James (1890a, 1890b) best described these two forms of knowing in his two-volume series on *The Principles of Psychology*, which examined the nature of human consciousness. According to James, an individual may

possess a “knowledge of acquaintance and knowledge-about” (James, 1890a, p. 221). A knowledge of acquaintance recognizes an individual may have exposure to a person, object, or experience; however, mere exposure to these elements does not suggest the individual knows about its particulars. Knowledge-about, then, involves the analysis and understanding of a particular component. In other words, knowledge development involves both the sensation of experience and the cognition of knowing.

The implication of James’ (1912) philosophy of radical empiricism and dual knowledge theory for experiential learning is that all forms of learning involve experience. Abstract conceptions of ideas in a classroom setting, concrete experiences in a field environment, reflective observations in out-of-class activities, and active experimentation in a lab environment each involve some form of experience. These pure experiences, in James’ view, enable the learner to develop a comprehensive knowledge of a particular subject.

Dewey’s philosophy of pragmatism. During the same period, John Dewey echoed the contributions of his colleague, William James, and proffered a philosophy of pragmatism in education. Kolb (2015) recognized John Dewey as the most influential scholar of experiential education, beyond even the other foundational scholars Kolb noted. According to Dewey (1925), pragmatism suggests experience is the organizing focus of learning. Experience enables the individual to collect data and information from a variety of cultural artifacts, which then enables the individual to reflect on the particular experience. The reflective process, however, requires that the individual engage with a particular challenge or opportunity that does not reflect an individual’s natural life experiences.

After the turn of the 20th century, modern philosophers and psychologist criticized William James' (1912) philosophy of radical empiricism, given its contradiction of mainstream rationalism and empiricism. Dewey (1905), however, supported James and emphasized the importance of experience in knowledge development. Dewey (1934) also later endorsed James' dual knowledge theory as the transformation of the self through doing and "receptive undergoing" (p. 45), or the process of analyzing and critiquing a particular experience. In this manner, "Perception of relationship between what is done and what is undergone constitutes the work of intelligence" (p. 45).

Dewey's (1897) early contribution to experiential learning originated in the progressive education movement that sought to reimagine the educational process. In his 1897 "My Pedagogic Creed," Dewey offered key components of an experiential education: (a) education is a construction of experience, (b) education is preparation for living, and (c) education occurs best in genuine reality. In 1938, Dewey presented a philosophical framework in *Experience and Education* to address his progressive approach that emphasized the importance of experience in education. Dewey (1938) poignantly stated, "There is an intimate and necessary relation between the processes of actual experience and education" (p. 20). This philosophical framework ultimately supported the development of many experience-based practices in higher education, including apprenticeships, internships, lab opportunities, art studios, and field experiences. In each of these pedagogical methods, the learner is in direct contact with a particular phenomenon being studied as opposed to simply thinking cognitively about an abstract concept. In this vein, higher education has the ability to translate abstract

concepts into practical realities that affect individuals' long-term civic success (Kolb, 2015).

Thus, the philosophical foundation for experiential education emphasizes the importance of experience in students' epistemological development. True learning involves both the cognitive process of intellection and the necessity for pure experience. William James and John Dewey opposed the classical views of education that emphasized the dichotomy of cognitive development versus experience. Their dual knowledge approach to learning placed experience as central to the learning process, thus influencing substantial changes in higher education that remain prevalent today.

Social Psychology Roots of Experiential Learning

In addition to the philosophical orientations of James and Dewey, Kolb (2015) relied upon the field of social psychology to explain the impact of experiences and their shared meaning for participants. Key contributions in this field included Lewin's (1951) field theory, Bronfenbrenner's (1979) ecology of human development, Lave and Wenger's (1991) situated learning theory, Nonaka and Konno's (1998) theory of knowledge creation, and Follett's (1924) creative experiences concept. Of these contributors, Kolb identified only Lewin as a foundational scholar of experiential learning; the remaining individuals provided liminal contributions to the theory. In essence, the social psychology perspective views experiential education from the community perspective, recognizing the importance of social integration and development in learning.

Lewin's field theory. Kolb (2015) recognized Kurt Lewin as a major contributor to the field of social psychology and to the field of organizational behavior, which is the

practical application of social psychology theories and serves as the basis for much of the management, leadership, and organizational studies of the 20th century. According to Kolb, the most important contribution was Lewin's work on group dynamics and action research (Lewin, 1951). The outflow of these intellectual developments was the laboratory training method and T-groups, which recognized the importance of small group interventions for learning and development. Lewin and his colleagues found in their T-groups (training groups) and laboratory training methodologies that "learning is best facilitated in an environment where there is dialectic tension and conflict between immediate, concrete experiences and analytic detachment" (p. 68). Thus, a positive learning experience is possible within an environment where the experiences of students and the intellectual understanding of a teacher connect in an open environment. Central to these learning experiences is an emphasis on subjective experiences from the learner, thus resulting in higher levels of personal involvement and a commitment to humanistic values.

In applying Lewin's action research and laboratory training methodology, Kolb (2015) assumed that learning, change, and development are best facilitated through an integrative process that involves life experiences and the subsequent collection of data about the particular experience. The collection of data, then, leads to analysis of the data and a transmission of conclusions back to the learner for the sake of ongoing development. Lewin's T-groups and laboratory training methods relied upon these feedback mechanisms to ensure the continuous process of goal-directed behavior and subsequent evaluation that stimulates changes in the individual. The challenge, then, is to ensure a balance between observation (experience) and the necessary reflection that leads

to development and change. This model of learning coincided with Dewey's (1938) proposition that learning involves the dialectic process of experiences (observations), analysis, and subsequent action.

Lewin (1951) also informed experiential learning theory through his concept of life spaces, which focused on the impact of subjective experiences in human and social development. According to Lewin's field theory, the person and the environment are consequential to an individual's behavior and development. The life space is the psychological setting in which the individual experiences life subjectively. Although teachers may design a learning space based on the content and activities, students also form this space with their subjective experiences in the world. Lewin asserted,

A teacher will never succeed in giving proper guidance to a child if he does not learn to understand the psychological world in which that child lives ... To substitute for that world of the individual the world of the teacher ... is to be, not objective, but wrong. (p. 62)

Lewin added that the organization of an individual's life spaces depends on the force fields, which are the internal and external environments that inform and shape an individual's life.

Bronfenbrenner's ecology of human development. Urie Bronfenbrenner (1979) expanded the sociological dimensions of Lewin's (1951) life spaces concept through his work on the ecology of human development. In particular, Bronfenbrenner defined an ecology of human learning and development through a series of structures that relate to the learner's settings. Included are *microsystems*, or the particular course or classroom; *mesosystems*, or the life outside the classroom (e.g., residence halls and family life);

exosystems, or the social structures that inform the learning environment (e.g., institutional policies and campus culture); and *macrosystems*, or the larger institutional systems and societal culture.

Bronfenbrenner (1979) provided a framework to analyze the effect of these social systems on a learner's experiences within a learning space. The lesson from Bronfenbrenner's research is recognizing the subjective experiences of the learner in experiential education. Each student brings a set of life experiences and realities into the classroom that subsequently affect the manner in which the individual assesses content and makes application to his or her life.

Lave and Wenger's situated learning theory. A second important contribution to Lewin's (1951) life spaces concept was the situated learning theory from Lave and Wenger (1991). The situated learning theory draws from Vygotsky's (1978) activity theory of social cognition, discussed in a future section, and recognizes learning involves interactions between individuals and their social environment. Within the situated learning theory, situations or life spaces (learning environments) are constructs of the individual's experiences in the learning environment. Moreover, knowledge is not embedded in the mind; rather, knowledge is situated in communities of practice through history, norms, tools, technologies, and traditions.

Lave and Wenger (1991) contended that the learning spaces extend beyond the traditional classroom and include the wider community of practice. It is important, then, to encourage participation in these communities of practice as a way of learning by both absorbing and being absorbed into the community. This process of participation in communities of practice grants the individual membership and identity, as well as ensures

the reproduction of particular communities by replacing older members with newer members.

Nonaka and Konno's theory of knowledge creation. A final important contribution to Lewin's (1951) life spaces concept was the theory of knowledge creation from Nonaka and Konno (1998), who reinforced the life spaces concept with the Japanese concept of *ba*. The Japanese phrase relates to the shared space for emerging relationships. Examples include physical (e.g., classrooms), virtual (e.g., online classrooms), and mental (e.g., ideas) spaces, or the combination of these examples. Accordingly, *ba* is a place wherein knowledge is formed, embedded, and ultimately transmitted to others. The aim of these spaces is to foster the development and transmission of tacit (subjective) knowledge, which involves the technical know-how and the cognitive development of beliefs, ideals, and values.

Nonaka and Konno (1998) provided four examples of learning spaces: (a) *originating ba*, or a learning space where members empathize with one another; (b) *dialoguing ba*, or spaces where tacit knowledge is converted into concepts; (c) *sympathizing ba*, a space where explicit (objective) knowledge is converted into written communication for larger audiences; and (d) *exercising ba*, or the space where explicit knowledge is converted to tacit knowledge in participants. Through these shared spaces, individuals become socialized into the learning community, internalize the knowledge, and externalize this knowledge for the benefit of others. The only means for sharing this tacit knowledge is through the sharing of feelings, thoughts, and life experiences within this space, which necessitates a commitment to an environment with psychological safety that promotes learning and development. Nonaka and Takeuchi (1995) previously

applied knowledge creation theory to managerial work to recognize the importance of learning and development in teams.

Follett's creative experiences. A final social psychology contributor to the experiential learning theory was Mary Parker Follett (1924). Kolb (2015) recognized her role in leadership and organizational research and in particular her role in developing a humanistic view of management that emphasized the distribution of power within organizations. Related to experiential learning theory, Follett (1924) focused on the importance of deep experience in releasing one's creativity, will, and power. Experiences enable the individuals to surrender themselves to the experience as to absorb into the learning process. Follett poignantly stated,

All that I am, that life had made me, every past experience that I have had—woven into the tissue of my life—I must give to the new experience ... We integrate our experience, then the richer human being that we are goes into the new experience; again, we give our self ... (pp. 136-137)

Central to Follett's perspective is the importance of the learner-educator relationship, which was also incorporated in theories from Lev Vygotsky and Paulo Freire. These intellectuals envisioned the learning process as an important dynamic between the educator and the learner and the freeing of the human spirit that leads to deeper levels of learning and development.

In summary, the social psychology framework aided the development of experiential education theory by recognizing the importance of interactions between the learner and his or her environment. Lewin (1951) examined the extent to which group dynamics contributed to learning and development, identifying the importance of life

space as environments where optimal levels of learning and development are possible.

Contributions from Bronfenbrenner (1979), Lave and Wenger (1991), Nonaka and Konno (1998), and Follett (1924) further explained the social dynamic of learning amongst others.

Psychological Roots of Experiential Learning

The psychological roots of experiential learning focus on the cognitive learning process. Kolb (2015) recognized Piaget (1972) and his research on genetic epistemology as the primary influence on experiential learning theory. Other liminal contributions include Vygotsky's (1978) activity theory of social cognition and Jung's (2009) theory of psychological type. This section reviews the contribution of these intellectuals and their psychological theories.

Piaget's theory of social constructivism. The Deweyian and Lewinian traditions of experiential learning reflected an external challenge to the dominant rationalist philosophy of education (James, 1912), which gave preeminence to objective as opposed to subjective truth. Dewey argued from a philosophical perspective of pragmatism, and Lewin argued from the phenomenological perspective of Gestalt psychology (Kolb, 2015). The third tradition to influence the experiential learning theory was the challenge from the rationalist psychological perspective of Jean Piaget (Kolb, 2015). Piaget (1972) focused on the cognitive-development process, or how intelligence develops. In this manner, Kolb (2015) described Piaget as both an epistemological thinker and a psychologist.

In short, Piaget's (1972) theory of cognitive development describes how intelligence is developed and shaped by experience. From this view, Piaget identified

intelligence as not an innate internal characteristic but a byproduct of interaction between the learner and his or her environment, not uncommon from the theories from Dewey and Lewin. This cognitive development process involves a series of stages from birth through young adult, including sensorimotor, pre-operational, concrete operational, and formal operations. Acceptance of Piaget's theory into American psychology and education coincided with Bruner's (1960) application of the theory to the scientific foundation of instruction. The primary application of the theory to instruction related to mathematics and science instruction in the elementary years that moved abstract concepts into modes of learning that younger learners could grasp. Later applications considered the importance of experience-based learning for college-aged students.

At each stage of the learning process, Piaget (1972) proffered that intelligence develops based upon the mutual interaction of assimilation and accommodation. The key to learning is the accommodation of an individual's existing concepts, or schemas, to experiences in the world, and the assimilation of experiences in the world to these existing schemas. There is a continual interaction between assimilation and accommodation at each stage of the cognitive development process, which operationalizes the earlier knowledge into a higher level of cognitive functioning.

Based on this view of intelligence, Piaget (1970) determined that ideas are not static and immutable elements in the world. Instead, these ideas are formed and reformed through individual experiences. Moreover, the development in intelligence is a process of continuous modification. Learning, then, is a reflection of past experiences and not a presupposition of the future. Knowledge results from the interaction between objective

and subjective experiences (i.e., learning). Scholars have described this phenomenon as a constructivist theory of knowledge development (Kolb, 2015).

Vygotsky's activity theory of social cognition. A second social constructivist view of knowledge development was expressed by Lev Vygotsky (1978). Similar to Piaget (1970), Vygotsky viewed intelligence as malleable and contingent upon a long series of developmental experiences. In Vygotsky's case, the most pertinent experiences are those involving social and cultural elements of an individual's life.

Psychologists often connect experiential learning with the social constructivism of Piaget, with less attention given to Vygotsky (Kayes, 2002). Where Piaget focused on the internal cognitive development process, Vygotsky's activity theory of social cognition emphasized the cultural and social dynamics of the learning process. His primary contribution was the Zone of Proximal Development (ZPD) concept that builds on the learning spaces idea from Lewin (1951) and other social psychology scholars.

Vygotsky (1978) defined ZPD as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). Based on this definition, Vygotsky assumed the best learning occurs when the individual is in close proximity with a more competent peer or expert adult. The more competent individual models higher level thinking and personal development and stretches the less competent individual to higher levels through guidance and encouragement. In this manner, ZPD reflects the transition of the learner from stages of interdependence to mature independence and performance. Good learning, then, involves the development of human intelligence over time and under

the supervision of a modeling agent. This transition is facilitated by a scaffolding process that provides the structure and support for progressive development.

Jung's theory of psychological types. Beyond the primary contributions of Piaget and Vygotsky, Kolb (2015) recognized Carl Jung as a liminal contributor to experiential learning theory. Kolb defined Jung as the most extreme experiential learner, who often based his theories on engagement with his life experiences and dreams. In particular, Jung's (2009) concept of individuation explains the integration of opposites (e.g., thinking and feeling) in human development. In this manner, Jung recognized the role of tension in psychological types. For example, individuals may express introversion or extraversion as a personality type. Where introverts are oriented to the inner world, extroverts are more oriented to the external world. Individuals adapt to the world based on these personality types. This research became the basis for the widely-accepted Myers-Briggs Type Indicator instrument used to assess individual orientations to the personality types Jung identified (Kolb, 2015).

Kolb (2015) applied the Jungian concept of individuation to describe the tensions that exist in learning. Learning involves a series of activities that are in contrast with one another, such as thinking, feeling, perceiving, and behaving. Experiential learning involves the same tensions, in that an individual must engage in active experimentation in a practical activity and follow this activity with a reflective observation. Additionally, experiential learning involves abstract concepts that materialize into concrete experiences. Jung's concept of individuation helps explain the tension that exists in the experiential learning process and highlights the importance of these different experiences.

In summary, the psychological framework aided the development of experiential learning theory by recognizing the cognitive development process involved in learning. As postulated by Piaget and Vygotsky, this developmental process is dependent on the interaction between the individual and his or her environment and often extends over long periods of time. Further, the contributions from Jung provide a sense that the developmental process is both individualized and best accomplished within the context of others.

Pedagogical Roots of Experiential Learning

The final influence on experiential learning theory was the critical pedagogy of Paulo Freire. Kolb (2015) identified Paulo Freire, a Brazilian philosopher, as the primary pedagogical scholar to contribute to the experiential learning theory. Freire (2000) argued for the importance of lived experiences in education in contrast to the depositing of information in a learner's brain, which he called the banking method. Moreover, Freire believed the dominant forms of education represented conservative, capitalistic systems that perpetuated class and racial discrimination. A central tenet of Freirean ideology is the necessity to develop a learner's self-identity and undermine the dominant educational model. The development of a learner's self-identity involves the creation of a critical consciousness, whereby the individual engages in a discovery of the personal and experiential definitions of abstract concepts through active engagement with peers and colleagues (Freire, 2000; Kolb & Kolb, 2008).

Further, Freire (2000) argued that the dominant forms of education, which mostly reflect the banking mentality, oppress the development of the learner self-identity. Thus, an alternative form of education is needed that encourages a "praxis of critical reflection

and action to improve their [student's] lives" (as cited in Kolb & Kolb, 2008, p. 305). In this manner, the praxis of critical reflection and action liberates students and learners oppressed by pedagogies that ignore their self-identity. Freire was also influential in the development of Kolb's and his associates' theory of conversational learning, which focused on the importance of dialogue and conversation within education contexts (Baker, Jensen, & Kolb, 2005).

The intellectual origins of experiential learning reflect scholarship from the philosophical, social-psychological, psychological, and pedagogical disciplines, including the radical empiricism of William James; the pragmatism of John Dewey; the group dynamics research of Kurt Lewin; the life spaces concepts from Bronfenbrenner, Lave and Wenger, Nonaka and Konno, and Follett; the social constructivism of Jean Piaget and Lev Vygotsky; the individuation of Carl Jung; and the critical pedagogy of Paulo Freire. The concomitant effect of these experiential learning scholars is a holistic approach to learning that reinforces the notions of real-world experiences, combined with critical reflection and dialogue.

Experiential Learning Theory

Based on the influence of these intellectuals, Kolb (2015) defined experiential learning as the creation of knowledge through experiences. The experiential learning theory provides a holistic view of the learning process with consideration for the learner, the learner's unique background, and the learning environment.

Learning defined. Kolb and Kolb (2005b, 2013) summarized the ELT model based on six common arguments from earlier intellectuals. First, learning is best organized as a process, not as an outcome. This argument acknowledges the importance

of feedback to enhance students' learning efforts, consistent with Vygotsky's (1978) emphasis on scaffolding for learning. Second, all learning involves a process of relearning, thus ensuring a refinement of ideas through examination, testing, and integration. In this vein, learning is never final but continues to be socially constructed (Piaget, 1968, 1970, 1972; Vygotsky, 1978). Third, the learning process requires the "resolution of conflicts between dialectically opposed modes of adaptation to the world" (Kolb, 2015, p. 194), consistent with the contributions from Dewey (1897) and Lewin (1951). This process assumes the learner is engaging in contrasting activities, such as action to reflection and feeling to thinking.

Fourth, Kolb and Kolb (2005b, 2013) argued that learning is a holistic process and involves multiple levels of engagement, including thinking, feeling, observing, and acting. Fifth, learning is a response to the synergistic interaction between individuals and their environment, thus reflecting the social psychology contributions from Lewin (1951), Bronfenbrenner (1979), Lave and Wenger (1991), Nonaka and Konno (1998), and Follett (1924). Consequently, the environment plays an important role in an individual's development. Last, learning involves the creation of knowledge. ELT expresses a social constructivist theory of learning, as argued by Piaget (1968, 1970, 1972) and Vygotsky (1978), which argues that knowledge is created and recreated in the psyche of the learner. A social constructivist theory of learning juxtaposes the banking model of education opposed by Freire (2000), wherein existing ideas and information are merely transmitted to the learner by the teacher.

Experiential learning theory model. In the spirit of Dewey's (1897) philosophy of pragmatism and Jung's (2009) model of individuation, the ELT model involves two

dialectically related modes of grasping experiences, via Concrete Experience (CE) and Abstract Conceptualization (CA), and transforming experiences, via Reflective Observation (RO) and Active Experimentation (AE; Kolb & Kolb, 2005b). Kolb and Kolb (2005b, 2013) summarized the experiential learning process as the creative tension among these four modes of learning that is also responsive to the learning environment. Kolb and Kolb (2005b, 2013) envisioned this process as a cyclical pattern, wherein the learner is engaging in all four modes of learning in a continuous manner while being malleable to the environment and content.

Kolb and Kolb (2013) offered the following explanation for the experiential learning cycle. Concrete experiences (CE) serve as the foundation for observation or reflection (RO). Such reflections become understood and condensed into abstract concepts (AC) from which applications or meaning (AE) may be drawn. These applications or meanings, then, serve as a guide for creating new learning experiences.

Learning styles. Consistent with this model, individual learning styles reflect the unique process whereby individuals navigate the learning cycle, based on their individual preference for the four modes of learning (Kolb & Kolb, 2013). Through a combination of individual genetics, life experiences, and contextual demands, a preferred path for learning is developed among the four modes, and the conflicts between concrete versus abstract thinking and active versus reflective thinking are resolved through a unique pattern (Kolb & Kolb, 2005a, 2013). Joy and Kolb (2009) also found culture to have an impact on personal learning styles, consistent with Vygotsky's (1978) Zone of Proximal Development.

Much of the research from Kolb and colleagues focused on the application of experiential learning theory to the Kolb Learning Styles Inventory (KSLI), which defines the unique combination of learning preferences (Kolb & Kolb, 2005a, 2013). Consistent with the contributions of Piaget (1968, 1970, 1972), the ELT model assumes individual learning styles are not a “fixed psychological trait but a dynamic state resulting from synergistic transactions between the person and the environment” (Kolb & Kolb, 2013, p. 9).

The Kolb Learning Styles Inventory (KSLI) originally presented four basic learning styles, which were developed based on empirical research and clinical observations (Kolb, 1984). The basic styles were Accommodating, Assimilating, Converging, and Diverging (Kolb & Kolb, 2013). Empirical and clinical studies have further refined the four learning styles into nine categories, thus reducing confusion with borderline cases in the original four-style model (Kolb & Kolb, 2005a, 2005b; Mainemelis, Boyatzis, & Kolb, 2002). The nine learning styles, presented in the fourth version of KSLI, are Initiating, Experiencing, Imagining, Reflecting, Analyzing, Thinking, Deciding, Acting, and Balancing (Kolb & Kolb, 2013). The nine learning styles are also arranged along a two-dimensional learning space, consistent with the aforementioned experiential learning cycle.

Learning spaces. Central to the learning process is the space for grasping and transforming experiences to occur through transactions between the individual and his or her environment (Kolb & Kolb, 2005b). The concept for learning spaces finds its intellectual roots in Kurt Lewin’s (1951) field theory and life space concept, which identified behavior as a function of the person and his or her environment (Kolb & Kolb,

2005b, 2013). Other related contributors included Bronfenbrenner's (1979) ecology of human development, Lave and Wenger's (1991) situated learning theory, and Nonaka and Konno's (1998) theory of knowledge creation, which further emphasized the environment wherein learning occurs.

It is important to note the life spaces concept includes any aspects of an individual's life (Kolb & Kolb, 2005b). Kolb and Kolb (2013) offered the following dimensions as examples of learning spaces: physical (e.g., classrooms, buildings, and environment); cultural (e.g., values, traditions, and language), institutional (e.g., organizations, policies, and systems); social (e.g., peers, instructors, and citizens); and psychological (e.g., learning styles, abilities, and personal values). These spaces reflect Nonaka and Konno's (1998) spaces where knowledge is formed, embedded, and ultimately transmitted to others.

In addition, Kolb's (2015) learning space concept reflects Vygotsky's (1978) activity theory of social cognition that perceives learning as an engagement between the learner and his or her social environment (Kolb & Kolb, 2005b). Kolb and Kolb (2013) stated that "Knowledge resides, not in the individual's head, but in communities of practice. Learning is thus a process of becoming a member of a community of practice through legitimate peripheral participation (e.g., apprenticeship)" (p. 18). Learning through communities of practice also relates to the research of Lave and Wenger (1991) that emphasized knowledge development in communities of practice through history, norms, tools, technologies, and traditions.

Given that the environment is important to learning, Kolb and Kolb (2013) argued that a learning space should encourage the learner to engage in the four models of the

learning cycle, including feeling, reflection, thinking, and activity. Moreover, such spaces should be hospitable, welcoming, safe, and supportive. This hospitality reflects Nonaka and Konno's (1998) call for psychological safety in the learning environment and Rogers' (1964) values-based approach to human development that emphasized psychological safety in therapeutic environments. In addition, the Freirean critical pedagogy encourages the development of a conversational learning space (Baker et al., 2005), where contrasting modes of learning are present and actively contribute to the learning process (e.g., talking and listening; Kolb & Kolb, 2013). To summarize, the learning space concept recognizes the importance of a safe, hospitable learning environment to promote the learner's engagement in a dialectic process of grasping and transforming.

Learning development and flexibility. The experiential learning cycle is viewed as a spiral, not simply a cyclical pattern, as the individual continually matures through the learning process (Kolb & Kolb, 2013). Such development is identified as an increase in the complexity and sophistication of the four modes of the learning cycle (Kolb & Kolb, 2013; Peterson, DeCato, & Kolb, 2015; Sharma & Kolb, 2011). The developmental model of the ELT adheres to Jung's (2009) theory of adult development, which describes the learner's movement from acquisition to specialization and integration (Kolb & Kolb, 2013). At each stage, the individual engages in the four modes of learning with increased levels of complexity and adaptation.

It is also assumed with ELT that learning and the individual's learning style are not fixed but are in a dynamic state based on the impact of continual learning experiences (Peterson et al., 2015). The fluidity of learning styles reflect the work of Piaget (1968,

1970, 1972), who recognized intelligence is not fixed but malleable. This process is described as learning flexibility, wherein the learner develops holistic and sophisticated learning techniques (Kolb & Kolb, 2013; Peterson et al., 2015). In the spirit of Jung's research, the learner moves from specialization to integration and utilizes each of the four learning modes with flexibility based on the learning situation (Kolb & Kolb, 2013). Tagg (2003) labeled such activities as deep learning, where the individual is broadening the learning comfort levels and engaging in activities that promote further development. Sharma and Kolb (2011) found learning flexibility relates to greater dexterity in life, more satisfying connections with others, less struggle and anxiety, positive perceptions of oneself, and higher levels of adult ego development. Such outcomes demonstrate the value of learning flexibility beyond the educational environment.

Critiques of experiential learning theory. Since its inception, the research community has critiqued the ELT model, raising questions about its empirical support, theoretical development, visual aids, and alignment with other disciplines. In some cases, Kolb and his colleagues have responded to those critical of the theory, either contradicting or affirming the alternative perspectives. The following section reviews the most pertinent critiques of the experiential learning theory and highlights the responses of Kolb and his colleagues.

In the initial development of the ELT model in 1971, the Learning Styles Inventory served as a self-reported measurement of individual learning preferences and a method for testing the construct validity of the ELT model (Kolb & Kolb, 2005b). Despite the acceptance of the theory by a variety of management and educational scholars, members of the research community raised concerns about the psychometric

properties of the LSI instrument (Kayes, 2002). In 1980, Freedman and Stumpf summarized the concerns from several scholars, who noted volatility in LSI results and weak support of the ELT model. In response to these assessments, Kolb modified the LSI in 1985 and 1999 to address these concerns (Kayes, 2002).

Following these modifications, Kayes (2002) noted that only minor concerns were raised about the utilization of the ipsativity measure to conduct cross-subject comparisons, which inflates the internal reliability of the particular instrument. The ipsativity measure is a means for tracking a single individual's scores on a particular assessment and not intended for cross-subject comparisons. Greer and Dunlap (1997), however, noted that the ipsativity issue only generates nominal empirical deviations that are resolved through simple statistical methods. Nevertheless, Kayes observed that the LSI, following its modifications in the 1990s, offered a valid self-assessment of the individual learning styles and preferences. Further critiques from Coffield, Moseley, Hall, and Ecclestone (2004) and Webb (2003) identified concerns relative to the instrument's construct and predictive validity, thus leading to further refinements of the LSI. The most recent version of the LSI (Kolb & Kolb, 2013) included a new typology of learning styles and addressed the aforementioned empirical concerns, noting strong internal and external support of the instrument.

Beyond these empirical concerns, scholars have also questioned the theoretical framework of the ELT model. According to Kayes (2002), critics argued that the theory decontextualized the learning process from the array of factors that contribute to learning. The over-emphasis on the individual experience negates the psychodynamic, social, and

institutional factors present in the learning process. Provided herein are the primary critics of the ELT from these perspectives.

From the psychodynamic perspective, Vince (1998) noted the following limitations of ELT. First, the theory does not sufficiently consider the impact of power dynamics in the learning process, including the impact of socioeconomic status (SES), gender, and cultural heritage. Second, ELT over-emphasizes the immediacy of experience and consequently underestimates the importance of retrospective reflection. Third, ELT does not account for unconscious learning processes or psychological realities that may prevent learning. For example, ELT does not account for stereotype threat and its effect on learning gains among students of color (Steele, 1997). Last, Vince noted that ELT does not promote the meta-learning process, such as critiquing the epistemology of a particular community of practice. In addition, Reynolds (1999) raised similar concerns about ELT, noting the over-emphasis on the individual learning experience as opposed to the impact of social and cultural influences.

As an alternative view of learning, Vince (1998) emphasized the impact of psychodynamic factors (e.g., emotions) on the learning process that either inhibit or promote growth. In contrast, Reynolds (1999) advocated for critical reflection as opposed to reflective observation. For Reynolds, the learning process involves an emancipation of the learner to identify his or her philosophical assumptions and their subsequent impact on the learning process.

A second stream of criticism emphasized the social aspects of the learning process. For example, Holman, Pavlica, and Thorpe (1997) reimagined experiential learning through the lens of Vygotsky's (1978) social learning theory, noting that ELT

decontextualized the learning process from social dynamics. Accordingly, the individual learning process is deeply integrated with the learner's social and historical context. In contrast to the four modes of learning in Kolb's learning cycle, Holman et al. proposed "rhetoric, argument, and social response" (p. 143) as forms of experiential learning. In contrast with the psychodynamic critics, those from the social perspective recognize the importance of the social dynamic in the learning process as opposed to the emotional interaction that influences the learning process (Kayes, 2002).

A third and final stream of critics argued that Kolb (1984) misinterpreted the humanistic epistemology that undergirds ELT. Miettinen (1998) argued that the fusion of theories from Dewey, Lewin, and Piaget is "eclectic" (p. 12) and leads to a confusion of concepts. In particular, Miettinen noted that the theoretical concepts from these scholars "outside their theoretical context do not have intrinsic value in themselves" (p. 12). Hopkins (1993) offered a similar assessment of ELT and observed that Kolb failed to account for the role of process in learning through his structural reductionism. These critics called for the elimination of these intellectual origins in explaining the theory, given the potential for misinterpreting or poorly relating these foundational ideas.

Kayes (2002) responded to these critics, noting fundamental misunderstandings of Kolb's (1984) theory. Where Holman et al. (1997) and Reynolds (1999) argued that Kolb failed to account for Vygotsky's (1978) social constructivism in learning, Kayes viewed this assessment as "simplistic reductions of Kolb's work" (p. 142) and an oversight. In fact, Vygotsky's theory is highly influential for Kolb in defining the importance of social interactions in learning. Second, where Kolb identified with the pragmatic-humanism of Dewey (1938) and Maslow (1965), critics such as Holman et al.,

Reynolds, and Miettinen (1998) adopted an epistemology rooted in critical theory and social criticism. Thus, much of the criticism from these critical theorists generates from fundamental differences of opinions about the learning process. Last, in response to Miettinen's critique, Kayes argued that Kolb's blurring of intellectual genres challenges the assumptions of a "professional myopia" (p. 142) that constrains intellectual research into discrete bodies of literature. Knowledge creation, then, should involve an array of diverse perspectives that broadens and does not restrict a particular field.

In addition to the empirical and theoretical concerns, Bergsteiner, Avery, and Neumann (2010) critiqued Kolb's (1984) graphical illustration of ELT. In their assessment, Bergsteiner et al. found the graphical model contradicts the narrative description of the theory. Particular issues include an incorrect graphical syntax, an overly complex as opposed to a simplification of the model, missed differentiations, and the absence of important constructs. As an alternative, the authors offer a revised, holistic model that (a) removes redundancies, (b) adds a more rigorous categorization of the learning phases, (c) identifies the bi-polarities in the model, and (d) incorporates the missing components from Kolb's model. The goal of this revised model was to properly illustrate the principles in ELT.

A final criticism relates to the integration of ELT with positive psychology. Although the psychological theories from scholars such as Dewey (1938), Lewin (1951), and Piaget (1968, 1970, 1972) served an important role in the development of ELT, Mackenzie, Son, and Hollenhorst (2014) argued that ELT "is empirically untethered from the broader realm of psychological research" (p. 76). Instead, ELT would benefit from an alignment with proven psychological frameworks, particularly positive psychology.

Mackenzie et al.) found promising congruence between ELT and the following positive psychology theories: Seligman's (2011) theory of well-being, Ryan and Deci's (2000) self-determination theory, and flow theory from Nakamura and Csikszentmihalyi (2003). Positive psychology is rooted in the humanistic psychology tradition, similar to ELT, and has broad empirical support. In addition to positive psychology, experiential learning is congruent with research on neuropsychology. In particular, Zull (2002, 2011) noted the impact of experiential learning on brain development and functioning, which has an effect on positive psychological functioning.

Based on these reasons, Mackenzie et al. (2014) contended ELT would benefit from an integration with positive psychology research, thus allowing a common language and a networking of theories, assessments, and broader scholarship. This integration is also important to this study, which evaluates the integration of experiential education and optimal student functioning in higher education as measured by college student thriving. In this manner, the effectiveness of experiential education in higher education can be explained through positive psychology constructs (e.g., college student thriving).

Experiential Learning Research Meta-Analyses

Since the inception of experiential learning theory (ELT) in Kolb's 1971 initial treatise and 1984 formal theory development, there have been many empirical and clinical studies conducted to expand the theory and practice of experiential learning. As evidence, Kolb and Kolb (2016a, 2016b, 2016c, 2016d, 2016e) developed five bibliographies to chronicle the research on experiential learning between 1971 and 2016. During this period, 4,139 studies have been conducted in the experiential learning field. These studies represent the application of ELT to a vast array of disciplines, with notable

examples in management, education, information sciences, psychology, medicine, nursing, accounting, and law (Kolb & Kolb, 2005b). Further, the *Journal of Experiential Education* serves as a significant scholarly source for the theoretical and empirical study of experiential education, with more than 40 volumes since 1979. This research on experiential learning is condensed into five meta-analyses that assessed the empirical and theoretical support of ELT and the associated learning styles inventory (LSI). The following section reviews these meta-analyses to understand the impact of experiential learning and assess the credibility of the theory.

In the 1990s, two prominent meta-analyses emerged that assessed the conclusion from existing experiential learning theory studies. Hickcox (1991), in her dissertation work, reviewed the theoretical foundations for ELT and conducted a quantitative analysis of 81 studies between 1971 and 1990 that utilized ELT to assess learning styles among students in accounting, business, social science, medical, and education programs. Hickcox found broad support for ELT, with researchers emphasizing the validity of the theory, the LSI, and the theory's application. Overall, 61.7% of the studies fully supported the theory, 16.1% partially supported the theory, and the remaining 22.2% failed to support the theory. Hickcox's research concluded ELT had extensive support from the majority of studies. Further, the researchers who best understood Kolb's (1984) theoretical framework for the Learning Styles Inventory (LSI) and the subsequent theory were more apt to arrive at a positive conclusion of Kolb's theory.

A second dissertation from Iliff (1994) involved a meta-analysis of 101 quantitative LSI studies extracted from 275 dissertations and 624 articles. Utilizing the same research format as Hickcox (1991), Iliff found 49 studies supported the LSI as a

predictor of learning outcomes and field of study, 20 studies partially supported the instrument, and the remaining 12 studies did not support the LSI. Studies included in the meta-analysis revealed a weak ($R^2 = .2$) to medium ($R^2 = .5$) effect size. Iliff found the LSI to not be a predictor of learning outcomes and field of study and advised future researchers to “stop trying to fit square pegs into round holes” (p. 76).

A third meta-analysis from Kolb et al. (2000) reviewed the scholarly research on ELT and LSI between 1971 and 1999. Not unlike previous meta-analyses, Kolb et al. found ELT research across a variety of academic disciplines, including management, computer science, psychology, medicine, nursing, accounting, and law. The 990 studies during this period included published articles (50%), dissertations (10%), books or book chapters (10%), and a variety of other outputs (e.g., conference papers and technical manuals). In their review of the studies from Hickcox (1991) and Iliff (1994), Kolb et al. recognized these meta-analyses led to further refinements to the LSI in 1985 and 1999. Further, they argued the construct validation process inherent in the LSI provided a tool for testing ELT and not measuring a particular outcome (e.g., learning style). Even if the individual correlations of the LSI were low, the cumulative effect of these correlations support the validity of the underlying theory. Therefore, Kolb et al. contended ELT is “a useful framework for learning centered education innovation, including instructional design, curriculum development, and life-long learning” (p. 232).

Kolb et al. (2000) also reviewed the newer trends in ELT research. The first stream of research focused on the theoretical proposition of integrated learning, which suggests the ideal learning cycle involves the learner experiencing all forms of learning (e.g., experiencing, reflecting, thinking, and acting). The second stream of research

assessed ELT constructs and commensurate instruments, including the Learning Styles Inventory (LSI), Adaptive Style Inventory (ASI), and Learning Skills Profile (LSP). This additional research expanded the focus of ELT to include learning preferences (i.e., styles), flexibility, and skills. A particularly important study in this stream was the research from Mainemelis et al. (2002), which was previously published as a working paper in 1999, that tested the ELT construct through the LSI, ASI, and LSP. The results indicated that individuals with a balanced learning profile (e.g., acting, thinking, feeling, and reflecting) were more sophisticated learners.

A fourth meta-analysis from Kayes (2002) reviewed the primary critics of ELT, who raised objections from psychodynamic (Reynolds, 1999; Vince, 1998), social (Holman et al., 1997), and theoretical (Hopkins, 1993) perspectives. Kayes responded to the criticisms from these individuals and noted overall support for the theory. A more substantial review of the meta-analysis from Kayes is provided in the previous section of this study.

Kolb and Kolb (2013) conducted a fifth and final meta-analysis in their presentation of the fourth version of the LSI. Kolb and Kolb provided a substantial review of the literature on the ELT and the commensurate LSI. Included was a review of studies testing the internal reliability and viability of the LSI instrument as well as the current research on ELT and LSI in numerous academic disciplines. They found the LSI 4.0 exhibited high internal reliability, with average Cronbach alpha scores among students of various academic disciplines between $\alpha = .72$ and $\alpha = .88$. In addition, data from 10,423 students found the LSI 4.0 exhibited internal validity. External validity evidence assessed the differences in LSI scores based on participant age, gender,

educational level, educational specialization, and culture. Across 13 academic disciplines, Kolb and Kolb found that ELT/LSI research supported the application of experiential learning in higher education.

Application of Experiential Learning in Higher Education

The application of ELT to the higher education environment is evidenced in many of these meta-analyses. Notable examples that demonstrate the effectiveness of experiential learning include studies from Baker, Robinson, and Kolb (2012) and Coker, Heiser, Taylor, and Book (2017), who examined the alignment of higher education practices with ELT. In addition, research on study abroad illustrates the effectiveness of experiential learning practices in higher education. Provided in the following section is a review of studies that connect experiential learning with higher education practices.

Baker et al. (2012) demonstrated the alignment between ELT and the agriculture education model. This learning process involves the development of the learner through both instruction and experience. In this manner, “Learning outside the classroom can have value, but teachers must remain focused on the fact that a key tenant of experiential learning is that students are learning, and not just enjoying an experience” (p. 12). Moreover, the researchers found agriculture education provides a unique opportunity to build meta-cognitive skills in students. Educators can help students learn how to learn by making meaning of the various experiences involved in agriculture education. The limitation, however, of the Baker et al. study was the lack of an evaluation of the experiential learning model compared to other forms of instruction (e.g., lecture-based classrooms).

A second study from Coker et al. (2017) evaluated the impact of experiential learning experiences on graduating seniors at a single institution, noting the importance of such experiences for developing desirable college student outcomes. Through an analysis of students' co-curricular transcripts and responses to the National Survey of Student Engagement, researchers determined the students in the sample were highly engaged in co-curricular activities. Moreover, they observed that the depth (i.e., time investment) and breadth (i.e., frequency of participation) of experiential learning experiences led to additional learning gains in the college environment. Depth and breadth of experiential learning experiences were positively correlated with general education outcomes, communication skills, meaningful contributions to society, positive relationships with faculty and staff, and students' intent to persist at the current institution. The breadth of the experience correlated with higher forms of thinking (e.g., synthesis and application), whereas depth contributed most to students' cognitive development. Last, the depth of the experience contributed to the development of hard skills, and the breadth of the experience contributed to the development of soft skills (Kyllonen, 2013), which are often valued by future employers (Hart Research Associates, 2013). In summary, Coker et al. found experiential learning experiences, such as study abroad, internships, leadership opportunities, service learning, undergraduate research, and other high-impact practices, had a positive effect on the student learning gains as well as the overall student experience (Coker & Porter, 2015).

In addition to the two aforementioned studies, a particularly compelling stream of research pertaining to experiential learning, has focused on study abroad activities, including short-term and long-term trips to domestic and international contexts. Studies

have found study abroad to have a significant impact on students in areas such as academic attainment and long-term career aspirations (Coker et al., 2017; Dwyer, 2004; Ingraham & Peterson, 2004), as well as positive psychological outcomes (i.e., resilience; Ewert & Yoshino, 2011). Such programs also assist students in developing a deeper sense of the world and culture (i.e., global mindedness), which bolster students' reflective and action-oriented learning skills (Kehl & Morris, 2008; Medina-Lopez-Portillo, 2004). As noted earlier, study abroad offers students a unique opportunity to develop hard and soft skills, which are seen as valuable for future employers (Trooboff, Vande Berg, & Rayman, 2008). In support of educational administrators, Passarelli and Kolb (2012) developed a helpful guide to connect Kolb's experiential learning theory with study abroad programs, offering practical guidance that connects the theory with institutional practices.

Application of Experiential Learning to Extension Education

Based on this review, it can be assumed that the experiential learning theory from Kolb (1971, 1984, 2015) is a tool for assessing the effectiveness of nontraditional higher education practices. This study, in particular, assesses the effectiveness of the extension education model, which involves students enrolling in degree programs offered at church organizations. Students at extension sites enroll in classes taught through face-to-face and online instruction, while also engaging in experiential learning practices within the local church. The following section reviews this higher education practice as well as compares and contrasts the model with Kolb's experiential learning theory. The aim of this section is to connect this innovative practice with the theoretical framework of experiential learning.

The extension education model involves a dialectic set of educational experiences that enable students to develop a theoretical understanding of their discipline and engage in the practical application of the particular discipline. For example, the extension sites at the target university for this study offer degree programs in ministry and leadership in a local church context. Extension site students enroll in courses that apply to their degree programs. These courses are taught by qualified faculty, including full-time and adjuncts, who have experience in the particular subject area. An individual who teaches a course in ministerial leadership also is expected to have significant professional experience in leading a ministry staff and volunteers in a local church.

In addition to the standard general education and major-specific courses in the degree program, students complete a practicum experience each semester. The practicum experience, which is the core experiential learning opportunity, involves a set of work expectations in the local church or community. Students participate in 10 to 25 hours of volunteer service each week in support of specific departments or organizational functions. For example, students may volunteer for the pastoral care team, youth and children ministries, or worship teams. During the course of the semester, it is expected that students will engage in weekly activities and a set of reflective experiences. On a weekly basis, students submit a weekly log of activities, maintain a journal of learning experience, and complete supplemental reading. On a consistent basis, the student engages in supervisor interactions that might be one-on-one or with other students. These mentoring sessions enable the student to reflect on his or her experiences and gain invaluable insight on the work of the ministry or church context.

The practicum experience extends the full length of the 16-week semester. By the end of the semester, students submit a reflection of their experience, noting how their engagement in ministry activities increased their understanding of ministry or leadership. In addition, the reflective component of the practicum course includes a summary paper of the major lessons learned, how the experience utilized and developed students' strengths, and how the experience reflected the principles in the supplementary reading.

Students complete one practicum course each semester throughout the duration of their academic program. The level of engagement in their practicum context and the level of reflection scaffold over the 2- to 4-year program. It is expected that students will develop a deeper understanding of the ministry or leadership context and have specific experiences that will support them upon graduation from the program. Partner churches who host the students must provide a scaffolding of student experiences that ensure the student has experience in more than one type of ministry or leadership position. Moreover, it is expected that students will engage in successively more complex roles and activities. A graduating senior should have exposure to a variety of areas within the church or para-church organization and gain critical experience in leading or supporting these different organizational functions.

The extension education model involves all four modes of learning as outlined in Kolb's (1984, 2015) experiential learning theory. First, students engage in Concrete Experiences within the local church that might involve engaging in activities or leading particular aspects of the church organization. These Concrete Experiences serve as the foundation for Reflective Observation (RO). Through the practicum course, students must reflect on their ministry activities on a weekly and semester basis. It is expected

that students will develop a more complex understanding of their ministry experience. This process is facilitated through the practicum course structure. Third, the weekly and semester reflections enable students to condense their experiences into Abstract Conceptualizations both in the practicum course and in other lecture-based classroom environments. The practicum course provides an opportunity each semester for the student to synthesize the experiential learning experience in the church and the theoretical content from the class into a single, unified reflection. Last, the multi-year practicum program enables the student to engage in Active Experimentation by applying his or her theoretical understanding of ministry with Concrete Experiences, Reflective Observations, and Abstract Conceptualizations. Graduating seniors are expected to engage in activities that reflect the full depth and breadth of their educational experience at the extension site.

A central component of the extension site model is the learning space, which is an essential aspect of the experiential learning theory. The learning space enables the student to engage in grasping and transforming experiences (Kolb & Kolb, 2005b). Moreover, it is expected that the learning space should be warm, hospitable, and inviting (Nonaka & Konno, 1998; Rogers, 1964). Through these spaces, learning is “a process of becoming a member of a community of practice through legitimate peripheral participation” (Kolb & Kolb, 2013, p. 18).

The extension education model offers the ideal environment for learning to occur. Through Concrete Experiences and opportunities for Reflective Observation, the student is provided a first-hand view of the ministry setting. Students engage in specific activities that connect with their theoretical coursework. Further, within this

organization, students engage with leaders and other students in a community of practice that supports development and growth. Moreover, this environment supports the development of conversational learning spaces (Baker et al., 2005), where the students and supervisor can engage in reflective conversations that can provide a deeper understanding of the ministry work. Students are not merely engaging in activities within the local church, but they are also reflecting on those experience individually through the coursework and corporately through the supervisor mentoring relationship.

A final component of the experiential learning theory is the importance of learning development. In this vein, the learning cycle is a continuous process that involves an increase in the complexity and sophistication of the four modes of learning (Kolb & Kolb, 2013; Peterson et al., 2015; Sharma & Kolb, 2011). Students should move from knowledge acquisition to specialization and integration. The extension education model embodies this process of learning. During the course of the 2- to 4-year program, students should increase the level of complexity and sophistication in which they experience ministry, reflect on these experiences, develop abstract conceptualization of the ministry context, and experiment in their ministry work. A graduating senior should have a more complex and nuanced view of the ministry by virtue of the extension site experience. In this vein, learning within the extension education model is not fixed but is a dynamic experience of continual learning (Peterson et al., 2015).

Summary

In summary, ELT offers a holistic framework for interpreting and evaluating learning within and beyond the educational environment. Learning is a process, not a single action, that involves a series of experiences (Kolb, 2015). These experiences

enable knowledge to be created and recreated in the psyche of the learner. Within the ELT model, the learner engages in the four modes of the learning cycle in a continuous manner while being malleable to the environment and learning content. Navigating this learning cycle is dependent on individuals' learning styles, as described in Kolb's Learning Styles Inventory (LSI). A central component of the learning process is the space where the learner is free to explore and mature. ELT posits that learning and the individual's learning style are not fixed but are in a dynamic state based on the impact of continual learning experiences. These experiences enable the learner to engage in deep learning that promotes further development and maturation.

Despite critiques, the experiential learning theory has emerged as a helpful theory on learning that occurs outside the traditional classroom. In fact, a variety of meta-analyses and studies on experiential learning practices in higher education support the application of ELT in higher education. One such practice, the extension education model, offers an innovative example of how experiential education might benefit students in higher education.

Given that the church-based extension site model offers a viable alternative to the residential education programs and could represent a disruptive innovation in the higher education industry, it is important to evaluate the effectiveness of the model. The following section reviews the perspectives on student success to provide a theoretical understanding of the factors that contribute to program effectiveness. Specifically, the theoretical perspectives of student success help the reader develop a framework for how higher education institutions might assess the viability of the church-based extension site model as a suitable alternative for traditional residential education.

Perspectives on Student Success

The growth and development of higher education necessitates that institutions measure student success to determine the effectiveness of its academic and social settings (Kinzie, 2012; Kuh, Kinzie, Buckley, & Associates, 2006; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007) to improve the lives of individual students. Given the strong demand for accountability, multiple definitions of the student success construct have emerged in the past century. Definitions of student success include the following: academic achievement, post-college employment and economic mobility, satisfaction with the collegiate experience, hard and soft skills development, access and participation rates, student persistence, workforce development, student engagement, and student thriving (Kinzie, 2012; Kuh et al., 2006; Kuh, Kinzie, Buckley, et al., 2007; Schreiner, 2010a, 2010b, 2010c). Each of these definitions assesses institutional effectiveness, while also recognizing the importance of higher education for improving individual lives.

The following section reviews the existing student success literature with the aim of presenting a comprehensive evaluation of student success definitions and practices. This section includes a review of the theoretical perspectives of student success that form the basis of persistence and educational attainment research. Second, this section highlights the student entry characteristics and institutional variables predictive of student success. Last, other measures of student success (e.g., learning gains, talent development, satisfaction, and student engagement) are considered from the literature to present an expanded vision of student success in higher education.

Theoretical Perspectives of Student Success

The most widely cited theories in higher education research have expressed student success as a measure of persistence and educational attainment, or graduating with an educational credential (Kuh et al., 2006; Kuh, Kinzie, Buckley, et al., 2007; Mayhew et al., 2016; Reason, 2009). Defining student success as educational attainment, however, reflects the most elementary definition that “emphasizes access, enrollment, and persistence” (Kinzie, 2012, p. xiv). Student success, then, is narrowly defined as a student graduating with an academic credential (Kinzie, 2012). To address this limited view, Braxton, Sullivan, and Johnson (1997) astutely defined this research agenda as “the student departure puzzle” (p. 107) to emphasize the complex factors that contribute to student persistence and educational attainment or the lack thereof. Student persistence research, then, serves as the foundation for subsequent definitions of student success.

The student departure puzzle has been a subject of scholarly inquiry for more than 70 years (Braxton, 2000a). Student persistence research began in the 1970s as higher education administrators became concerned about the student departure problem and escalated in the 1980s and 1990s as these leaders recognized the importance of retaining and graduating qualified students (Kinzie, 2012). A particular issue in the 1970s was the dearth of theoretical formulations to guide student departure research, as noted in Tinto’s (1975) review of existing literature. Thus, higher education research expanded to account for the broad array of factors that contribute to persistence. The resulting persistence theories reflect the following disciplinary perspectives: sociology, psychology, organizational, cultural, and economics (Kinzie, 2012). The following section reviews

the primary student persistence theories and models within each of the aforementioned disciplinary perspectives.

Sociological perspectives of student success. A sociological perspective of student success emphasizes two important dimensions. First, this perspective studies the impact of social structures and forces on college student persistence (Braxton, 2000a; Braxton, Doyle, & Jones, 2013; Tinto, 1986). Examples of such forces include college peers, socioeconomic status, socialization processes, and support from others (Braxton et al., 2013). Second, sociological perspectives examine the commonalities of behaviors that promote a central phenomenon (e.g., student persistence; Kinzie, 2012). The following section explains and critiques the dominant sociological theories, including Tinto's (1975, 1987, 1993) interactionalist theory of student departure and Braxton et al.'s (2004) revision of Tinto's theory.

Tinto's interactionalist theory of college student departure. Tinto's (1975, 1987, 1993) interactionalist theory of student departure enjoys "paradigmatic stature" (Braxton, 2000a, p. 2) among student persistence theories (Braxton, 2000a; Braxton et al., 2013; Braxton et al., 2004; Braxton et al., 1997; Mayhew et al., 2016). Paradigmatic stature reflects the consensus of the theory to explain a central phenomenon (Braxton et al., 2013). Evidence of this consensus is the sheer number of citations of this theory. Braxton et al. (1997) reported more than 400 citations and 170 dissertations that referenced Tinto's theory. A later report from Braxton et al. (2004) noted more than 775 citations. Tinto's (1975) theory became a symbol of student persistence research, underwent scrupulous assessment by the research community (Braxton, 2000b; Braxton et al., 1997),

and was later revised by Tinto (1987, 1993, 1998) and other prominent scholars (Braxton, 2000b; Braxton & Hirschy, 2004).

Tinto's (1975, 1987, 1993) work built on the theoretical contributions of Spady (1970, 1971), who developed the first sociological model of student departure based on Durkheim's (1953) suicide theory (Metz, 2004). The central argument of Durkheim's suicide theory is that individuals leave (i.e., commit suicide) a social setting due to an array of factors. An egotistical suicide decision, in particular, stems from an individual's lack of integration into a community, subsequent failure to perform intellectually or socially within the community, and the effect of other personal characteristics (e.g., values, background, and emotional disposition). Spady applied the suicide theory to student departure in higher education, arguing that the decision to leave a college environment is similar to the suicide decision. Accordingly, the influence of students' personal characteristics, lack of social integration, and failure to perform academically within the college environment contribute to the dropout decision.

Based on the earlier work of Spady (1970, 1971), Tinto and Cullen (1973) collaborated to develop a conceptual model of student departure that accounted for the following factors: pre-college characteristics; student educational goals; collegiate experiences (e.g., academic, faculty, and co-curricular); academic and social integration; internal and external commitments; and the ultimate outcome (e.g., departure, persistence, or graduation; Metz, 2004; Tinto & Cullen, 1973). Central to Tinto and Cullen's conceptual model is the integration of the student into the academic and social life of an institution, which leads to higher levels of commitment to the student's educational goals and subsequently to the institution. The researchers hypothesized that

low levels of commitment to personal goals or the institution would lead to student departure, whereas persistence is more likely when the student exhibits higher levels of commitment.

Tinto and Cullen's (1973) conceptual model led to the development of the interactionalist theory of student departure. In this theory, Tinto (1975) proposed student departure from the collegiate environment is a "longitudinal process of interactions between the individual and the academic and social systems of the college" (p. 94). Students' experiences in these systems influence their educational goals and institutional commitment, thus informing subsequent persistence or dropout decisions. Moreover, student perceptions of the academic and social integration process inform their evaluation of the costs and benefits of the college environment.

In addition to these perceptions, Tinto (1975) emphasized the impact of personal characteristics (particularly, family background, individual characteristics, and previous educational experiences), and institutional variables (e.g., student-faculty interaction and co-curricular involvement) on dropout or persistence decisions as well as personal commitment to an institution and an educational goal. Commitment to an institution and educational goals inform students' integration into the academic and social systems of a college environment.

According to Tinto (1975), academic integration involves structural and normative elements. Structural integration involves the attainment of educational standards, whereas normative integration involves the individual evaluation of educational values. As an illustration, course grades represent an individual's integration into the structural standards of an institution, thus demonstrating an individual's

participation in and evaluation by the college environment. In contrast, intellectual development represents an individual's integration into the normative standards of an institution, thus serving as the individual's assessment of the academic system.

Insufficient integration into the academic system suggests either inadequate intellectual development or incongruence between the normative standards of the institution and individual development.

Similar to academic integration, social integration relates to the congruence between the student and the social environment of the college (Tinto, 1975). Tinto (1975) postulated that social interaction involves encounters with students, faculty, and staff who offer varying levels of communication, support, and affiliation. The effect of these encounters, whether positive or negative, leads to students' assessment of the benefits of college attendance at a particular institution, which further modifies the individual's commitment to an institution and education goals as well as subsequent persistence or dropout decisions.

Tinto revised this interactionalist theory of student departure several times in response to critiques from the research community as well as a result from internal theory development. In 1982, Tinto first addressed the inadequacies of his 1975 theory formulations and offered additional perspectives for the study of student departure: (a) the impact of finances on student decisions, (b) the differences between students who transfer and those who withdraw altogether from higher education, (c) the varied dropout behaviors among student populations, and (d) the distinguishing features of student departure at 2-year versus 4-year institutions.

In 1986 and 1987 Tinto further refined his theory to acknowledge the importance of five theoretical frameworks in student departure research: psychological, sociological, economic, organizational, and interactional. The interactional framework accounts for the “dynamic, interactive view of student experience” that has its intellectual roots in “social anthropological and ethnomethodological studies of human behavior” (Tinto, 1986, p. 365). The interactionalist theory highlights the interactions between the social environment and the individual; however, the theory fails to account for the organizational and external factors that contribute to student departure (Tinto, 1986). Thus, Tinto (1986) recognized the importance of financial resources, engagement with an external community (e.g., family or work), and the impact of the classroom experience on student persistence decisions.

During the same revision period of 1986-1987, Tinto incorporated the adaptation of Van Gennep’s (1960) rites of social passage theory to the process of student departure. According to Van Gennep, rituals and events serve to migrate individuals from one group to another and to navigate three stages: (a) separation, (b) transition, and (c) incorporation. Tinto (1986, 1987) applied the rites of passage theory to illustrate the longitudinal process to pursue a degree, including students’ separation from their families, transition into the college environment, and incorporation into the college community. Failure to integrate academically and socially in the college environment can lead to isolation, as opposed to incorporation, which leads to departure from the institution. This pathway acknowledges the importance of college environments that guide students toward academic and social integration.

Tinto's (1993) last major revision of the interactionalist theory of student departure resulted in a revised and expanded second edition of *Leaving College: Rethinking the Causes and Cures of Student Attrition*. In this volume, Tinto expanded the theory to the experiences of adult learners, students of color, commuters, and 2-year institutions. The revision also clarified the impact of multiple college communities, classroom experiences, and student learning on student persistence. The notion of multiple college communities refers to the degree of affiliation students experience in the college community and the array of subcultures. Student integration may occur at the subculture level despite perceiving a lack of affiliation with the broader campus community. This lack of affiliation with the campus community is an important factor for minority populations, who do not resemble or might feel threatened by the dominant college campus community (Braxton et al., 2004). Tinto described these ethnic subcultures in the form of fraternities, sororities, clubs, and organizations as enclaves for minority students. These enclaves function as safe havens for minorities and provide social integration into the campus community.

In his 1993 revision, Tinto also argued for the importance of classroom experiences and “student engagement or involvement in the learning communities of the college” (p. 132). According to Tinto, classrooms form the gateway or intersection for academic and social engagement in the college environment, with emphasis given to the importance of faculty in student retention efforts. Student learning, and the learning communities that support its development, serve a vital role in the longitudinal process of student persistence. As Tinto argued, “persistence is, at its core, an educational phenomenon” (p. 137). Tinto was careful to note these observations reflect the

experiences of traditionally-aged students at 4-year institutions; further research might test these concepts among adult learners, students of color, and students at 2-year institutions. As one example, Attinasi (1989) observed that Mexican Americans find academic integration outside the classroom. Tinto (1998) later reinforced this notion of learning communities and encouraged institutions to adopt a “community model of academic organization” (p. 170) to support academic involvement through sharing and learning experiences between students and faculty.

Despite gaining “paradigmatic stature” (Braxton, 2000a, p. 2) among student persistence theories, Tinto’s (1975, 1987, 1993) interactionalist theory of student departure has undergone intense scrutiny from the research community. Critiques of the theory include concerns about its methodological approach (Pascarella, 1986; Tierney, 1992a); epistemological underpinning (Attinasi, 1989; Tierney, 1992a); and empirical support (Braxton et al., 2004; Braxton et al., 1997).

Tinto’s (1975, 1987) early version of the student departure model reflected student experiences and environments within 4-year institutions. This methodological limitation received critique from scholars, such as Pascarella (1986) and Tierney (1992a), who argued that the persistence or dropout behaviors among students vary between 4-year and 2-year institutions. Tinto (1993) later acknowledged the limitation of his own approach and called for future research to consider the experiences at 2-year institutions. Related to this limitation, Pascarella (1986) critiqued Tinto’s (1975, 1987) analysis and theory formulation based on single-institution studies. This methodological approach raised concerns about ambiguous operational definitions; moreover, this approach did not account for students who transfer to another institution as opposed to withdrawing

altogether from higher education (Pascarella, 1986). In customary fashion, Tinto (1993) responded to this critique, noting the challenge of applying persistence research universally, given unique institutional realities that may influence student persistence or departure.

On a philosophical level, other scholars critiqued Tinto's (1975, 1987) epistemological foundation in his application of Durkheim's (1953) suicide theory and Van Gennep's (1960) rites of social passage theory. Attinasi (1989) argued that the application of Durkheim's suicide theory severely constrains the conceptualization of student departure. Visualizing student departure through the social and psychological lens of suicide offers a limited and distorted view of the student outcome. Students who decide to voluntarily withdraw from a particular university are not withdrawing altogether from society, as they may continue their studies at another institution. The suicide visual conveys a terminal decision by the student, which is not always the case in student departure. In Attinasi's view, this issue is compounded by the quantitative methodology Tinto utilized in his research, which he argued minimizes the analysis of contextual variables and student perceptions that inform the departure process.

In a similar tone, Tierney (1992a) argued that Tinto's (1975, 1987) use of Van Gennep's (1960) rites of social passage theory is a misrepresentation of the original theory and the acculturation process of racial and ethnic minorities. According to Tierney, Van Gennep sought to explain the rituals that transition an individual within a particular culture, not a movement between cultures. Tierney offers the example of Native American students who experience disruption on college campuses because of cultural differences. Such students lack the cultural heritage to benefit from rites of

passages in primarily White institutions. Moreover, Tinto's terms, such as departure, dropout, or failure, are social constructions that have varied interpretations dependent on the dominant culture. In summary, Tierney argued, "Tinto has failed . . . to investigate the cultural context of the anthropological term 'ritual,' and in turn, how the language of student participation is a social construction" (p. 609). Thus, the generalizability of Tinto's theory is in question due to his misapplication of cultural terms to student departure.

The most substantial critique of Tinto's (1975, 1987) theory raises questions about its empirical support, which questions the validity of the model. Based on the theory formulation in Tinto's 1975 study, Braxton et al. (1997) identified the following 13 propositions for additional testing.

1. Student entry characteristics affect the level of initial commitment to the institution.
2. Student entry characteristics affect the level of initial commitment to the goal of graduation from college.
3. Student entry characteristics directly affect the student's likelihood of persistence in college.
4. Initial commitment to the goal of graduation from college affects the level of academic integration
5. Initial commitment to the goal of graduation from college affect the level of social integration.
6. Initial commitment to the institution affects the level of social integration.
7. Initial commitment to the institution affects the level of academic integration.

8. The greater the degree of academic integration, the greater the level of subsequent commitment to the goal of graduation from college.
9. The greater the degree of social integration, the greater the level of subsequent commitment to the institution.
10. The initial level of institutional commitment affects the subsequent level of institutional commitment.
11. The initial level of commitment to the goal of graduation from college affects the subsequent level of commitment to the goal of college graduation.
12. The greater the level of subsequent commitment to the goal of graduation from college, the greater the likelihood of student persistence in college.
13. The greater the level of subsequent commitment to the institution, the greater the likelihood of student persistence in college. (Braxton et al., 2004, pp. 9-10)

Propositions 1 through 7 do not specify the directional effect (positive or negative), whereas Tinto clearly stated a positive directional effect on propositions 8 to 13.

Given that propositions 12 and 13 hypothesize a positive effect on student persistence, these propositions play an important role in determining the viability of Tinto's theory (Braxton et al., 1997). Additional research from Braxton et al. (2004) found the validity of the theory also relies on strong empirical support from propositions 8 and 9. Although the 13 propositions have internal consistency, the primary issue posed by Braxton et al. (2004) was if the theory possessed empirical internal consistency. The test of empirical internal consistency involved the 1975 rendition of Tinto's theory for two reasons. First, at the time, a limited number of studies tested Tinto's (1987, 1993)

revised constructs (Braxton et al., 2013). Second, the formulations that cast Tinto's theory as interactionalist were prevalent in the 1975 rendition (Braxton et al., 2004).

Braxton et al. (1997) determined that only five of the 13 propositions had strong empirical support, including propositions 5, 9, 10, 11, and 13. This finding was specific to tests from residential colleges. Tests from commuter colleges, however, only found propositions 1 and 10 to have strong empirical support. Therefore, Tinto's theory only received partial support in residential campuses, whereas tests involving commuter campuses determined the theory lacked explanatory power.

An important finding from Braxton et al.'s (1997) study is the lack of empirical support for proposition 8 raised questions about the impact of academic integration on residential campuses. Similarly, none of the four core propositions (8, 9, 12, and 13) had strong empirical support on commuter campuses. With only modest empirical support, the usefulness of the academic integration construct is in question. In a later study, Braxton and Lien (2000) found support for academic integration only in multi-institutional studies and not in single-institution studies. Braxton and Lien contended that future research should either abandon the academic integration concept or rethink the measurement of academic integration due to the lack of empirical support. Possible explanations for this empirical failure include (a) a misspecification of the academic integration construct by Tinto (Braxton et al., 2004) and (b) the theoretical criticisms of Attinasi (1989, 1992), as noted in an earlier section. Despite the challenges with the academic integration construct, social integration received strong empirical support in each test.

Based on the critiques of the model's viability, Braxton (2000a) offered two possible alternatives: Researchers might revise or abandon altogether Tinto's theory. These recommendations resulted in a volume from Braxton (2000b) that highlighted revisions to Tinto's theory as well as new theoretical directions for understanding the student departure puzzle.

Braxton and Lien (2000), as noted in an earlier section, questioned the academic integration construct and recommended two potential actions: (a) complete rejection of the academic integration construct or (b) reimagining of the requirements and measurements of the construct. In their updated research, Braxton et al. (2004) and Braxton and Hirschy (2004) eliminated altogether the academic integration construct in their revision of Tinto's (1975, 1987, 1993) theory. This theme continued into the most recent version of Braxton et al.'s (2013) research.

St. John, Cabrera, Nora, and Asker (2000) argued for the incorporation of financial variables into Tinto's theory to account for economic forces that affect student integration, commitment, and persistence. Other authors recommended the incorporation of psychological perspectives into Tinto's theory to account for the effect of individual psychological processes (Bean & Eaton, 2000) and college climate (Baird, 2000) on student persistence. The remaining revisions to Tinto's theory included the addition of sociological perspectives to explain the importance of the classroom experience (Tinto, 2000) and cultural capital (Berger, 2000a) in student persistence. The remainder of the edited volume from Braxton (2000b) provides new theoretical perspectives for student persistence research, including consideration of minority student (Rendon et al., 2000),

discourse analysis (Johnson, 2000), cultural perspectives (Kuh & Love, 2000), power and identity (Tierney, 2000), and institutional theory (Laden, Milem, & Croswon, 2000).

Braxton et al.'s revised interactionalist theory of student departure. Based on the critiques of Tinto's (1975, 1987, 1993) interactionalist theory, Braxton et al. (2004) offered an additional revision of the theory that accounted for the social forces that have an effect on student persistence. Six factors that influence social integration were identified: "commitment of the institution to student welfare, institutional integrity . . . communal potential . . . proactive social adjustment . . . psychosocial adjustment . . . and ability to pay" (p. 22). The first three factors were identified from an inductive theory construction that tested the statistical significance of the influence of a factor on social integration (Braxton & Hirschy, 2004). The remaining factors stemmed from a conceptual factor analysis to identify those factors that promote or inhibit social integration (Braxton et al., 2004). These six factors, as well as the empirically supported propositions from Tinto's original theory (Braxton et al., 1997), formed the basis for the revised theory (Braxton et al., 2004).

Braxton et al. (2004) defined institutional commitment to student welfare as a concern for the student that communicates a high value for the entire population and the individual. An important factor is the equal treatment of all students, regardless of their background. Also involved is the equitable administration and communication of policies and procedures (Berger & Braxton, 1998), effective orientation practices (Pascarella, Terenzini, & Wolfle, 1986), faculty classroom practices (Braxton, Milem, & Sullivan, 2000), and faculty teaching skills (Braxton, Bray, & Berger, 2000), all of which have a direct effect on student persistence.

Institutional integrity reflects the alignment of institutional practices to mission and goals (Braxton & Hirschy, 2004). Such alignment is particularly important in the development and administration of policies (Berger & Braxton, 1998) that either promote or inhibit social integration. The proper alignment of practices with mission and goals leads to student fulfillment with the college experience (Helland et al., 2002). Braxton and Hirschy (2004), then, defined communal potential as the student's belief that student subgroups exist that share common values, beliefs, and goals. Involved in this factor is membership within residence spaces, the classroom environment, and student groups. The support provided through social groups enables social integration to occur (Berger & Milem, 1999).

In addition to these factors, Braxton et al. (2004) offered proactive social adjustment and psychosocial engagement as the process of adjusting to the social environment and the investment of psychological energy. Braxton et al. emphasized the role of institutions to provide socialization opportunities (Wolfe, 1982) for students to “learn the behaviors, values, and attitudes needed to establish membership in the college community” (Braxton et al., 2004, p. 25). The capacity to make new friends in the college environment requires the investment of psychological energy; in other words, social integration in college requires student involvement (Braxton et al., 2004). This construct relates to Astin's (1977, 1993) student involvement theory, which is analyzed in a future section, and Eaton and Bean's (1995) approach/avoidance theory, which explains the coping mechanisms that affect social integration.

The final factor, ability to pay, reflects the research from Cabrera et al. (1990), who posited that the ability to pay for college creates or eliminates barriers to social

interaction within the college community. Involved in this factor is the student's perception of the value of the tuition investment, or tuition worth. According to Cabrera et al., a positive perception, or satisfaction, with the price of attendance has a direct effect on student persistence; the opposite effect is true as well.

The revision of Tinto's theory from Braxton et al. (2004) incorporates the four empirically supported propositions from Tinto's (1975) theory formulations, specifically propositions related to student entry characteristics (proposition 1), social integration (proposition 9), institutional commitment (proposition 10), and subsequent commitment or persistence (proposition 13), along with the six factors that contribute to social integration.

The revised theory from Braxton et al. (2004) posits that students enter with a variety of pre-college characteristics, including age, gender, racial and ethnic background, SES, and the ability to pay for college. These pre-college characteristics influence students' initial commitment (IC-1) to the institution, which subsequently shapes students' perceptions of institutional commitment to student welfare, institutional integrity, communal potential, proactive social adjustment, and psychosocial engagement. The effect of these perceptions informs students' social integration into the college environment, which in turn influences students' subsequent institutional commitment (IC-2). The level of commitment to the institution, then, affects the student departure or persistence decision.

Braxton et al. (2004) were careful to note these experiences will vary depending on students' racial and ethnic history, and particularly on the ability to pay for college. Additionally, Braxton et al. offered further refinements of the model to commuter student

populations, whose external pre-college characteristics, external environment, and internal campus environment vary from those on residential colleges. Braxton et al. (2013) conducted further empirical testing of these revised theoretical revisions in residential and commuter colleges.

Tinto's (1975) interactionalist theory of student departure became a symbol of persistence research and gained paradigmatic stature (Braxton, 2000a; Braxton et al., 1997). Following decades of acceptance, the theory underwent scrupulous assessment by the research community (Braxton et al., 2004; Braxton, Milem, et al., 2000; Braxton et al., 1997). Researchers found many of Tinto's theoretical propositions lacked empirical support (Braxton et al., 1997), thus questioning the viability of the theory as an accurate model of student departure. A particular concern was the inadequacy of the central construct of academic integration (Braxton & Lien, 2000). In response, Tinto (1987, 1993, 1998) and other prominent scholars (Braxton, 2000b; Braxton et al., 2013; Braxton & Hirschy, 2004) offered revisions to the theory and widened its application to the broad array of student subgroups in higher education.

In summary, the sociological perspective focuses on the impact of social structures and one's interaction within the college environment. Two prominent themes emerged from this literature review of the sociological perspective. First, the sociological models of student persistence (Braxton, 2000b; Braxton et al., 2004; Spady, 1970, 1971; Tinto, 1975, 1987, 1993) assess the complex set of longitudinal factors that influence student integration in the college environment. Second, social integration is a valid construct for understanding the social forces that influence student persistence (Braxton & Hirschy, 2004; Braxton et al., 2004; Braxton et al., 1997). The sociological

perspective emphasizes a holistic vision for student success that accounts for myriad individual and institutional factors that contribute to student persistence or departure.

Psychological perspectives of student success. A psychological perspective of student success considers the impact of psychological characteristics and processes on the student departure or persistence decision, focusing primarily on the individual student (Astin, 1977, 1993; Bean & Eaton, 2000, 2001). Central to this persistence decision is the influence of psychological motivation on student behavioral outcomes that subsequently lead to departure (Bean & Eaton, 2000). The psychological perspective emphasizes the effect of “individual attributes, beliefs, coping skills, levels of motivation, and interactions with other members of the campus community” (Kinzie, 2012, p. xvii) on student persistence.

As noted in the previous section, the prominent theories in student persistence research emphasize a sociological framework, which considers a variety of variables to account for the longitudinal process of student departure (Mayhew et al., 2016). These sociological theories, however, do not account for the psychological processes that promote academic or social integration, which Tinto (1975, 1987) argued were determining factors in the student persistence decision.

To this end, Astin (1977, 1993) proffered his student involvement theory to explain the impact of environmental factors on student development. In addition, Bean and Eaton (2000) offered a psychological model of college student retention in Braxton’s (2000b) volume that offered theoretical reformulations of Tinto’s (1975, 1987) theory. The following section reviews these theories as well as other prominent psychological theories that impact student persistence research.

Astin's student involvement theory. The first major theory to inform student persistence research from a psychological perspective was Astin's (1984) student involvement theory. The theory originated informally in Astin's (1975) review of college environmental factors that significantly affect persistence. Astin (1984, 1985a) later offered a formal articulation of the student involvement theory to explain the empirical knowledge pertaining to the impact of environmental factors on student development. The theory found empirical support in Astin's (1977, 1993) seminal research on college impact, which included student data from multi-institutional, longitudinal studies of 4-year institutions.

Astin (1984) defined involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 297). A highly involved student, thus, is one who commits considerable time and energy to reading, course preparation, and campus involvement. Astin connected the involvement construct with the Freudian concept of cathexis, which refers to the investment of psychological energy in other individuals. The construct also relates to traditional learning theory concepts of vigilance and time-on-task. The focus of the involvement construct is not on psychological motivation (i.e., thinking or feeling) but rather on the behavioral components (i.e., actions) of involvement.

Astin's (1984) student involvement theory involves the following propositions:

1. Involvement refers to the investment of physical and psychological energy in various objects. The objects may be highly generalized (the student experience) or highly specific (preparing for a chemistry examination).

2. Regardless of its object, involvement occurs along a continuum; that is, different students manifest different degrees of involvement in a given object, and the same students manifest different degrees of involvement in different objects at different times.
3. Involvement has both quantitative and qualitative features. The extent of a student's involvement in academic work, for instance, can be measured quantitatively (how many hours student spent studying) and qualitatively (whether the student reviews and comprehends reading assignments or simply stares at the textbook and daydreams).
4. The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program.
5. The effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement. (p. 298)

The final two propositions are the key educational ideas that offer guidance for the development of student success policies and programs in higher education. At the time of the theory formulation, Astin (1984) argued the final two propositions required additional empirical testing to validate these statements, which Astin (1993) would later provide through his seminal research on college impact.

Student involvement theory corresponds with the research on student engagement and integration. Wolf-Wendel, Ward, and Kinzie (2009) offered a helpful review of the three different constructs, following interviews with elite scholars in the field. Although Astin, Kuh, and Tinto agreed there is significant overlap in the terms, Wolf-Wendel et al.

argued the following: (a) Involvement (Astin, 1984) is a responsibility of the student to dedicate time and energy to a task; (b) engagement (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005) is the responsibility of the institution to provide campus environments that promote opportunities for involvement; and (c) integration (Tinto, 1975, 1987, 1993) encompasses the interplay of responsibilities between an institution and the student. It is important, then, to recognize the research and practical implications of each construct.

Astin (1985a) argued that student involvement theory counters the implicit teaching theories that guide institutional policies and faculty behaviors in the classroom, including the content theory, resources theory, and individualized (eclectic) theory. Astin clearly displayed his dissatisfaction with these theories, noting that these implicit assumptions of teaching “treat the student as a kind of black box” (p. 137). This critique suggests the theories remain untested without clear evidence of translating educational practices into student achievement.

Astin (1985a) defined the content theory, or subject-matter theory, as the reliance upon exposure to subject matter to foster student learning. In this model, institutions and instructors believe student learning is achieved through lectures, reading, and library assignments. Moreover, institutions assign prestige to faculty whom the organization deems to have the greatest concentration of specialized knowledge. Astin contended this implicit theory motivates those students who have exceptional listening and reading skills, whereas individuals deficient in these areas suffer.

Astin (1985a) defined the resources theory as an institutional conception of educational excellence. Institutions and faculty who operate from this theory assume the expansion of classroom facilities, personnel, and monetary resources will promote better

learning. A popular metric in this model is the student-faculty ratio. Astin argued that this theory promotes the accumulation of resources without the proper assessment of how best to utilize these resources. As an example, prestigious faculty receive lower course loads, when the students might benefit from more exposure to this individual.

The last pedagogical theory critiqued by Astin (1985a) is the individualized, or eclectic, theory that assumes no single content area, teaching method, or resource is appropriate for all students. The aim, then, is to identify and resource the methods that best serve the needs of individual students. The challenge of this pedagogical theory is that institutions have a vast array of curricula and students, which makes the individualized approach difficult in practice.

The student involvement theory, however, offers a linkage between the three implicit pedagogical theories (Astin, 1984, 1985a). According to Astin (1985a), curriculum (content), resources, and pedagogical approaches are strengthened by the student involvement theory in that the impetus shifts to the students' investment of time and energy to achieve an outcome. These investments have a subsequent effect on talent development, or the behavioral mechanisms that will enable long-term student development. Astin (1985b) defined talent development as the "intellectual and personal development of . . . students" (p. 35), which is characterized in an educational environment by student involvement, high levels of expectation, and feedback mechanisms. In this vein, the investment of time and energy by the student, combined with the institutional policies and practices to promote student involvement, leads to personal and intellectual development (i.e., talent development).

As noted earlier, student involvement theory has its empirical roots in Astin's (1975) study of college departure, which involved an assessment of factors that significantly affect student persistence. Astin found most significant effects were explained by student involvement. Positive factors correlated with increased involvement, and negative factors correlated with decreased involvement. Important findings included the positive effect of campus residence, student activities, and on-campus employment on student persistence. Each factor involved greater levels of involvement in the collegiate environment, which had a subsequent effect on persistence. Similar findings emerged in Astin's (1977, 1993) later empirical studies, which identified 57 forms of student involvement.

External support for Astin's (1977, 1993) findings include the monumental research from Mayhew et al. (2016), who posited that student persistence and education achievement directly correlate with quality and level of involvement in the college environment. Kuh, Kinzie, Schuh, Whitt, and Associates (1991) conducted a multi-institutional, qualitative study and acknowledged the importance of involvement to provide a sense of belonging for students. Later iterations of the research from Kuh and his colleagues supported the notion of student involvement, and in particular the role of institutions to provide opportunities for such involvement (Kuh et al., 2006; Kuh et al., 2005).

The primary critique of Astin's (1984, 1985) theory, as well as of the work of Kuh et al. (2005) on engagement, is the use of a dominant frame of reference. Bensimon (2007) argued that scholars, such as Astin and Kuh, view involvement and engagement through the lens of the majority members of the college environment. Consequently,

these student development models ignore the cultural realities of racial and ethnic minorities and make assumptions about involvement and engagement. By nature of their quantitative orientation, these theories measure central tendencies and do not properly describe or explain the experiences of students on the margins (Bensimon, 2007; Harper & Quaye, 2009). Researchers employing Astin's theory to understand the experiences of marginalized populations should account for the "underlying epistemological and methodological assumptions that guide the study" (Wolf-Wendel et al., 2009, p. 423).

Astin's (1984) student involvement theory offers a model to test the impact of student involvement on persistence (Astin, 1977, 1993). Involvement is defined as the dedication of physical and psychological energy on a task and is specifically applied to time-on-task in the college environment (Astin, 1984). Astin's theory challenges the implicit theories of pedagogical practice, with the aim to shift time investment to talent development (Astin, 1984, 1985b). Internal and external empirical research has demonstrated that involvement positively correlates with student persistence (Astin, 1977, 1993; Kuh et al., 1991; Mayhew et al., 2016). Although Astin's (1975) original aim for this theory was to add value to all students in higher education, its epistemological foundation and methodological assumptions may not account for students who do not represent the dominant racial/ethnic and socioeconomic groups on campus.

Bean and Eaton's psychological model of student retention. The second major psychological theory to inform student persistence research is Bean and Eaton's (2000) psychological model of student retention, which assumes the decision to leave college is a student behavior motivated by psychological processes. The model borrows from four

psychological theories, including attitude-behavior theory (Fishbein & Ajzen, 1975), coping behavioral theory (Eaton & Bean, 1995; French, Rodgers, & Cobb, 1974), self-efficacy theory (Bandura, 1982, 1986, 1997), and attribution theory (Weiner, 1985).

Fishbein and Ajzen's (1975) attitude-behavior theory connected an individual's beliefs, attitudes, intentions, and behaviors. Over a period of time, an individual's beliefs develop into attitudes, which become intentions and, ultimately, behaviors (Bean & Eaton, 2000). Bean (1982a, 1982b, 1985, 1990) applied this theory to his conceptual model of student retention. In these studies, a student's intention to leave the college environment was most predictive of the actual student departure decision. Cabrera, Castañeda, Nora, and Hengstler (1992) supported this conclusion when evaluating the student departure models from Tinto (1975, 1987) and Bean (1982a).

Psychological theories also describe the individual's capacity to assess and adapt to their current environment. French et al. (1974) described this adjustment process as the individual attainment of "goodness of fit" (p. 316) within an environment. The process enables individuals to cope with their surroundings. In this manner, Bean and Eaton (2000, 2001) described the adjustment or adaptation process as the means in which an individual becomes integrated into a new environment, similar to Tinto's (1975, 1987) interactionalist model of student departure that emphasized academic and social integration. The concept of fit serves an important role in student persistence research as evidenced in Bean's (1990) institutional fit model. The institutional fit concept differs from Tinto's integration model, in that students may fit within an environment but not experience academic and social integration due to a lack of academic or social qualities (Bean & Eaton, 2000).

An important concept in student adaptation research is the capacity to cope with stress within the academic environment. Eaton and Bean (1995) applied the approach/avoidance model of coping (Roth & Cohen, 1986) to persistence research to explain how students integrate into the college environment. In their model, approach behaviors reflect individual practices to address and respond to stressors within an environment, with the intent to reduce stress. Alternatively, avoidance behaviors reflect the practices of an individual to eschew stressors. In their empirical research, Eaton and Bean linked coping behaviors with academic and social integration. For example, students who avoid attending class or engaging in social events to manage the stress of the college environment lacked academic and social integration, while asking questions in class and engaging in Greek life positively affected student integration. Collectively, the research from French et al. (1974) and Eaton and Bean (1995) help explain the capacity of students to cope in the college environment and serves as a foundation for Bean and Eaton's (2000, 2001) psychological model of student retention.

A third theory to influence Bean and Eaton's (2000, 2001) psychological model of student retention was Bandura's (1982, 1986, 1997) self-efficacy theory. Bandura defined self-efficacy as the individual perception of one's ability to perform a set of tasks to achieve a particular outcome. Individuals develop a perception of their abilities based on previous experiences, which in turn affects their self-confidence and assessment of their own competence. Individuals with positive self-confidence and assessment of competence will experience higher levels of aspirations, task attainment, and developmental goals. Bean (1982b) found that self-confidence has a positive effect on student retention in the college environment. More recent studies have continued to

confirm that self-efficacy has a direct effect on academic and social integration and ultimately persistence (Brewer & Yucedag-Ozcan, 2013; D'Lima, Winsler, & Kitsantas, 2014; Garza, Bain, & Kupczynski, 2014; Komarraju & Nadler, 2013; Wright, Jenkins-Guarniere, & Murdock, 2013)

A final psychological theory to influence Bean and Eaton's (2000, 2001) model is attribution theory (Rotter, 1966; Weiner, 1985). Weiner's (1985) causal model offers three categories of attribution, with the most frequently studied category being locus of control (Bean & Eaton, 2000). Locus of control, which Rotter (1966) first defined, indicates an individual's use of an internal or external causal perspective for assessing past experiences. An individual who assesses past experience with an internal locus of control recognizes the impact of personal attributes (e.g., skills, abilities, and attitudes) on the outcomes, whereas an external locus of control emphasizes forces beyond an individual's power (e.g., luck or fate). Students with an external locus of control exhibit less motivation to exert effort to improve their academic work and social integration. Studies have applied Weiner's model to academic performance in higher education (Karaman & Watson, 2017; Slanger, Berg, & Fisk, 2015; Yukselturk, Ozekes, & Türel, 2014) and correlated an internal locus of control with academic success. Further research has emphasized the importance of attributional retraining (Perry, Chipperfield, Hladkyj, Pekrun, & Hamm, 2014; Perry, Hall, & Ruthig, 2005; Perry, Hladkyj, Pekrun, Clifton, & Chipperfield, 2005) to reset perceptions that students can control their educational outcomes.

Based on these theories, Bean and Eaton (2000, 2001) developed their psychological model of student retention, which offers an assessment of why students

leave college voluntarily or involuntarily. The structure of the model accounts for the four aforementioned psychological theories and is structured on the model from Bentler and Speckart's (1979) adaptation of Fishbein and Ajzen's (1975) model.

Bean and Eaton's (2000, 2001) model posits that students' past behaviors and beliefs inform students' interactions within the college environment. Specifically, their attributional perspective, developed from past experiences, informs students' beliefs about institutional processes. These initial realities are subsequently influenced by students' bureaucratic, academic, and social interactions with the college environment, as well as interactions external to the institution. These experiences then shape students' self-efficacy, coping, and locus of control as they interpret and respond to each interaction, resulting in a revised perspective of the environment. When these interactions with others on campus result in higher levels of self-efficacy, reduced stress, and an internal locus of control, the result is academic and social integration that informs students' perceptions of the college environment, which ultimately leads to "institutional fit and loyalty, intent to persist, and to the behavior in question, persistence itself" (Bean & Eaton, 2000, p. 58).

Based on this theory formulation, Bean and Eaton (2001) proffered institutional practices that can lead to self-efficacy, internal locus of control, coping skills, and an overall positive attitude about the academic environment, which directly relate to students' academic and social integration. These practices include service-learning programs, first-year seminars and learning communities, and mentoring programs. Moreover, Bean and Eaton argued for institutions to evaluate all programming to ensure a clear connection exists to the psychological growth noted in their model.

External support for Bean and Eaton's (2000, 2001) model includes recent studies that assessed the model's internal validity and applied its findings to a diverse population. For instance, DeWitz, Woolsey, and Walsh (2009) found self-efficacy was the most significant predictor of student's sense of life purpose. DeWitz et al. argued that this finding supports interventions that improve students' perception of self-efficacy and subsequent life purpose, all of which affect student retention. In addition, Johnson, Wasserman, Yildirim, and Yonai (2014) examined the effect of stress and campus climate perceptions on students of color and White students, utilizing Bean and Eaton's (2000, 2001) model. They found this model is useful for explaining student retention among these student populations. Moreover, the psychological processes outlined in Bean and Eaton's model reflect the psychological construct of flourishing that is a validated concept in psychological research (Keyes & Haidt, 2003b), with applications in higher education (Ambler, 2006).

Bean and Eaton (2001) argued that Tinto's (1975, 1987, 1993) theory failed to identify the mechanisms through which students become academically and social integrated. Thus, Bean and Eaton proposed the psychological processes, as noted, serve as mediators of academic and social integration. The challenge, however, is that Bean and Eaton assumed the creation of institutional programs would promote the psychological skill of self-efficacy (Melguizo, 2011). This assumption conflicts with Bandura's (1977) conception that self-efficacy is not automatically acquired; rather, its development depends on the type of intervention. In addition, in applying the locus of control concept, Bean and Eaton emphasized the effect of non-cognitive factors on academic and social integration without a further examination of the programs that would

enhance this psychological skill (Melguizo, 2011). The main limitation of Bean and Eaton's model is its lack of attention to the characteristics of programs designed to advance students' non-cognitive skills (Melguizo, 2011).

In summary, Bean and Eaton's (2000, 2001) psychological model of student retention contributes to the student success literature by focusing on the non-cognitive processes related to student persistence. Based on the psychological theories related to attitude-behavior, coping, self-efficacy, and attribution, Bean and Eaton offered an assessment of why students experience academic and social integration in the college environment and ultimately student persistence.

Other psychological theories of student success. Bean and Eaton's (2000, 2001) psychological model of student retention and Astin's (1977, 1993) student involvement theory provided an important contribution to the student success literature by raising the profile of psychological processes in the student departure puzzle. In addition to the psychological theories included in Bean and Eaton's (2000) model of student retention, other theories that help researchers define student success from a psychological perspective include research on expectancy-values (Ethington, 1990; Wigfield & Eccles, 2000, 2002), self-determination (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000), psychological contracts and student expectations (Howard, 2005; Rosseau, 1995), and theories of intelligence (Dweck, 1996, 2000, 2016), which are reviewed in the following paragraphs. This psychological research helps explain the complex decision-making process among students that informs persistence or departure.

Similar to Bean and Eaton (2000), Ethington (1990) developed a psychological model of student persistence, drawing from Eccles' (1987) expectancy-value theory.

Ethington's (1990) model combines students' expectation of success and individual value of the goal of degree completion to assess student motivation and subsequent investment of energy in the college environment. Ethington found that value placed on the goal of student engagement in the college environment had a positive effect on student persistence; expectations for success had no influence on the outcome. Thus, an opportunity exists for institutions to enhance the potential for persistence by assisting students with the development and articulation of personal and academic goals.

Deci and Ryan (1985, 1991) introduced self-determination theory to explain the motivational orientations that influence goal development and decision-making. Self-determination theory proposes two motivational orientations: (a) intrinsic motivation, where activity flows from an internal value assigned to the activity, and (b) extrinsic motivation, where activity flows from an external reward (e.g., grades or positive feedback). In education, an intrinsic motivation reflects a commitment to learning because of an interest in the topic, whereas extrinsic motivation reflects a commitment to learning because of grades or positive praise (Guiffida, 2006). The absence of either intrinsic or extrinsic motivation was defined by Ryan and Deci (2000) as amotivation, when the individual lacks the intent to act. Ryan and Deci posited that amotivation occurs because of the lack of value for the activity, doubts about one's competence, or low expectation that a desired outcome is likely. In their research Reeve, Deci, and Ryan (2004) identified that the most meaningful form of learning occurs when individuals are intrinsically motivated.

Reeve et al. (2004) further clarified the components of intrinsic motivation and the forms of extrinsic motivation. Intrinsic motivation requires three components:

autonomy, when the student chooses on his or her own volition to engage in the learning process; competence in the subject matter; and relatedness, which reflects a need for relationship with others. Reeve et al. posited that extrinsic motivation involves three forms: external regulation, or motivation through external rewards and punishment; introjected regulation, or the partial internalization of external pressures; and identified regulation, or the full internalization of the external pressures. Reeve et al. found the first two forms of extrinsic motivation were detrimental to learning, while identified regulation can positively influence learning, especially when the student considers the content significant yet uninteresting.

The main criticism of self-determination theory is its limited application to diverse populations. Guiffrida (2006, 2009) argued the theory fails to account for individual motivation in collectivist cultures. Despite this criticism, Guiffrida noted that the theory has the potential to advance Tinto's (1993) interactionalist theory by recognizing the impact of motivational orientation on student success and persistence. Reason (2009) offered similar support for motivational orientation in student persistence research.

A recent study by Guiffrida, Lynch, Wall, and Abel (2013) found that students who enrolled in college to fulfill the intrinsic motivational needs of autonomy and competence were more likely to persist and earn a higher grade point average (GPA). In addition, the meta-analysis from Mayhew et al. (2016) found students who attend college with an intrinsic motivation to fulfill relational needs with faculty may experience greater academic success, given the research connecting student-faculty interaction and academic achievement. However, the effect of motivational orientation on student success

outcomes varies by gender and racial/ethnic groups (D'Lima et al., 2014; Roksa & Whitley, 2017). Finally, Bailey and Phillips (2015) found intrinsic motivation and successful adaptation to the college environment were correlated with student well-being and psychological health among first-year students. These findings support the earlier research from Baker (2004), who identified that intrinsic motivation resulted in lower stress in the college adjustment process. These studies demonstrate the importance of motivational orientations, as described in Deci and Ryan's (1985, 1991) self-determination theory, to measures of student success, which have an impact on academic achievement and student persistence.

Rosseau's (1995) psychological contract theory posits that students enter college with expectations about relationships with peers and institutional representatives and how they are to interact with these groups. When students perceive these expectations (which function as an implicit contract) are unmet, trust in the institution is diminished. Rosseau's theory helps explain why student expectations shape behaviors, which subsequently inform students' academic and social outcomes in the college environment (Howard, 2005). In summary, Ethington's (1990) application of expectancy-value theory, Bandura's (1982, 1986, 1997) self-efficacy theory, and Rosseau's (1995) psychological contract theory demonstrate that students' attitudes, perceptions, values, motivation, and ways of processing information shape student engagement in the college environment, which has an effect on academic and social outcomes.

A final psychological theory that informs student success is Dweck's (2000) implicit self-theory, who earlier connected these self-theories to goals and behavior development in individuals (Dweck, 1996; Dweck & Leggett, 1988). Dweck found that

students have either an entity or incremental view of personal abilities and intelligence. An entity view assumes intelligence is fixed, whereas an incremental view assumes intelligence can grow through learning and practice. Dweck's research emphasizes the importance of educational experiences that start with exercises students can accomplish well and then incrementally challenge the student to invest greater levels of effort. In this vein, Dweck made the following comment: "Those who are led to believe their intelligence is a malleable quality begin to take on challenging learning tasks and begin to take advantage of the skill-improvement opportunities that come their way" (p. 26). This educational technique is a particularly important practice among historically underprepared students who may doubt their academic abilities and capacity to graduate because of messages from the dominant culture (Kuh et al., 2005). Kuh, Kinzie, Buckley, et al. (2007) asserted that faculty members, in particular, must recognize the problems with underestimating individual abilities and intelligence.

In summary, the psychological perspective of student success accounts for the psychological characteristics and processes that influence the departure or persistence decision (Astin, 1977, 1993; Bean & Eaton, 2000, 2001). Three prominent themes emerged from this literature review of the psychological perspective. First, students' investment of psychological and physical energy in college (i.e., student involvement) leads to a greater likelihood for academic achievement and student persistence (Astin, 1977, 1993). Second, psychological processes, including the translation of attitudes to behaviors (Fishbein & Ajzen, 1975), coping skills (Eaton & Bean, 1995; French et al., 1974), self-efficacy (Bandura, 1982, 1986, 1997), and locus of control (Weiner, 1985), influence institutional fit, institutional commitment, and persistence (Bean & Eaton,

2000, 2001). Last, students' value of degree completion as a goal (Ethington, 1990), motivation (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000), psychological contracts and expectations (Howard, 2005; Rosseau, 1995), and self-theories of intelligence (Dweck, 2000, 2016) influence their participation in the college community and subsequent social integration. These psychological processes influence the complex decision-making process that is reflected in the student departure or persistence decision.

Organizational perspectives of student success. An organizational perspective of student success focuses on the impact of institutional realities, including behaviors, policies, and practices, on student performance. Kuh, Kinzie, Buckley, et al. (2007) grouped institutional realities into the following categories: "institutional size, selectivity, resources, faculty-student ratios . . . control, mission, and location" (p. 15), and noted these realities influence students' attitudes and behaviors. These factors serve an important role in determining students' commitment to an institution. The following section reviews the prominent theories that inform an organizational perspective of student success, including Bean's student attrition model (Bean, 1980, 1983, 1985), Berger and Braxton's (1998) revision of Tinto's interactionalist theory of student departure, and Berger's (2000b, 2001) examination of organizational behavior and student impact.

Bean's student attrition model. Prior to his work on a psychological model of student success with Eaton in 1995 and 2000, Bean (1980) developed a causal model of student attrition based on an adaption of the organizational turnover model from Price (1977), who examined the voluntary turnover process of employees. Price hypothesized that organizational variables (e.g., communication, integration, promotional

opportunities, and pay) influence satisfaction and intent to stay within the organizational setting. Bean's (1980) causal model of student attrition accounts for organizational factors that contribute to student satisfaction and persistence. The model posits the following propositions:

1. The background characteristics of students must be considered in order to understand their interactions within the environment.
2. The student interacts with the institution, perceiving objective measures, such as grade point average or belonging to campus organizations, as well as subjective measures, such as the practical value of the education and the quality of the institution.
3. These variables are in turn expected to influence the degree to which the student is satisfied with the college.
4. The level of satisfaction is expected to increase the level of institutional commitment.
5. Institutional commitment is seen as leading to a decrease in the likelihood that a student will drop out of school. (pp. 158-160)

Bean (1980) found institutional quality and opportunities were the most influential variables on institutional commitment.

Bean (1983) updated his causal model based on the contributions of Price and Mueller (1981), who applied the early work on turnover to nursing professionals.

Included in the updated study of turnover were 11 determinants and two intervening variables (job satisfaction and intent to stay). Bean (1983) applied these variables and refined his ideas into an industrial model of student attrition. Both the 1980 and 1983

studies called for future research to identify the additional intervening variables not included in the original models.

In an updated study, Bean (1985) proposed a conceptual model for the dropout syndrome that accounted for the academic, psychosocial, and environmental factors that contribute to dropout. Bean's empirical research found:

1. A student's peers are more important agents of socialization than is an informal faculty contact;
2. Students may play a more active role in their socialization than previously thought; and
3. College grades seem more the product of selection than socialization. (p. 35)

These findings reinforce the importance of institutional fit in persistence research, and in particular, this study highlights the significance of social integration in determining institutional fit. Thus, peer support and student socialization processes are important factors in solving the student departure puzzle.

In a review of Bean's (1980, 1983, 1995) student attrition model and Tinto's (1978, 1987, 1993) interactionalist theory, Cabrera, Castañeda, et al. (1992) found the student attrition model had less empirical support than the interactionalist theory. Cabrera et al.'s research noted that only 40% of the propositions in Bean's model were supported, whereas as 70% of the propositions in Tinto's theory were supported. The authors argued for the convergence of the two theories to offer a more comprehensive understanding of the factors related to persistence and departure. Later research from Cabrera, Nora, and Castañeda (1993) examined the empirical support of the overlapping variables between Bean's and Tinto's theories.

A second limitation of Bean's model was its narrow sampling method, which was biased toward high-performing students, females, and residential students. This limitation calls into question the generalizability of the model to diverse populations of students. A final critique of Bean's (1980, 1983) model was its analysis of the organizational realities that affect students in 4-year institutions. This limitation prompted a follow-up study from Bean and Metzner (1985) that accounted for the organizational variables in 2-year institutions, similar to Tinto's (1998) reformulation of his theory to community colleges.

Revision of Tinto's interactionalist theory of student departure. Berger and Braxton (1998) developed a second theory from an organizational perspective that examined the impact of organizational factors on student persistence in their revision of Tinto's (1975, 1987) interactionalist theory of student departure. In particular, they sought to estimate the effect of organizational attributes on social integration as a form of theory elaboration. Theory elaboration offers a more complex explanation of a central phenomenon, which emerges from the application of concepts from one theory to another (Braxton et al., 1997).

Berger and Braxton (1998) found that institutional communication, fairness in policy and rule enforcement, and student participation in decision-making were predictive of social integration into the college community and even had an indirect influence on student persistence. The authors argued that organizational attributes, in general, serve a significant role in first-year persistence and noted the importance of organizational practices that reinforced the three organizational attributes noted. Braxton and McClendon (2001) later proffered 20 empirically grounded practices that positively

affected social integration and subsequent persistence, including practices related to advising, student affairs, enrollment management, and faculty development.

The limitations of Berger and Braxton's (1998) theory elaboration is that the study focused on students at a highly selective, private, research institution. The authors clearly noted that the study may not be generalizable to the higher education community. A particular concern was the homogeneity of the sample population, with the vast majority (93%) being White. This issue raises serious concerns about the application of the model outside of elite institutions. Further, the model only included three organizational factors (e.g., communication, fairness, and student participation), which limits the scope of organizational behaviors that can influence student persistence. These limitations emphasize the importance of further research to test the impact of organizational practices in diverse institutional contexts.

Organizational behavior and college impact. A final organizational perspective is Berger's (2000b, 2001) examination of the relationship between organizational behavior and college impact. Berger (2000b) noted the vast majority of organizational behavior studies in higher education focus on issues related to leadership, governance, and organizational effectiveness, while underestimating the effect of organizational behavior on student success. The author utilized the five dimensions of organizational behavior, including bureaucratic, collegial, political, symbolic, and systemic, to explain student interactions in the college environment. Berger found the type of organization, as defined by the dimensions, was a determining factor in the development of humanistic values and involvement in community service among students. Thus, the findings

suggest institutions should assess the effectiveness of organizational practices and policies and the impact on student success.

The limitation of Berger's (2000b) research is that the study only measured the impact of the college environment on two outcomes: development of humanistic values and student involvement in community service. Additional outcomes, such as student satisfaction and persistence, would better evaluate the impact of the college environment on student success.

In summary, the organizational perspective of student success accounts for the impact of institutional factors that contribute to student performance. The following themes emerged from this literature review of the organizational perspective. First, central to this perspective is an assessment of organizational variables that influence institutional fit, student satisfaction, and intent to persist (Bean, 1980, 1983, 1985). Second, attention is given to the role of the institutions in facilitating socialization among peers (Bean, 1985). Third, organizational practices and policies should promote clear communication, fair execution, and student participation (Berger & Braxton, 1998). Last, organizational behaviors have the potential to promote or inhibit student success (Berger, 2000b, 2001). As summarized by Kinzie (2012) the organizational perspective promotes the idea that "institutional structures and processes, combined with students' perceptions . . . affect decisions to persist or leave the institution" (p. xvi).

Cultural perspectives of student success. Kuh, Kinzie, Buckley, et al. (2007) framed the cultural perspective of student success through the experiences of historically underrepresented students in the college environment. These racially diverse students encounter unique challenges that decrease their likelihood of benefiting from an

institution's learning and personal development culture. In addition, racially diverse students' perceptions of the college environment and its dominant values and norms inform how these students interact and engage within this environment. Together, these factors influence student satisfaction and the extent to which historically underrepresented students engage in educational activities that lead to student success (Astin, 1977, 1993; Kuh et al., 2005; Mayhew et al., 2016).

Researchers who have examined student success from a cultural perspective often critique the dominant student persistence models, such as Tinto's (1975, 1987, 1993), which involved culturally biased assumptions of the factors necessary for student success (Attinasi, 1989, 1992; Tierney, 1992a, 1993). Several of the notable critiques from previous sections of this literature review are included here for review. Attinasi (1989, 1992) observed different forms of academic integration for racial and ethnic minority students that conflict with Tinto's model. Similarly, Tierney (1992a) critiqued Tinto's use of Van Gennep's (1960) rites of passage theory, noting that dominant forms of acculturation in the college environment may conflict with students' cultural heritage. Tierney argued that a cultural lens views the issue of student departure as a sociocultural phenomenon as opposed to an individual, psychological outcome.

Museus (2014) critiqued Tinto's (1975, 1987, 1993) model of student departure through a cultural lens by examining the theory's culturally-biased assumptions, emphasis on self-determinism, integration concepts, and psychological dimensions. As noted by Tierney (1992b) and Attinasi (1989, 1992), Tinto's model fails to account for the cultural realities of student success by utilizing a dominant frame of reference. In addition to these concerns, Museus critiqued Tinto's theory and noted the absence of

respect for students' cultural heritage and the importance of integrating students into the campus community in a way that honors their unique cultural background and experiences. A second concern from Museus is the self-determinism expressed in Tinto's theory, which overemphasizes students' actions and underemphasizes the responsibility of institutions to foster student success in all student groups. Museus argued this perspective is problematic because institutions can shift the blame of student departure to underrepresented students' lack of cultural capital. This critique highlights the importance of campus environments that influence student success or failure, particularly among minority students (Kiyama, Museus, & Vega, 2015; Museus, 2011; Museus, Shiroma, & Dizon, 2016; Museus, Yi, & Saelua, 2017).

Museus' (2014) third critique of Tinto's (1975, 1987, 1993) model of student departure reinforces the earlier research that questioned the viability of Tinto's academic and social integration concepts. In addition to the empirical concerns, as noted previously, Museus argued that the social integration concept fails to consider the unique forms of social participation among minority students. Therefore, researchers have operationalized the social integration concept in ways that are common to White students. The final critique from Museus examined the psychological dimension of Tinto's theory, which accounts for the subjective assessment of sense of belonging and institutional fit (Hurtado & Carter, 1997). Hurtado and Carter (1997) were the first researchers to underscore the importance of the psychological dimensions of student departure in Tinto's theory. The concern, then, from Museus' perspective is that students' perceptions of sense of belonging and institutional fit will vary among student groups, which subsequently influences student involvement in campus life. Accordingly, Museus

argued that empirical research has not considered the impact of various campus environments and programs on student success among a diverse student population.

Beyond Tinto, Astin's (1984, 1985) student involvement theory, as well as the work of Kuh et al. (2005) on engagement, also utilize a dominant frame of reference. Bensimon (2007) argued that scholars such as Astin and Kuh viewed involvement and engagement through the lens of the majority members of the college environment. Consequently, these student development models ignore the cultural realities of racial and ethnic minorities and make assumptions about involvement and engagement for these student populations. Museus (2014) also noted that Astin's and Kuh's theories do not sufficiently consider the racial and cultural realities encountered by students of color.

The theory of self-determination (Reeve et al., 2004; Ryan & Deci, 2000), utilized in student success research, also has been critiqued for its failure to consider motivation in collectivist cultures (Guiffreda, 2006, 2009). The effect of motivational orientation on student success outcomes vary by gender and racial/ethnic groups (D'Lima et al., 2014; Roksa & Whitley, 2017). To summarize, these dominant student success models may not apply fully to the experiences of racial and ethnic minorities. Thus, questions emerge about the generalizability of these theories to the diverse population of students in higher education.

To this end, Rendon et al. (2000) argued that institutions have the responsibility to help students navigate the dual environments of home and college, especially when the institutional norms and values may be perceived by students as foreign or contrary to their own. This argument informed Rendon et al.'s critique of Tinto's (1975, 1987, 1993) theory, noting issues pertaining to acculturation and assimilation in the college

environment. A significant tension in this dual environment of home and college is the conflict generated between cultures that emphasize staying home and the national pressure to achieve academic success. Ortiz (2004) and Torres (2003) identified this dilemma particularly among Latino/a students, who experience the tension between the home and college environments.

To address the limitation of these student success theories, various scholars have proposed new models to consider the experiences of racially diverse student populations. These include Kuh et al.'s (2007) application of Bourdieu and Passeron's (1977) habitus concept, Kuh and Love's (2000) culturally responsible model of student departure, Museus' (2014) culturally engaging campus environments (CECE) model, and Smith's (2011, 2015) institutional diversity framework.

Kuh et al.'s application of the habitus concept. Bourdieu and Passeron's (1977) habitus concept reflects the preferences, attitudes, and behaviors (i.e., dispositions) that unconsciously shape individual aspirations. Individuals develop dispositions in the early phases of life when their external realities inform internal perceptions about personal abilities and even the worthwhileness of specific activities. For example, racially diverse students might possess a negative disposition toward college education due to the inadequacies of primary and secondary education in their communities. These dispositions subsequently inform students' actions in the college environment, including their choice of major and engagement in educational practices.

Kuh, Kinzie, Buckley, et al. (2007) argued that the habitus concept explains the complex and culturally-informed patterns that influence historically underrepresented students' engagement in the college environment. Students with a low self-conception of

their competence and the importance of education, based on cultural experiences and dispositions, may not engage in helpful educational activities. To this end, Berger (2000a) argued that institutions should develop students' cultural capital, as defined by Bourdieu (1973), as this disposition leads to academic and social integration. Berger provided several examples of cultural capital, including "informal interpersonal skills, habits, manners, linguistics, educational credentials, and lifestyle preferences" (p. 97), which maintain an individual's social class and capital resources (i.e., wealth). Often, individuals in the upper economic classes have greater access to these cultural capital resources. The role of institutions is to provide methods for students to develop cultural capital, with the aim to undermine dispositions that inhibit educational achievement.

Kuh and Love's (2000) culturally responsible model of student departure.

Consistent with these concepts, Kuh and Love (2000) offered the following culturally and racially responsible propositions that may influence premature departure from college for students of color:

1. The college experience, including a decision to leave college, is mediated through a student's cultural meaning-making system.
2. One's culture of origin mediates the importance attached to attending college and earning a college degree.
3. Knowledge of a student's culture of origin and the cultures of immersion is needed to understand a student's ability to successfully negotiate the institution's cultural milieu.
4. The probability of persistence is inversely related to the cultural distance between a student's culture(s) of origin and the cultures of immersion.

5. Students who traverse a long cultural distance must become acclimated to dominant cultures of immersion or join one or more enclaves.
6. The amount of time a student spends in one's culture of origin after matriculating is positively related to cultural stress and reduces the chances he or she will persist.
7. The likelihood a student will persist is related to the extensity and intensity of one's sociocultural connections to the academic program and to affinity groups.
8. Students who belong to one or more enclaves in the cultures of immersion are more likely to persist, especially if group members value achievement and persistent. (p. 201)

Kuh and Love were careful to note that these propositions do not constitute a theory, nor do these statements reflect an exhaustive list of the cultural influences on college student persistence.

The primary critiques of Kuh and Love's (2000) conceptions are two-fold. First, these propositions do not emphasize the role of individual, as opposed to collective, cultural agents (Museus & Neville, 2012; Museus & Quaye, 2009), including staff and faculty who serve as cultural translators for students. These cultural mediators are members of the dominant culture who provide guidance to minority students to help them navigate the college environment. Second, Kuh and Love do not consider the importance of cultural integrity, a concept first introduced by Tierney (1999), that involves the affirmation of students' heritage through culturally sensitive programs and practices (Museus & Quaye, 2009). The research on cultural integrity emphasizes the importance

of ethnic student organizations that offer minority students a sense of belonging on the college campus by functioning as sources of cultural familiarity, validation, and advocacy (Museus, 2008c).

A later study from Museus and Quaye (2009) analyzed the eight propositions from Kuh and Love (2000), utilizing a qualitative methodology. Museus and Quaye offered partial support for each proposition and presented a refined intercultural perspective that reflected the lived experiences of individual minority students. The study underscored the importance of cultural understanding in student persistence research. Accordingly, the researchers stressed the importance of cultural agents to help minority students assimilate to the college environment. These cultural agents support diverse students by facilitating “adjustment, engagement, and eventual persistence through college” (p. 84). A methodological concern of both Kuh and Love’s (2000) and Museus and Quaye’s (2009) research is the absence of quantifiable constructs and propositions that can be empirically tested (Museus, 2014).

In summary, the model presented by Kuh and Love (2000) highlighted the importance of a culturally responsible framework for measuring student success among racially diverse students. Although the model lacked full empirical support, Kuh and Love offered a foundation for future researchers, particularly the work of Museus (2014).

Museus’ culturally engaging campus environments (CECE) model. Given the substantial body of empirical research that offers evidence of the unique challenges for students of color on college campuses (Kuh & Love, 2000; Museus, 2008b, 2011; Museus & Quaye, 2009; Tierney, 1992a, 1999), Museus (2014) presented the culturally engaging campus environments (CECE) model of college student success. The CECE

model offers a racially and culturally responsible framework of student success that considers the unique experiences of racially diverse students. The theoretical model (a) addresses the four critiques of Tinto's theory; (b) includes the perspectives of students of color; and (c) presents a theoretical model that can be "quantified and tested for its applicability to racially diverse college student populations, examined for its power to explain college student success, and (in)validated" (p. 207).

Museus' (2014) CECE model theorizes that external influences, precollege characteristics, individual influences, and a culturally engaging campus environment impact college student success. External influences, including financial, employment, and family dynamics, have a direct effect on students of color. The model acknowledges the influence of precollege characteristics on college student success, including students' demographics, level of academic preparation, and academic dispositions (e.g., self-efficacy, self-determination, and theories of intelligence). Accordingly, a culturally engaging campus community recognizes the unique cultural identities of its students and responds appropriately to the needs of this population.

Third, Museus' (2014) CECE model hypothesizes that diverse students who participate in a culturally engaging campus community are more likely to "exhibit a greater sense of belonging, more positive academic dispositions, and higher levels of academic performance" (p. 210), which ultimately lead to a higher probability of graduating from the institution. These student success outcomes flow from a campus community with culturally responsible practices designed to support students of color and promote intercultural engagement. Museus, Ledesma, and Parker (2015) organized the nine practices into categories of cultural relevance, which describe the practices that

respect the background and identities of diverse students, and cultural responsiveness, which include the practices that respond to the unique needs of diverse students.

The final construct of the CECE model acknowledges the impact of individual influences within the college environment on student success, including students' sense of belonging, academic dispositions, and academic performance. Museus (2014) argued that the CECE model offers a complementary framework for measuring student success among racially diverse populations and is not intended to replace other models.

Recent studies assessed the validity of the CECE model through the development of a quantifiable scale to measure the impact of campus environments on success outcomes of racially-diverse student populations. Museus, Zhang, and Kim (2016) designed the CECE scale to measure the nine institutional practices that foster student success among diverse students. Utilizing a variety of techniques, the researchers found the scale “exhibited a high level of content and construct validity” (p. 768) and was a useful instrument for measuring campus environments. The limitations of the study included a small sample size and data from only three institutions. These issues led the authors to declare the results of the study could not be generalized beyond the three campuses. A larger sample size and number of participating institutions would strengthen the validity of the scale for further research.

A second study from Museus et al. (2017) examined the influence of a culturally engaging campus environment on students' sense of belonging. The study utilized the data from Museus et al.'s (2016) research on the CECE scale. Thus, the limitations of the earlier study persisted into the follow-up study, particularly issues related to a limited sample size and institutional involvement. Museus et al. (2017) found the CECE model

offered a conceptual lens for measuring the impact of campus environment on students' sense of belonging, and the nine CECE practices correlated with sense of belonging. These results, however, were only generalizable to the three campuses; further research is required to develop more valid conclusions about the impact of the CECE model on sense of belonging.

In summary, Museus' (2014) CECE model offers a holistic framework for assessing the student success outcomes of racially-diverse students. The model, although in its infancy, addresses the concerns from a variety of scholars that the dominant student success models ignore the cultural and racial realities of diverse students. Further, the model offers a quantifiable scale for assessing the impact of the college environment on this unique student population. Further research is needed to validate the scale and to test the generalizability of its findings to the broader higher education community.

Smith's institutional diversity framework. In addition to the model from Museus (2014), Smith (2011, 2015) developed a comprehensive institutional diversity framework that outlined five dimensions essential to defining and evaluating institutional capacity for diversity: (a) "mission," (b) "institutional viability and vitality," (c) "education and scholarship," (d) "climate and intergroup relations," and (e) "access and success" (p. 64) for historically underrepresented students. Although the complete framework is important for institutional diversity efforts, this review only emphasizes and explores the access and success component.

The pertinent component from Smith's (2011, 2015) institutional diversity framework relates to the historical mission of diversity work: to address the access and success issues of African Americans, Latinos, American Indians, and White women.

Smith argued, however, that the historical work of access and success also have relevance for today's diverse students who struggle in the higher education environment. Smith carefully noted that student access does not equate to student diversity. Simply increasing the composition of diverse students on a college campus does not address whether the students succeed or experience a sense of belonging.

Smith (2011, 2015) highlighted the importance of measuring success beyond student characteristics (e.g., race, ethnicity, or gender) and focusing on a broader definition of student achievement. Smith's recommendations coincide with those of Kuh et al. (2005), who expanded the definition of student success beyond persistence and graduation and included metrics related to "satisfaction, persistence, and high levels of learning and personal development" (p. xiv).

Critics of Smith's (2011, 2015) framework cited the need to identify indicators of success in each framework component (Curtis & Jun, 2013; Perez, 2011). Perez (2011) offered specific indicators that institutions could utilize to measure institutional diversity efforts. For example, access and success might involve the tracking of student success metrics by disaggregated student subpopulations. The goal, then, is to provide institutions with both a framework and indicators of success to determine the effectiveness of its diversity efforts. In addition to these clarifications, Museus et al. (2015) noted that few scholars have applied Smith's (2011, 2015) framework to study the effect of institutional diversity efforts on student success outcomes. Museus et al. noted the primary limitation of the institutional diversity framework is that it does not utilize existing literature to describe the ideal inclusive college environment. The recommendation from Museus was to integrate Smith's framework with the CECE

model, to determine the extent to which institutions incorporate the culturally engaging practices in the campus environment.

In summary, the cultural perspective of student success considers the experiences of racially diverse students and acknowledges students' perceptions of the dominant values and norms within the college environment. Scholars have critiqued the traditional student success models (Attinasi, 1989, 1992; Bensimon, 2007; Guiffrida, 2006, 2009; Museus, 2014; Rendon et al., 2000; Tierney, 1992a, 1999) and noted issues related to culturally biased assumptions of individual actions, academic motivation, involvement, and social integration. In response, other scholars have developed holistic student success models that consider the sociocultural realities of racially diverse students. Specific examples include Kuh et al.'s (2007) application of Bourdieu and Passeron's (1977) habitus concept, Kuh and Love's (2000) culturally responsible model of student departure, Museus' (2014) culturally engaging campus environments (CECE) model, and Smith's (2011, 2015) institutional diversity framework.

Economic perspectives of student success. An economic perspective of student success considers the costs and benefits of a college education. Central to this perspective is the student's cost-benefit analysis of persisting in college and engaging in key educational activities. Students who perceive that the costs of higher education outweigh the return on investment may abandon their educational plans and withdraw prematurely from college (Braxton, 2003).

Economic benefits of higher education. In the global economy, higher education functions as the single greatest mediator of personal wealth development (Abel & Deitz, 2014; Haskins, Holzer, & Lerman, 2009; Paulsen & Smart, 2001). Abel and Deitz

(2014), in a report for the New York Federal Reserve, documented that a college graduate with a baccalaureate degree will earn 56% more annual income compared to the average high school graduate. The same report noted that individuals with only an associate degree will earn 21% more annual income than the same comparison group. The cumulative effect of annual income gains results in baccalaureate graduates earning \$1 million more in their lifetime compared to the average high school graduate.

An important distinction in the economic-benefit discussion is the reality that income gains vary considerably between academic majors and institutions. Hershbein and Kearney (2014) reported consistent findings that baccalaureate graduates had greater earning potential than high school graduates, regardless of their academic major. Lifetime earnings of college graduates, however, were significantly less in fields related to children, counseling and social services, and fine arts. In addition, a report from Murphy, Nimgaonkar, and Sundaram (2016) found that economic outcomes vary between institutions, with graduates from elite colleges reporting the highest earnings potential. An analysis of the economic benefits of a college education confirms that not all college educations are equal.

Despite its capacity to provide graduates with significant economic benefits compared to undereducated populations, the social mobility benefits of a college degree in the United States appear to be strongly related to the SES of students' families (Haveman & Smeeding, 2006). The higher education system, in effect, reinforces one's SES in the United States by virtue of college choice, admission standards, and graduation rates (Goldthorpe, 2014; Haveman & Smeeding, 2006).

The disparity in student success outcomes may be due to such factors as low admission test scores and other measurements of academic ability that indirectly correlate with family income (Haveman & Smeeding, 2006). In addition, the allocation of funds for educational services in K-12 schools is often concentrated among districts whose students come from high-income families (Haveman & Smeeding, 2006). These factors contribute to the widening social gap between low- and high-income families, despite the economic power of a college education. Addressing this widening social gap is often allocated to the expansive system of community colleges that serves an important role in increasing the economic mobility of low-socioeconomic students (Furchtgott-Roth, Jacobson, & Mokher, 2009).

Notwithstanding the aforementioned nuances in the economic-return discussion, a college degree has a significant effect on graduates and their families. Thus, the demand for higher education has dramatically increased over the past 30 years (Snyder et al., 2016). Total college enrollment expanded from 8.5 million in 1970 to 20.2 million in 2015 (Snyder et al., 2016), with Hispanic/Latino students representing the largest minority group (Kumar & Hurwitz, 2015).

In the same time period, the price of a college education has increased significantly. Between 1976 and 2016, the average tuition and fees, including room and board, increased 213% at private non-profit institutions and 271% at public 4-year institutions (Ma, Baum, Pender, & Welch, 2016). Lucca, Nadauld, and Shen (2015) found that between 2001 and 2012, the average sticker price for college tuition increased 46%, which accounts for the rapid escalation in student debt. Student lending also increased from \$53 billion in 2001 to \$120 billion in 2012, resulting in \$1.3 trillion

dollars in outstanding debts as of 2015 (Lucca et al., 2015). The concern, then, is whether significant increases in tuition prices will negatively affect the demand for higher education, thus negating the personal and social benefits of a college education.

Price-response theories. To this end, researchers have evaluated the extent to which students assess the cost and benefits of persisting in college and engaging in key educational activities. St. John et al. (2000) categorized theories pertaining to students' cost-benefit assessment as price-response theories. These theories focus on the economic behaviors of students, wherein the individual gives more weight to the benefits of a college education as opposed to alternative pathways to a career.

The vast majority of student persistence theorists prior to 1982 (Bean, 1980; Spady, 1970, 1971; Tinto, 1975) did not consider the impact of financial factors on student persistence. The underlying assumption of these theorists was that financial need was met by the student through personal or family finances (St. John et al., 2000). Tinto (1993) included student financing in his latest revision of the integration theory of student departure; however, the addition did not substantially influence future research on the impact of financial factors. The only exception from this list of seminal scholars was Bean (1982a) who considered the impact of financial factors on institutional fit.

A critical component of price-response theories is students' assessment of their ability (or inability) to afford the college experience (Becker, 1964). Becker (1964) first introduced the ability-to-pay concept in his human capital theory, which emphasized the investment in and economic return of a college education. Becker argued that access to wealth provided the greatest investment in human capital, and individuals from lower socioeconomic strata are less likely to receive the benefits of human capital investment in

higher education (as cited in Paulsen & Smart, 2001). Thus, individuals need to identify sources of financial support to achieve the optimal return on their investment in higher education.

To this end, Cabrera et al. (1990) found empirical evidence through a multi-institutional regression study that students' ability to pay for college had a direct effect on college persistence and a moderate effect on students' institutional commitment and educational goal choice. Cabrera, Nora, et al. (1992) affirmed these findings and connected persistence with the complex interrelationship between finances and students' academic performance. In this manner, students who receive financial aid experience higher levels of academic performance and intellectual development.

Hossler et al. (1999) initiated the research on predicting student sensitivity and responses to tuition increases and financial aid requirements through a regression study involving high school seniors. They found student responses varied based on the individual's cultural capital, SES, and family support systems. Students from a low-socioeconomic strata, who lack financial support from family members and access to cultural capital, in the form of "interpersonal skills, habits, manners, linguistics, educational credentials, and lifestyle preferences" (Berger, 2000a, p. 97), are most sensitive to the price of tuition and availability of financial aid when deciding where to attend college. This population also responds positively to financial aid availability in the college choice decision. Otherwise, students from higher socioeconomic strata with access to financial support from family members and cultural capital resources are less sensitive to changes in tuition prices and financial aid availability. These findings

highlight the ability-to-pay concept as an important variable in student persistence research.

To address students' inability to pay for college, institutions and governments have implemented complex aid programs, including reduced tuition, grants, loans, and work study programs, to provide greater access to the college environment (Cabrera, Nora, et al., 1992; Cabrera et al., 1990). Researchers have considered the impact of individual financial need, student financial aid packaging, and the adequacy of this financial aid on student persistence in the college environment (Cabrera, Nora, et al., 1992; St. John et al., 1996). These researchers noted the positive impact of these financial aid practices on student persistence, particularly programs such as work study designed for lower socioeconomic students.

More recent studies affirmed the earlier findings that specific financial aid programs serve a major role in reducing student dropout. Chen and DesJardins (2008) found in a national study that access to the Pell Grant reduced college dropout among students in low- and middle-income groups. In this vein, DesJardins, Ahlburg, and McCall (2002) determined in a single-institution regression study that financial aid did not have a direct effect on college completion; however, institutional and state aid programs promoted degree attainment by reducing student dropout between semesters. Although grants and other aid programs may reduce student dropout, Dowdy and Coury (2006) discovered in a study of national survey data that loans designed to cover educational expenses negatively influenced student persistence and degree attainment among community college students, thus questioning the viability of this aid method for low-income students.

Hossler, Ziskin, Gross, Kim, and Cekic (2009) conducted a meta-analysis of literature between 1991 and 2006 related to financial aid and its effect on student persistence. They found grant and work study programs had a positive effect on student persistence, whereas loans and the subsequent debt accumulation had a negative impact on student persistence. In a single-institution study, DesJardins and McCall (2010) further enhanced the understanding of the impact of financial aid and identified the positive influence of work study, merit-based aid, and other institutional grant programs on student persistence and degree completion. A final study from Gross, Hossler, Ziskin, and Berry (2015) found in their longitudinal analysis of multi-institutional data that need-based aid programs supported student persistence among low-income students; however, the aid did not substantively advance degree completion rates among this student population. These studies support the role of financial aid programs to improve student persistence, which positively influences degree attainment and overall student success.

Similar to the ability-to-pay concept (Cabrera, Castañeda, et al., 1992; Cabrera et al., 1990), the college choice-persistence nexus model considers the economic factors that influence student persistence. St. John et al. (1996), however, noted the failure of earlier models to assess the financial decision-making process in the college admission phase. In response, they developed a conceptual model that connects college choice and persistence, while acknowledging the impact of financial aid factors on student admission and persistence in the college environment.

In the choice-persistence nexus model, St. John et al. (1996) hypothesized persistence as a 3-stage process. First, students' SES and academic abilities affect their predisposition to attend college and how they perceive the financial realities of this

environment. Second, students develop an initial assessment of costs and benefits within a particular college environment that affects their commitment to the institution and subsequent persistence decision. In this second stage, financial aid positively influences students' perceptions of college choice. The final phase involves the student attending college and experiencing the various components of the college environment, which informs students' perceptions and commitment to graduate from the institution. Positive and negative experiences within this environment shape students' cost-benefits assessment, motivating students to persist or withdraw from the institution.

Paulsen and St. John (1997) applied the model from St. John et al. (1996) to students at private and public institutions and affirmed the earlier findings. Financial factors had a direct and indirect effect on student persistence. However, these findings varied between the two sectors, given the unique financial situations and student populations at each type of institution. Students who attended public institutions were more concerned about issues related to affordability, where tuition and fees had a larger direct effect on persistence. In other words, students at public institutions were more cost-sensitive compared to their peers at private institutions. According to Paulsen and St. John, these findings support the claim that students at private institutions are more economically advantaged, and the financial aid systems at private institutions were more sufficient compared to that of public institutions. Paulsen and St. John (2002) later applied the choice-persistence nexus across social classes and noted the importance of financial factors in the persistence of students from low socioeconomic strata.

St. John, Asker, and Hu (2001) further contributed to the student choice research by highlighting the social, economic, and educational forces that influence students'

college selection and willingness to persist in the college environment. Central to the student choice construct is the financial nexus model, which combines expected earnings following graduation, affordability, and accessibility to financial aid resources as determinants of student choice. Student choice, therefore, considers the overall financial realities of a college education. For example, a significant tuition rate may be offset by expected earnings and accessibility to financial resource; whereas, a less expensive education without the long-term earnings potential may evoke a negative perception of the value of tuition.

The choice-persistence nexus relates to the tuition worthwhileness construct, or students' perceptions of the value of tuition, from the student satisfaction literature. National surveys, including the Student Satisfaction Inventory (Schreiner & Juillerat, 1994), measure students' satisfaction with the value of tuition. As of 2016, 55% of students at 4-year private institutions and 48% of students at 4-year public institutions were dissatisfied with the worth of their tuition investment (Noel-Levitz, 2016). Given the significant financial burden of the college experience, students' perceptions of the experience is a "critical barometer of institutional effectiveness" (Schreiner & Nelson, 2013, p. 77).

Researchers have also connected perceptions of tuition worth to a holistic vision of student success. Student thriving relates to academic, interpersonal, and psychological well-being and engagement, which has a direct effect on academic performance and persistence to graduation (Hillman & Jacquette, 2014; Schreiner, Louis, & Nelson, 2012; Schreiner et al., 2009; Schreiner et al., 2011). In addition to standard academic and persistence outcomes, studies have found thriving serves as a mediating variable for

students' intent to graduate, college GPA, and students' perception of the value of tuition (Schreiner et al., 2013). Schreiner et al. (2013) found thriving contributed the most to students' satisfaction with their tuition investment.

A later study by Conn (2017) measured students' perceptions of the value of tuition at private Christian universities and found a strong psychological sense of community and positive perceptions of institutional integrity contributed significantly to the variation in their responses regarding the value of tuition. Thus, tuition worth must be conceptualized within the broader student success literature as a malleable outcome based on student input characteristics and college experiences.

In summary, an economic perspective of student success considers the long-term benefits of a college education and the behavioral economics that influence engagement in the college environment. The vast array of evidence suggests a college degree has a significant effect on the economic futures of graduates and their families, despite the varied outcomes among social classes and the concerns about student debt. The ability-to-pay concept (Cabrera, Nora, et al., 1992; Cabrera et al., 1990; Hossler et al., 1999) and the choice-persistence nexus model (Paulsen & St. John, 1997; St. John et al., 1996) help explain the impact of financial need, student financial aid, and student perceptions of financial factors on student persistence. However, the economic perspective of student success also considers the influence of noneconomic factors (e.g., student thriving) on students' perception of the value of tuition, thus highlighting the importance of institutional practices that contribute to student success beyond the price of tuition and financial aid packaging.

Student Input Characteristics and Institutional

Variables Predictive of Student Success

The student success models outlined in this section consider student entry characteristics and institutional variables predictive of academic success and persistence (Bean & Eaton, 2000; Braxton et al., 2004). These models reflect Astin's (1984) Input-Environment-Outcome (I-E-O) model that accounts for student input variables, or the characteristics and experiences students bring into the college environment, in addition to the environmental and outcome variables within and as a result of the college experience. Specific variables included in this study are gender, race, SES, first-generation status, high school performance, student degree aspirations, and institutional selectivity.

Gender. Although the research on the relationship between gender and student success is mixed, the majority of studies have found female students persist to degree completion at higher rates than male students. Both Astin (1975) and Tinto (1987) concluded gender was significantly correlated with student persistence, and studies in recent years supported this notion (Chen, 2012; Mayhew et al., 2016; Peltier, Laden, & Matranga, 1999).

Peltier et al. (1999), in particular, found women were more likely to persist compared to men. Reason (2003), however, reported mixed findings, specifically noting that the interaction between gender and other variables minimizes the effect of gender on student persistence rates. An important factor related to this trend is that the number of female students in higher education has increased in the past 2 decades. In similar fashion, St. John, Hu, Simmons, and Musoba (2001) found that the interaction between gender and institutional variables (e.g., institutional type, degree programs, and housing

situations) significantly correlated with student retention, with men being more advantaged because of these institutional variables. Based on this research, St. John et al. argued that gender is an important topic “that merits further investigation” (p. 144).

Racial and ethnic identities. Similar to gender, the effect of students’ racial and ethnic identities on student success outcomes is difficult to interpret because of similar conditional effects (Reason, 2003). In general, researchers have reported that Asian and White students persist at greater frequencies than other student sub-populations (Pryor & Hurtado, 2012), with race a significant predictor of student persistence (Astin, 1997; Peltier et al., 1999). In studies wherein other important variables are controlled (e.g., students’ SES and academic performance), the effect of students’ race on persistence disappears in the same manner as gender, thus indicating these control variables may play a more significant role in persistence (Reason, 2009). St. John, Paulsen, and Carter (2005), in particular, found students’ racial and ethnic identities had a less significant effect than the individual’s SES, which further constrains educational opportunities and preparation.

Socioeconomic status. Despite the limited effect of these characteristics, multiple studies have determined that students’ SES has a statistically significant effect of persistence, even after controlling for students’ gender, race, and ethnicity (Lotkowski, Robbins, & Noeth, 2015; Mayhew et al., 2016; Peltier et al., 1999). In fact, studies have found students’ SES is the second most powerful predictor of persistence, following students’ high school GPA, even after controlling for demographic characteristics (Reason, 2009).

To this end, Walpole (2003) found students from a lower SES had lesser educational outcomes (e.g., college GPA) compared with similar students from a high SES. Lotkowski et al. (2015) noted that the combination of students' SES, high school GPA, and ACT placement test scores explained the greatest variability in student persistence. However, the effect of students' SES varies by the type of institution (Braxton et al., 2004). Braxton et al. (2004) found students' household income was significantly correlated with persistence at commuter colleges, and the same relationship was non-existent at residential colleges. In addition, the effect of student SES on persistence depends on access to financial aid (Chen, 2012; Chen & DesJardins, 2008). For example, Chen (2012) found economically disadvantaged students were less likely to drop out of college when they had access to financial aid (e.g., Pell grant, loans, and merit aid).

First-generation status. Related to demographic characteristics, first-generation status reflects the extent to which an individual's parents attended any form of college. Multiple studies found first-generation students are academically high-risk. A major issue is the lack of preparation for these students to transition from high school to college (Pascarella, Pierson, Wolniak, & Terenzini, 2004). A review of Cooperative Institutional Research Program (CIRP) data over multiple decades found first-generation students spend less time in academic skills development (e.g., reading and studying) prior to college and have less confidence in their math and writing skills (Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007). The same report found first-generation students reported lower scores on college admission tests (e.g., ACT and SAT). The CIRP report

summarized these findings as an indicator that first-generation students lag behind their peers in precollege preparation (Saenz et al., 2007).

First-generation students are less likely to persist than those whose parents enrolled in college (Ishitani, 2006; Pike & Kuh, 2005; Pryor & Hurtado, 2012). This student population tends to select less prestigious and academically rigorous institutions, and most invest less time in co-curricular activities that might improve their success (Pascarella et al., 2004; Pike & Kuh, 2005). National statistics indicate first-generation students are less likely to graduate with a bachelor's degree; instead, they opt to complete certificate programs or exit college prematurely (Ifill et al., 2016).

High school performance. Beyond the aforementioned sociodemographic characteristics, students' academic performance in high school has a significant effect on student success outcomes. On a national level, students entering college from high school often begin with inadequate academic preparation, a record of disengagement (e.g., limited time reading and studying), and an unrealistic sense of their academic abilities, all of which put the first-year student at a disadvantage (Pryor, Hurtado, Saenz, Santos, & Korn, 2007). Moreover, these behaviors often continue into the first year of college, affecting academic performance (Ruiz, Sharkness, Kelly, DeAngelo, & Pryor, 2010). Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) reported a relationship between high school GPA and college GPA, specifically noting that a high school GPA of 3.0 or lower had a negative impact on the first-year college GPA.

Consequently, multiple studies have concluded that high school GPA is predictive of student persistence (Lotkowski et al., 2015; Pryor & Hurtado, 2012; Reason, 2009; Robbins et al., 2004; Sawyer, 2010). Pryor and Hurtado (2012) specifically concluded

that high school GPA is the variable most predictive of persistence and degree completion. Although high school GPA is predictive of student success, the analysis of this variable must also include an assessment of the sociodemographic characteristics that promote or inhibit academic success in high school, namely students' SES (Reason, 2009).

Degree aspirations. Other factors related to student success outcomes include students' degree aspirations and institutional selectivity. Students' degree aspirations are a significant predictor of student persistence and degree completion (Chen, 2012; Mattern & Shaw, 2010; Pascarella, Wolnieak, & Pierson, 2003; Somers, Woodhouse, & Cofer, 2004).

In a multi-institutional study of community college students, Pascarella et al. (2003) found student degree aspirations had a significant, positive effect on persistence. Somers et al. (2004) conducted a regression analysis on the results of a national financial aid survey and found first-generation students who aspired to a bachelor's degree were twice as likely to persist compared to their peers. This study demonstrates the lower levels of educational aspirations among first-generation students as well as the impact of degree aspirations on persistence. Mattern and Shaw (2010) concluded in their multi-institutional regression study that higher degree aspirations, or beyond the baccalaureate level, related to higher academic outcomes. In particular, students who desired to pursue a master's or doctorate degree had significantly higher first-year GPA scores and persistence rates into the second year. Chen's (2012) multi-institutional regression study found similar conclusions, in that educational plans beyond the bachelor's degree were strongly correlated with a higher probability of persisting in the college environment.

These studies promote the importance of institutional policies and practices that encourage students to aim for higher degree outcomes.

Institutional selectivity. A final, yet related, variable is institutional selectivity, as measured by admission requirements, the average high school GPA of entering classes, average admission test scores, and acceptance rates (Reason, 2009). Gansemer-Topf and Schuh (2006) found institutional selectivity and the allocation of funds to instructional and academic support functions significantly predicted student persistence and degree completion, explaining between 62% and 65% of the variance in these two outcomes. Accordingly, the greater level of selectivity results in an increase in funding for instructional activities and student services, which contributes to student persistence and degree completion.

Chen (2012) found a significant relationship between the investment of funds into support services and student persistence. Institutional spending in academic support, instruction, and student services strengthens the institution's capacity to support students and ensure optimal learning and persistence outcomes. Students, then, who attend a more selective institution are more likely to persist to degree completion because of smaller class sizes and support resources.

In the spirit of Astin's (1984) I-E-O model, this study recognizes student and institutional characteristics have a direct significant effect on student success outcomes. Student success involves not only a complex set of factors in the college environment, but also the way those complex factors interact with the characteristics of the students choosing to attend that institution. Thus, both student and institutional characteristics are likely to be predictive of student success in the college environment.

Expanded Vision of Student Success

As noted in the previous section, a majority of theorists defined student success as a measurement of persistence and educational attainment (Kuh et al., 2006; Kuh, Kinzie, Buckley, et al., 2007; Mayhew et al., 2016; Reason, 2009). These measures focus on the percentage of students who persist year to year at an institution and the GPA earned as the metrics of success (Venezia, Callan, Finney, Kirst, & Usdan, 2005). The student success challenge for institutions, then, is to reduce student dropout and increase degree completion among its students.

The focus on persistence and degree completion offers an overly simplistic perspective of the college experience and student success outcomes. Accordingly, Kinzie (2012) noted three deficiencies of the persistence and degree completion perspective. First, this perspective minimizes the importance of other factors and outcomes of the college experience, including the importance of student educational experiences, student behaviors in purposeful activities, learning gains, career preparation, and other meaningful outcomes of the college experience. Second, the focus on degree completion rates does not consider the holistic factors that contribute to lagging graduation rates. Last, the perspective of students surviving to degree completion overshadows the importance of educational experiences that lead to deep learning and offer the best possible experience for students.

Because of the deficiencies of the persistence and degree attainment theories, a variety of scholars in recent years have expanded the definition of student success to include additional metrics. These include learning gains, talent development, student

satisfaction, and student engagement as expanded views of defining and measuring student success.

Learning gains. An expanded vision of student success emphasizes learning gains, which involve the “attainment of various intellectual, personal, and social development outcomes” (Kinzie, 2012, p. xx) as a result of the college experience. The attainment of these outcomes is a significant agenda item for the Association of American Colleges and Universities (AAC&U, 2002, 2004, 2005), who proposed reforms of the American higher education sector to improve the quality of student learning in college. The AAC&U recommended that the sector adopt a liberal education framework, through which students gain a deeper understanding and skills in the following domains: “knowledge of human culture and the natural world,” “intellectual and practical skills,” and “individuals and social responsibility” (AAC&U, 2005, p. 6). In this vein, the AAC&U (2005) noted the importance of improving student learning outcomes, particularly in such fields as reading, critical thinking, and mathematics. Assessment processes that ensure all students are learning become a vital part of this vision.

This commitment to learning gains emphasizes the environmental conditions that promote student learning. Tagg (2003) proffered the learning paradigm as a framework for maintaining an educational environment that enables the development of learning skills and positive learning outcomes. The learning paradigm emphasizes deep, as opposed to surface, approaches to learning, where the student is an active participant in the learning process and gains from a holistic and integrated view of the curriculum. Tagg offered examples of deep learning, including focusing on meaning, active learning, the interrelationship of ideas and concepts, mindfulness, and enjoyable learning

experiences. Surface learning experience contrasts with these outcomes with a focus on facts, a static learning environment, memorization of discrete and episodic bits of information, mindlessness, and unpleasant learning experiences. As a result, surface learning rarely lasts beyond the final exam. Tagg argued that student success from a learning-centric perspective involves the development of students' capacity for learning and an assessment of whether the learning was advanced.

To this end, an expanding vision of student success assesses the extent to which the learning environment contributes to deep learning, which has a subsequent effect on persistence and educational attainment. The challenge for institutions is to maintain educational environments wherein student learning is a paramount concern and central to the assessment of institutional effectiveness.

Talent development. The talent development perspective of student success emphasizes the role of institutions to advance student learning and success as a critical component of the college experience. Astin (1985a) proffered the theory of talent development to describe the impact of an institution on students. According to Astin, institutional excellence reflects the ability of an institution to influence students by contributing to their intellectual and scholastic development and making a positive impact in individual lives. The best institutions, then, have the greatest influence on students or “add the most value” (p. 61) to the student experience. Astin emphasized the importance of longitudinal improvements or the value-added impact of a college experience. In outlining the talent development perspective more recently, Kuh et al. (2005) asserted that educators who adopt this view believe every student has the capacity

to learn under the right conditions; therefore, institutions must manage their teaching and learning resources to ensure the optimal success of all student groups.

In this vein, a talent development perspective reflects an institutional commitment to developing a student's full potential, regardless of his or her academic, cultural, or economic background (Chickering, 2006). Institutions that operate from a talent development perspective recognize the unique backgrounds and characteristics of students and develop educational approaches that respond to the learning needs of diverse student populations (Astin, 1985a). The theory of talent development and its applications to diverse student populations reflects the contributions from Museus (2008a) and Smith (2011, 2015) to offer holistic student success models that consider the sociocultural realities of racially diverse students. Both Museus and Smith contended institutions should establish college environments that are culturally engaging and supportive of diverse student populations. Museus, in particular, asserted that culturally engaging colleges recognize the unique cultural identities of its students and respond appropriately to the needs of this population.

Student satisfaction. The expanded vision of student success also considers students' perceptions of the college experience and how those perceptions influence student behavioral outcomes. The concept of student satisfaction relates to the emotional response of an individual to fulfilled or unfulfilled expectations regarding a particular experience (Athiyaman, 1997). This emotional response may correlate to time (e.g., first semester), domain (e.g., academic integration), events (e.g., career services counseling), or other important experiences that influence students' expectations (Nelson, 2015).

Regardless of the scope, “student satisfaction results when actual performance meets or exceeds the student’s expectations” (Elliot & Healy, 2001, p. 2).

Institutions bear the consequences of student satisfaction as it affects students’ perception of institutional quality. Researchers have distinguished student satisfaction from perceptions of institutional quality, but they determined the two concepts are highly correlated (Athiyaman, 1997; Douglas, McClelland, & Davie, 2008). Student satisfaction with the college experience influences their beliefs about the quality of the institution, which further affects their interactions with the institution and how these interactions are communicated to others (Nelson, 2015).

The outcomes associated with student satisfaction include persistence to graduation (Schreiner, 2009; Schreiner & Nelson, 2013), institutional loyalty (Alves & Raposo, 2007), stronger alumni involvement and giving (Gaier, 2005; Monks, 2003), increased co-curricular involvement (Astin, 1993; Billups, 2008; Strapp & Farr, 2009), and a stronger sense of community (Billups, 2008; Liu & Liu, 2000). The concomitant effect of these outcomes properly situate student satisfaction as a “mediating influence that promotes a healthy academic career, ongoing institutional commitment, and a positive long-term relationship between alumni and their alma mater” (Nelson, 2015, p. 29). Such outcomes are important factors for consideration by any institution.

Astin (1993) connected students’ perceptions of the college experience and, specifically, their sense of belonging in the college environment to student success. According to Astin’s perspective, student success reflects the level of satisfaction with the educational experience and the sense of belonging and institutional support in the college community, which have an effect on student persistence and educational

achievement. Strauss and Volkwein (2002) supported Astin's argument in a multi-institutional regression study that found student satisfaction with the learning environment had a positive effect on intellectual development. In this study, the model, which includes a variety of student demographic characteristics, experiences, and perceptions of satisfaction, accounted for 42% of the variance in students' intellectual development.

Schreiner and Nelson (2013) found in their multi-institutional regression analysis that students' satisfaction with the college experience accounted for 35% to 37% of the variance in students' likelihood of selecting the same institutions if offered a second opportunity. Additionally, Schreiner and Nelson found student satisfaction significantly increased the odds of students persisting at the same institution by 14% among first-year students and 24% among sophomore students.

Student engagement. The final component of an expanded vision of student success is student engagement. Kuh (2001, 2003) developed the concept of student engagement based on Pace's (1982) measure of quality of effort and Astin's (1984, 1985b) student involvement theory. Student engagement involves two components: (a) the students' allocation of time and energy to their courses and other educationally purposeful activities and (b) the allocation of institutional resources to offer additional educational activities that support engagement. Kuh's educationally effective practices were built on the work of Chickering and Gamson (1987), who identified the following practices to have a positive influence on student learning: "student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning" (p. 2).

Through the National Survey of Student Engagement (NSSE), Kuh, Kinzie, Cruce, Shoup, and Gonyea (2007) found engagement in the college environment had a positive effect on first-year grades, persistence, and degree attainment for students from varying racial and ethnic backgrounds. Engagement in educational practices increases the likelihood of success among all student groups. Successful students reflect those who persist, benefit from the college experience, remain satisfied with the experience, and ultimately graduate from the institution (Kinzie, 2012). Mayhew et al. (2016) found similar observations in their meta-analysis of the student success literature.

Central to the student engagement research is an emphasis on the institutional support of student success. Kuh et al. (2005) argued that students are more likely to persist if institutions engineered themselves to promote student success. Although background characteristics have an effect on persistence and educational attainment, engagement in educationally purposeful activities increases the likelihood of student success among all groups. Thus, the onus for student success resides with institutions to create conditions and activities that promote success among all student populations as opposed to assigning the responsibility to students.

The primary critique of Kuh et al.'s (2005) definition of student engagement is the use of a dominant frame of reference. Bensimon (2007) argued that scholars, such as Astin and Kuh, view involvement and engagement through the lens of the majority members of the college environment. Consequently, these student development models ignore the cultural realities of racial and ethnic minorities and make assumptions about involvement and engagement. By nature of their quantitative orientation, these theories measure central tendencies and do not properly describe or explain the experiences of

students on the margins (Bensimon, 2007; Harper & Quaye, 2009). Therefore, institutions must create educational environments that support the broad array of students in the college environment, including consideration for student enrollment, faculty hiring, learning environments, and student success systems that reflect racial and ethnic diversity and support the unique needs of diverse populations (Smith, 2011, 2015).

Holistic definitions of student success. Based on these additional metrics of student success as well as the traditional metrics of persistence and degree attainment, Kuh, Kinzie, Buckley, et al. (2007) offered the following definition of student success: “academic achievement; engagement in educationally purposeful activities; satisfaction; acquisition of desired knowledge, skills, and competencies; persistence; and attainment of educational objectives” (p. 10). This definition reflects the broad array of factors that contribute to student success in the collegiate environment. Kuh et al. acknowledged the complex pathway to degree attainment many students experience, including detours and dead-ends. Moreover, they emphasized the role of the institution in creating an educational environment that improves student success among all student groups.

Similar to the definition from Kuh, Kinzie, Buckley, et al. (2007), Braxton (2008) defined student success beyond the traditional metrics of persistence and degree attainment. His definition included eight outcomes of student success: “academic attainment, acquisition of general education, development of academic competence, development of cognitive skills and intellectual dispositions, occupational attainment, preparation for adulthood and citizenship, personal accomplishments, and personal development” (p. 103). According to Braxton, success in any of the eight domains suggest some level of student success has been achieved. An important distinction of

Braxton's definition of student success is the emphasis on student learning in courses as an essential aspect of the student success formula. Moreover, Braxton assigned the responsibility for student success to faculty and highlighted the positive impact of faculty on student learning and subsequent persistence.

Perna and Thomas (2008) reviewed the student success literature from the perspectives of four major disciplines, including economics, education, psychology, and sociology, and categorized student success into four transitional periods: college preparation, college participation, college achievement, and post-college achievement. Perna and Thomas aimed to guide politicians and higher education professionals to reduce student success gaps across all student groups, regardless of the student's socioeconomic and cultural background.

The central argument of Perna and Thomas' (2008) model is that student success is a longitudinal process wherein the student completes or achieves one of 10 "indicators of educational attainment" (p. 5) at each of the four aforementioned stages. These indicators include: "educational aspirations and academic preparation" at the college preparation stage; "college access and college choice" at the college enrollment stage; "academic performance, transfer, and persistence to completion" at the college achievement stage; and "post-BA enrollment, income, and educational achievement" at the post-college achievement stage (p. 6). Perna and Thomas emphasized specific outcomes over the others. For example, students should progress from college enrollment to persistence, degree completion, and ultimately economic mobility.

A final definition from Tinto and Pusser (2006) raised the profile of degree attainment as a metric of student success but assigned the onus for enhancing persistence

and degree completion to institutions. In this view, students exist within an educational environment that shapes their likelihood of persisting and ultimately graduating from the institution. The focus of Tinto and Pusser's recommendation is on institutional actions to create environmental conditions that would promote student success.

In summary, an expanded vision of student success considers the broad array of factors and outcomes associated with the successful collegiate experience. Persistence and degree attainment are a small portion of the student success formula. Other important factors include learning gains, talent development among all student groups, student satisfaction, and an intentionality to immerse students into the college environment. Further, an expanded vision of student success places the greatest responsibility on institutions to improve the student experience to ensure success across the diverse populations of students. Due to the complex nature of the student success puzzle, Kinzie (2012) argued, "No single program or well-crafted policy can increase educational success . . . it will take a systematic solution, the coordinated effort of many educators and educational services, all focused on student success" (p. xxiv).

Conceptual Framework: Thriving

The construct of college student thriving expands the definition of student success to include student well-being. Providing the conceptual framework for this study, the thriving construct represents the application of positive psychology concepts to the work of higher education. Thriving is defined as a student being "fully engaged intellectually, socially, and emotionally in the college experience" (Schreiner, 2010c, p. 4). Thriving students exhibit a commitment to deep learning, monitor their progress to ensure focused attention to educational and personal goals, value the perspectives and differences of

others, engage in positive relationships, and view their current reality and future through a positive lens (Schreiner, 2010c). As an outcome, students are academically successful and experience a sense of community and psychological well-being, thus promoting persistence to graduation and enabling students to gain the maximum benefit from the college experience (Schreiner, 2010c).

The concept of college student thriving emerges from the intersection of research on human flourishing conducted with adult populations (Keyes & Haidt, 2003a; Seligman, 2011) and Bean and Eaton's (2000) psychological model of college student retention. Thriving differs from flourishing, however, in that the construct describes student well-being in the college environment and includes academic components. Thriving also differs from the traditional psychological models of student retention because the construct reflects a holistic perspective of the student experience that incorporates academic, interpersonal, and psychological components that not only lead to persistence, but also to many other valued student outcomes. The thriving model (Schreiner, 2016) considers the broad array of factors that influence student success in the college environment, including campus environment, student satisfaction, and involvement in educationally purposeful activities.

Positive Psychology Foundations

The thriving concept for student success is grounded in the field of positive psychology, which emphasizes personal and community flourishing with a research emphasis on positive attitudes and behaviors as opposed to deficits of these qualities (Seligman & Csikszentmihalyi, 2000). According to Seligman (2003), the field of psychology prior to World War II had three distinct missions: to cure mental illness; to

help individuals live happier, productive, and fulfilling lives; and to identify and nurture human intelligence. However, the latter two missions of psychology were subsumed by a desire to cure mental illness, following the development of the Veterans Administration Act and the National Institute of Mental Health that provided fiscal incentives for studying and treating mental illnesses. Thus, psychology largely shifted to diagnosis and treatment of mental illness, or “what was wrong and what was weak” (p. xvi) with an individual.

The origins of positive psychology derive from Maslow (1965), who posited that “psychology ought to become more positive and less negative. It should have higher ceilings, and not be afraid of the loftier possibilities of the human being” (p. 27). Other psychologists who contributed to the emergence of this field included Carl Rogers, Gordon Allport, and Gardner Murphy, who partnered with Maslow in the 1960s to establish the humanistic psychological perspective (Taylor, 2000). Gardner Murphy, a personality psychologist, argued that a humanistic psychology would serve as a counterbalance to the common reductionist psychology that “neglected positive, joyful, and fruitful experiences of a person’s life, as well as his or her most admirable dispositions and endeavors” (Taylor, 2000, p. 37). These individuals believed psychological research should incorporate the analysis of positive life experiences and human flourishing in addition to disease diagnosis and treatment that were prevalent at the time (Keyes & Haidt, 2003a). Humanistic psychology, however, did not achieve mainstream acceptance after it spawned a psychotherapeutic counterculture and self-help movement in the late 1960s (Seligman & Csikszentmihalyi, 2000; Taylor, 2001).

The pivotal shift toward positive psychology occurred in Martin Seligman's 1998 presidential address to the American Psychological Association that prompted the emergence of positive psychology as a credible psychological research agenda (Seligman & Csikszentmihalyi, 2000). Seligman and Csikszentmihalyi (2000) argued that the reductionist psychological approach (i.e., disease model) did not effectively assist with the prevention of serious psychological problems; instead, the greatest gains derived largely from a psychological perspective that focused on the development of personal competencies, not remedying weaknesses. They asserted that "human strengths . . . act as buffers against mental illness," and include such examples of strengths as "courage, future mindedness, optimism, interpersonal skills, faith, work ethic, hope, honesty, perseverance, and the capacity for flow and insight" (p. 7).

Seligman (2003) contended the focus of psychological prevention should incorporate the utilization of human strengths and virtues to buffer against such problems as depression or alcoholism. Accordingly, Seligman offered three characteristics of the science of positive psychology. First, positive psychology focuses on the positive subjective experiences of an individual's past, present, and future. A positive subjective experience of the past involves a sense of "contentment, satisfaction, and well-being;" a positive subjective experience of the present involves "happiness, flow, ecstasy, and the sensual pleasures;" and a positive subjective experience of the future involve "optimism and hope" (p. xvi.). Second, positive psychology identifies and nurtures human strengths and virtues. This outcome contrasts with the disease model of identifying mental illnesses. Important contributions include those from Clifton and Harter (2003) and Peterson and Seligman (2004) to identify talent and character strengths in individuals.

Third, positive psychology studies positive organizations and communities. Such organizations enable individuals to fulfill their greatest potential.

Human Flourishing

Within the field of positive psychology, the thriving construct connects to the research on human flourishing. The work of Seligman and Csikszentmihalyi (2000), along with their contemporaries, emphasized the importance of mental health, which Keyes (2003) defined as not only the absence of mental illness, but also the degree to which individuals exhibit emotional vitality and positive functioning in private as well as social settings. Keyes posited that one goal of mental health research is to identify the factors that contribute to human flourishing, which Keyes described as “a state in which an individual feels positive emotion toward life and functions well psychologically and socially” (p. 294). According to Keyes, human flourishing results in emotional health, improved levels of physical health, and a greater commitment to one’s work.

Conversely, the absence of mental health, which Keyes (2003) defined as languishing, involves the “absence of positive emotions toward life” and “not functioning well psychologically and socially” (p. 294). Such individuals are not diagnosed as depressed, yet they exhibit a quiet hollowness and despair. According to Keyes, languishing is more common than depression and is often undiagnosed. Thus, an important role of positive psychology is to cultivate human flourishing to remedy individual cases of languishing that have a debilitating effect on the human mind and body.

In *Flourishing*, Keyes and Haidt (2003a) compiled a series of studies that highlighted the central components of human flourishing. Included are psychological and

social attributes, including resilience (Ryff & Singer, 2003); psychological growth in transitions (Wethington, 2003); optimism (Peterson & Chang, 2003), vital engagement (Nakamura & Csikszentmihalyi, 2003); goal orientation (Emmons, 2003); healthy relationships (Reis & Gable, 2003); creativity (Cassandro & Simonton, 2003); fulfillment (Wrzesniewski, Rozin, & Bennett, 2003); productivity (Harter, Schmidt, & Keyes, 2003); prosocial actions (Piliavin, 2003); use of wisdom in life management (Baltes & Freund, 2003); and elevation, or the positive emotional response to actions of virtue (Haidt, 2003).

Following the work of Keyes and Haidt (2003a) on human flourishing, Seligman (2011) offered an expanded definition of flourishing and distinguished the concept from his earlier work on authentic happiness (Seligman, 2002). According to Seligman (2002), happiness is a positive feeling that results in personal satisfaction and is often associated with being in a cheerful mood. Additionally, happiness is a measurable outcome that can be observed through an assessment of an individual's positive emotions, engagement in life activities, and sense of meaning. Happiness served as the central aspect of positive psychology research for nearly a decade. Seligman (2011), later, found the happiness concept to be problematic for two reasons. First, the concept presented human flourishing as a one-dimensional outcome (i.e., moods), thus limiting the scope of positive psychology. Second, he found positive emotion, engagement, and meaning were not an exhaustive list of human values associated with flourishing.

Consequently, Seligman (2011) developed the theory of well-being to serve as the foundation for positive psychology. Well-being involves five factors: positive emotions, engagement, meaning, positive relationships, and accomplishment. Seligman defined the

five factors of the well-being construct in the following manner. *Positive emotion* includes sensations of “pleasure, rapture, ecstasy, warmth, comfort, and the like” (p. 11). *Engagement* involves an individual being in a state of flow, wherein time stops, and the person loses self-consciousness in an absorbing activity. *Meaning* reflects a deeper sense of purpose in life and recognizing that one’s existence “is bigger than self” (p. 12). *Positive relationships* involve the development of lasting friendships and connections with those around an individual. Last, *accomplishment* reflects a life dedicated to achieving outcomes.

The first three factors were represented in Seligman’s (2002) original theory on authentic happiness, and the two remaining factors provide additional measurements of well-being. Seligman (2011) added personal relationships and accomplishment to offer a more nuanced assessment of human flourishing. Well-being might involve “accomplishment for the sake of accomplishment” (p. 19) and the development of relationships with others. The well-being concept offers a multidimensional perspective of human flourishing as opposed to the construct of happiness that focuses on the fleeting and situational nature of an individual’s emotions. No one factor defines well-being; rather, each factor contributes to the construct. Instead of focusing on life activities that maximize personal happiness and satisfaction, well-being focuses on positive emotions that stem from being engaged and accomplishing something “within the context of healthy emotions and relationships” and “a sense of meaning and purpose in life” (Schreiner, 2016, p. 137).

Keyes and Haidt (2003a) and Seligman (2011) offered similar definitions of human flourishing. There are, however, important differences in the two definitions.

First, Keyes (2003) located flourishing on the mental health continuum along with languishing, whereas Seligman viewed flourishing as an aggregate of five factors without an assessment of those who lack flourishing. Second, Seligman emphasized each factor of well-being is autonomous or an end in itself, and individuals use autonomy and intrinsic motivation to advance these areas in their lives. As an example, an individual's pursuit of meaning in life is a choice that cannot be coerced. Instead, an individual must consciously decide to pursue a particular outcome that will lead to flourishing. Conversely, Keyes and Haidt (2003a) did not consider the autonomous nature of human flourishing.

Despite these difference, Keyes and Haidt (2003a) and Seligman (2011) offered conceptions of human flourishing that reflect optimal levels of psychological, interpersonal, and purposeful functioning. Flourishing individuals exhibit emotional vitality, function positively in society, overcome challenges and identify related growth opportunities, effectively engage in their work while striving for positive relationships, experience fulfillment in creativity and productivity, and are concerned about the world beyond themselves (Keyes & Haidt, 2003a). In addition, they engage in life activities in a way that fosters mental and physical health, both for themselves and others around them (Seligman, 2011).

The application of human flourishing research to higher education is limited, however. One exception is Ambler's (2006) study pertaining to the contributions of student engagement to levels of flourishing among college students. She found student involvement predicted students' mental health. Additionally, she found a supportive campus environment was the most predictive factor that contributed to student mental

health, accounting for 19% to 20% of the variance in flourishing scores among college students.

Bean and Eaton's Psychological Model of Student Retention

In addition to being shaped by the positive psychology research on human flourishing, the thriving construct reflects elements of Bean and Eaton's (2000) psychological model of student retention. Bean and Eaton's model assumes the decision to leave college is a student behavior motivated by psychological processes. The model borrows from four psychological theories, including attitude-behavior theory (Fishbein & Ajzen, 1975), coping behavioral theory (Eaton & Bean, 1995; French et al., 1974), self-efficacy theory (Bandura, 1982, 1986, 1997), and attribution theory (Weiner, 1985).

Based on these psychological theories, Bean and Eaton (2000, 2001) developed their psychological model of student retention, which offers an assessment of why students leave college voluntarily or involuntarily. The structure of the model accounts for the four aforementioned psychological theories and is structured on the model from Bentler and Speckart's (1979) adaptation of Fishbein and Ajzen's (1975) model.

Bean and Eaton's (2000, 2001) model posits that students' past behaviors and beliefs inform students' interactions within the college environment. Specifically, their attributional perspective, developed from past experiences, informs students' beliefs about institutional processes. These initial realities are subsequently influenced by students' bureaucratic, academic, and social interactions within the college environment, as well as interactions external to the institution. These experiences then shape students' self-efficacy, coping, and locus of control as they interpret and respond to each interaction, resulting in a revised perspective of the environment. When these

interactions with others on campus result in higher levels of self-efficacy, reduced stress, and an internal locus of control, the result is academic and social integration that informs students' perceptions of the college environment, which ultimately leads to "institutional fit and loyalty, intent to persist, and to the behavior in question, persistence itself" (Bean & Eaton, 2000, p. 58).

Therefore, students' understanding of themselves, combined with the perceptions of their environment, have the potential to shape subsequent behaviors and engagement that may lead to success in the college environment. For example, Schreiner et al.'s (2013) assessment of the fit of a structural model of thriving demonstrated that when students have a positive perception of the college environment, they are more likely to experience reduced stress, higher levels of self-efficacy, healthy coping skills, and an internal locus of control. Thus, according to Bean and Eaton's (2000) psychological model of retention, students' perception of their abilities and the college environment shape their belief about the college experience and subsequently their well-being.

Domains of Thriving

By connecting the well-being construct implicit in human flourishing research with Bean and Eaton's (2000) psychological model of retention, thriving is conceptualized as students functioning at an optimal level in the areas of academic engagement, interpersonal relationships, and psychological well-being (Schreiner, 2012; Schreiner et al., 2009). In the spirit of Seligman's (2011) flourishing concept, college student thriving involves students' interactions with others and their environment, as well as their perception of themselves and their environment. As proffered in Bean and

Eaton's model, these perceptions of the college environment shape student behaviors, which may promote or inhibit student thriving.

The three domains of college student thriving include five composite measures. Academic thriving includes Engaged Learning and Academic Determination (Schreiner, 2010b, 2012). Interpersonal thriving involves Social Connectedness and Diverse Citizenship (Schreiner, 2010a, 2012). Last, psychological thriving is measured by one factor, Positive Perspective (Schreiner, 2010c, 2012). Each domain contains malleable qualities that can be developed within college students.

Academic thriving. Academic thriving represents psychological processes found to positively influence student success. Included are engaged learning, which involves students' emotional, intellectual, and behavioral engagement in the learning process (Schreiner, 2010b; Schreiner & Louis, 2011); self-regulated learning, or the use of planning, monitoring, effort, and reflection to achieve tasks (Pintrich, 2000, 2004; Pintrich & Zusho, 2002; Robbins et al., 2004); environmental mastery, or the ability to manage one's personal life and obligations (Ryff, 1989); self-efficacy, which is the perception of one's ability to perform a set of tasks to achieve a particular outcome (Bandura, 1982, 1986, 1997); and hope, or how individuals process their goals and employ motivation to operationalize (agency) and achieve these goals (Snyder, 1995; Snyder et al., 2002). Accordingly, thriving students are "psychologically engaged in learning and take charge of their own learning process" (Schreiner, 2010b, p. 3). Such students are motivated by deep learning, where the student is an active participant in the learning process and gains from a holistic and integrated view of the curriculum (Bain, 2012; Tagg, 2003, 2004). As well, these students make meaning of course content and

employ a variety of strategies to ensure optimal outcomes in the learning process (Bain, 2012; Schreiner et al., 2009).

Engaged Learning. Engaged Learning represents psychological and behavioral participation in the learning process that promotes deep learning (Schreiner & Louis, 2011). Thriving students invest positive energy in the learning process, “evidenced by meaningful processing, attention to what is happening in the moment, and involvement in learning activities” (Schreiner & Louis, 2011, p. 6). As early as 2004, researchers were assessing the extent to which psychological engagement contributed to deep learning (Tagg, 2003, 2004) that extends beyond the final exam. Based on qualitative interviews with faculty and students, Schreiner and Louis (2011) developed and validated the Engaged Learning Index to measure student engagement in the learning process, based on Tagg’s conception of deep learning and Langer’s (1997) mindfulness concept. The questions from the Meaningful Processing scale of the Engaged Learning Index were later incorporated into the Thriving Quotient (Schreiner et al., 2009). Schreiner (2010b) found higher levels of engaged learning result in greater satisfaction with the learning environment, increased likelihood of student engagement with faculty outside the classroom, and self-reported learning gains while in college.

Congruent with Seligman’s (2011) engagement component in the well-being theory, the Engaged Learning factor emphasizes the psychological indicators of student engagement in the learning process (Schreiner et al., 2009). Accordingly, psychological engagement occurs simultaneously with behavioral engagement. As Bean (2005) noted, “[p]articipating in events without committing psychological energy to them indicates that they are unimportant to the student and thus ineffectual in changing the student” (p. 3).

Thus, much of the learning process occurs internally as students psychologically process the learning experience. Ultimately, thriving students recognize that expending effort is required for academic success; further, these individuals recognize the importance of applying their strength to challenges in the academic environment (Cantwell, 2008; Lopez & Louis, 2009).

Academic Determination. In addition to psychological engagement in the learning process, thriving students demonstrate behaviors and attitudes that enable them to overcome challenging seasons and persist toward their academic goals (Schreiner, 2010b). Academic Determination involves the students' investment of time and energy to studying and completing coursework. Included within the Academic Determination factor are five components: (a) investment of effort, (b) self-regulation, (c) environmental mastery, (d) goal-directed thinking, and (e) the application of one's strengths to academic challenges (Schreiner, 2010b, 2015).

Thriving students express a view that the investment of time and effort is paramount to academic success. Robbins et al. (2004) found the investment of time and energy contributes significantly to students' first-year GPA and persistence into the second year, beyond the effect of precollege preparation and demographic characteristics. Similarly, Lounsbury, Fischer, Levy, and Welsh (2009) found that the investment of effort as a character strength is most predictive of student GPA.

Students with high levels of Academic Determination also self-regulate the amount of time and effort required to overcome challenges within the college environment (Pintrich, 2000; Pintrich & Zusho, 2002). As well, academic self-regulation

involves students' internal thoughts and perceptions toward the external pressures and the development of goals to overcome these pressures (Pintrich, 2004).

The Academic Determination factors also consider students' environmental mastery, or the capacity of students to understand and conceptualize their external environment (Ryff, 1989). Students with a high level of environmental mastery have the capacity to influence their external environment in a way that supports their development. Ryff (1989) posited that "active participation in and mastery of the environment are important ingredients of an integrated framework of positive psychological functioning" (p. 1071). Ryff argued that environmental mastery contributes to students' ability to cope with the stressors of the college environment and experience success.

The environmental mastery concept relates to Braxton et al.'s (2004) proactive social adjustment concept, which reflects students' ability to positively and tenaciously overcome the challenges of the college environment. Braxton and Hirschy (2005) found proactive social adjustment explained 50% of the variation in students' initial commitment to a particular college. In their theoretical model, Braxton and Hirschy argued that proactive social adjustment and psychosocial engagement, or the investment of energy in activities and relationships with peer students, predicts students' social integration and sense of membership in the college community.

A fourth aspect of the Academic Determination factor is academic hope. Snyder (1995) defined academic hope as the willpower (agency) and waypower (pathways) to support student success in the college environment. Agency reflects the motivation to pursue personal goals, and pathways represent the strategies an individual utilizes to achieve these personal goals. Snyder stated the following:

Higher hope persons, with their elevated sense of agency and pathways for situations in general, approach a given goal with a positive emotional state, a sense of challenge, and a focus on success rather than failure. Low-hope persons, on the other hand, with their enduring perceptions of deficient agency and pathways in general, probably approach a given goal with a negative emotional state, a sense of ambivalence, and a focus upon failure rather than success. (p. 355)

Academically determined students, therefore, establish realistic and achievable goals, acknowledge the amount of time and effort required, and modify their environment as needed to achieve these goals (Schreiner, 2010b).

A final aspect of Academic Determination is the ability of a student to apply his or her strengths to academic challenges (Schreiner, 2015). Strengths-based education recognizes individual students enter the learning environment with a unique set of traits or abilities, and it is the responsibility of the institution to help students discover and develop their strengths (Lopez & Louis, 2009). From this strengths framework, thriving students apply their strengths to the academic activities of the current environment (Lopez & Louis, 2009) and engage in meaningful interactions with faculty and staff about career and graduate school plans that complement their strengths profile (Schreiner, 2015).

Interpersonal thriving. The second domain of thriving assesses the degree to which students maintain supportive relationships with others in the college community (Schreiner, 2010a, 2012). Thriving students cultivate healthy relationships and engage in activities that promote a sense of mattering, which reflects the feeling that an individual

is important and contributes to his or her community (Rayle & Chung, 2007).

Relationally thriving students are also engaged in the lives of others with “openness and curiosity, believing that the other has something important to contribute to the relationship” (Schreiner, 2012, p. 8). Last, relationally thriving students recognize the importance of diversity (Miville et al., 1999) and aim to advance the well-being of others in their local and global communities (Schreiner, 2010a).

Social Connectedness. Based on Ryff and Keyes’ (1995) construct of positive relations, the Social Connectedness scale measures the degree to which a student is involved in healthy and supportive relationships. Thriving students maintain positive relationships, including “having good friends, being in relationships with others who listen to them, and feeling connected to others so that one is not lonely” (Schreiner, 2012, p. 8). The factor relates to Seligman’s (2011) well-being theory that highlights the importance of positive relationships in adults. Ryff (1989) and Ryff and Keyes (1995) also noted the importance of positive relationship to mental health and life satisfaction. In a similar manner, relationships in the college environment in which the students feels known, valued, and supported contribute to student well-being (Schreiner, 2010a).

The Social Connectedness factor emphasizes the importance of close relationships (McIntosh, 2012) and students’ level of social integration, which Tinto (1993) and Braxton et al. (2004) argued is a contributing factor to student persistence in the college environment. Further, the capacity to develop and maintain healthy relationships is a critical element in college student development (Chickering & Reisser, 1993). Through these relationships, students develop a sense of mattering where the individual is cared

for and appreciated (Rayle & Chung, 2007). Further, in these relationships, the person's contributions are valued, and effort is expended to know the individual (Schreiner, 2012).

Diverse Citizenship. In addition to developing and maintaining positive social connections, relationally thriving students respect the differences in others and desire to contribute to the well-being of their communities and the broader world (Schreiner, 2010a, 2012). An openness to diversity and a commitment to engaged citizenship are the hallmarks of thriving students.

According to King and Baxter Magolda (2005), the ability to interact with others from diverse perspectives and not feel threatened by these individuals reflects an intercultural maturity, which demonstrates complex cognitive processes. The capacity to internalize one's belief system, while respecting the values and beliefs of others, reveals a level of self-authorship that is not common in the formative years of personal development. Yet, the thriving research demonstrates that thriving students operate with a high level of self-authorship, which enhances their "critical thinking skills, active engagement in learning, principled reasoning, higher academic confidence" (Schreiner, 2010a, p. 8), and democratic values. Nelson Laird (2005) found that students who enroll in institutional diversity courses and maintain positive interactions with diverse peers demonstrated higher levels of social agency, academic self-confidence, and critical thinking skills, which further enhance student learning and personal development. According to Nelson Laird, the development of social agency, or the belief in the value of contributing to society, improving the world, and addressing social injustices, is influenced by students' openness to diversity and their engagement with diverse peers and perspectives.

Intercultural maturity increases the likelihood that the individual will engage in activities that benefit the common good or advance social justice. Not only do thriving students appreciate diversity, but they also believe it is their responsibility to engage in activities that will make a positive difference in others' lives (Schreiner, 2010a). The Diverse Citizenship scale of the thriving construct reflects items from Higher Education Research Institute's (1996) Social Change Model of Leadership Development, as well as the Universal-Diversity Orientation construct (Miville et al., 1999), which were adapted to account for students' views of diversity and commitment to active engagement in society (McIntosh, 2012). The Universal-Diverse Orientation is defined as:

... an attitude toward all other persons which is inclusive yet differentiating in that similarities and differences are both recognized and accepted; the shared experiences of being human results in a sense of connection with people and is associated with a plurality or diversity of interactions with others. (Miville et al., 1999, p. 292)

Thus, a universal-diverse orientation correlates with greater connection to others and an openness to their unique views (Fuentes, Miville, Mohr, Sedlacek, & Gretchen, 2000).

The Social Change Model of Leadership Development (HERI, 1996) explored how student leaders develop the capacity to influence community change. A team of researchers attempted to expand the definition of student leadership beyond those who serve in campus leadership roles. The project also conceptualized engagement in citizenship activities within the student leadership framework. Tyree (1998) developed the Socially Responsible Leadership Scale to measure the eight constructs in the Social Change Model. One particular scale measured citizenship among students, which Tyree

defined as individuals valuing their connection with the broader society. The HERI study further conceptualized active engagement in society as a right, privilege, and even a duty of citizenship. Thus, active citizenship involves engagement in activities that address the needs of the broader community.

Within the thriving context, students who score high on the Diverse Citizenship scale are committed to both a positive perspective of diversity and to intentional action in their communities on behalf of others. Ultimately, the development of diverse relationships and positive social action leads to a sense of belonging that enables students to take full advantage of the college experience (Schreiner et al., 2009).

Intrapersonal thriving. The final domain of thriving involves the positive psychological functioning of an individual in the college environment, including healthy perceptions of oneself, as well as of one's interrelationship with others, the college experience, and the educational process (Schreiner, 2010c, 2012). Psychologically thriving students are optimistic in that they are inclined to view challenges as temporary, not the norm, and peripheral to their lives. Consequently, these students "experience more positive emotions on a daily basis, which leads to higher levels of satisfaction with the college experience" (Schreiner, 2012, p. 7). These positive emotions and satisfaction with the college experience enable thriving students to experience well-being in the learning process and in relationships with others.

Positive Perspective. Positive Perspective is the application of the optimism construct to higher education (Carver, Scheier, Miller, & Fulford, 2009a, 2009b). Thriving college students demonstrate a positive perspective of life, which is described by psychologists as an optimistic explanatory style (Carver et al., 2009a, 2009b;

Seligman, 1991, 2006). According to Schreiner (2010c), this optimistic perspective enables an individual to recognize and respond to difficult situations in an effective manner. Such individuals devise strategies and develop attitudes that enable them to cope with difficulties. Moreover, these individuals develop a long view of challenging situations, consider the bigger picture, recognize the positive qualities in others, and expect positive outcomes in life. Consequently, “they are less distressed when times are tough, they cope in ways that foster better outcomes, and they’re better at taking the steps necessary to ensure that their futures continue to be bright” (Carver et al., 2009b, p. 308). Students, in particular, who are optimistic experience lower levels of stress and have a higher likelihood of experiencing psychological well-being in the college environment (Burris, Brechting, Salsman, & Carlson, 2009).

For individuals who lack a positive perspective, Perry et al. (2014) found even brief interventions (e.g., attributional retraining) can have a positive and lasting effect on student perspectives. Attributional retraining has the potential to develop students’ optimistic explanatory style, which would assist students in overcoming challenging seasons. Specific attributional retraining may include an emphasis on students identifying and nurturing personal strengths (Shushok & Hulme, 2006). Frederickson (2009) noted in her book *Positivity* that “people who have the opportunity every day to do what they do best—to act on their strengths—are far more likely to flourish” (p. 189).

Thriving Quotient

Based on this earlier research, the Thriving Quotient (TQ) instrument emerged as a tool to measure thriving among undergraduate and graduate student populations (Schreiner, 2010c). Research began in 2007 to develop a valid and reliable instrument

(Schreiner, 2016). Utilizing a construct validation process (Nunnally & Bernstein, 1994), survey items were developed for hypothetical scales through both inductive and deductive means (Schreiner et al., 2009). The inductive process involved the development of survey items through student focus groups and interviews at selected institutions. The deductive process involved the development of survey items “based on the conceptual models that had identified malleable psychosocial factors connected empirically to student success outcomes” (Schreiner, 2016, p. 138).

The Thriving Quotient (TQ) originated with 198 items derived from the following instruments: Engaged Learning Index (Schreiner & Louis, 2011), Academic Hope Scale (Snyder, Lopez, Shorey, Rand, & Feldman, 2003), Academic Self-Efficacy Scale (Chemers, Hu, & Garcia, 2001), Perceived Academic Control scale (Perry, Hladkyj, Pekrun, & Pelletier, 2001), Dweck’s (2006) mindset assessment, Psychological Well-Being Questionnaire (Ryff & Keyes, 1995), Psychological Sense of Community on Campus Index (Schreiner, 2006), the citizenship subscale of the Socially Responsible Leadership Scale (Tyree, 1998), Miville-Guzman Universality-Diversity Scale (Fuertes et al., 2000), Subjective Well-Being Scale (Diener, Suh, Lucas, & Smith, 1999), Life Orientation Scale (Scheier & Carver, 1985), Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006), and the metacognitive self-regulation subscale in the Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1993).

Following a multi-institutional study in 2008, the thriving research team eliminated items that did not contribute to internal consistency or factor structure for the survey instrument (Schreiner et al., 2009). Subsequent regression analyses, as well as

exploratory and confirmatory factor analyses condensed the survey to 32 items (Schreiner et al., 2009). The final revised instrument contained 24 items, designed to measure the five factors of student thriving: Engaged Learning, Academic Determination, Social Connectedness, Diverse Citizenship, and Positive Perspective (Schreiner, Louis, et al., 2012).

Through studies involving more than 30,000 students at 4-year institutions (Schreiner et al., 2013) and smaller studies with nontraditional populations (Petridis, 2015; Petridis & Schreiner, 2013), thriving has been established as a valid and reliable construct, with the Thriving Quotient instrument exhibiting high reliability (Schreiner, 2012). The Cronbach's alpha reliability estimates for each factor range between $\alpha = .77$ (Positive Perspective) and $\alpha = .87$ (Engaged Learning), with the internal consistency of the instrument estimated at $\alpha = .89$ (Schreiner, 2016). Subsequent research has generated strong fit indicators from multiple factor analyses (Schreiner et al., 2013), demonstrating the validity and reliability of the instrument as well as the construct of thriving (Schreiner, 2016, p. 141).

Thriving as a Mediator

Research on student thriving has indicated it explains up to 34% of the variance in important student success outcomes, such as intent to graduate, college GPA, student satisfaction, and perception of tuition worth (Schreiner et al., 2013; Schreiner et al., 2011). Based on this influence, Schreiner (2016) argued that the thriving construct has the potential to serve as a student success outcome and an indicator of whether institutions promote student success through programming and services.

In a study to explore the psychometric properties of the Thriving Quotient and to measure its predictive validity for student success outcomes, Schreiner et al. (2013) found thriving surfaced as a significant mediating variable for students' intent to graduate, college GPA, and perceptions of tuition worth, with the direct effects on these outcomes ranging between $\beta = .20$ and $\beta = .56$. Thriving explained 26% of the variance in students' intent to graduate from their current institution, 24% of the variance in students' self-reported GPA, and 34% of the variance in students' perceptions of the value of their tuition investment. Schreiner et al. determined that the mediating effect of psychosocial processes involved in thriving have a greater effect on student success than students' entry and institutional characteristics. In addition, thriving was found to partially mediate the effect of these precollege characteristics (e.g., race and gender) and campus experiences (e.g., student-faculty interaction).

An earlier multi-institutional regression study from Schreiner et al. (2011) found that thriving explained 35% of the variance in students' intent to graduate from the current institution and 31% of the variance in student self-reported college grades. Thriving also explained an additional 12% to 22% of the variation in student success outcomes beyond other predictive factors (e.g., precollege characteristics and campus experiences).

In addition to standard academic and persistence outcomes, studies have found that thriving serves as a mediating variable for students' overall satisfaction with the college experience. Although not directly related to the thriving research, Schreiner and Nelson (2013) found in a multi-institutional regression study that student satisfaction explained 35% to 37% of the variance in students' likelihood of selecting their current

institution if granted a second opportunity to make the decision. The intent to graduate factor is an important outcome of student thriving. A later study from Nelson (2015) found that thriving contributed to student satisfaction, explaining 51% to 61% of the variance in student satisfaction scores among junior- and first-year students, respectively. Four of the thriving factors—Engaged Learning, Academic Determination, Social Connectedness, and Positive Perspective—had a direct effect on student satisfaction across the entire sample, ranging between $\beta = .016$ (Positive Perspective) and $\beta = .057$ (Academic Determination).

In the Nelson (2015) study, the effect of thriving on student satisfaction, however, varied among students from different class levels. In the first-year student model, only Social Connectedness had a direct effect ($\beta = .079$) on satisfaction. Sophomore student results indicated Positive Perspective ($\beta = .068$), Academic Determination ($\beta = .111$), and Social Connectedness ($\beta = .103$) had a direct effect on satisfaction. In the junior student model, none of the thriving factors had a direct or indirect effect on satisfaction; however, psychological sense of community, a variable related to thriving, had a significant direct effect ($\beta = .553$) on satisfaction. Last, in the senior student model, Positive Perspective ($\beta = .418$) and Academic Determination ($\beta = .069$) had a direct effect on satisfaction. These results highlight the unique differences in pathways to satisfaction and the effect of thriving among students in the college environment.

The most significant finding from the Schreiner et al. (2013) study is that thriving has a direct effect on students' perception of their tuition investments ($\beta = .56$), thus recognizing the impact of psychosocial factors to contribute to the national discussion on the value of higher education. A later multi-institutional regression study from Conn

(2017) measured students' perceptions of the value of tuition at private Christian universities and found a strong psychological sense of community ($\beta = .321$) and a positive perception of institutional integrity ($\beta = .161$) contributed significantly to the variation in their responses regarding the value of tuition. In addition, Engaged Learning ($\beta = .103$) and Academic Determination ($\beta = .059$) positively contributed to students' perception of tuition worth. Thus, tuition worth must be conceptualized within the broader student success literature as a malleable outcome influenced by student input characteristics and college experiences.

These studies support the notion that the college student thriving construct is an important assessment of student success through its inclusion of psychosocial factors. The opportunity exists to positively influence students' levels of thriving and consequently improve key student success outcomes that contribute holistically to the long-term aims of student persistence and degree completion. For these reasons, the thriving research has contributed significantly to the higher education literature by considering the holistic factors that promote or inhibit student success.

Pathways to Thriving

The thriving research conducted to date across multiple continents and institutional types has identified four pathways that positively influence the variation in student thriving: (a) a psychological sense of community, (b) spirituality, (c) campus involvement, and (d) student-faculty interaction (Schreiner, 2012). Psychological sense of community and spirituality reflect the psychosocial factors, including students' attitudes, behavior, and motivations, that influence student success outcomes (Habley, Bloom, & Robbins, 2012). Campus involvement and student-faculty interaction reflect

the student activities in the college environment that contribute to thriving. In this vein, researchers have determined these pathways contribute uniquely to thriving among different student populations (McIntosh, 2012, 2015; Schreiner, 2014). The following section reviews how these factors contribute to student thriving and the differences among college student populations.

Psychological sense of community. A psychological sense of community (PSC) is “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (McMillan & Chavis, 1986, p. 9). PSC originated in the field of community psychology, due to the perception that a connection with other individuals contributed positively to mental health (Sarason, 1974). Sarason (1974) perceived the interconnection between people was challenged because of the rapid pace of modern life, with the result that a sense of community was suffering.

McMillan and Chavis (1986) advanced Sarason’s work and proposed four dimensions of a psychological sense of community: (a) *Membership*, or the social boundaries that determine who belongs or does not belong in a particular community; (b) *Influence*, or the notion that individuals are attracted to particular groups based on their ability to influence decision-making among the members and that the group itself has influence over its members; (c) *Integration and Fulfillment of Needs*, or the interdependence among group members; and (d) *Shared Emotional Connection*, or a bond of common history and identity among group members that establishes a shared emotional connection and fosters quality interactions and friendship.

The positive influence of PSC on student success has been noted by researchers of higher education (DeNeui, 2003; Lounsbury & DeNeui, 1995; Schreiner et al., 2009); however, the limited research on the subject is due in part to differing terms and expertise of researchers. The term psychological sense of community is common among psychologists (DeNeui, 2003; Lounsbury & DeNeui, 1995; McMillan & Chavis, 1986; Sarason, 1974) but is not often used in higher education literature. The term *sense of belonging* is more common in higher education research, often cited in the works from sociologists (Hurtado & Carter, 1997; Tinto, 1993). Although sense of belonging involves the membership component of the PSC concept, it does not reflect the comprehensive assessment of interpersonal relationships as expressed in the PSC construct. Thus, the PSC construct is utilized in this study to describe the level of integration and connection among students and the college community reflected in the thriving research.

Specific evidence of the impact of PSC includes the following. Lounsbury and DeNeui (1995) found PSC is measurable on college campuses, and members of Greek organizations, students at private institutions, campus residents, seniors, and female students have significantly higher levels of PSC. The results among Greek organization members supported the notion that social connections improve community among students. However, simply living on a campus does not result in community; instead, students must intentionally establish connections with a social group to gain membership in their campus community. These experiences, however, are not equal among all student sub-populations.

Strayhorn (2008a) conducted a comparative analysis between African American and White male students and found the sense of belonging of African Americans depended heavily on interactions with peer students from other ethnic populations. A second study from Strayhorn (2008b) compared the experiences of Latino/a and White students and found grades and the amount of time spent studying positively influenced Latino/a students' sense of belonging. Similar time commitments to studying negatively influenced White students' sense of belonging, as these individuals perceived the commitment of extra time might reduce their ability to engage in activities and connect with peers.

In contrast with Lounsbury and DeNeui's (1995) study, Cole (2010a) identified a negative relationship between African American student involvement in ethnic organizations and academic achievement levels, which suggests a perception of community may not positively influence student GPA. The limitation of Cole's study is the dataset included African American students at primarily White institutions, which may have influenced the effect of participation in ethnic organizations on academic achievement. Student involvement in ethnic organizations does not fully describe the PSC concept; rather, one's association with a student group is only one component of affiliation for diverse students (Hurtado & Carter, 1997). In a similar fashion as Cole (2010a), DeNeui (2003) found that over-involvement negatively influenced PSC among first-year students; although, students who participated the least experienced the greatest decrease in PSC. This study highlights the importance of optimal participation in campus activities that positively influences PSC, whereas limited or over-involvement decreases PSC.

Walton and Cohen (2007) found in an experimental study that a sense of belonging could be developed in students. Students who were led to believe they could develop social connections in the college environment experienced more frequent interactions with faculty, higher levels of self-efficacy, and improved GPA over time, compared to those who were led to believe they could not develop these social connections. The study reflected the relationship between student involvement, academic achievement, and sense of belonging. Although the study does not contribute directly to PSC research, the sense of belonging construct does relate to the membership component of PSC and furthers the understanding of the subject in higher education.

A psychological sense of community is the greatest contributor to student thriving (Cuevas, 2015; Schreiner, 2013b); however, the activities that promote a sense of community among students varies significantly across student sub-populations (Schreiner, 2014). For example, Schreiner (2014) found the following activities were the strongest contributors to PSC: involvement in activities among Latino students, fit within their major among Asian students, spirituality among African American students, and student-faculty interaction among White students. For all diverse student populations, perceptions of institutional integrity, or the congruence between an institution's actions and its mission (Braxton et al., 2014), was the strongest predictor of students' sense of community, which ultimately leads to student thriving in the college environment.

A variety of recent dissertations have examined the contribution of psychological sense of community to thriving among a variety of student populations, including undergraduate and graduate students. In a path analysis of honors undergraduate students, Cuevas (2015) found PSC ($\beta=.63$) and campus involvement ($\beta=.23$)

contributed significantly to thriving. Campus involvement, student-faculty interaction, and campus residence specifically contributed to PSC among this population. McIntosh (2012) found PSC explained nearly 75% of the variation in thriving among undergraduate students of color, with spirituality being the largest single contributor to PSC.

Among first-generation students, Pothoven (2015) found PSC indirectly predicted ($\beta = .37$) students' intent to graduate as mediated by the thriving construct. First-generation students who reported high levels of PSC also reported high levels of thriving, which subsequently contributed to persistence. Seppelt (2016) found in a multi-institutional path analysis among sophomore students that PSC explained 71% of the variance in thriving. PSC also had a significant direct effect ($\beta = .53$) on thriving. Romero (2016) conducted a path analysis of students at multiple community colleges and found PSC contributed directly to thriving among low ($\beta = .55$) and high ($\beta = .41$) socioeconomic students. A second study from Dy (2017) involved a regression study analysis of community college students that found PSC to be a significant predictor of thriving ($\beta = .18$). A final study from Petridis (2015) found in a path analysis of graduate students that PSC within the program as opposed to the whole institution had a significant direct effect ($\beta = .76$) on college student thriving. These studies demonstrate the importance of PSC in college student thriving; however, distinctions do exist. Although PSC was an important factor among students at 4-year institutions, the variable was much less significant among community college students.

Institutional integrity. As an important pathway to thriving, institutional integrity reflects students' perception of "the degree of congruence between the espoused mission and goals of a college or university and the actions of administrator, faculty, and

staff” (Braxton et al., 2014, p. 88). The concept of institutional integrity first emerged in the research from Braxton and his colleagues (Berger & Braxton, 1998; Braxton & Hirschy, 2004; Braxton et al., 2004), who posited that institutional integrity contributes to students’ social integration in the college environment. For students, institutional integrity emerges in the fair administration of institutional policies and practices (Braxton & Hirschy, 2004) and whether student expectations are fulfilled (Helland et al., 2002). Of particular importance are the institutional publications and whether these items accurately portray the college experience to prospective students (Braxton et al., 2014). In addition to improving students’ social integration in the college environment, Braxton et al. (2014) later concluded that institutional integrity also contributes to academic and intellectual development among residential and commuter students. Further evidence of the contribution of institutional integrity to student success emerges in the college student thriving literature in conjunction with data on the effect of psychological sense of community on thriving.

Ash and Schreiner (2016) found in a path analysis among students of color that perception of institutional integrity ($\beta = .48$) and spirituality ($\beta = .30$) contributed directly to students’ psychological sense of community. Perception of institutional integrity and psychological sense of community ultimately explained between 38% and 54% of the variation in students’ intent to graduate, respectively. In the same manner, Conn (2017) found in a multi-institutional regression study that students’ perceptions of institutional integrity and commitment to their welfare explained 16.8% of the variation in student thriving. Moreover, these perceptions were positively related to students’ perception of

tuition worth. Both studies support the notion that students' ability to thrive and graduate from an institution depends on the congruence between institutional mission and actions.

Spirituality. As a second psychosocial pathway to thriving, spirituality serves a key role in college student success. Spirituality has been a significant area of study in higher education since 2000, with research published from a variety of scholars on topics related to religious practices (Bowman, Rockenback, & Mayhew, 2015), spirituality (Astin et al., 2011a; Astin, Astin, & Lindholm, 2011b; Braskamp, Trautvetter, & Ward, 2006; Chickering, Dalton, & Stamm, 2006; Jablonski, 2001; Kuh & Gonyea, 2006), faith formation (Holcomb & Nonneman, 2004; Love & Talbot, 2009), character development, and life calling (Parks, 2011).

The most significant contribution to the study of spirituality in higher education was the longitudinal study from Astin et al. (2011b), who defined spirituality as “our sense of who we are and where we come from, our beliefs of why we are here—the meaning and purpose that we see in our work and our life—our sense of connectedness to one another and to the world around us” (p. 4). Astin et al. found the vast majority of college students classify themselves as spiritual. They also found a majority of faculty at the same institutions self-report significant levels of spirituality. Despite the clear evidence of spirituality on college campuses, few institutions outside those with an ecclesial orientation integrate spirituality into the broader experience (Braskamp et al., 2006).

To this end, Astin et al. (2011b) called for higher education institutions to reframe the educational process in a more holistic manner that connects the spiritual with the intellectual, through “an education that examines learning and knowledge in relation to

an exploration of self” (p. 7). Such education would require faculty to engage with students about the existential questions of life: Who am I? What is my purpose in this world?

Such spiritual exercises do not simply respond to the existential questions but also result in positive student success outcomes. Astin et al. (2011b) found that students who reported higher spirituality scores were also more satisfied with the college experience, earned higher grades, expressed an inner peace in periods of hardship, were more accepting of diversity, and demonstrated higher levels of academic self-esteem. The study also found highly spiritual students often interacted with faculty around spiritual questions.

Within the thriving research, spirituality is defined as students’ reliance upon their beliefs pertaining to the meaning and purpose of life, particularly as a mechanism for navigating seasons of difficulty (Schreiner, 2016), and “a lens through which to perceive and interact with the world” (McIntosh, 2015, p. 18). In a national study, McIntosh (2015) found that spirituality contributes to thriving among all students, with the contribution being twice as strong among diverse students compared to their White counterparts. The largest effects were reported among Asian and African American students. Spirituality also explained 33% to 50% of the variance in diverse students’ psychological sense of community. This finding suggests diverse students establish greater affinity with a particular community when they develop a more consequential view of their existence in relation to a higher power and a deeper understanding of their purpose in life. McIntosh offered a variety of recommendations to foster spirituality on the college campus with the aim to support diverse student populations.

Ash and Schreiner (2016) also explored the pathways to thriving among students of color. They found spirituality was the second-largest direct contributor ($\beta = .25$) to thriving behind PSC ($\beta = .31$). Moreover, spirituality contributed significantly to students' perception of fit, which is particularly important for students of color who are often not members of the dominant group. According to Ash and Schreiner, spirituality was the "lens through which they [students of color] interpreted their campus experiences" (p. 48).

In addition to the research from McIntosh (2012, 2015) and Ash and Schreiner (2016), a variety of dissertations have examined the relationship of thriving and spirituality, among a variety of student populations. Among undergraduate honors students, Cuevas (2015) found in path analysis that spirituality was a strong contributor to the variance in thriving among this population. According to Cuevas, spirituality likely centered these students during their educational journey. Among high risk students, Tharp (2017) found spirituality was predictive of intent to persist; however, the variable did not have a significant effect on thriving among this population. Factors related to institutional integrity and academic determination may play a role in contributing to the level of spirituality among high-risk students.

In a national path analysis of sophomore students, Seppelt (2016) found spirituality had a significant direct ($\beta = .24$) effect on thriving, with the total effect ($\beta = .53$) on thriving greater than any previous thriving study. Seppelt found spirituality contributed to sophomore students' involvement in campus activities, leadership positions, and organizations. In a multi-institutional study comparing the thriving difference between Christian and non-Christian student populations, Richardson (2017)

found the most significant contributor to thriving among the non-Christian population was spirituality, explaining 36% of the variation in the level of thriving. Among religious majority students, spirituality explained 21% of the variation in thriving. Thus, despite being religious minorities, spirituality emerged as a more significant contributor for this non-Christian group. These studies demonstrate the importance of spirituality in college student thriving across a variety of student groups.

Campus involvement. As noted in the research on PSC, campus involvement serves a vital role in student success and often contributes to students' sense of community in the college environment, which has an indirect effect on college student thriving. The concept of campus involvement relates to Pace's (1982) measure of quality of effort, Astin's (1984, 1985b) student involvement theory, and Kuh's (2001, 2003) student engagement theory. Pace determined that student effort has a direct effect on student learning; he also found the quality of the student experience was a factor in student involvement. Astin's student involvement theory expanded on Pace's research and recognized the importance of campus involvement in student success, which involves exerting time and energy to educational and campus activities. Kuh's student engagement theory identified the specific educationally purposeful activities that promote student success. The research from Pace, Astin, and Kuh, as well as the meta-analysis from Mayhew et al. (2016), determined successful students participate in campus activities, exert higher levels of effort, and interact more with faculty.

Although participation and involvement contribute generally to students' sense of community, researchers have determined these activities benefit diverse students in particular by contributing to these students' sense of belonging in the college

environment where they are not members of the dominant culture. In a large quantitative study, Fischer (2007) found student interactions with faculty positively influenced student GPA, college satisfaction, and retention among minority students. Moreover, student involvement and peer interactions influenced, in particular, diverse students' social adjustment into the college environment. The findings from this study suggest White students generally experience institutional fit within the dominant culture of the institution and may not benefit from social engagement in the same manner as diverse students.

In this vein, Schreiner (2014) noted that students of color often experience more cases of discrimination, less positive outcomes from involvement in campus organizations, and more significant barriers to involvement. Thus, it is incumbent upon institutions to create educational environments that provide student involvement opportunities that effectively integrate all students into the campus community.

In addition to these studies, a variety of dissertations have examined the relationship between thriving and campus involvement, among a variety of student populations. In a path analysis of honors undergraduate students, Cuevas (2015) found that campus involvement contributed significantly ($\beta = .23$) to student thriving among this population. Moreover, campus involvement was a significant pathway to spirituality, thus underlining the importance of engagement in shaping students' spiritual lives. A path analysis conducted by Seppelt (2016) found campus involvement had a significant direct ($\beta = .14$) effect on thriving among sophomore students and had an indirect effect on PSC. In path analysis of the unique pathways to thriving among students of color, McIntosh (2012) found campus involvement had a direct effect on thriving among

African American students, whereas there were no direct effects among White, Latino, and Asian students.

Student-faculty interaction. Student-faculty interaction is an additional mechanism to enhance students' psychological sense of community and, consequently, college student thriving. The assumption is that institutions have a responsibility to positively influence students' PSC, and in particular, faculty serve a vital role of building community among students through their teaching and mentoring relationships with students. The subsequent effect is the ability to positively influence college student thriving.

Student-faculty interaction is an important concept measured in the National Survey of Student Engagement, which recognizes the positive influence of faculty interactions inside and outside the classroom (Kuh, 2001, 2003; Kuh et al., 2005). Mayhew et al. (2016) found in their meta-analysis that non-academic interactions outside the classroom setting are less impactful for students as opposed to Kuh and Hu's (2001) reference to conversations with "intellectual substance and depth" (p. 310). These studies highlight the importance of all faculty-student interactions but give priority to those conversations that enhance students' intellectual and personal development. Merely connecting with students on an informal level may not contribute significantly to student thriving.

Kuh and Hu's (2001) review of a decade of studies on student-faculty interaction noted that student-faculty interactions with an academic purpose are more predictive of student success for those from diverse student populations. Lundberg and Schreiner (2004) conducted a multi-institutional predictive study and found the quantity, quality,

and type of student-faculty interactions mattered to student success. Lundberg and Schreiner also found the influence of student-faculty interaction on student learning varied across the different student groups, with student-faculty interactions contributing more to student learning among diverse students as opposed to White students. However, African American students reported that time spent interacting with faculty was less rewarding than their peers. Based on this study, it can be assumed that the effect of student-faculty interaction is not a given, in that student groups will not benefit equally from these experiences.

Kim and Sax (2009, 2011, 2017) supported these conclusions based on three studies from a national dataset. In their first study, Kim and Sax (2009) noted differences in the frequencies and effects of student-faculty interactions across student gender, race, social class, and first-generation status. The follow-up study from Kim and Sax (2011) noted significant differences in the effect of student-faculty interaction on students' cognitive development across academic majors. The most recent study from Kim and Sax (2017) represented a meta-analysis of the current literature on student-faculty interaction and offered conceptual recommendations to inform future research. Specific recommendations included examining the broad array of factors related to student-faculty interaction, the conditional effects among various student populations, the roots of said conditional effects, faculty views on the subject, and an examination of various educational contexts. In addition, Cole (2007, 2008a, 2008b, 2010b) found in several multi-institutional quantitative studies the frequency of student-faculty interactions and the subsequent effect on learning gains differ between students of color and their White counterparts.

Beyond these studies, research on student thriving has also found that frequent student-faculty interactions are a pathway to thriving, with White students gaining considerably more from these experiences as opposed to students of color (Schreiner, 2014). However, this research also found when the student-faculty interaction is positive and affirms students' sense of belonging, particularly among diverse student populations, these relationships are a significant predictor of thriving, regardless of one's race (McIntosh, 2012; Schreiner, 2014).

Ash and Schreiner (2016) found in their path analysis of diverse students at Christian colleges that student-faculty interaction had a direct effect ($\beta = .21$) on student thriving, which was one-third larger than in previous thriving models. This statistic highlights the importance that diverse students at Christian colleges place on student-faculty interaction as a critical component to their success. In the Ash and Schreiner study, the frequency and quality of faculty interactions as well as the perception that faculty were sensitive to the needs of diverse learners contributed most significantly to student thriving. Diverse students' interactions with faculty outside the classroom had the greatest direct effect on interpersonal thriving, while the frequency and quality of interactions contributed significantly to student academic thriving levels. These findings support the earlier work from Cole (2007), who observed in a longitudinal multi-institutional study the positive influence of student-faculty interaction on the intellectual self-concept of diverse students on primarily White institutions.

In addition to these studies, a variety of dissertations have examined the relationship between thriving and student-faculty interaction, among a variety of student populations. Cuevas (2015) found in a path analysis of honors students that student-

faculty interaction did not contribute as powerfully to thriving as psychological sense of community and spirituality. The honors student sample reported less frequent interactions with faculty than the sample of traditional undergraduate students. Cuevas expressed that honors students may not have the same need for student-faculty interaction as their traditional peers, or these students might have busier schedules that prevent substantial interaction with faculty. In a regression study, Tharp (2017) considered the degree to which thriving, student characteristics, and institutional variables influenced students' intent to persist. Tharp's model found student-faculty interaction did not contribute significantly to the variation in high-risk students' intent to persist; however, a separate path analysis found student-faculty interaction contributed directly ($\beta = .22$) to first-semester grades among this population. These findings suggest student-faculty interaction among high-risk students may have a short-term effect on academic performance in the first semester; however, other variables (e.g., institutional integrity) have a more significant effect on student persistence.

Among community college students, Dy (2017) found in a regression analysis that student-faculty interaction in the form of faculty support had a significant direct effect on thriving ($\beta = .12$) as well as institutional integrity ($\beta = .10$) and psychological sense of community ($\beta = .08$). Both institutional integrity and PSC contributed to student thriving among community college students. In a path analysis, Romero (2016) found student-faculty interaction contributed more significantly to higher-SES students ($\beta = .11$) than low-SES students ($\beta = .095$). Regardless of its contribution to thriving, student-faculty interaction resulted in desirable outcomes among community college students, including

higher levels of Engaged Learning, Academic Determination, Social Connectedness, Diverse Citizenship, and Positive Perspective.

Among first-generation students, Pothoven (2015) found in a path analysis that student-faculty interaction had a direct effect ($\beta = .15$) on thriving. Pothoven noted the importance of first-generation students to make connections with faculty. Students who report a higher frequency and quality of interactions with faculty also reported higher levels of Engaged Learning, Academic Determination, Social Connectedness, and Positive Perspective, which contributed to higher reported grades and intent to persist. Similarly, Seppelt (2016) found in a path analysis of sophomore students that student-faculty interaction had a significant direct effect ($\beta = .17$) on thriving among sophomore students, along with PSC and spirituality. The sophomore study identified the importance of interactions with faculty outside the classroom.

Thriving Differences Among Student Groups

In addition to the different pathways to thriving observed across race and ethnicity, there are different pathways across class levels and transfer status. There are also different pathways to thriving for high-risk, honors, low-income, and graduate students. The following section reviews the existing thriving literature to examine the unique thriving pathways of these various student groups in the college environment.

Class-level differences in pathways to thriving. Four studies have been conducted to determine the pathways to thriving for students at particular class levels (Cuevas, 2015; Dy, 2017; Louis & Hulme, 2012; McIntosh & Nelson, 2012; Nelson & Vetter, 2012; Petridis, 2015; Pothoven, 2015; Romero, 2016; Schreiner, Miller, Pullins, & Seppelt, 2012; Seppelt, 2016; Sriram & Vetter, 2012; Tharp, 2017). To identify the

predictors of thriving among first-year students, Nelson and Vetter (2012) conducted a multi-institutional regression study and found the predictors of thriving for this population were degree aspirations, campus involvement, and students' psychological sense of community. In addition to key precollege characteristics, these predictors accounted for 57% of the variance in overall thriving. A psychological sense of community contributed 42.2% to the overall variance in student thriving. The primary limitation of the study was its homogeneous sampling of White female students, whose experiences may differ from their counterparts. These findings demonstrate the importance of educational programming and services that broaden students' educational aspirations, encourage involvement in campus activities, and help students develop a sense of community through friendships and campus activities.

In a similar fashion, Schreiner, Slavin Miller, Pullins, and Seppelt (2012) examined the unique predictors of thriving among sophomore students. The strongest contributor to thriving was students' psychological sense of community, which explained 20% of the variance in student thriving. Student-faculty interaction, commitment to one's major, spirituality, and concerns about student debt also contributed significantly to the variation in thriving. Of interest, campus involvement did not contribute significantly to sophomore student thriving as it did among first-year students. Follow-up interviews with students reinforced the importance of student-faculty interactions, effective advising, and a sense of community among peers.

A second multi-institutional correlational study from Seppelt (2016) utilized a structural model to evaluate the contribution of campus involvement and residence status to thriving levels among sophomore students. The final model explained 67% of the

variance in thriving. Psychological sense of community ($\beta = .534$), spirituality ($\beta = .241$), student-faculty interaction ($\beta = .174$), and campus involvement ($\beta = .135$) had the greatest direct effect on thriving, whereas spirituality had the greatest total effect ($\beta = .135$). Similar to the first sophomore study, campus residence did not directly contribute to thriving, which is inconsistent with earlier studies that found campus residence to positively influence thriving levels (Cuevas, 2015; McIntosh, 2012). The limitation of the study was its homogeneous sampling of White female students, who represented the majority of participants. Seppelt's study compares with the earlier regression analysis, in that both studies emphasized the importance of PSC and spirituality for the sophomore student population.

To identify the unique beliefs, behaviors, and attitudinal characteristics of thriving seniors, Louis and Hulme (2012) conducted a grounded theory study involving Truman Scholars, who exhibited academic achievement and leadership competency. The qualitative study included 22 traditionally-aged seniors, representing a variety of genders, races, ethnicities, and institutional backgrounds. The central findings from the study were that thriving seniors exhibited curiosity and passionate drive, which positioned the students to succeed in their final academic year and prepare to transition into graduate school or career. These findings compare with the results from other thriving studies that identified the characteristics of students who thrive academically, interpersonally, and psychologically. Specifically, the psychosocial factors included in the thriving construct were represented in this study, including curiosity that reflects the Engaged Learning factor and passionate drive that reflects the Academic Determination and Positive Perspective factors. In this manner, thriving seniors have curiosity that compels them

toward deep learning and a passionate drive to achieve personal and academic outcomes, while navigating the transitions in life. This qualitative study, in essence, identified similar findings as the more common quantitative studies.

Transfer students' pathways to thriving. Transfer students represent those who enter an institution with some college experience and may experience challenges related to academic, social, and behavioral adjustment into a new college environment (McIntosh & Nelson, 2012). McIntosh and Nelson (2012) examined the national thriving dataset and conducted a variety of tests on the responses from transfer students. The correlational study found the thriving model for traditionally-aged students was a good fit for the transfer student population.

McIntosh and Nelson (2012) conducted a follow-up regression analysis and determined the predictors of thriving for transfer students included student-faculty interaction ($\beta = .18$) and students' psychological sense of community ($\beta = .20$). Overall, the model explained 21% to 38% of the variation in each of the thriving factors, with Engaged Learning and Academic Determination explained best by the model. When compared with non-transfer students, the predictors of thriving varied, including students' age, off-campus work commitments, campus residence, faculty interaction, and sense of community. A final *t*-test analysis determined the mean thriving scale and composite scores were comparable between transfer and non-transfer students, with the only exception being transfer students' level of Social Connectedness. This statistic reveals the unique experiences of transfer students who are often less involved in campus activities and organizations that contribute to Social Connectedness.

The primary limitation of the study, not unlike other thriving studies, was its homogeneous sampling of White female students, who represented the majority of participants. Regardless, the findings of the study are consistent with the thriving research, specifically the contribution of a psychological sense of community and student-faculty interaction to thriving. The absence of spirituality as a significant direct effect on thriving is inconsistent with majority of thriving studies. This finding is an important point to explore in future research.

High-risk students' pathways to thriving. One of the greatest concerns in higher education is to help students who are at significant risk of departing without completing a degree. Institutions identify high-risk students as those whose academic backgrounds and personal characteristics increase their likelihood for academic failure (Pizzolato, 2004). To assess the pathways to thriving among high-risk students, Sriram and Vetter (2012) conducted a phenomenological study among 22 first-year students who were admitted on an academically conditional basis yet achieved an appropriate academic standing by the end of their junior year. The qualitative study found that high-risk students thrive when they develop a success mindset, academic strategies, supportive relationships, and had meaningful engagement in the college environment. A follow-up experimental study found that students who were enrolled in a developmental study skills course and engaged in a mindset intervention exerted increased levels of academic effort in developmental education courses. There were, however, no differences in learning gains among those who participated in the mindset intervention as opposed to those in the control group. These studies demonstrate the importance of a growth mindset (Dweck,

2006, 2016) for thriving and the role of institutions in helping high-risk students improve their academic outcomes.

A second multi-institutional regression study from Tharp (2017) examined the extent to which thriving levels, student characteristics, additional psychosocial factors, and college experiences predicted academic performance and intent to persist. Tharp found high school grades ($\beta = .39$), Academic Determination levels ($\beta = .38$), student-faculty interaction ($\beta = .22$), Positive Perspective levels ($\beta = .08$), and certainty with one's major ($\beta = .08$) had a direct effect on first-year grades. The second regression analysis found institutional integrity ($\beta = .51$), selection of the institution as one's first choice ($\beta = .22$), existence of a growth mindset ($\beta = .15$), Academic Determination levels ($\beta = .15$), and household income ($\beta = .14$) had a direct effect on students' intent to persist. The final models explained 29% of the variance in first-year grades and 28% of the variance in students' intent to persist, respectively. These regression analyses highlight the importance of faculty interaction and academic goals to ensure optimal academic performance. Conversely, intent to persist in the current institution relies upon the perceptions of the students who feel supported by the institution and committed to their academic goals. The primary limitation of the study is its small sample size and over-representation of White female students.

In addition to those identified at admission, institutions often classify first-generation students as high risk. First-generation status reflects the extent to which an individual's parents attended any form of college. Studies have found first-generation students are less likely to persist to degree completion (Ishitani, 2006; Pike & Kuh, 2005; Pryor & Hurtado, 2012), select prestigious and academically rigorous institutions, invest

time in co-curricular activities that might improve their success (Pascarella et al., 2004; Pike & Kuh, 2005), and graduate with a bachelor's degree (Ifill et al., 2016). Therefore, it is important to recognize this population of students might require additional assistance to achieve academic success in the college environment.

To this end, Pothoven (2015) conducted a multi-institutional correlational study to identify how student entry characteristics, college experiences, and thriving levels contribute to academic performance and intent to persist among first-generation students. Pothoven found high school grades ($\beta = .33$), thriving levels ($\beta = .21$), race ($\beta = .14$), and intent to attend graduate school ($\beta = .13$) had a direct effect on academic performance in the form of self-reported college grades. A second correlational analysis concluded that thriving levels ($\beta = .46$) and age ($\beta = .01$) had a direct effect on students' intent to persist. The models accounted for 24% of the variance in academic performance and 25% of the variance in intent to graduate, respectively. The limitations of the study were its sampling of private, faith-based institutions and the over-representation of White female students. The study would benefit from a dataset that included more students from community colleges and public institutions, where the vast majority of first-generation students exist.

Honor's students' pathways to thriving. On the other end of the spectrum, high-achieving students represent those who perform exceptionally in academic studies. Cuevas (2015) measured thriving among high-achieving students in a multi-institutional correlational study involving traditionally-aged honors students. Cuevas found the existing thriving model for traditionally-aged students was a poor fit for these students. The alternative model removed the female, first-generation status, high school grades,

institutional selectivity, and White ethnicity variables. Additionally, the alternative model modified the pathways to thriving reflected in the baseline version (e.g., reduced emphasis on campus involvement and student-faculty interaction). The model found a psychological sense of community ($\beta = .63$), campus involvement ($\beta = .23$), spirituality ($\beta = .17$), and student-faculty interaction ($\beta = .10$) were the strongest predictors of thriving among honors students. This study highlighted the necessity for unique programming and services to properly motivate and support high-achieving students. Similar to other thriving studies, the sample consisted primarily of White female students, limiting the generalizability of the results to the broader honors student population.

Low-income students' pathways to thriving. Other scholars have applied the thriving construct to low-income and community college students to consider the differences in thriving beyond traditionally-aged student populations. Dy (2017) conducted an exploratory mixed methods study to evaluate the extent to which support agents contributed to thriving among community college students. A hierarchical multiple regression analysis determined a psychological sense of community ($\beta = .18$), off-campus peer support ($\beta = .12$), and faculty support ($\beta = .082$) significantly contributed to student thriving among community college students. The model accounted for 54% of the variance in student thriving and explained between 29% (Social Connectedness) and 38% (Academic Determination) of the variance among the thriving factors. The qualitative study concurred with the regression analysis by highlighting the importance of off-campus peer and faculty support to community college students. The limitations of the study were its small sample size and the limited participant selection

process for the qualitative analysis. Further studies might expand the number of participants on both the quantitative and qualitative components.

Romero (2016) conducted a correlational study to explore the relationship between psychological sense of community, institutional integrity, student-faculty interaction, and thriving levels as well as the difference between low-socioeconomic and higher-socioeconomic students. The path analysis found that satisfaction with faculty ($\beta = .44$), institutional integrity ($\beta = .33$), and student-faculty interaction ($\beta = .17$) contributed directly to thriving among low-socioeconomic students. The path analysis for higher-socioeconomic students found satisfaction with faculty ($\beta = .48$), institutional integrity ($\beta = .23$), and student-faculty interaction ($\beta = .20$) contributed directly to thriving. In both groups, psychological sense of community did not have a direct contribution on thriving. However, PSC indirectly contributed to student thriving for both low-socioeconomic students ($\beta = .55$) and higher-socioeconomic students ($\beta = .44$), resulting in the largest overall effect for both groups. The final structural model that included both groups explained 56% of the variance in student thriving. These correlational analyses highlight the importance of PSC, institutional integrity, and faculty interaction for community college students. Not unlike other thriving studies, the sample consisted primarily of female students, limiting the generalizability of the results to community college students. As well, the study relied upon a small response rate. Future research might expand the participation rates and ensure a more representative sample.

Graduate student pathways to thriving. Beyond studies involving undergraduate students, researchers have determined the thriving construct also applies to graduate students (Petridis, 2015). In a multi-institutional correlational study, Petridis

(2015) examined the predictors of thriving among masters and doctoral students and found a psychological sense of community ($\beta = .76$), family support ($\beta = .62$), and departmental climate ($\beta = .53$) were most predictive of thriving. The overall model explained 78% of the variance in college student thriving among graduate students. This study emphasized the role of faculty and academic department leadership in establishing learning environments that support graduate student success. Not unlike other thriving studies, the sample was predominantly White and female and represented participants enrolled in female-dominated programs in the social and behavioral science fields.

The aforementioned studies represent the panoply of student experiences in the college environments. Students must navigate myriad personal experiences and institutional conditions as they progress from their first to senior year and beyond. It is important, then, to recognize these unique seasons and to provide the appropriate programming and services that will enable student success.

Summary of Thriving Research

By connecting the well-being construct implicit in human flourishing research (Seligman, 2011) with Bean and Eaton's (2000) psychological model of student retention, thriving is conceptualized as students functioning at an optimal level in the areas of academic engagement, interpersonal relationships, and psychological well-being (Schreiner, 2012; Schreiner et al., 2009). The Thriving Quotient is a valid and reliable instrument, designed to measure the five factors of student thriving: Engaged Learning, Academic Determination, Social Connectedness, Diverse Citizenship, and Positive Perspective (Schreiner, Louis, et al., 2012). Thriving explains up to 34% of the variance in important student success outcomes, including students' intent to graduate, college

GPA, student satisfaction, and perceptions of tuition worth (Conn, 2017; Nelson, 2015; Schreiner et al., 2013; Schreiner et al., 2011). In addition to student entry characteristics and institutional variables, the thriving research conducted to date has identified four pathways that positively influence the variation in student thriving: (a) a psychological sense of community, (b) spirituality, (c) campus involvement, and (d) student-faculty interaction (Schreiner, 2012, 2013b). Although the pathways to thriving are common among traditional-aged students, these factors may vary among unique student populations. Ultimately, thriving has the potential to serve as an holistic measurement of student success (Schreiner, 2016).

Conclusion

This chapter provides the context for this study by examining the literature on innovation in higher education, extension education, experiential learning, perspectives on student success, and college student thriving. The essence of this literature review is to suggest innovation in higher education is necessary and inevitable. One such innovation is the church-based extension site model, which offers students experiential learning opportunities. These learning opportunities reflect the principles expressed in Kolb's (1971, 1984, 2015) experiential learning theory. The development and expansion of the church-based extension site model, however, must consider whether the model is an effective, suitable alternative for traditional residential education.

To this end, scholars of higher education have considered a variety of student success perspectives, including sociological, psychological, organizational, cultural, and economic. The challenge, however, of these perspectives is an over-reliance upon an assessment of student success through persistence and graduation rates. As an alternative

approach, college student thriving measures whether students are functioning at an optimal level in the areas of academic engagement, interpersonal relationships, and psychological well-being (Schreiner, 2012; Schreiner et al., 2009), which contributes to important student success outcomes. The assumption is that measuring thriving among students in church-based extension sites could validate the educational model as a disruptive innovation and alternative for traditional forms of education.

There is a gap in the thriving literature by virtue of the types of students who complete the TQ instrument. The vast majority of participants include undergraduate, traditional, and graduate students (Petridis, 2015). Assessing student success among church-based extension education students via the Thriving Quotient (TQ) instrument, provides a unique opportunity to expand the student thriving literature to innovative educational models. Moreover, this study adds to the literature by assessing the church-based extension site model as a viable alternative in higher education. A final gap in the literature pertains to the application of disruptive innovation theory to higher education practice.

Thus, through this study, an opportunity exists to evaluate the effectiveness of the church-based extension site model through an assessment of thriving among students in the target university's extension education program, thereby testing the disruptiveness of the model in the higher education industry. The following research questions are addressed in this study: (a) Are there significant differences in the structural pathways to thriving between extension site and traditional residential students at a private Christian university? and (b) To what extent does thriving and the Thriving Quotient (TQ) subscale

scores differ between extension site and traditional residential students at a private Christian university, after controlling for entering characteristics?

CHAPTER 3

METHODS

The purpose of the study is to measure student success in an innovative experiential learning program through the lens of college student thriving, with the aim of evaluating the effectiveness and potential disruptiveness of the church-based extension site model. Two research questions guided the study: (a) To what extent does thriving and the Thriving Quotient (TQ) subscale scores differ between extension site and traditional residential students at a private Christian university, after controlling for entering characteristics? and (b) Are there significant differences in the structural pathways to thriving between extension site and traditional residential students at a private Christian university? This chapter presents the research design, hypothesized structural model, participants, instrumentation, and data screening and analysis procedures for the study.

Research Design

To examine the differences in thriving and Thriving Quotient (TQ) subscale scores among extension site and traditional students, this study involved a 4-stage analysis: (a) logistic regression to identify predictors of extension site group membership, (b) a propensity score analysis to establish an equivalent comparison group, (c) a one-way MANOVA to examine the differences in mean Thriving Quotient (TQ) subscale scores, and (d) a one-way ANOVA to examine the difference in the mean thriving score

among the two student groups. The following section provides a review of these statistical techniques.

The first stage of the analysis involved logistic regression to identify the covariates to support the subsequent propensity score matching technique. Tabachnick and Fidell (2013) posited that logistic regression enables the researcher “to predict a discrete outcome such as group membership from a set of variables” (p. 483). Logistic regression provides the researcher with a durable statistical technique that can analyze an almost unlimited combination of variables; however, Tabachnick and Fidell stressed the importance of including predictors that are theoretically justifiable. Although not required, it is recommended that the dataset adhere to multivariate normality and linearity rules, as these factors may increase the power of the statistical test. Additionally, logistic regression assumes the dataset includes a sufficient ratio of cases to variables, an adequate sample size, expected frequency of cases, linear relationships between continuous variables and any logit transformation of dependent variables, and the absence of redundant variables (i.e., multicollinearity) and outliers.

The second stage involved the propensity score matching technique, otherwise identified as propensity score analysis (PSA), to match participants between the extension site and traditional student populations. PSA enables the researcher to control for variables that influence students’ propensity to enroll in the extension site program (Grunwald & Mayhew, 2008; Rosenbaum, 1983, 2012; Rosenbaum & Rubin, 1984). As a result, PSA addresses differences between the two student groups, thus permitting the development of a comparison dataset “that minimizes the effect of pretreatment differences and leads to a condition called strongly ignorable treatment assignments,

which simulates random assignment” (Grunwald & Mayhew, 2008, p. 761). In doing so, the PSA increased the statistical power of the MANOVA and ANOVA tests by establishing the most equivalent group between the extension site and traditional student populations.

Grunwald and Mayhew (2008) argued the gold standard in experimental research is the randomized controlled trial (RCT) design, wherein the researcher randomly assigns subjects to the treatment and control groups. However, in higher education studies, researchers often cannot randomly assign students to a group, as students often self-select their environments (e.g., extension site or traditional campus). To address these methodological challenges, PSA enables the researcher to control for variables that might influence students’ propensity to select the extension site environment over the traditional campus.

The PSA procedure, as recommended by Thoemmes (2012), involves several stages, including the following: (a) selection of covariates that might predict group membership based on theoretical arguments; (b) estimation of the actual propensity score through statistical analysis; and (c) matching subjects based on the comparison of caliper differences, or the allowable difference in propensity scores between two participants. For this study, covariates to support the PSA procedure derived from the logistic regression analysis described in the previous section. The estimation of the actual propensity score involved the Propensity Score Matching module in SPSS, which is a custom dialog in the SPSS software. The matching procedure entailed the nearest neighbor method, which is based on the greedy matching algorithm, which sorts and matches subjects based on the closest estimated propensity score. According to

Thoemmes, the nearest neighbor method differs from other approaches in that only one subject match is possible, whereas matching with replacements and ratio matching techniques may correlate multiple subjects. Such matching methods have the potential to reduce the precision of this analytical approach.

Thoemmes (2012) also described the adjustment of the caliper in the matching process, which is designed to prevent poor subject matches, wherein the estimated propensity scores are dissimilar. The caliper, then, serves as the permissible distance in propensity scores between two subjects. In technical terms, the caliper represents the number of “standard deviations of the logit of the estimated propensity score” (p. 10). Smaller calipers generally represent a more conservative approach by limiting the number of successful matches, whereas a larger caliper will permit more matches with the potential for larger selection bias. Perspectives on what caliper width is best differ dramatically among researchers, with recommendations between 0.2 and 0.6. The majority of researchers utilize a caliper width of 0.2 due to studies that have found this caliper reduced 99% of the selection bias (Austin, 2008a, 2008b; Cochran & Rubin, 1973; Rosenbaum & Rubin, 1985). Other researchers have found a caliper width of 0.6 reduced 90% of the selection bias (Ayanian, Landrum, Guadagnoli, & Gaccione, 2002). A major concern, however, is the effect of the caliper width on the matching process in a small sample. An overly conservative caliper will dramatically reduce the size of the sample. Thus, for this study, the decision was made to set the caliper width at 0.5 to moderately mitigate the potential for selection bias and to maximize sample size.

The third phase of the analysis involved a one-way MANOVA to examine the differences in mean thriving and Thriving Quotient (TQ) subscale scores among

extension site and traditional students, utilizing the matched dataset from the prior propensity score analysis. According to Tabachnick and Fidell (2013), MANOVA “emphasizes the mean differences and statistical significance of differences among groups” (p. 285). The benefits of MANOVA over the univariate ANOVA are three-fold. First, the statistical procedure improves the likelihood that the researcher will identify what variable has changed as a result of different group memberships. Second, MANOVA protects against inflated Type I errors that may result from multiple statistical tests of correlated dependent variables, which is possible in the ANOVA technique. Last, MANOVA may reveal differences in dependent variables that are not identifiable in separate ANOVAs. Accordingly, MANOVA provides an assessment of the following statistical tests: the main effects of independent variables, interactions between independent variables, significance of dependent variables, the effect sizes of dependent variables, and comparison between groups. The MANOVA statistical test is of particular importance to this study.

Tabachnick and Fidell (2013) reported that MANOVA is limited to datasets without missing data, multivariate non-normality, and outliers. Other limitations include the expectation of homogeneity in variance-covariance matrices; an assumption of linearity among all dependent variables, which assumes a linear relationship among each dependent variable that might otherwise reduce the power of any statistical test; and the absence of multicollinearity and singularity, which assumes dependent variables are not redundant.

Last, to examine the differences in mean thriving scores, the study incorporated a one-way ANOVA, utilizing the matched dataset from the prior propensity score analysis.

The purpose of this final test was to determine if statistically significant differences in thriving (TQ_Mean) exist between the traditional and extension site student populations, as measured by the *F* ratio (Mertler & Vannatta, 2001). ANOVA assumes normality, homogeneity of variance, and independence among cases in the dataset (Mertler & Vannatta, 2001). In summary, the aim of the first research question was to assist the researcher with identifying and explaining the potential differences in thriving and Thriving Quotient (TQ) subscale scores among traditional and extension site students.

To explore the pathways to college student thriving, the study utilized the structural equation modeling (SEM) to test the fit of the thriving model to the data collected in this sample, which included the students in the match dataset from the prior propensity score analysis. According to Ullman (2013), SEM is a collection of statistical procedures that examine the relationships between a series of dependent and independent variables. SEM involves a simultaneous testing of multiple regression analyses and offers a confirmatory statistical technique to test the fit of a proposed model (e.g., college student thriving). SEMs are represented in graphical format through statistical software packages, such as AMOS, to visualize the direct and indirect relationships and the series of regression equations between variables (Byrne, 2016). Accordingly, SEM graphical models include a series of exogenous variables, where the variable regresses on other variables, and endogenous variables, where other variables regress on the particular variable (Byrne, 2016).

Ullman (2013) reported that the primary benefits of SEM are the removal of measurement error, thereby improving the accuracy of the statistical prediction, as well as the ability to examine complex relationships among variables within a particular dataset.

According to Ullman, SEM is the only statistical technique that permits the researcher to test simultaneously all of the direct and indirect relationships among variables. Despite these benefits, SEM presents several practical limitations that restrict its use. SEM is sensitive to sample size and missing data. Any structural analysis requires a substantial sample size that is also absent of missing values. Further, SEM requires the researcher to address multivariate non-normality and remove all outliers.

SEM enables the researcher to explore the relationships, whether direct or indirect, between a set of *observed* variables, such as items on a survey instrument, and *latent* constructs, which cannot be observed directly by one survey item (Byrne, 2016). Observed variables utilized in this study include students' self-reported race or ethnicity, gender, high school grades, certainty of one's major, whether the institution was their first choice, and perceptions of financial difficulty. Latent constructs utilized in this study include students' perceptions of faculty commitment to diverse students and perspectives and the frequency of specific student-faculty interactions, as well as items related to spirituality, psychological sense of community, and institutional integrity.

For this study, SEM is the best statistical method to address the first research question, which relates to an analysis of structural pathways to thriving among two student populations. SEM enabled an examination of the indirect and direct effects of the aforementioned observed and latent variables on college student thriving as well as the interrelationship among variables in the model (Ullman, 2013). Moreover, the multiple group analysis technique in SEM tested whether the structural model for college student thriving is invariant, or equivalent, across traditional and extension site student groups.

Hypothesized Structural Model

To determine the contribution of observed variables and latent constructs to thriving among extension site and traditional students, a model was developed from the thriving literature. The model developed by Schreiner et al. (2015) served as the baseline. The hypothesized model was tested using the multi-group analysis tool in the AMOS 25 modeling software. The model proffered that various input, campus experience, and psychosocial variables predict the latent variables in the model, and each of the latent variables directly or indirectly contribute to college student thriving. The hypothesized structural model is provided in Figure 1.

The hypothesized model is organized into observed and latent variables with the following color coding. Light orange rectangles represent observed input variables, light green rectangles represent observed campus experience variables, light green ovals represent latent campus experience variables, light yellow ovals represent campus experience latent variables, light blue ovals represent psychosocial latent variables, and

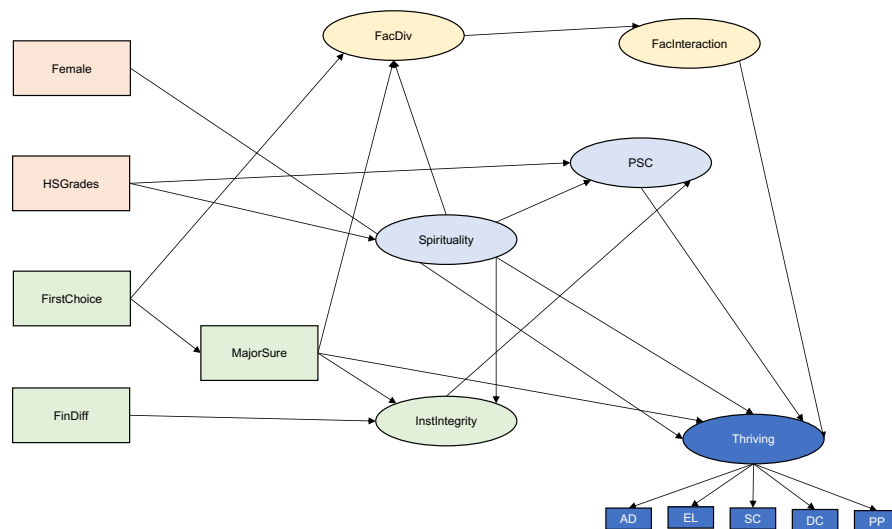


Figure 1. Hypothesized structural model.

the dark blue oval represents the ultimate latent variable, thriving. In support of the SEM procedures, exogenous variables utilized in this study include gender (Female), high school grades (HSGrades_R), whether the institution was the students' first choice (FirstChoice), and perceptions of financial difficulty (FinDiff). Endogenous variables include certainty of one's major (MajorSure), faculty commitment to diverse students and perspectives (FacDiversity), frequency of specific student-faculty interactions (FacInteraction), spirituality, psychological sense of community (PSC), and institutional integrity (InstIntegrity). The ultimate endogenous variable, Thriving, represents a first-order construct composed of the following subscales: Academic Determination (AD), Engaged Learning (EL), Social Connectedness (SC), Diverse Citizenship (DC), and Positive Perspective (PP).

Participants

The original research population for this study included all traditional and extension site students enrolled in the fall 2017 semester at the target university. Data were collected from a single institution, which has a main campus with approximately 2,527 traditional students and 1,860 extension site students located at approximately 80 off-campus instructional sites across the United States. Students were asked to complete an electronic survey. The overall response rate for the study was 31%, with 34% of traditional and 29% of extension site students responding to the survey. The initial dataset included 1,447 individual cases. Respondents who chose to leave the student type question blank were deleted from the dataset, resulting in 1,094 usable cases. Table 1 displays the demographic characteristics of the final research sample, prior to any data screening procedures. Among both populations, students were mostly White, female,

Table 1

Participant Characteristics

	Traditional Students (<i>n</i> = 653)	Extension Site Students (<i>n</i> = 441)
Gender		
Male	171 (26.2%)	141 (31.9%)
Female	478 (73.2%)	297 (67.3%)
Race & Ethnicity		
African-American/Black	64 (9.8%)	44 (10.0%)
American Indian or Alaskan Native	1 (0.2%)	6 (1.4%)
Asian America or Pacific Islander	10 (1.5%)	10 (2.3%)
Caucasian or White	403 (61.8%)	265 (60.4%)
Latino or Hispanic	139 (21.3%)	86 (19.6%)
Other	25 (3.8%)	20 (4.6%)
Prefer not to respond	10 (1.5%)	8 (1.8%)
Class Level		
First-Year	230 (35.5%)	193 (44.1%)
Sophomore	133 (20.5%)	85 (19.4%)
Junior	127 (19.6%)	94 (21.5%)
Senior	145 (22.4%)	37 (8.4%)
Other	13 (2.0%)	29 (6.6%)
Household Income		
Less than \$30,000 per year	143 (22.2%)	146 (34%)
\$30,000 to \$59,999	203 (31.6%)	125 (29.1%)
\$60,000 to \$89,999	164 (25.5%)	87 (20.3%)
\$90,000 to \$119,000	86 (13.4%)	41 (9.6%)
\$120,000 and over	47 (7.3%)	30 (7.0%)
First-Generation Student		
Yes	464 (71.4%)	270 (61.4%)
No	186 (28.6%)	170 (38.6%)

first-generation students, representing all class levels and generally lower income families. Traditional students represented the largest segment of the research sample.

At the time of the survey administration, the target university partnered with 80 churches across the United States. Depending on site enrollment, the university delivered

its educational programs through a combination of face-to-face and online courses. Of the 80 church-based extension sites, 10 locations were considered regional campuses, and the majority of the educational experience in these locations was delivered via traditional classroom instruction and experiential learning opportunities. Approximately 30 locations were identified as extension sites and delivered between 25% and 49% of the degree program through classroom instruction, with the remaining coursework delivered online. The remaining 40 sites delivered an exclusively online program. Although the majority of sites delivered a range of online courses, more than 50% of the total enrollment in the church-based extension site program was located at the regional campuses, where face-to-face instruction was more predominant.

Classroom instruction at a church-based extension site is similar to the experience on a traditional college campus in terms of the instructor presence, classroom engagement, and facilities. Online instruction, however, is offered as an independent learning experience. Students engage with their instructors and peer students through an 8-week curriculum to include an array of learning experiences, such as discussion forums, major writing assignments, quizzes, group projects, and periodic web conferences. The major difference with the online instruction compared to the experiences of students in other online learning environments is that the students engage in this coursework within a learning community. The host church provides a learning environment that might include weekly spiritual formation and development activities, such as chapels, small groups, and social mixers. Additionally, many churches provide dedicated time and physical space for students to complete their online coursework. Students in online courses, then, are not learning altogether independently, as the

community of the local church provides a healthy learning environment that extends well beyond the classroom.

Instrumentation

College student thriving represents the primary dependent variable for the study, otherwise identified as the ultimate endogenous variable in the structural model (Ullman, 2013). To measure this latent variable, this study utilized the *Thriving Quotient* instrument (Schreiner, 2016). The *Thriving Quotient* (TQ) instrument is a survey to measure thriving among undergraduate and graduate student populations (Schreiner, 2010c). Research for the TQ instrument initiated in 2007 (Schreiner, 2016). Utilizing a construct validation process (Nunnally & Bernstein, 1994), survey items were created for hypothetical scales through inductive and deductive means (Schreiner et al., 2009). The inductive process entailed student focus groups and interviews at selected institutions, with the results leading to the development of survey items. The research team also deductively created survey items “based on the conceptual models that had identified malleable psychosocial factors connected empirically to student success outcomes” (Schreiner, 2016, p. 138).

The Thriving Quotient (TQ) initially contained 198 items derived from the following instruments: Engaged Learning Index (Schreiner & Louis, 2011), Academic Hope Scale (Snyder et al., 2003), Academic Self-Efficacy Scale (Chemers et al., 2001), Perceived Academic Control scale (Perry et al., 2001), Dweck’s (2006) mindset assessment, Psychological Well-Being Questionnaire (Ryff & Keyes, 1995), Psychological Sense of Community on Campus Index (Schreiner, 2006), the citizenship subscale of the Socially Responsible Leadership Scale (Tyree, 1998), Miville-Guzman

Universality-Diversity Scale (Fuertes et al., 2000), Subjective Well-Being Scale (Diener et al., 1999), Life Orientation Scale (Scheier & Carver, 1985), Meaning in Life Questionnaire (Steger et al., 2006), and the metacognitive self-regulation subscale in the Motivated Strategies for Learning Questionnaire (Pintrich et al., 1993).

Following a national study in 2008, the thriving research team reduced the number of items by eliminating those items that failed to contribute to internal consistency or factor structure of the instrument (Schreiner et al., 2009). Subsequent regression, exploratory, and confirmatory factor analyses compressed the survey to 32 items (Schreiner et al., 2009). The final instrument contains 24 items, aimed to measure the five subscales of college student thriving: Engaged Learning, Academic Determination, Social Connectedness, Diverse Citizenship, and Positive Perspective (Schreiner, Louis, et al., 2012). Table 2 provides the variable coding for these Thriving Quotient (TQ) subscales.

Based on national studies, including more than 30,000 students at baccalaureate institutions (Schreiner et al., 2013) and institutional studies with graduate student populations (Petridis, 2015; Petridis & Schreiner, 2013), thriving has been established as a valid and reliable construct, with the TQ instrument exhibiting high reliability (Schreiner, 2012). The Cronbach's alpha reliability estimates range between $\alpha = .77$ (Positive Perspective) and $\alpha = .87$ (Engaged Learning), with the internal consistency of the instrument estimated at $\alpha = .89$ (Schreiner, 2016). Subsequent research has generated strong fit indices from multiple confirmatory factor analyses ($\chi^2_{(114)} = 1093.83, p < .001$, CFI = .954, RMSEA = .054 with 90% confidence intervals between .052 and .058). This research demonstrates the validity and reliability of the instrument as well as the

Table 2

Description of Variables and Coding

Variable	Definition and Coding
Female (Female)	Self-reported <i>Gender</i> variable, where 0 = Male, 1 = Female, and 99 = Other. Recoded responses to <i>Gender</i> variable, where 1 = 1 (Female) and 0 or 99 = 0 (Other).
High School Grades (HSGrades)	Response to item: “How would you describe your grades in high school?” Self-reported variable with response options on a 6-point scale, where 1 = mostly A’s, 2 = A’s and B’s, 3 = mostly B’s, 4 = B’s and C’s, 5 = mostly C’s, and 6 = below a C average. Reverse scored.
Graduate School Aspirations (GradSchool)	Response to <i>DegreeGoal</i> item: “What is the highest degree you intend to pursue in your lifetime?” Self-reported variable with response options on a 7-point scale, where 1 = none, 2 = bachelor’s, 3 = teaching credential, 4 = master’s degree, 5 = doctorate, 6 = medical or law degree, 7 = other graduate degree. Dummy coded variable where 4, 5, or 6 = 1 (goal is grad school bound) and 1, 2, or 3 = 0 (goal is BA or less).
(FirstChoice)	Response to item: “When you chose to enroll in this institution, was it your first choice?” Self-reported variable with response options on a 2-point scale, where 1 = yes and 0 = no.
Student Type (StudentType)	Response to item: “Please indicate your student type at Southeastern University.” Self-reported variables with response option on a 2-point scale, where 1 = Traditional Student and 2 = Extension Site Student.
Extension Site (ExtensionSite)	Recoded responses to the <i>StudentType</i> variable, where 1 = 0 or 2 = 1.
Major Certainty (MajorSure)	Response to item: “How sure are you of your major?” Self-reported variable with response option on a 6-point scale, where 1 = very unsure, 2 = unsure, 3 = somewhat unsure, 4 = somewhat sure, 5 = sure, and 6 = sure.
Residential Status (OnCampus)	Response to item: “Do you live on campus?” Self-reported variable with response option on a 2-point scale, where 0 = No and 1 = Yes.
Works for Pay (WorkForPay)	Response to <i>Work</i> item: “Do you work for pay?” Self-reported variable with response options on a 4-point scale, where 0 = no, 1 = on campus, 2 = off campus, and 3 = both on and off campus. Dummy coded variable where 1, 2, or 3 = 1 (Works) and 0 = 0 (Does Not Work).
Financial Difficulty (FinDiff)	Response to item: “Considering the financial aid that you’ve received and the money you and your family have, how much difficulty have you had so far in paying for your school expenses?” Self-reported variable with response options on a 5-point scale, where 1 = no difficulty, 2 = a little difficulty, 3 = some difficulty, 4 = a fair amount of difficulty, and 5 = great difficulty.

Table 2, continued

Variable	Definition and Coding
Campus Involvement (CampusInv)	<i>M</i> score of 5 items: (1) “How often do you participate in campus activities and events?” (<i>CampusAct</i>), (2) “How often do you participate in community service?” (<i>CommServ</i>), (3) “How often do you participate in religious services and activities?” (<i>Religious</i>), (4) “Please indicate the number of hours per week that you devoted to your involvement in a student organization or student leadership role during this semester (<i>Involve_Hours</i>).”, (5) “Please indicate the number of elected or appointed positions you have held during this semester (e.g., president/ chairperson/captain/editor, secretary, treasurer, committee/project chairperson, Resident Assistant (RA), orientation leader, etc.) (<i>Leader</i>).” Items one to three were measured on the following scale: 1 = never and 6 = frequently. Item four was measure on the following scale: 0=0, 1=1-5, 2=6-10, 3=11-15, 4=16-20, 5=21-25, 6=26-30, 7=more than 30. Item five was measured on the following scale: 0=1, 1=1, 2=2, 3=3, 4=4, 5=5 or more. Items were only measured among traditional students.
Modality (Modality)	Response to item: “My program is conducted primarily.” Self-reported variable with response options on a 3-point scale, where 1 = Face-to-face in the classroom at a regional campus or extension site, 2 = Combination of online and face-to-face classroom at a regional campus or extension site, and 3 = Online. Items only measured among extension site students.
Face-to-Face or Hybrid Modality (F2F_Hybrid)	Recoded responses to the <i>Modality</i> variable, where 1, 2 = 1 and 3 = 0. Items was only measured among extension site students.
Credits (Credits)	Response to item: “How many credits are you taking this semester?” Self-reported variable with response options on a four-point scale, where 1 = 1-4, 2 = 5-8, 3 = 9-12, and 4 = More than 12. Items was only measured among extension site students.
Number of Hours Worked in Church Ministry Practicum/Internship (WorkMinistry)	Response to item: “How many hours per week do you work in a church ministry practicum/internship?” Self-reported variable with response options on a six-point scale, where 1 = None, 2 = 1-10 hours per week, 3 = 11-20 hours per week, 4= 21-30 hours per week, 5 = 31-40 hours per week, and 6 = More than 40 hours per week. Items was only measured among extension site students.
Number of Hours Worked in an External Job (WorkOffSite)	Response to item: “How many hours per week do you work outside of your extension site program?” Self-reported variable with response options on a six-point scale, where 1 = None, 2 = 1-10 hours per week, 3 = 11-20 hours per week, 4= 21-30 hours per week, 5 = 31-40 hours per week, and 6 = More than 40 hours per week. Items was only measured among extension site students.
Feeling of Being Overwhelmed (Overwhelmed)	Response to item: “How often do you feel overwhelmed by all you have to do in your classes, ministry, and personal life?” Self-reported variable with response options on a six-point scale, where 1 = Almost all of the time, 2 = Quite often, 3 = Frequently, 4 = Sometimes, 5 = Occasionally, and 6 = Seldom. Items was only measured among extension site students.

Table 2, continued

Variable	Definition and Coding
Feeling of Balance (Balance)	<p><i>M</i> score of 2 items: (1) “Balance is a goal of many students in this program, but it is difficult to achieve consistently because of the many expectations in life. We define balance as feeling able to handle the demands of your class, church, and personal commitments. Given the above definition of balance, how balanced do you feel right now (<i>Balance1</i>)”? and (2) “Given the above definition of “balance,” to what extent do you agree that the learning environment supports a balance between your college, church, and personal commitments? (<i>Balance2</i>)”. Item one was measured on six-point scale, where 1 = Very out of balance, 2 = Out of balance, 3 = Somewhat out of balance, 4 = Somewhat balanced, 5 = Mostly balanced, and 6 = very well-balanced. Item two was measured on a six-point scale where 1 = strongly disagree to 6 = strongly agree. Items were only measured among extension site students.</p>
Faculty Commitment to Diverse Students and Perspectives (FacDiversity)	<p>Latent variable comprised of six items: (1) “Instructors include diverse perspectives in class discussions or assignments, (<i>DivDisc</i>)” (2) “Faculty sensitivity to the needs of diverse students, (<i>FacDiv</i>)” (3) “The extent to which faculty encourage students to contribute different perspectives in class (<i>DivPersp</i>),” (4) The quality of interactions you had with faculty so far this year (<i>FacSat</i>),” and (5) “The amount of contact you have had with faculty this year (<i>FacInt</i>).” Measured with a 6-point scale, where 1 = very dissatisfied to 6 = very satisfied</p>
Student-Faculty Interaction (FacInteraction)	<p>Latent variable comprised of four items: (1) “How often have you emailed, texted, or Facebooked faculty, (<i>EmailFac</i>)” (2) “How often this year have you discussed career or grad school plans with faculty, (<i>CareerFac</i>)” (3) “How often this year have you discussed academic issues with faculty, (<i>AcadFac</i>)” and (4) “How often this year have you met with faculty during office hours (<i>OfcHrs</i>)?” Measured with a 6-point scale, where 1 = never to 6 = frequently.</p>
Institutional Integrity (InstIntegrity)	<p>Latent variable comprised of three items: (1) “My experiences on campus so far have met my expectations, (<i>Integrity1</i>)” (2) “The institution was accurately portrayed during the admissions process, (<i>Integrity2</i>)” (3) “Overall, the actions of faculty, staff, and administrators on this campus are consistent with the mission of the institution (<i>Integrity3</i>).” Measured with a 6-point scale, where 1=strongly disagree to 6=strongly agree.</p>
Spirituality (Spirituality)	<p>Latent variable comprised of three items: (1) “My spiritual or religious beliefs provide me with a sense of strength when life is difficult, (<i>SPIR1</i>)” (2) “My spiritual or religious beliefs give meaning and purpose to my life, (<i>SPIR2N</i>)” and (3) “My spiritual or religious beliefs are the foundation of my approach to life. (<i>SPIR3</i>)” Measured with a 6-point scale, where 1=strongly disagree to 6=strongly agree.</p>
Psychological Sense of Community (PSC)	<p>Latent variable comprised of 4 items: (1) “I feel like I belong here, (<i>PSC1</i>)” (2) “Being a student here fills an important need in my life, (<i>PSC2</i>)” (3) “I feel proud of the college or university I have chosen to attend, (<i>PSC4</i>)” and (4) “There is a strong sense of community on this campus (<i>PSC5</i>).” Used a 6-point scale, where 1=strongly disagree to 6=strongly agree.</p>

Table 2, continued

Variable	Definition and Coding
Psychological Sense of Community (PSC)	Latent variable comprised of 4 items: (1) "I feel like I belong here, (PSC1)" (2) "Being a student here fills an important need in my life, (PSC2)" (3) "I feel proud of the college or university I have chosen to attend, (PSC4)" and (4) "There is a strong sense of community on this campus (PSC5)." Used a 6-point scale, where 1=strongly disagree to 6=strongly agree.
Thriving (Thriving)	First-order construct composed of the <i>M</i> for the following subscales of thriving: Engaged Learning (ELI), Academic Determination (AD), Diverse Citizenship, Positive Perspective (POS), and Social Connectedness (SC).
Engaged Learning (ELI)	<i>M</i> score of 4 items: (1) "I feel as though I am learning things in my classes that are worthwhile to me as a person, (ELI1)" (2) "I can usually find ways of applying what I'm learning in class to something else in my life, (ELI2)" (3) "I find myself thinking about what I'm learning in class even when I'm not in class, (ELI3)" and (4) "I feel energized by the ideas I am learning in most of my classes" (ELI4) Each item is measured on a 6-point scale: 1=strongly disagree, 6=strongly agree.
Academic Determination (AD)	<i>M</i> score of 6 items: (1) "I am confident I will reach my educational goals, (AD1)" (2) "Even if assignments are not interesting to me, I find a way to keep working at them until they are done well, (AD4)" (3) "I know how to apply my strengths to achieve academic success, (AD5)" (4) "I am good at juggling all the demands of college life (AD6)," (5) "Other people would say I'm a hard worker (AD7)," and (6) "When I'm faced with a problem in my life, I can usually think of several ways to solve it (AD8)." Each item is measured on a 6-point scale, where 1=strongly disagree to 6=strongly agree.
Diverse Citizenship (DC)	<i>M</i> score of 6 items: (1) "I spend time making a difference in other people's lives, (DC1)" (2) "I know I can make a difference in my community (DC2)," (3) "I value interacting with people whose viewpoints are different from my own, (DC3N), (4) "It's important for me to make a contribution to my community, (DC4)" (5) "It is important to become aware of the perspectives of individuals from different backgrounds, (DC5N)," and (6) "My knowledge or opinions have been influenced or changed by becoming more aware of the perspectives of individuals from different backgrounds" (DC6N). Each item is measured on a 6-point scale, where 1=strongly disagree to 6=strongly agree.
Positive Perspective (POS)	<i>M</i> score of 2 items: (1) "My perspective on life is that I tend to see the glass as 'half full,' (POS1)" and (2) "I always look on the bright side of things" (POS3N). Each item is measured on a 6-point scale, where 1=strongly disagree to 6=strongly agree.
Social Connectedness (SC)	<i>M</i> score of 6 items: (1) "Other people seem to make friends more easily than I do, (SC1_R)" (2) "I feel like my friends really care about me, (SC2N)" (3) "I don't have as many close friends as I wish I had, (SC3_R)" (4) "I feel content with the kinds of friendships I currently have, (SC4N)" (5) "I often feel lonely because I have few close friends with whom to share my concerns, (SC5N_R)" (6) "It's hard to make friends on this campus" (SC6_R). Each item measured on a 6-point scale, where 1=strongly disagree to 6=strongly agree. Items 1, 3, 5 are reverse-scored.

construct of thriving (Schreiner, 2016; Schreiner et al., 2013). The final TQ instrument for this study is provided in Appendix A.

This study included a set of observed and latent variables designed to measure the contribution of input, campus experience, and psychosocial variables to the variation in college student thriving. The following section defines these variables and identifies the related survey items. In some cases, items required dummy coding because of their categorical nature. All observed and latent variables along with the corresponding coding structures are provided in Table 2.

Psychological Sense of Community

The TQ instrument measures the latent construct of psychological sense of community (PSC) through four survey items, originally presented by Schreiner (2006) in the Psychological Sense of Community on Campus Index. McMillan and Chavis (1986) first defined PSC as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (p. 9). As noted in Table 2, TQ items related to *PSC* are rated on a 6-point Likert scale, where 1 = *strongly disagree* to 6 = *strongly agree*.

Institutional Integrity

The latent construct of institutional integrity (InstIntegrity) is a measurement of students’ perception of “the degree of congruence between the espoused mission and goals of a college or university and the actions of administrators, faculty, and staff” (Braxton et al., 2014, p. 88). The concept of institutional integrity emerged in the research from Braxton and his colleagues who posited that institutional integrity

contributes to students' social integration (Braxton & Hirschy, 2004; Braxton et al., 2004) and academic and intellectual development (Braxton et al., 2014) in the college environment. For students, institutional integrity emerges in the fair administration of institutional policies and practices (Braxton & Hirschy, 2004) and whether student expectations are fulfilled (Helland et al., 2002). As noted in Table 2, the TQ instrument includes three items related to institutional integrity measured on a 6-point Likert scale, where 1 = *strongly disagree* to 6 = *strongly agree*. The items were derived from the Institutional Integrity Index in the Spring Collegiate Experiences Survey as published by Braxton et al. (2014).

Spirituality

For this study, spirituality is defined as students' reliance upon their beliefs pertaining to the meaning and purpose of life, especially in seasons of challenge (Schreiner, 2016), and "a lens through which to perceive and interact with the world" (McIntosh, 2015, p. 18). The latent construct of spirituality is composed of three survey items, originally adapted from the College Students' Beliefs and Values (CSBV) survey from the Higher Education Research Institute (HERI) at the University of California Los Angeles (Astin et al., 2011a). Astin et al. (2011a) developed the CSBV with 12 measures of spirituality, including measurements of religiousness, spirituality, and spiritual qualities. As noted in Table 2, TQ items related to spirituality are rated on a 6-point Likert scale, where 1 = *strongly disagree* to 6 = *strongly agree*.

Faculty Commitment to Diverse Students and Perspectives

The latent construct of faculty commitment to diverse students and perspectives (FacDiversity) represents the perceptions of students with regard to faculty appreciation

of and engagement with diverse students (Schreiner, 2016). An important component of this latent construct is the impact of faculty-student interactions (Cole, 2007, 2008a, 2008b, 2010b; Kim & Sax, 2009, 2011, 2017) on students of color. Items measure students' satisfaction with faculty in these areas. As noted in Table 2, items related to this faculty diversity perspective are rated on a 6-point Likert scale, where 1 = *strongly disagree* to 6 = *strongly agree*.

Student-Faculty Interaction

The latent construct on student-faculty interactions (FacInteraction) includes four survey items related to the frequency of interactions with faculty in the college environment, particularly outside the classroom and pertaining to academic issues and long-term planning (Kim & Sax, 2017; Schreiner, 2016). The items were adapted from the Student-Faculty Interaction scale developed by Schreiner (2013a). As noted in Table 2, all student-faculty interaction items, included in the study, measure the frequency of interactions on a 6-point Likert scale, where 1 = *never* to 6 = *frequently*.

Other Input and Campus Experience Variables

The study also included 12 observed input and campus experience variables. Observed input variables included student gender (Female), self-reported high school grades (HSGrades), and student's degree aspirations beyond the bachelor degree (GradSchool). The observed campus experience variables included whether the institution was the students' first choice, certainty of one's major, residential status, working activity while in college, and perceptions of financial difficulty. Residential status, working activity in college, and graduate school aspirations were not included in the structural regression model once these variables were identified as predictors of

extension site membership at the logistic regression stage and controlled for in the propensity score analysis stage. Additionally, the final structural regression models for extension site and traditional students included additional variables that were not included in the omnibus structural model. For the traditional population, the additional variable was campus involvement (CampusInv). For the extension site population, the additional variables were the student's educational modality (Modality), number of enrolled credits (Credits), the number of hours served in local ministry training (WorkMinistry), and the number of hours worked in an off-campus job (WorkOffSite). Table 2 includes the variable coding process for each of the input and campus experience variables.

Procedures

The data utilized in this study were collected electronically through the Qualtrics survey system. The original research population of approximately 2,527 traditional students and 1,860 extension site students were invited to participate in the study through an email invitation, which originated through the Qualtrics system. As a control element, the electronic survey included an informed consent, which disclosed that the participant must be 18 years of age and actively enrolled in the university. Students were required to acknowledge consent for participation in the study.

Following the initial email invitation, the Qualtrics system administered three additional reminder notifications to students who did not complete the survey. The administration period of the survey extended from the second week of October through the second week of November. Furthermore, participants were entered into a drawing for

one of five \$25 Amazon gift cards. All survey responses were encrypted, password protected, and only accessible to the researcher.

Data Screening Procedures

The initial dataset from the Thriving Quotient (TQ) administration for the target university included 1,447 responses. Respondents who chose to leave the student type (StudentType) question blank were deleted from the dataset, resulting in 1,094 usable cases. The student type question classified the student as either an extension site ($n = 441$) or traditional ($n = 653$) students. Data from the single institution were screened prior to conducting the data analysis, consistent with the requirements for structural equation modeling (Byrne, 2016; Ullman, 2013) and MANOVA (Tabachnick & Fidell, 2013). The data screening process included three phases: evaluation and imputation of missing values, removal of univariate and multivariate outliers, and testing of normality (Tabachnick & Fidell, 2013).

First, utilizing IBM SPSS Missing Values Analysis (MVA) module, the dataset was tested to explore the patterns among missing data in the dataset. The results of Little's Missing Completely at Random (MCAR) test ($\chi^2_{(4450)} = 4993.70, p < .001$) indicated the data were not missing completely at random (MCAR). The observable patterns of the missing data indicated a correlation between the placement of specific items in the survey and missing values. Items posted later in the survey were more likely to contain missing values, suggesting survey fatigue as a reasonable explanation. No other patterns were observed in the missing values analysis as determined by the variance t tests. Therefore, I determined the data were missing at random, or MAR. Next, the Expectation Maximization (EM) imputation procedure in the MVA module of SPSS was

utilized to impute new values into the missing fields. Because the MVA process does not impute values for categorical variables, cases were deleted in instances where categorical values needed for the structural model were missing. In total, 67 cases were deleted from the dataset due to missing categorical values.

Second, univariate outliers were identified through the transformation of data into z scores. Cases where the z scores were greater than +3.00 or less than -3.00 were deleted (Tabachnick & Fidell, 2013). Mertler and Vannatta (2001) also noted that larger sample sizes, as is the case with this study, may have scores that fall outside the limits of this range, and they recommended that the researcher extend the z -score range between +4.00 and -4.00. However, maintaining best practices, the acceptable z -score range for this study remained between +3.00 and -3.00. An additional 212 cases were deleted from the dataset due to the existence of univariate outliers.

Third, multivariate outliers representing unusual score combinations among multiple variables were identified through the Mahalanobis distance calculation. Cases where the Mahalanobis distance exceeded the chi-square critical value ($\chi^2_{(81)} = 137.208$, $p < .001$) were deleted from the dataset (Tabachnick & Fidell, 2013). An additional 19 cases were deleted from the dataset due to the existence of multivariate outliers. A total 231 outliers were deleted from the dataset, representing 21.1% of the aggregate sample ($n = 1,094$).

Last, normality among variables was tested, utilizing the skewness and kurtosis statistics. Mertler and Vannatta (2001) defined skewness as the “degree of symmetry of a distribution about the mean” (p. 32) and kurtosis as the “degree of peakedness of a distribution” (p. 32). In normal distribution, skewness and kurtosis should equal zero. In

cases where skewness or kurtosis are greater than zero, variable should be transformed depending on their shape. For example, cases where distribution is moderately above normal (i.e., zero), a square root transformation is the preferred transformation in SPSS, whereas more substantial deviations require the Log10 and inverse transformation in the statistical software. Due to the sample size and the small degree of skewness (not greater than 1.5), no variable transformations were conducted. In total, 298 cases were deleted from the dataset due to missing categorical values or the existence of univariate and multivariate outliers. Deleted cases represented 27.2% of the original dataset ($n = 1094$). Upon completion of the data screening process, a complete dataset of 796 cases was utilized for the various statistical analyses.

Data Analysis Procedures

Following the data cleansing process, the study entailed a series of data analysis procedures to address the two research questions. The first research question related to the mean thriving and Thriving Quotient (TQ) subscale scores and involved a series of analysis, including logistic regression, propensity score analysis, one-way MANOVA, and a one-way ANOVA. The second research question related to the structural pathways to thriving and relied upon the structural equation modeling (SEM) technique with multiple group analysis. Provided in the following sections are the data analysis procedures in detail for the two research questions.

Tests of mean differences. The data analysis procedure for the first research question entailed a 4-step process to determine the extent to which thriving differed between two student groups: (a) logistic regression identified predictors of extension site membership, (b) propensity score analysis (PSA) established a matching comparison

group between extension site and traditional students, (c) a one-way MANOVA examined the differences in TQ subscale scores, and (d) a one-way ANOVA examined the differences in mean thriving scores. The following are the specific steps utilized to address these research questions.

The first step involved the identification of statistically significant predictor variables. For this study, the forward logistic regression method was utilized to identify the variables that predict extension site group membership. The forward method entails entering all potential variables into the regression equation one at a time, with the output identifying the strongest predictor variables in order (Tabachnick & Fidell, 2013). Additionally, this methodology enables the researcher to evaluate the statistical significance of individual variables and the correlation with the dependent variable (i.e., student type). To ensure the most accurate prediction, responses from first-year students from the aggregate sample ($n = 313$) were utilized, including 179 traditional and 134 extension site students. The outcome of this first step was the identification of the following statistically significant predictors of extension site group membership, which were utilized in the subsequent matching process: the student's age (Age), residential status (OnCampus), working activities in college (WorkforPay), and degree aspirations (GradSchool).

In stage two, the PSA process followed the recommendations from Thoemmes (2012), who outlined the appropriate matching procedures in SPSS. Propensity score matching included the predictor variables identified in the logistic regression step as well as the treatment variable (StudentType) to segment the student populations. These predictor variables ensured the best possible match of students based on characteristics

that influence extension site membership. The treatment variable was the program type (StudentType), with the control condition representing the traditional program and the treatment condition representing the extension site program.

Based on the inclusion of these variables, a propensity score for each subject was estimated through the Propensity Score Matching module in the SPSS software, utilizing the logistical regression analysis. The SPSS module subsequently matched subjects based on the 1:1 nearest neighbor matching method, which assumes a treatment subject is matched with a non-treatment subject based on a similar propensity score. The PSA process produced a matching dataset that contained 618 cases, including 292 traditional and 326 extension site students. Following the matching process, a series of checks were performed to test whether the mean (M) differences and variance ratios between the control and treatment groups varied prior to and following the matching procedure.

The third step was the one-way MANOVA, utilizing the dataset with matched subjects ($n = 618$). The one-way MANOVA tested the M differences in TQ subscale scores among the extension site and traditional students. Dependent variables included the Thriving Quotient (TQ) subscale scores. The independent variable was the program type (StudentType), whether the extension site or traditional program. The resulting analysis reported whether significant differences existed among the student groups based on the appropriate statistical tests provided in the SPSS MANOVA output. Follow-up univariate ANOVAs examined whether significant group differences existed for each M score. MANOVA results also included the adjusted and unadjusted M thriving and Thriving Quotient (TQ) subscale scores for both student groups.

The final step was the one-way ANOVA, utilizing the dataset with matched subjects ($n = 618$). The one-way ANOVA tested the M differences in thriving scores between the extension site and traditional students. The dependent variable was the M thriving scores. The independent variable was the program type (StudentType), whether the extension site or traditional program. The resulting analysis reported whether significant differences existed between the student groups based on the appropriate statistical tests provided in the SPSS MANOVA output.

Structural equation modeling (SEM). The data analysis procedures for the second research question entailed a series of SEMs to identify potential differences in the structural pathways to thriving among residential and extension site students. The following were the specific steps to address this research question. First, the study involved multiple confirmatory factor analyses to test the factorial validity of the latent constructs outlined in Table 2, including faculty commitment to diverse students and perspectives (FacDiversity), frequency of specific student-faculty interactions (FacInteraction), spirituality, psychological sense of community (PSC), institutional integrity (InstIntegrity), and Thriving. As noted in Table 2, *Thriving* is a first-order latent construct composed of the M scores from the following Thriving Quotient (TQ) subscales: Academic Determination, Engaged Learning, Social Connectedness, Diverse Perspective, and Positive Perspective. The remaining latent constructs represent first-order factors, as observed by specific items on the Thriving Quotient (TQ) instrument. Each confirmatory factor analysis (CFA) involved a series of respecifications based on the modification indices from the AMOS software, including adding covariances among error terms for observed variables. All respecifications for each latent construct were

completed individually and logged along with the resulting fit statistics in a respecifications table.

Second, upon completion of the CFA for each latent construct, a proposed structural model was developed to predict the pathways to thriving for the aggregate sample. Included in the proposed model were the observed variables in Table 2 and the respecified latent constructs as noted. Regression pathways between the observed and latent variables (e.g., PSC to thriving or institutional integrity) represented the hypothesized indirect and direct relationships among variables. In addition, residual terms were added to each endogenous variable (e.g., PSC, institutional integrity, or faculty interaction) to measure its error, and covariances were added between exogenous (i.e., gender and financial difficulty). Figure 1 provides a visual representation of the hypothesized structural model. The model involved a series of respecifications based on the modification indices and parameter estimates from the AMOS software, including adding or removing regression pathways and covariances based on estimated significance levels. All respecifications to the structural model were completed individually and logged along with the resulting fit statistics in a respecifications table. The fit statistics for the final omnibus model were reported along with the direct and indirect effects of variables.

Third, the study involved multiple-group analysis (MGA), utilizing the omnibus model for the aggregate sample (i.e., best-fitting model). The MGA technique in SEM tested whether the structural model for college student thriving was invariant or equivalent across traditional and extension site student groups. Within the AMOS software, each student group was isolated, and various levels of equality constraints were

imposed. Based on the intent of the second research question to test the differences in structural pathways to thriving among two student population, equality constraints were released from the measurement weights, structural weights, structural covariances, structural residuals, and measurement residuals as needed. The final fit statistics for the partial invariance model were reported in a goodness-of-fit table.

Based on the results of the MGA that determined variance in the model among the two student groups, the final analysis in the study involved the development of a predictive model of thriving for each student group. Each student group model began with the observed and latent variables from the omnibus model. The only exception is that the extension site student model included additional campus experience variables related to students' course delivery format (Modality), enrolled credit hours (Credits), practicum hour expectations at their local site (WorkMinistry), work hours external to the site (WorkOffSite), feelings of being overwhelmed (Overwhelmed), and the extent to which students' lives are balanced (Balance). The traditional structural model included an additional observed variable related to campus involvement (CampusInv). These additional variables helped explain the variations in college student thriving among extension site and traditional students. Each student group model involved a series of respecifications based on the modification indices and parameter estimates from the AMOS software, including adding or removing regression pathways and covariances based on estimated significance levels. All respecifications to each student group model were completed individually and logged along with the resulting fit statistics in a respecifications table. The fit statistics for each final student group model were reported along with the direct and indirect effects of variables.

Summary

This study was guided by two research questions that required different data analysis procedures. For the first research question, this study examined the differences in thriving and Thriving Quotient (TQ) subscale scores among two student populations, utilizing a 3-step process, including logistic regression to identify predictor variables, propensity score matching, MANOVA, and ANOVA. For the second research question, this study determined the differences in structural pathways to thriving between extension site and traditional students, utilizing SEM. Multiple group analysis techniques in SEM explored whether the hypothesized model was invariant among the two student populations. Failure to find equivalence led to the development of structural models for both student groups. The aim of these analyses was to evaluate the effectiveness of the church-based extension site program at the target university, in comparison with the traditional college experience.

CHAPTER 4

RESULTS

The purpose of this study was to measure student success in an innovative experiential learning program through the lens of college student thriving, with the aim to evaluate the effectiveness and potential disruptiveness of the church-based extension site model. The research questions that guided this study were as follows: (a) To what extent does thriving and the Thriving Quotient (TQ) subscale scores differ between extension site and traditional residential students at a private Christian university, after controlling for entering characteristics? and (b) Are there significant differences in the structural pathways to thriving between extension site and traditional residential students at a private Christian university?

These research questions were explored through a variety of statistical techniques, including the following: (a) propensity score analysis with logistic regression to create a comparison group among the two student populations, (b) a one-way MANOVA to examine the differences in Thriving Quotient (TQ) subscale scores among the two student groups, (c) a one-way ANOVA to examine the differences in mean thriving scores among these student populations, (d) multiple CFAs to test the fit of the measurement models, (e) an omnibus structural model for the aggregate sample, (f) multiple-group analysis to determine the equivalence of the omnibus structural model among the two student groups, and (g) final structural models for each student group.

The results of these statistical techniques along with the data screening process are presented in this chapter.

Propensity Score Analysis

Prior to examining the mean thriving and Thriving Quotient (TQ) subscale scores among the two student groups to discern any significant differences in group means, propensity score analysis (PSA) was utilized to create an equivalent comparison dataset. Establishing a comparison group enabled the researcher to control for variables that influence students' propensity to enroll in the extension site program (Grunwald & Mayhew, 2008; Rosenbaum, 1983, 2012; Rosenbaum & Rubin, 1984). Controlling these predictor variables enables the researcher to account for the differences between the two student groups, thus simulating random assignment (Grunwald & Mayhew, 2008). Consequently, the PSA increased the statistical power of the MANOVA and ANOVA tests by establishing the most equivalent comparison group between the extension site and traditional student participants. PSA utilized logistic regression to identify predictors of membership in a particular group (e.g., extension site) and subsequently matched participants in the dataset. The following section reviews the statistical techniques employed in the PSA process.

The first stage of the PSA process involved a forward logistic regression to determine which independent variables from the aggregate dataset were predictors of extension site group membership. The analysis evaluated the first-year student sample ($n = 313$), utilizing the screened dataset with traditional ($n = 179$) and extension site ($n = 134$) students. Responses from first-year students were utilized at the logistic regression stage because these students have less college experiences that might influence their

group membership. The experiences of first-year students are heavily influenced by input characteristics and initial environmental factors. To this end, the initial hypothesized variables included the following: Age, gender (Female), race (White), household income (Income), first-generation status (FirstGen), institutional fit (Fit), transfer status (Transfer), institutional choice (FirstChoice), high school grades (HSGrades_R), enrollment status (Status), residential status (OnCampus), working activity during college (WorkForPay), international student status (Intl), financial difficulty (FinDiff), intent to graduate (Graduate), and degree aspirations (DegreeGoal).

Regression results indicated the overall model fit of four predictors was statistically reliable in distinguishing students' extension site group membership ($\chi^2_{(4)} = 189.342, p < .001$). The model correctly classified 83.1% of the cases in the dataset. The regression statistics (see Table 3) indicated age, residential status, working activity in college, and degree aspirations significantly predicted extension site group membership. Further, the odds ratios indicated the rate of change in the likelihood of students' identifying with the extension site group.

Based on the results from the logistic regression, PSA was utilized to create a matching dataset between the extension site and traditional student populations based on

Table 3

Summary of Logistic Regression Analysis Predicting Extension Site Group Membership

Variables	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	<i>95% CI</i>
Age	.504	.180	<.005	1.655	[1.162, 2.356]
OnCampus	-2.861	.370	<.001	.057	[0.028, 0.118]
WorkForPay	.442	.169	<.01	1.555	[1.117, 2.164]
DegreeGoal	-.997	.335	<.005	.369	[0.192, 0.711]

Note. CI = confidence interval for odds ratio (OR).

the aggregate sample ($n = 796$). The covariates, or predictor variables, identified in the initial logistic regression step (Age, OnCampus, WorkForPay, and DegreeGoal) were included in the PSA as well as program type (StudentType), which served as the independent variable. The IBM SPSS Propensity Score Matching module established a propensity score for each case and matched subjects based on the 1:1 nearest neighbor matching method. A caliper width of 0.5 was set in the SPSS module, with the aim to mitigate selection bias and maximize the sample size. Regression results indicated the overall model fit was statistically reliable in distinguishing students' extension site group membership ($\chi^2_{(4)} = 351.866, p < .001$). The scoring and matching process established a comparison dataset ($n = 618$), with four exact score matches and 288 fuzzy (i.e., nearest neighbor) score matches. The comparison dataset included 326 traditional and 292 extension site students.

Analysis of Group Differences in Mean Thriving Quotient Subscale Scores

A one-way MANOVA was conducted to determine if there were significant differences in the *MTQ* subscale scores between students in the extension site compared to traditional students. The analysis utilized the dataset ($n = 618$) developed through the propensity score matching technique, as outlined in the previous section. MANOVA results indicated student type significantly affected the combined dependent variable of *TQ* subscales. Specifically, the univariate ANOVA results indicated Academic Determination, Engaged Learning, Diverse Citizenship, Social Connectedness, and Positive Perspective significantly differed by student type, with extension site students reporting higher Thriving Quotient (*TQ*) subscale scores than their traditional

counterparts. Table 4 presents the group *Ms* and *SDs* for each TQ subscale by student type. Table 5 presents the results of the MANOVA and univariate ANOVA.

Analysis of Group Differences in Mean Thriving Scores

The one-way ANOVA was conducted to examine the differences in *M* thriving scores among extension site and traditional students. The ANOVA was conducted separately from the MANOVA to evaluate whether overall thriving differed significantly between the two student groups. The analysis utilized the dataset ($n = 618$) developed through the propensity score matching technique, as outlined in the previous section. ANOVA results indicated significant differences in the *M* thriving scores among the two student groups ($F[1, 616] = 62.871, p < .001$). Students enrolled in the extension site program reported higher *M* thriving scores ($M = 5.12, SD = .45$), compared to their traditional counterparts ($M = 4.82, SD = .49$). The effect size η^2 (eta-squared) was .093, representing a moderate effect (Cohen, 1988).

Confirmatory Factor Analyses

To address the second research question related to the differences in the pathways to thriving between extension site and traditional students, a structural model was developed for the aggregate sample and subsequently tested for group invariance through the multiple-group analysis method in SEM. Before analyzing the hypothesized structural model for the aggregate sample ($n = 618$), CFAs were conducted for each latent variable in the hypothesized model. CFA measures the extent to which observed variables correlate with a hypothesized latent construct, thus testing the validity of the latent construct and modifying the construct as necessary to better fit the sample (Byrne, 2016).

Table 4

Mean Scores and Standard Deviations for Measures of Thriving as a Function of Program Type

Group	<u>Academic Determination</u>		<u>Engaged Learning</u>		<u>Diverse Citizenship</u>		<u>Social Connectedness</u>		<u>Positive Perspective</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Extension Site	5.239	.517	5.232	.671	5.328	.470	4.526	.915	5.257	.661
Traditional	5.099	.560	4.969	.723	5.019	.526	4.162	.969	4.825	.839

Table 5

Multivariate and Univariate ANOVAs for Thriving Quotient Subscales

Group	Univariate																	
	<u>Multivariate</u>			<u>Academic Determination</u>			<u>Engaged Learning</u>			<u>Diverse Citizenship</u>			<u>Social Connectedness</u>			<u>Positive Perspective</u>		
	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2
Student Type	17.52	<.001	.125	10.51	<.001	.017	21.89	<.001	.034	59.49	<.001	.088	23.04	<.001	.036	50.74	<.001	.076

Note. Multivariate *F* ratios were generated from Pillai's statistic (.125). Multivariate *df* = (5, 612). Univariate *df* = (1, 616).

Thriving

The results of the CFA for thriving indicated the variable is a first-order latent construct that contains the *M* scores of the following variables: Academic Determination, Engaged Learning, Diverse Citizenship, Social Connectedness, and Positive Perspective. The initial first-order CFA of thriving had good fit to the data ($\chi^2_{(5)} = 18.399$; $p < .005$; CFI = .984; RMSEA = .066; 90% confidence intervals [CI] = .177, .237). The AMOS program recommended several covariance pathways; however, only one modification was deemed theoretically acceptable (see Table 6). After modifying the initial model with the additional covariance pathway, the first-order latent variable had excellent model fit indices ($\chi^2_{(4)} = 6.308$; $p = .663$; CFI = .997; RMSEA = .031; 90% CI = .000, .074). The final graphical model for thriving is displayed in Figure 2.

Four of the five subscales of thriving, including Academic Determination, Engaged Learning, Diverse Citizenship, and Positive Perspective, exhibited acceptable factor loadings, ranging between $\alpha = .61$ and $\alpha = .80$. The fifth subscale, Social Connectedness, did not meet the acceptable factor loading level ($\alpha = .34$); however, the scale remained in the model, as other thriving studies have demonstrated the reliability of this variable as a contributing factor to thriving. The thriving scale demonstrated acceptable internal consistency (Chronbach's $\alpha = .72$).

Table 6

Model Fit Statistics for Confirmatory Factor Analysis of First-Order Thriving

Model	χ^2	<i>df</i>	<i>p</i>	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Initial Model	18.399	5	<.005	0.984	0.066			
Model 2: e1 <--> e2	6.308	4	<.5	0.997	0.031	12.09	1	<.001

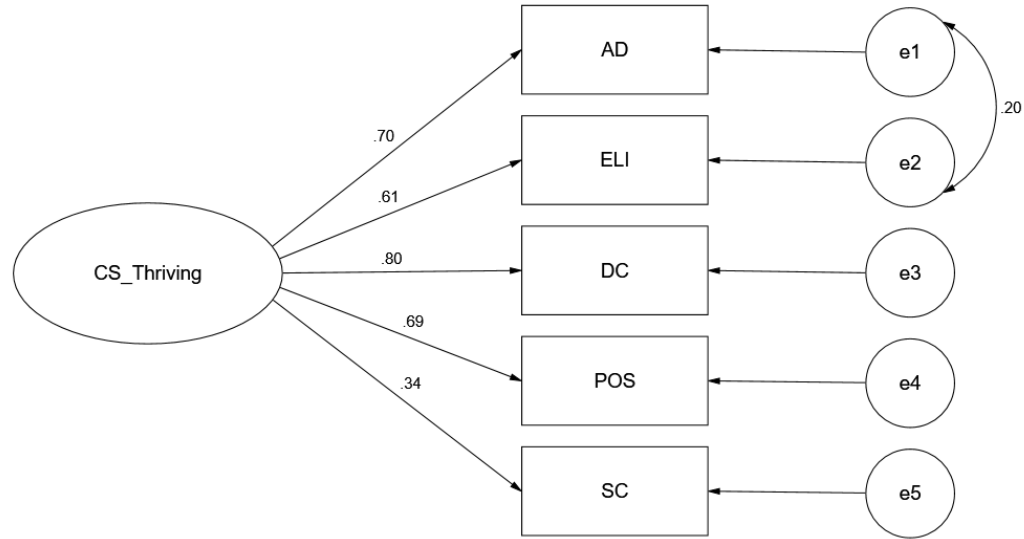


Figure 2. Final CFA model for first-order thriving.

Psychological Sense of Community (PSC)

The CFA results for PSC indicated the model had excellent fit to the data ($\chi^2_{(2)} = .482$; $p = .786$; CFI = 1.000; RMSEA = .000; 90% CI = .000, .052). The AMOS program did not recommend any modifications (see Table 7). The PSC scale demonstrated acceptable factor loadings, ranging between $\alpha = .61$ and $\alpha = .79$, and acceptable internal consistency (Chronbach's $\alpha = .77$). The final graphical model for PSC is displayed in Figure 3.

Institutional Integrity

The CFA results for the institutional integrity construct indicated the initial model had poor fit to the data ($\chi^2_{(1)} = 37.181$; $p < .001$; CFI = .937; RMSEA = .242 with 90%

Table 7

Model Fit Statistics for Confirmatory Factor Analysis of PSC

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	p ($\Delta \chi^2$)
Initial Model	0.482	2	.786	1.000	0.000			

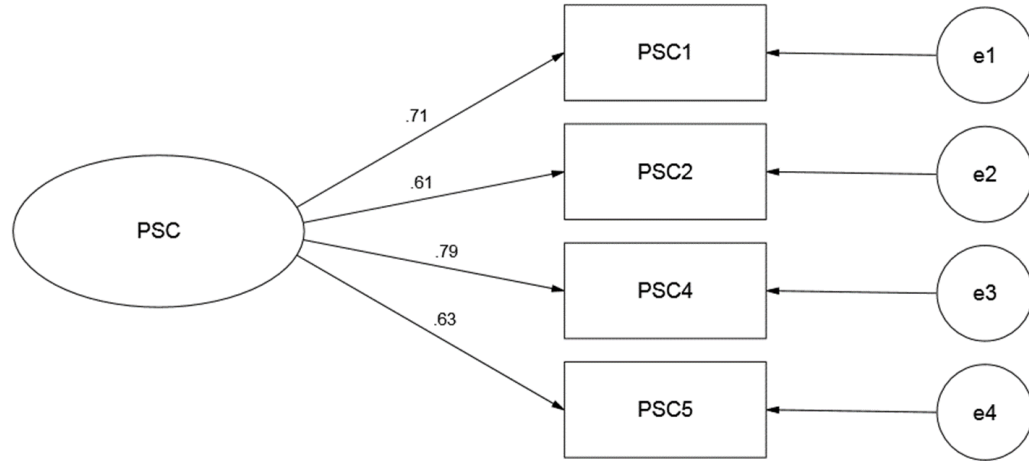


Figure 3. Final CFA model for PSC.

CI = .179, .312). The AMOS program recommended one covariance path, which was deemed theoretically acceptable and added to the model (see Table 8). The final CFA indicated the model had excellent fit to the data ($\chi^2_{(1)} = .894$; $p < .5$; CFI = 1.000; RMSEA = .000; 90% CI = .000, .104). The institutional integrity scale demonstrated acceptable factor loadings, ranging between $\alpha = .65$ and $\alpha = .81$, and acceptable internal consistency (Chronbach's $\alpha = .79$). The final graphical model for institutional integrity is displayed in Figure 4.

Spirituality

The CFA results for the spirituality construct indicated the initial model had excellent fit to the data ($\chi^2_{(1)} = .522$; $p < .5$; CFI = 1.00; RMSEA = .000; 90% CI = .000,

Table 8

Model Fit Statistics for Confirmatory Factor Analysis of Institutional Integrity

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	p ($\Delta \chi^2$)
Initial Model	37.181	1	<.001	0.937	0.242			
Model 3: e1<-->e2	0.894	1	<.5	1.000	0.000	36.29	1	<.001

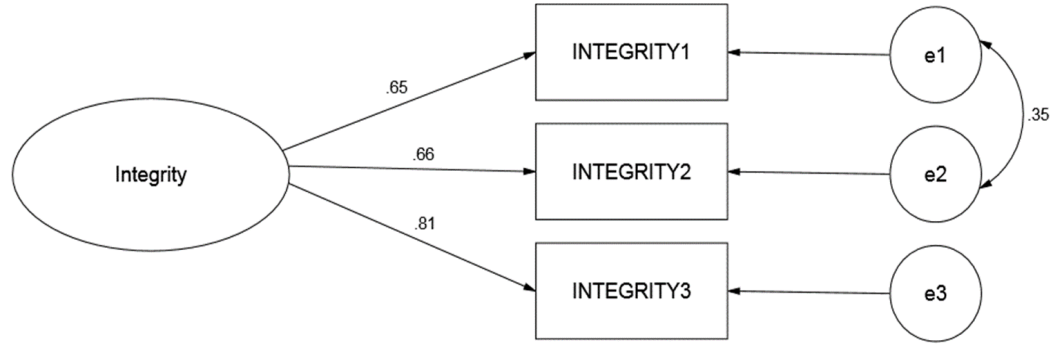


Figure 4. Final CFA model for institutional integrity.

.095). The AMOS program did not recommend any modifications, so the original hypothesized model was accepted (see Table 9). The spirituality scale demonstrated acceptable factor loadings, ranging between $\alpha = .73$ and $\alpha = .83$, and good internal consistency (Chronbach's $\alpha = .82$). The final graphical model for spirituality is displayed in Figure 5.

Student-Faculty Interaction

The CFA results for the student-faculty interaction construct indicated the initial model had excellent fit to the data ($\chi^2_{(2)} = 7.736$; $p < .1$; CFI = .997; RMSEA = .047; 90% CI = .104, .440). The AMOS program did not recommend any modifications, so the original hypothesized model was accepted (see Table 10). The student-faculty interaction scale demonstrated acceptable factor loadings, ranging between $\alpha = .54$ and $\alpha = .81$), and

Table 9

Model Fit Statistics for Confirmatory Factor Analysis of Spirituality

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	p ($\Delta \chi^2$)
Initial Model	0.522	1	<.5	1.000	0.000			

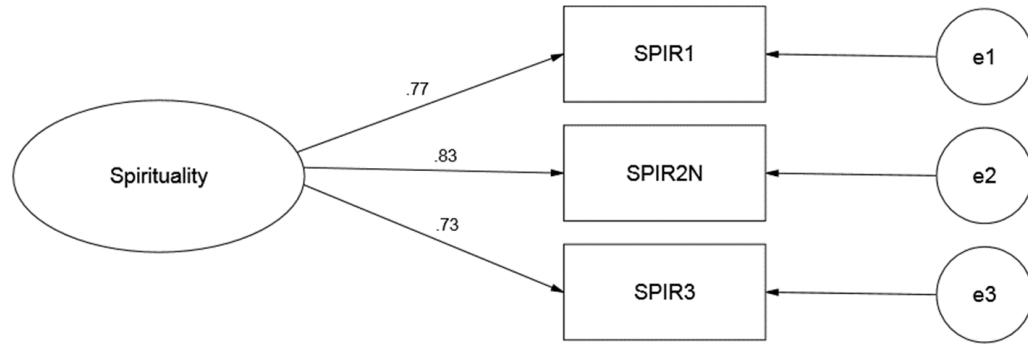


Figure 5. Final CFA model for spirituality.

Table 10

Model Fit Statistics for Confirmatory Factor Analysis of Student-Faculty Interaction

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Initial Model	4.736	2	<.1	0.997	0.047			

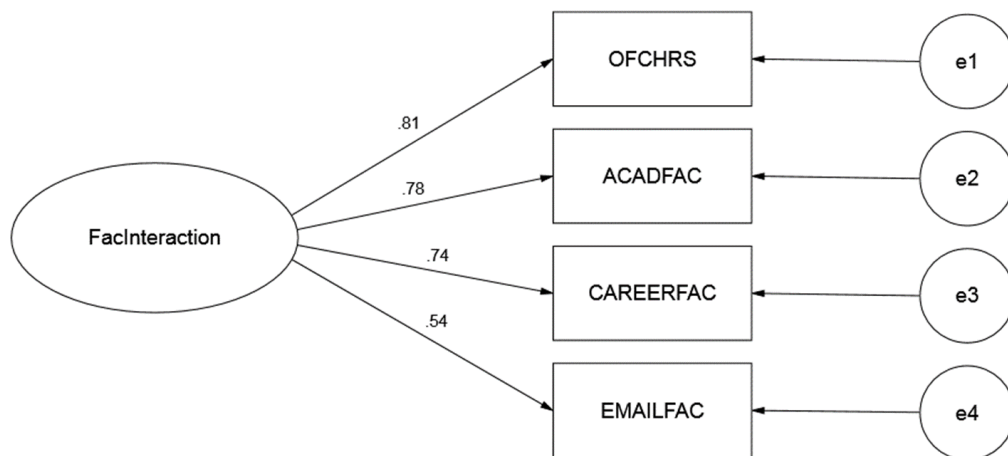


Figure 6. Final CFA model for student-faculty interactions.

good internal consistency (Chronbach's $\alpha = .81$). The final graphical model for student-faculty interaction is displayed in Figure 6.

Faculty Commitment to Diverse Students and Perspectives

The CFA results for the faculty commitment to diverse students and perspective (i.e., faculty diversity) construct indicated the initial model had poor fit to the data ($\chi^2_{(5)} = 136.475$; $p < .001$; CFI = .925; RMSEA = .206; 90% CI = .177, .237). The AMOS program recommended one covariance path, which was deemed theoretically acceptable and added to the model (see Table 11). The final CFA indicated the model had excellent fit to the data ($\chi^2_{(4)} = 12.272$; $p < .05$; CFI = .995; RMSEA = .058; 90% CI = .023, .096). The faculty diversity scale demonstrated acceptable factor loadings, ranging between $\alpha = .57$ and $\alpha = .92$, and good internal consistency (Chronbach's $\alpha = .88$). The final graphical model for faculty commitment to diverse students and perspectives is displayed in Figure 7.

Structural Regression Model With Aggregate Sample

The models from the CFAs were utilized to construct the hypothesized structural regression model of thriving for the aggregate sample ($n = 618$). The analysis indicated the initial model had excellent fit to the data ($\chi^2_{(355)} = 801.194$; $p < .001$; CFI = .935; RMSEA = .045; 90% CI = .041, .049]. The AMOS program recommended

Table 11

Model Fit Statistics for Confirmatory Factor Analysis of Faculty Commitment to Diverse Students and Perspectives

Model	χ^2	<i>df</i>	<i>p</i>	CFI	RMSEA	$\Delta \chi^2$	Δdf	<i>p</i> ($\Delta \chi^2$)
Initial Model	136.475	5	<.001	0.925	0.206			
Model 2: e4 <--> e5	12.272	4	<.05	0.995	0.058	124.20	1	<.001

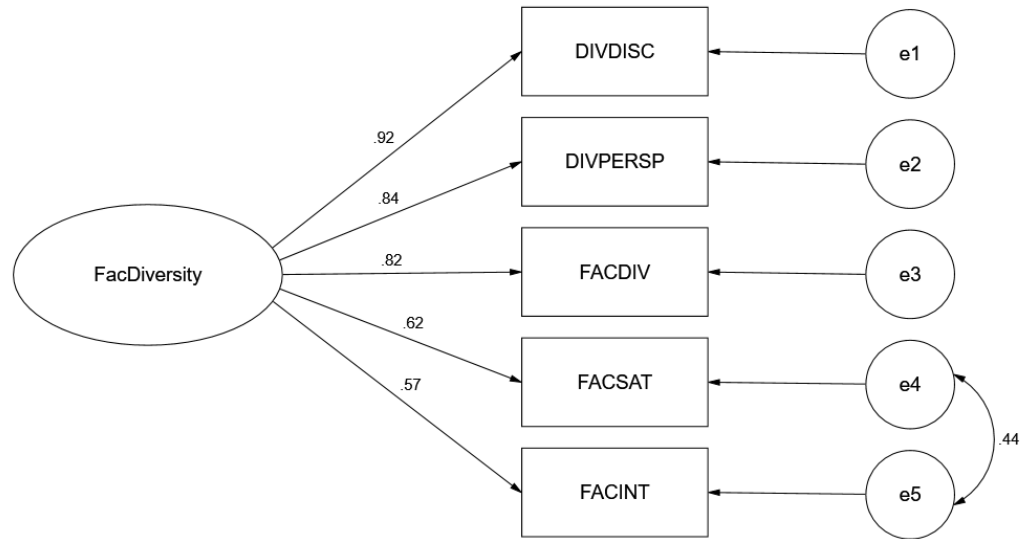


Figure 7. Final CFA model for faculty commitment to diverse students and perspectives.

modifications to improve the fit of the structural model, which were deemed theoretically appropriate and added to the model (see the table in Appendix B). Included in the modifications were nine new structural weights and three structural covariances, as well as the removal of 10 structural weights and six structural covariances due to non-significance. In total, 28 different modifications were completed, with each modification completed one at a time and the resulting fit statistics recorded. The final structural model explained 67% of the variation in thriving, and it demonstrated excellent fit to the data ($\chi^2_{(358)} = 696.889$; $p < .001$; CFI = .951; RMSEA = .039; 90% CI = .035, .043). Figure 8 provides the omnibus for the aggregate sample. The direct, indirect, and total effect of the variables in the model on thriving are displayed in Table 12.

All latent variables in the model except institutional integrity had a direct effect on thriving. Spirituality had the largest total effect on thriving ($\beta = .644$), indicating students who rely on their beliefs pertaining to the meaning and purpose of life, especially in seasons of challenge, were more like to thrive in the college environment

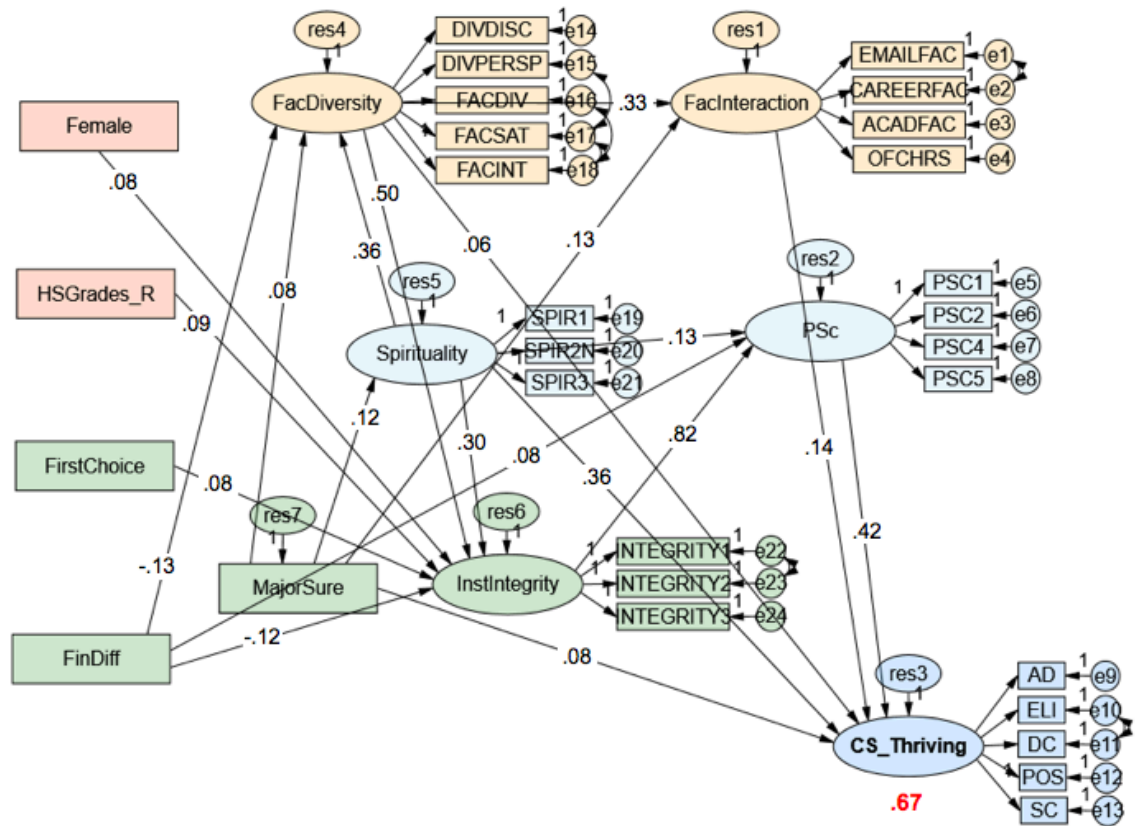


Figure 8. Omnibus model for aggregate sample.

Table 12

Standardized Direct, Indirect, and Total Effects on Thriving for Aggregate Sample

Item	Direct	Indirect	Total
Control Variables			
Female		.028	.028
High School Grades		.030	.030
First Choice		.028	.028
Financial Difficulty		-.052	-.052
Major Certainty	.084	.122	.206
Latent Variables			
Faculty Diversity	.125	.221	.346
Student-Faculty Interaction	.142		.142
Spirituality	.360	.284	.644
Institutional Integrity		.347	.347
PSC	.424		.424

Note. $n = 618$.

within this sample. Spirituality had an indirect effect on thriving through institutional integrity ($\beta = .302, p < .001$) and then PSC ($\beta = .817, p < .001$), indicating spirituality contributed to thriving through its ability to enhance students' perceptions of institutional congruence and subsequently students' sense of community on campus. The direct effect of spirituality indicated the variable contributed to the variation in thriving even without the influence of PSC and institutional integrity.

PSC represented the second largest total effect on thriving ($\beta = .424, p < .001$), indicating students who experienced a sense of community on the college campus were more likely to thrive. PSC was a pure direct effect that was not mediated by other variables in the model. PSC, however, served as a mediating variable for multiple observed and latent variables, including spirituality, institutional integrity, and financial difficulty. These mediating effects are explored in the next few paragraphs.

The third largest total effect that contributed to thriving was institutional integrity ($\beta = .347$), indicating students who perceived alignment between the institutional mission, policies, and practices were more likely to thrive. Institutional integrity had an indirect effect on thriving as mediated through PSC ($\beta = .817, p < .001$). When students perceived institutional congruence, they were more likely to experience a sense of community on campus, which directly contributed to the variation in thriving.

The total contribution of faculty diversity ($\beta = .346$), or faculty commitment to diverse students and perspectives, to thriving indicated the importance of faculty interactions both inside and outside the classroom that embrace and appreciate diverse students and perspectives. Although faculty diversity had a direct effect on thriving ($\beta = .125, p < .01$), the latent variable was mediated by institutional integrity ($\beta = .501, p <$

.001) and faculty-student interactions (i.e., student-faculty interactions; $\beta = .334, p < .001$), indicating students who perceived that faculty were committed to diverse students and perspectives in the classroom were more likely to report a higher frequency of faculty-student interactions, especially outside the classroom. Moreover, this positive perception of faculty diversity contributed to students' positive perception of institutional congruence, which had an indirect effect on thriving through PSC.

The final latent variable, student-faculty interactions, contributed directly to thriving ($\beta = .142, p < .001$). This result indicated students within the sample who reported higher levels of faculty interaction were more likely to thrive in the college environment. Within the model, faculty diversity ($\beta = .334, p < .001$) and students' certainty of one's major and academic plans (i.e., major certainty; $\beta = .128, p < .005$) directly contributed to student-faculty interactions, indicating students' perceptions of faculty commitment to diverse students' and perspectives as well as major certainty contributed to the frequency of their interactions with faculty and subsequently their level of thriving.

Beyond these latent variables, the model identified five observed variables with varying levels of contribution to thriving. The observed variable with the largest total effect was major certainty ($\beta = .206$), which had a direct effect on thriving ($\beta = .084, p < .05$). Students in the sample who reported a higher level of certainty in their degree program were more likely to thrive in the college environment. Major certainty also had a direct effect on students' level of spirituality ($\beta = .118, p < .01$) and student-faculty interactions ($\beta = .128, p < .005$). Students who were more confident in their academic plans were more likely to report higher levels of spirituality and greater frequency of

student-faculty interactions, all of which contributed directly and indirectly to thriving. In similar fashion, major certainty had a direct effect on faculty diversity ($\beta = .080, p < .05$) and an indirect effect on thriving through the pathways noted in previous sections. This pathway suggests students who reported a higher level of confidence in their academic plans also reported a more positive perception of faculty commitment to diverse students and perspectives (i.e., faculty diversity), which further contributed directly and indirectly to thriving.

The remaining observed variables, including gender, high school grades, institutional choice, and financial difficulty, had an indirect effect on thriving as mediated by other variables in the model. Financial difficulty, in particular, had an indirect negative effect on thriving as mediated through faculty diversity ($\beta = -.130, p < .005$), indicating students who reported higher levels of financial difficulty were less likely to perceive that faculty were committed to diverse students and perspectives. The negative effect of financial difficulty on thriving was mitigated, however, by faculty diversity, which contributed to thriving directly as well as indirectly through institutional integrity to PSC. Financial difficulty also had a positive direct effect on PSC ($\beta = .081, p < .05$), indicating students who reported a greater degree of financial difficulty also reported a greater sense of community on campus. Otherwise, students who reported a greater degree of financial difficulty were less likely to perceive that the institution was meeting their expectations and acting in congruence with the mission (i.e., institutional integrity; $\beta = -.118, p < .005$); however, this negative effect was mitigated by the positive effect of institutional integrity and PSC on thriving. In summary, students who were female ($\beta = .080, p < .05$), reported above average high school grades ($\beta = .086, p < .05$), and selected

the institution as their first choice ($\beta = .081, p < .05$) were more likely to report a more positive perception of institutional integrity, which further contributed to thriving as mediated through PSC.

Multiple-Group Analysis

A multiple-group analysis (MGA) was conducted to explore the differences in pathways to thriving between extension site and traditional students at the target university. Adequate numbers of each student group were present in the dataset (extension site students $n = 326$, traditional students, $n = 292$). The MGA technique permits the researcher to begin with a statistically sound omnibus, or best-fitting, model for the aggregate sample and to test whether the model is invariant, or equivalent, across the groups (Byrne, 2016; Ullman, 2013). The final structural model for the aggregate sample (see Figure 8) was utilized as the baseline, or configural, model for students at the target university to test the model invariance across program type. The MGA functionality in the AMOS program successively constrained various parameter estimates in the model (Byrne, 2016). Table 13 outlines the constrained models and resulting fit statistics in order of importance. Constraining a structural model implies particular parameters (e.g., measurement weights, structural weights, or structural covariances) are assigned equal weights, whereby the parameters are estimated to be equal across groups. The successive constraints enable the researcher to identify the components of the model that might differ across groups and subsequently contribute to statistical fit (Byrne, 2016).

Ullman (2013) described the various invariance models in the following manner.

Model 1 is the unconstrained model that assumes that no equality constraints have been applied to the model; it is the model against which all other models were compared.

Table 13

Goodness of Fit for Invariance Analysis Across Student Group

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Invariance Model 1: Unconstrained	1169.148	716	<.001	0.933	0.032			
Invariance Model 2: Measurement weights	1197.668	731	<.001	0.932	0.032	-28.52	-15	<.025
Invariance Model 3: Structural weights	1238.775	751	<.001	0.928	0.032	-41.11	-20	<.005
Invariance Model 4: Structural covariances	1259.998	756	<.001	0.926	0.033	-21.22	-5	<.001
Invariance Model 5: Structural residuals	1313.165	763	<.001	0.919	0.034	-53.17	-7	<.001
Invariance Model 6: Measurement residuals	1622.194	793	<.001	0.878	0.041	-309.03	-30	<.001

Model 2 constrains the measurement weights, or the pathways between the observed variables and the latent variable being measured. Model 3 constrains the measurement weights and the structural weights, or the pathways between the various exogenous and endogenous variables within the model. Model 4 constrains the measurement weights, structural weights, and the structural covariances, or the covariances between exogenous observed variables in the model. Model 5 constrains the measurement weights, structural weights, structural covariances, and the structural residuals, which serve as the error terms that measure the variance in endogenous variances. The final model constrains the measurement weights, structural weights, structural covariances, structural residuals, and measurement residuals, or the disturbance terms that relate to each latent construct.

The MGA results for this study indicated model fit decreased continuously from the initial unconstrained model (Model 1) to the final constrained model (Model 6). The unconstrained model indicated excellent fit to the data ($\chi^2_{(716)} = 1169.148$; $p < .001$; CFI = .933; RMSEA = .032). Model 2, which constrained the measurement weights, also reported excellent fit statistics ($\chi^2_{(731)} = 1197.668$; $p < .001$; CFI = .932; RMSEA = .032). However, the χ^2 difference test between Model 1 and Model 2 reported a significant change in χ^2 . Ullman (2013) posited that any significant change in χ^2 between models indicates the models are variant, or non-equivalent across groups. With each model, the χ^2 difference test indicated significant differences.

Based on these results, I concluded the structural model is variant across the student groups. As a follow-up test, the pairwise parameter comparisons were evaluated to determine if the critical ratios, or z scores, between variables in the model exceeded 1.96, which represents a difference at the $p < .05$ significance level (Byrne, 2016). The pairwise parameter comparison identified the following parameters above the critical ratio threshold: two parameters among measurement weights, one parameter among structural weights, one parameter among structural covariances, four parameters among structural residuals, and 12 parameters among measurement residuals. Further details on these parameters are provided in the following paragraph and in Table 14.

Measurement weights above the critical ratio threshold included PSC4 and OFCHRS. PSC4 is a self-reported item on the TQ instrument that measures student agreement with the following statement: “I feel proud of the college or university I have chosen to attend.” Additionally, OFCHRS is a self-reported item on the TQ instrument that measures frequency for the following question: “How often this year have you met

with faculty during office hours?” The structural weight above the critical ratio threshold was the pathway between major certainty and student-faculty interaction. Major certainty is the degree to which students report confidence in their academic plans, whereas

Table 14

Multi-Group Parameter Estimates Above the Critical Ratio Threshold

Parameter	Critical Ratio (z score)
Measurement weight: PSC4	2.363
Measurement weight: OFCHRS	2.942
Structural weight: MajorSure --> FacInteraction	2.994
Structural covariance: HSGrades_R	4.387
Structural covariance: Residual for FacInteraction	2.110
Structural covariance: Residual for PSC	2.245
Structural covariance: Residual for Spirituality	2.998
Structural covariance: Residual for InstIntegrity	3.490
Measurement Residual: Measurement error for Academic Determination	3.155
Measurement Residual: Measurement error for Diverse Citizenship	3.227
Measurement Residual: Measurement error for Positive Perspective	4.754
Measurement Residual: Measurement error for INTEGRITY3	3.435
Measurement Residual: Measurement error for SPIR1	2.193
Measurement Residual: Measurement error for SPIR2N	3.771
Measurement Residual: Measurement error for SPIR3	4.901
Measurement Residual: Measurement error for PSC5	1.981
Measurement Residual: Measurement error for EMAILFAC	3.209
Measurement Residual: Measurement error for OFCHRS	2.183
Measurement Residual: Measurement error for FACDIV	4.651
Measurement Residual: Measurement error for FACSAT	4.229

student-faculty interaction relates to the frequency of interactions with faculty outside the classroom. The structural covariance above the critical ratio threshold was high school grades, which represents students’ self-reported academic performance from high school. The structural residuals above the critical ratio threshold include the residuals for the following latent constructs: student-faculty interaction, PSC, spirituality, and institutional

integrity. The measurement residuals above the critical ratio threshold relate to measurement errors for specific observed variable, as described in Table 14.

All other parameters in the configural model fell below the critical ratio threshold. Of specific import, the measurement weights related to the thriving latent construct were equivalent across groups. To address the research question regarding significant differences in the structural pathways to thriving between extension site and traditional students, I explored separately the unique models of thriving for these two student populations.

Structural Regression Models by Student Group

To develop the structural model for each student group, I started with the omnibus model, including all original latent and observed variables. The dataset utilized throughout this study was split into separate files for each group. Further, additional variables were added to the structural models to help explain the variation in thriving for extension site and traditional students. Including these variables in the group-specific structural models involved merging the additional items from the TQ instrument into the extension site and traditional student datasets.

The following items were added to the extension site dataset: educational modality, number of credits hours enrolled in the current semester, number of hours worked in church ministry practicum or internship, number of hours worked in an external job, students' perceptions of being overwhelmed, and student perceptions of balance. A campus involvement variable was added to the traditional dataset. Table 2 provides the complete description and coding of these variables. Records were matched based on an external identification number in each dataset. Due to missing values, 19

cases were deleted from the extension site student dataset ($n = 307$), and two cases were deleted from the traditional student dataset ($n = 290$). Missing values for these items related to the configuration of the TQ instrument that prohibited students in each group from responding to items that did not relate to their experiences.

The following sections reviews the fit statistics and the modification process for each unique structural regression model. Additionally, an analysis of the pathways to thriving among the latent and observed variables in each model are reviewed. Table 15 provides the direct, indirect, and total effects of the variables in each model on thriving.

Structural Regression Model for Extension Site Students

The omnibus model was utilized to construct the hypothesized structural regression model of thriving for extension site students ($n = 307$). The initial analysis indicated the model had excellent fit to the data ($\chi^2_{(492)} = 858.391$; $p < .001$; CFI = .904; RMSEA = .049; 90% CI = .044, .055). The AMOS program recommended

Table 15

Standardized Direct, Indirect, and Total Effects on Thriving by Student Group

Item	Extension Site Students ($n = 307$)			Traditional Students ($n = 290$)		
	Direct	Indirect	Total	Direct	Indirect	Total
Observed						
Female		.034	.034			
High School Grades				-.101	-.007	-.108
Face-to-Face & Hybrid	-.111	.085	-.027			
Number of Credits		.022	.022			
Balance		.273	.273			
Major Certainty		.169	.169		.051	.051
Financial Difficulty					-.033	-.033
Campus Involvement					.211	.211
Latent Variables						
Faculty Diversity	.233	.248	.481		.204	.204

Item	Extension Site Students (<i>n</i> = 307)			Traditional Students (<i>n</i> = 290)		
	Direct	Indirect	Total	Direct	Indirect	Total
Student-Faculty Interactions		.069	.069	.279	-.058	.221
Spirituality	.294	.334	.629	.390	.213	.603
Institutional Integrity		.334	.334		.395	.395
PSC	.479		.479	.447		.447

modifications to improve the fit of the structural model, which were deemed theoretically appropriate and added to the model (see the table in Appendix C). Included in the modifications were seven new structural weights and four structural covariances, as well as the removal of 23 structural weights and 11 structural covariances due to non-significance. Additionally, five variables were removed from the model, as the modifications eliminated any relationships with other variables in the model. In total, 50 modifications were completed, with each modification completed one at a time and the resulting fit statistics recorded. The final structural model explained 73% of the variation in thriving, and it demonstrated excellent fit to the data ($\chi^2_{(358)} = 612.369$; $p < .001$; CFI = .931; RMSEA = .048; 90% CI = .042, .055). Figure 9 presents the structural model for the extension site students. The direct, indirect, and total effect of the variables in the model on thriving are displayed in Table 15.

A notable change in the hypothesized model for extension site students compared to the final model (Figure 9) was the removal of the variables related to working hours in a ministry, working hours off-campus, and students' perception of being overwhelmed. The number of hours worked in a ministry internship or external job, as well as the perception of being overwhelmed had no direct or indirect effects on the thriving model for extension site students. These variables had been added to the extension site model to help explain the variation in thriving among extension site students, yet were deemed unnecessary after analysis.

Three of the six latent variables in the structural regression model for extension site students had a direct positive effect on thriving, including PSC, spirituality, and faculty diversity. The remaining latent variables, including student-faculty interaction

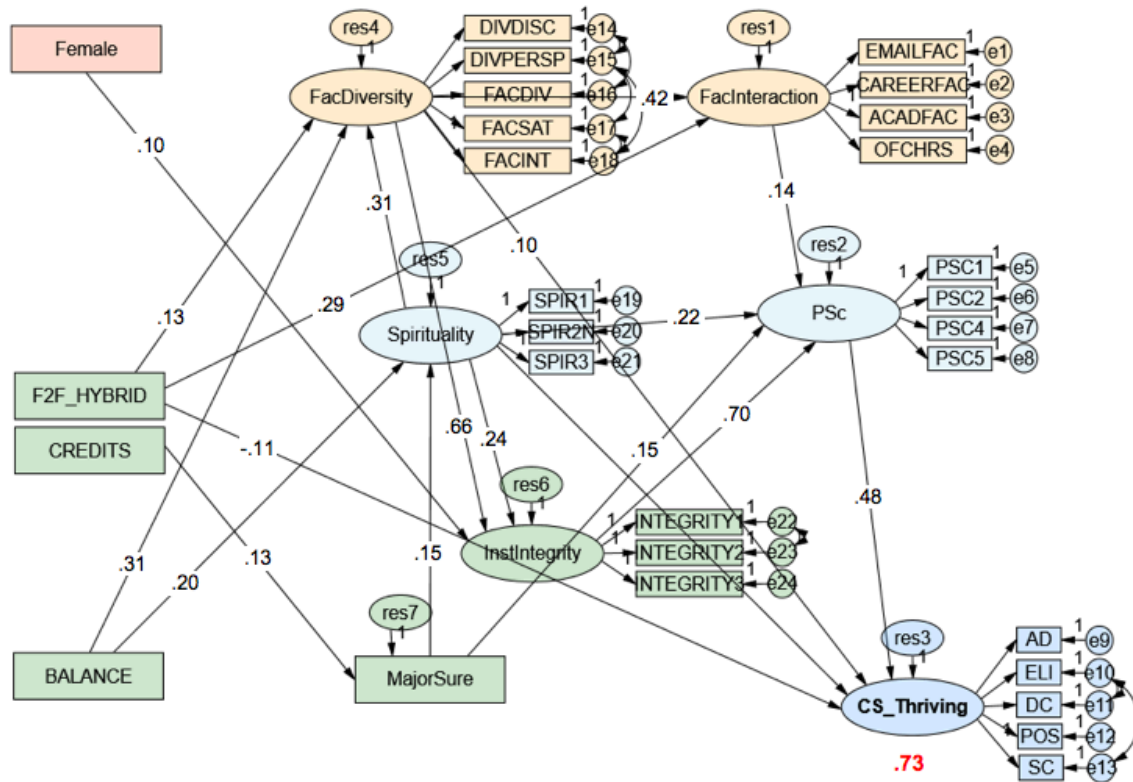


Figure 9. Structural model for extension site students.

and institutional integrity, had a positive indirect effect on thriving. Of the observed variables in the model, only educational modality had a direct negative effect on thriving, whereas the remaining observed variables had a positive indirect effect on thriving. This section explores the relationship among these observed and latent variables and examines the contribution of these variables to thriving for extension site students. The direct and indirect effects on thriving for extension site students are outlined in Table 15.

Spirituality represented the largest total effect on thriving ($\beta = .629$), including both direct ($\beta = .334$) and indirect ($\beta = .294$) effects. The direct relationship of

spirituality to thriving ($\beta = .294, p < .001$) indicated students who reported higher levels of spirituality, or a reliance upon one's belief in the meaning and purpose of life, were more likely to thrive in the extension site college environment. Additionally, the indirect relationship to thriving as mediated through PSC and institutional integrity indicated spirituality contributed to students' sense of community in the college environment ($\beta = .216, p < .005$) and a positive perception of the institutional policies and practices ($\beta = .241, p < .001$), which further contributed to thriving in the extension site environment.

The second largest total effect on thriving was PSC ($\beta = .479$), which represents the degree to which students find membership and community at the extension site. Students who felt they belonged and mattered in the site experience were more likely to thrive during their college tenure. The PSC variable also mediated the effects of spirituality, institutional integrity, student-faculty interactions, and major certainty on thriving. These relationships are reviewed in the following paragraphs.

Faculty diversity represented the third largest total effect on thriving ($\beta = .481$). In essence, students within the sample who reported higher levels of satisfaction with faculty commitment to diverse students and perspectives were more likely to thrive in the college environment. Additionally, these diverse experiences contributed indirectly to thriving through students' perception of institutional integrity ($\beta = .656, p < .001$) and subsequently PSC ($\beta = .697, p < .001$). An important factor that contributed to faculty diversity was students' level of spirituality ($\beta = .312, p < .001$) and educational modality ($\beta = .135, p < .05$). To this end, students who reported higher levels of spirituality were more likely to be satisfied with the degree to which faculty were committed to diversity

issues. Further, students enrolled in primarily face-to-face or hybrid programs at extension sites were more likely to report higher levels of faculty diversity.

Institutional integrity represented the fourth largest total effect on thriving ($\beta = .334$) as mediated by PSC ($\beta = .697, p < .001$). The degree to which extension site students experienced congruence among institutional policies and practices contributed directly to students' sense of community in the extension site environment, which directly contributed to their thriving ($\beta = .479, p < .001$). Spirituality and faculty diversity contributed directly to institutional integrity as noted. Further, female students ($\beta = .102, p < .05$) were more likely to report institutional congruence in practices and policies.

The final latent variable, student-faculty interactions, contributed indirectly to thriving as mediated by PSC ($\beta = .144, p < .005$). This finding suggests students who reported higher levels of faculty interaction, particularly outside the classroom, were more likely to develop a sense of community and ultimately thrive. Faculty diversity had a direct effect on student-faculty interactions ($\beta = .422, p < .001$). In other words, students who were more satisfied with diverse experiences in the classroom were more likely to interact with faculty outside the classroom, which assisted students with the development of a sense of community. Additionally, students' educational modality had a positive direct effect on student-faculty interactions ($\beta = .288, p < .001$). This finding indicates students enrolled in primarily face-to-face or hybrid programs at extension sites were more likely to interact with faculty outside the classroom, compared to their counterparts in purely online courses. This positive effect is mitigated, however, by the relationship between students' educational modality and thriving ($\beta = -.111, p < .05$).

Students enrolled in primarily face-to-face or hybrid programs at extension sites reported lower levels of thriving, compared to their online counterparts, thus mitigating the overall effect of students' education modality on thriving.

Beyond these five latent variables, the model also included five observed variables that reflected student input characteristics and campus experiences. Major certainty, or the extent to which students are certain of their academic plans, had a direct effect on spirituality ($\beta = .153, p < .05$) and PSC ($\beta = .152, p < .001$), which had a subsequent effect on thriving. In other words, students more confident in their academic plans were more likely to report higher spirituality scores and a sense of community. Among the extension site students, those who were enrolled in an appropriate number of credits ($\beta = .132, p < .05$) were also more likely to be sure of their academic plans.

A second observed variable, Balance, represented the degree to which students perceived they were able to balance the demands of their personal and academic lives. Additionally, the variable represented the degree to which students agreed that the learning environment at the extension site supported the need for balance. The balance variable was added to the extension site structural model to measure the impact of students' perceptions of balance in the extension site experience on college student thriving. As noted in Chapter 2, the church-based extension site program includes standard academic courses, along with practical ministry opportunities in the local church. Balance, then, advances a psychosocial measurement of the extension site student experience.

To this end, balance had a direct effect on faculty diversity ($\beta = .310, p < .001$) and spirituality ($\beta = .198, p < .005$). Extension site students who reported a higher level

of balance were more likely to report a higher level of spirituality and perceive that faculty were committed to diverse students and perspectives. Each of these mediating variables had a direct and indirect effect on thriving.

Structural Regression Model for Traditional Students

The omnibus model was utilized to construct the hypothesized structural regression model of thriving for the traditional students ($n = 290$), whose demographic profile matched the extension site student population. As described earlier in this chapter, the study used propensity score analysis (PSA) to create a comparison dataset that matched students in the extension site and traditional populations, whose input characteristics and initial college experiences predicted their student group membership. The initial analysis indicated the model had excellent fit to the data ($\chi^2_{(378)} = 603.224$; $p < .001$; CFI = .923; RMSEA = .045; 90% CI = .039, .052). The AMOS program recommended modifications to improve the fit of the structural model, which were deemed theoretically appropriate and added to the model (see the table in Appendix D). Included in the modifications were seven new structural weights, as well as the removal of 11 structural weights and four structural covariances due to non-significance. Additionally, two variables were removed from the model, as the modifications eliminated any relationships with other variables in the model. In total, 24 modifications were completed, with each modification completed one at a time and the resulting fit statistics recorded. The final structural model explained 62% of the variation in thriving for the matched traditional student population, and it demonstrated excellent fit to the data ($\chi^2_{(334)} = 532.029$; $p < .001$; CFI = .933; RMSEA = .045; 90% CI = .038, .052]. Figure 10 provides the structural model for the traditional student population. The direct,

indirect, and total effect of the variables in the model on thriving are displayed in Table 15.

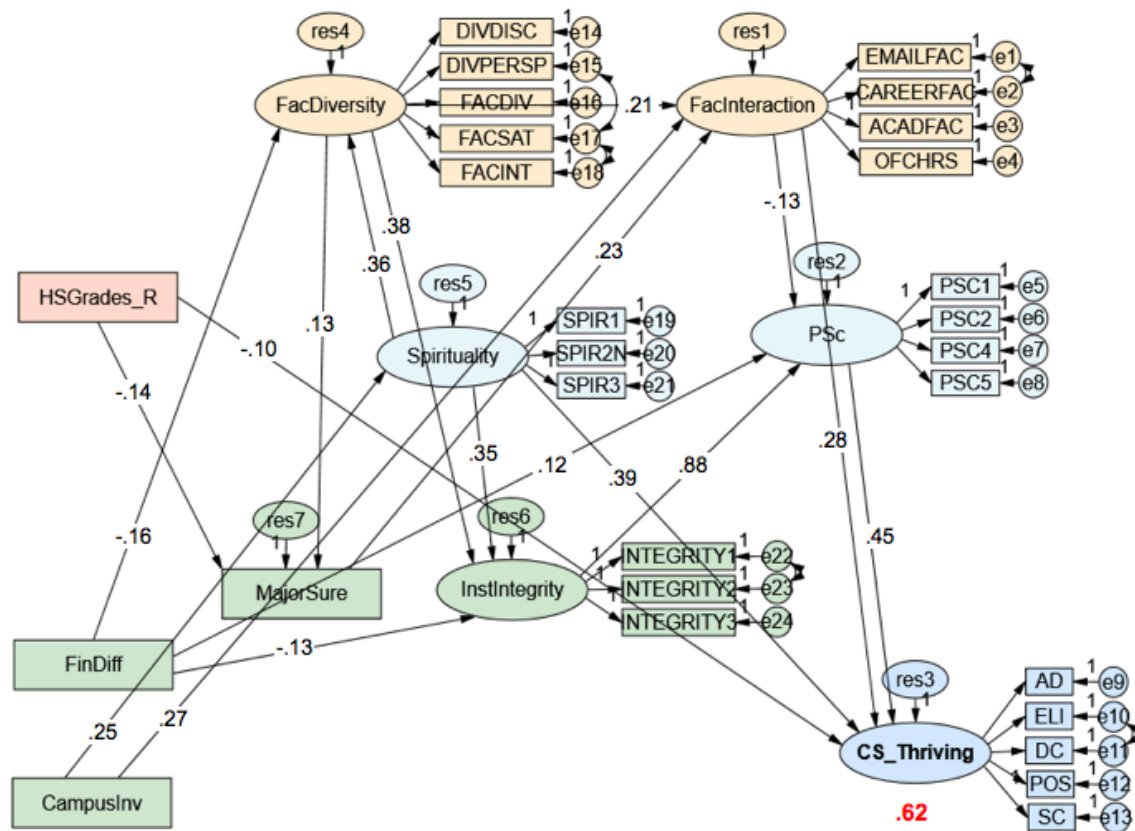


Figure 10. Structural model for traditional students.

Three of the six latent variables in the structural regression model for traditional students had a direct effect on thriving, including spirituality, PSC, and student-faculty interactions. The remaining latent variables, including faculty diversity and institutional integrity had a positive indirect effect on thriving. Of the observed variables in the model, only high school grades had a direct effect on thriving, whereas the remaining observed variables had indirect effects on thriving. This section explores the relationship among these observed and latent variables and examines the contribution of these

variables to thriving among the matched traditional students. The direct and indirect effects on thriving for traditional students are outlined in Table 15.

Spirituality represented the largest total effect on thriving ($\beta = .603$), including both direct ($\beta = .390$) and indirect ($\beta = .213$) effects. The direct relationship of spirituality to thriving ($\beta = .390, p < .001$) indicated students who reported higher levels of spirituality, or a reliance on one's belief in the meaning and purpose of life, were more likely to thrive in the traditional college environment. Additionally, spirituality had an indirect effect on thriving, as mediated through institutional integrity ($\beta = .353, p < .001$) and subsequently PSC ($\beta = .884, p < .001$), indicating students' level of spirituality contributed to positive perceptions of institutional policies and practices, which led to a stronger sense of community and, ultimately, thriving. Spirituality also contributed to students' perception of faculty diversity reviewed in a later section.

The second largest total effect on thriving was PSC ($\beta = .447$), which represents the degree to which students find membership and community on the traditional college campus. Students who felt they belonged and mattered on the traditional college campus were more likely to thrive during their college tenure. The PSC variable mediated the effect of institutional integrity on thriving. This relationship is explored in the following paragraphs.

Institutional integrity represented the third largest total effect on thriving ($\beta = .395$) as mediated by PSC. The degree to which traditional students experienced congruence among institutional policies and practices (i.e., institutional integrity) contributed directly to students' sense of community (PSC; $\beta = .884, p < .001$) in the traditional college environment, which directly contributed to their thriving ($\beta = .447, p <$

.001). Variables that had an effect on institutional integrity included spirituality as noted, along with faculty diversity ($\beta = .379, p < .001$) and financial difficulty ($\beta = -.134, p < .001$).

The relationship between institutional integrity and faculty diversity indicated traditional students who believed faculty were committed to diverse students and perspectives in the classroom (i.e., faculty diversity) were more likely to perceive congruence between institutional policies and practices, which has a subsequent effect on their sense of community and thriving. Spirituality also had a direct effect on faculty diversity ($\beta = .362, p < .001$), indicating traditional students who reported higher levels of spirituality were more likely to believe faculty were committed to diverse students and perspectives in the classroom.

This pathway, however, was mediated by the negative effect of financial difficulty on institutional integrity ($\beta = -.134, p < .001$) and faculty diversity ($\beta = -.159, p < .001$). As such, students who reported a greater degree of financial difficulty with college finances were less likely to perceive congruence among institutional policies and practices. Further, these students were less likely to believe faculty were committed to diverse students and perspectives in the classroom. Notwithstanding these negative effects, students who reported higher levels of financial difficulty also reported higher levels of PSC ($\beta = .117, p < .05$). The pathway from financial difficulty to PSC was identified as a suppressor effect based on additional analysis conducted in SPSS. A suppressor variable improved the prediction of the financial difficulty variable, even though the variable did not directly predict PSC (Cheung & Lau, 2008).

The final latent variable, student-faculty interactions, contributed directly to thriving ($\beta = .279, p < .001$). This finding indicates traditional students who reported higher levels of faculty interaction, particularly outside the classroom, were more likely to thrive in the traditional college environment. However, student-faculty interactions had a negative effect on PSC ($\beta = -.129, p < .05$), thus mediating the positive effect of PSC on thriving. In essence, traditional students who reported a higher frequency of faculty-student interactions were more likely to thrive on the traditional campus; however, they were less likely to report a sense of community, which mitigated the overall contribution of faculty-student interactions to thriving.

Other variables that directly contributed to student-faculty interactions included faculty diversity ($\beta = .212, p < .005$), campus involvement ($\beta = .272, p < .001$), and major certainty ($\beta = .232, p < .001$). These statistics are summarized as follows. Traditional students who believed faculty were committed to diverse students and perspectives (i.e., faculty diversity), reported higher levels of involvement in campus activities and events, and had greater confidence in their academic plans were more likely to interact with faculty outside the classroom, which contributed positively to thriving.

Beyond these five latent variables, four observed variables significantly contributed to thriving among traditional students. The first, financial difficulty, had a direct effect on faculty diversity, institutional integrity, and PSC as noted in a previous section. The second, major certainty, had a positive direct effect on student-faculty interactions, which connected the degree of certainty in students' academic plans with student-faculty interactions. To this end, students who reported that faculty were committed to diverse students and perspectives ($\beta = .132, p < .05$) were more likely to

report that they were confident in their academic plans. Third, high school grades had a direct effect on major certainty ($\beta = -.137, p < .05$) and thriving ($\beta = -.101, p < .05$). The relationship between high school grades and major certainty indicated traditional students who reported above average high school grades were less confident with their academic plans. Additionally, these same students reported lower thriving scores.

The final observed variable, campus involvement, had a direct effect on student-faculty interactions ($\beta = .272, p < .001$) and spirituality ($\beta = .250, p < .001$). As noted, traditional students who reported higher levels of involvement in campus activities and events also reported a greater frequency of faculty-student interactions, thus contributing to thriving. Campus involvement corresponded with higher levels of spirituality, which further contributed to thriving through institutional integrity and then PSC.

Comparison of Structural Models by Student Group

Based on the review of the structural models for extension site and traditional students, the following section compares and contrasts the pathways to thriving among the two student populations. Emphasis is given to variables present in both models, the absence of variables in one model compared to the other, and the differences in effect sizes among the groups as presented in Table 15. The aim of this section is to distinguish the uniqueness of each structural model, which supports the conclusions in Chapter 5.

The only observed variable that existed in both models was major certainty. Among extension site students, major certainty contributed indirectly to thriving ($\beta = .034$) through spirituality ($\beta = .153, p < .05$) and subsequently PSC ($\beta = .152, p < .001$). In other words, extension site students who were more certain of their academic plans also reported higher levels of spirituality, which contributed to students' sense of

community and level of thriving. Among traditional students, major certainty contributed indirectly to thriving through student-faculty interactions ($\beta = .232, p < .001$), which directly ($\beta = .279, p < .001$) and indirectly via PSC ($\beta = -.129, p < .05$) contributed to thriving. In other words, traditional students who were confident in their academic plans also reported a greater frequency of interactions with faculty outside the classroom, which had a positive effect on thriving mitigated by the negative effect of faculty interactions on students' sense of community. These differences illustrate how the effects of major certainty vary among the student groups and how this level of confidence has indirect and direct effects on thriving.

Beyond major certainty, no other observed variables were present in both models. The extension site and traditional models included variables that were specific to these populations. For example, the extension site model included variables related to education modality, number of enrolled credit hours, and students' perceptions of being balanced in the college environment, which were specifically collected from this population. The traditional students were the only group to rate their level of involvement in campus activities and events.

A notable difference, however, was the absence of the financial difficulty variable in the extension site model as opposed to the traditional model. Although the financial difficulty variable existed in the omnibus model, it was eliminated for the extension site population, as there were no relationships among the variables. Traditional students, however, reported financial difficulty had a negative effect on thriving through faculty diversity ($\beta = -.159, p < .001$), institutional integrity ($\beta = -.134, p < .001$), and PSC ($\beta = .117, p < .05$). This structural difference highlights that extension site students' concern

about their finances does not contribute to the variation in thriving compared to their traditional counterparts. As such, the degree of financial difficulty among traditional students mediates their level of thriving through other factors in the college environment.

Both models possessed the same latent variables; however, the effect sizes clearly indicated the pathways to thriving among the two student populations differed. For both populations, spirituality, PSC, and institutional integrity represented the most important variables in the model. The remaining variables in each model, however, indicated faculty diversity had a greater total effect on thriving for extension site students ($\beta = .481$), compared to traditional students ($\beta = .204$). For both populations, faculty diversity had an indirect effect on thriving through institutional integrity and then PSC, as well as through student-faculty interactions and then PSC. Traditional students uniquely reported that faculty diversity had an indirect effect on thriving through major certainty ($\beta = .132, p < .05$) and then student-faculty interactions ($\beta = .232, p < .001$).

In addition, the overall effect of student-faculty interactions on thriving was more pronounced among traditional students ($\beta = .221$) compared to extension site students ($\beta = .069$). For extension site students, student-faculty interactions contributed to thriving as mediated through PSC ($\beta = .144, p < .005$). The more extension site students interacted with faculty outside the classroom resulted in students reporting a greater sense of community in the extension site environment, which subsequently contributed to their thriving. Traditional students who reported a higher frequency of faculty interactions external to the classroom were more likely to thrive ($\beta = .279, p < .001$); however, this positive effect was mediated by the negative effect of said interactions on PSC ($\beta = -.129, p < .05$). These structural differences illustrated the importance of diverse experiences in

the classroom for extension site students compared to the importance of faculty interactions outside the classroom for traditional students, with attention given to how these interactions negatively affected traditional students' sense of community.

Summary

This study involved propensity score analysis (PSA) to create a comparison dataset that matched students in the extension site and traditional populations, whose input characteristics and initial college experiences predicted their student group membership. An initial logistic regression determined the predictors of extension site membership for those in the first-year student sample included age, residential status, working activity in college, and degree aspiration. The PSA established a comparison dataset ($n = 618$) with matched traditional ($n = 326$) and extension site ($n = 292$) students. Utilizing this matched dataset, a one-way univariate ANOVA and one-way MANOVA were conducted to examine the differences in *M* thriving and Thriving Quotient (TQ) subscale scores among these student populations. The ANOVA and MANOVA results indicated the *M* thriving and TQ subscale scores differed significantly between groups, with extension site students reporting higher scores than their traditional counterparts.

Based on these differences, structural equation modeling (SEM) was utilized to examine the differences in the pathways to thriving for these two student populations. An initial omnibus model was developed based on the existing thriving literature. Confirmatory factor analysis (CFA) was applied to each latent construct, thus ensuring goodness-of-fit among the observed variables and with the matched dataset ($n = 618$). Following the CFA process, goodness-of-fit tests were conducted for initial and revised omnibus models, which ultimately demonstrated excellent fit to the data and was

predictive of thriving. Multiple group analysis (MGA) was then conducted utilizing program type as the grouping variable, separating traditional and extension site students. MGA results revealed the pathways to thriving differed significantly between the two student populations.

To determine whether there were significant differences in the structural pathways to thriving between extension site and traditional students, I explored separately the models of thriving for these two student populations. Final structural models for each student group demonstrated excellent fit to the data and were predictive of thriving. Further analysis of the structural pathways to thriving indicated significant differences between extension site and traditional students. In the following chapter, the reasons for these differences are explored in further detail.

CHAPTER 5

DISCUSSION

The purpose of this study was to measure student success in an innovative experiential learning program through the lens of college student thriving, with the aim to evaluate the effectiveness and potential disruptiveness of the church-based extension site model. The study addresses a gap in the literature by measuring thriving in an innovation program and expanding the functionality of thriving as a measurement of program effectiveness. Moreover, the study addresses the gap in the literature related to the church-based extension site model and whether this program is an effective alternative to the traditional college experience.

The research questions that guided this study were as follows: (a) To what extent does thriving and the Thriving Quotient subscale scores differ between extension site and traditional residential students at a private Christian university, after controlling for entering characteristics? and (b) Are there significant differences in the structural pathways to thriving between extension site and traditional residential students at a private Christian university? To answer the first research question, a variety of statistical methods were utilized to examine the differences in thriving scores and pathways to thriving among these student populations. The results of these statistical techniques, along with the data screening process were presented in Chapter 4.

This chapter includes an interpretation of the findings related to the differences in college student thriving between traditional and extension site students at the target university. Major findings from the study were that extension site students reported significantly higher thriving and Thriving Quotient subscale scores than their traditional counterparts, and the pathways to thriving varied significantly between the two populations. For extension site students, variables that contributed to thriving included spirituality, psychological sense of community (PSC), the role of faculty, institutional integrity, and academic delivery model. Major differences between the two student groups are compared and interpreted to explain the experiences of students who thrive in either context. This chapter concludes with the limitations of the study, implications for practice, and recommendations for further research.

Discussion of the Findings

Previous researchers have studied college student thriving across a multitude of student groups (Cuevas, 2015; Dy, 2017; Louis & Hulme, 2012; McIntosh & Nelson, 2012; Nelson & Vetter, 2012; Petridis, 2015; Pothoven, 2015; Romero, 2016; Schreiner, Miller, et al., 2012; Schreiner, Slavin Miller, et al., 2012; Seppelt, 2016; Sriram & Vetter, 2012; Tharp, 2017). To advance the thriving literature, this study sought to evaluate the effectiveness of the church-based extension site program through the lens of college student thriving.

Differences in Thriving Between Extension

Site and Traditional Undergraduates

The first research question this study explored was whether there were significant differences in Thriving Quotient scores between extension site and traditional students at

the private Christian university that was the site of the research. After matching participants for entering characteristics by using propensity score analysis, the results indicated extension site students reported significantly higher thriving levels than their traditional counterparts.

The significantly higher Thriving Quotient scores among extension site students indicates these students were more likely to thrive in the extension site environment than their comparable peers on the traditional college campus. Although this study was not a controlled experiment, the use of an equivalent comparison group through propensity score analysis provides some confidence that various factors in the extension site environment may have contributed to the higher thriving scores for these students. Extension site students reported significantly higher scores on each Thriving Quotient (TQ) subscale score, in addition to total scores on the instrument. These scores indicated the extension site students were more likely to engage in academic activities, develop academic plans, maintain healthy relationship, value civic engagement, and maintain a positive perspective of their experiences (Schreiner, 2016).

Previous thriving research has found that students who reported higher TQ scores also reported positive student success outcomes, including significant differences in one's intent to graduate, college academic performance, perceptions of the tuition investment (Schreiner et al., 2013), and overall satisfaction with the college experience (Nelson, 2015). Even among academically high-risk (Sriram & Vetter, 2012; Tharp, 2017) and low-income students (Dy, 2017; Romero, 2016), which may best represent the students in this sample, pathways to thriving were identified that highlight the importance of specific factors to college students' success. Because this study is the first of its kind, no

comparable results are available to juxtapose the results of this extension site student sample with similar populations.

Given these significant findings, it is important to identify the reasons extension site students might report higher thriving scores than their traditional counterparts. Of particular interest, this study examined the specific factors that increased the propensity for a student to attend an extension site over the traditional campus. The study found extension site students were more likely to be older and employed; they were also less likely to live on campus and to desire advanced education beyond the bachelor's degree. These findings offer an interpretive lens for examining why the extension site experience might be optimal for a particular group of students and ultimately promote student thriving.

As noted, extension site students tend to be older than their traditional peers. The extension site students in the sample reported an average age range between 24 and 30 years, whereas traditional students reported an average age range between 18 and 23 years. An institutional study confirmed these findings and found the median age of all students in the extension site program was 24, with the youngest being 17 and the oldest 60 (Office of Institutional Effectiveness, 2016). The same institutional study found 50% of the extension site population was first-generation and 54% of the students were eligible to receive the Pell Grant, thus indicating both academic and financial challenges. The extension site model offers a viable alternative for students who delayed their education due to financial or academic reasons by providing an accessible and affordable program that meets their unique needs.

Although the first-generation variable did not emerge explicitly in the results, the experiences of first-generation students are similar to those of extension site students and serve as a guide for interpreting the importance of age among these students. A major issue among first-generation students is the lack of academic and social preparation for these students to transition well from high school to college (Pascarella et al., 2004), with many noting issues related to reading, studying, math, and writing skills (Saenz et al., 2007). Moreover, the first-generation population often scored lower on college admission tests (Saenz et al., 2007), which was an outcome also observed in the institutional study of extension site students (Office of Institutional Effectiveness, 2016). The lack of college preparedness often led first-generation students to select less prestigious and academically rigorous institutions (Pascarella et al., 2004).

From a financial perspective, studies have found Pell eligibility corresponds with low SES and has a negative relationship on persistence and graduation (Briggs, 2012; Ishitani & DesJardins, 2002). The national trends demonstrate low-income students are less prepared to excel academically in the college environment based on various precollege factors (Tinto, 1993). To this end, the extension site program is a natural alternative to the traditional program that might be prohibitive for students who have delayed their education or opted out of the traditional forms of higher education due to academic and financial challenges. In essence, the extension site experience becomes a viable alternative to the prestigious and academically rigorous traditional programs that best serve a different type of student.

Related to student age, working activity in college also provides an interpretative lens to explore why the extension site experience is optimal for a select group of students.

Indeed, working in college is a common reality among college students and relates directly to the age and financial factors described earlier. Davis (2012) found nearly three in four undergraduate students worked during college, with more than half of these students working 20 or more hours each week. Broton, Goldrick-Rab, and Benson (2016) also found the number of hours in an external job increased proportionately with the age of the students, as individuals have greater familial and financial expectations, especially among those from lower socioeconomic backgrounds.

For extension site students who are older than their traditional counterparts, working a job outside the college environment is likely correlated with their stage of life and the related expectations, whether family or otherwise, as well as the lingering socioeconomic effects. Traditional education, then, is not a feasible option, as these older students must work during the daytime hours and likely cannot afford the premium prices of a traditional campus experience. The extension site model offers the optimal conditions for the older student by providing a more affordable pathway to a degree, while granting the student the flexibility to work during college.

Third, the fact that students enrolled in extension site are less likely to reside in campus housing is an institutional reality. The vast majority of extension sites do not provide housing options for students. Most students are required to live with their families or rent homes in the local community, whereas the university's traditional campus is primarily residential in nature, with housing options for first-year students to seniors. Additionally, the residential status factor is further explained by the financial and age factors described in previous paragraphs. Students who work a full-time job outside college will be less inclined to seek housing with other students due to financial

or personal reasons. Although student housing does support student success among traditional students, the lack of housing at extension sites does not adversely affect these students. In fact, the absence of housing further reduces the price of attaining of higher education degree and allows students to identify other affordable housing options.

Last, extension site students were less likely to desire advanced education beyond the bachelor's degree. This phenomenon is similar to the experiences of first-generation students, who are less likely to graduate with a bachelor's degree and instead opt to complete lesser degree programs or exit college prematurely (Ifill et al., 2016).

Contextual factors that might affect extension site students' degree aspirations relate to the church environment that serves as a host for educational activities. In such spaces, students are less likely to engage with faculty who may encourage students to pursue higher levels of degree attainment. The church environment is mostly composed of practitioners whose life experience and professional paradigms are less oriented toward academic pursuits and more inclined toward professional or ministerial goals. Thus, exposure to these non-academic environments may impact students' perspective on graduate degree attainment. However, this phenomenon should not be considered a negative factor, as the professional paradigm challenges students to complete their college degree so they can begin their vocational ministries. As such, these professionals serve as guides and role models for students who enroll at extension sites, thus promoting student thriving in the same way Schreiner (2012) noted an academic advisor might challenge students to have goals and plans.

It is important to highlight that this study did not compare the experiences of all extension site and traditional students. Rather, this study measured the perceptions of

similar students. This analysis answers the question of whether or not the extension site experience is a suitable alternative for this particular type of student. An inappropriate conclusion, then, is the extension site experience is a potential alternative for all traditional students, including those whose characteristics are not similar to the students in the sample. Such conclusions would be erroneous, as the traditional college experience is a meaningful and appropriate educational model for a particular group of students. As such, students who are older, intend to work, and aim to finish with the bachelor's degree are more likely to thrive in the extension site environment.

Notwithstanding this disclaimer, this study offers a compelling evaluation of program effectiveness that situates the extension site model as a viable alternative for the traditional campus experience among a particular set of students. This declaration of program effectiveness is based on the finding that extension site students in this sample reported significantly higher thriving scores than their traditional counterparts. This conclusion also dispels potential concerns among traditional campus leaders who might feel threatened by the perceived competition of attracting and enrolling students. Such concerns stoke fears that the implementation of an extension site model might impact an institution's ability to maintain its traditional campus enrollment. Instead, the extension site experience should serve more students whose characteristics might prohibit them from participating in the traditional college experience, thereby improving their chances for success in the college environment.

Differences in Pathways to Thriving Between Extension Site and Traditional Undergraduates

The second research question this study explored was whether the structural pathways to thriving differed between extension site and traditional students at this private Christian university. The results of the multiple-group analysis of the structural model indicated the pathways to thriving varied significantly between the two groups.

Because only the students who were matched in the propensity score analysis were included in the structural model, this study demonstrated that specific aspects of the college environment contributed to the variation in thriving among students in the aggregate sample whose characteristics were similar to one another. The full model explained 67% of the variation in thriving for the aggregate sample of students enrolled at both the extension sites and the traditional campus. However, because there were significant differences in the structural models for each group, separate structural models were established for each. The extension site model explained 73% of the variation in thriving among extension site students, and the traditional student model explained 62% of the variation in thriving among the comparable students on the traditional residential campus. The following sections discuss the different pathways to thriving for the extension site and traditional students in the sample. Emphasis is given to the factors that are common to thriving among these student groups as well as the pathways that varied between groups.

Spirituality. Spirituality emerged as the largest contributor to college student thriving for both populations, with the variable contributing more to the variation in thriving among extension site students than their traditional counterparts. Within the

context of this study, spirituality is defined as students' reliance upon their beliefs related to the meaning and purpose of life, especially as they navigate difficult seasons (McIntosh, 2012; Schreiner, 2016). In effect, spirituality serves as a coping mechanism for students in the college environment (McIntosh, 2015). Astin et al. (2011b) found the majority of college students identify as spiritual. However, despite identifying as such, spirituality is not a focus in many college curricula, except at church-related institutions (Braskamp et al., 2006).

The contribution of spirituality to thriving for both populations reflects the general ethos of the target university. The university's mission statement describes the role of the institution is to help students "discover and develop their divine design." The divine design concept highlights the importance of acknowledging and fulfilling one's meaning and purpose in life. As such, the university engages students in self-awareness activities that help them identify their uniqueness, including temperament, strengths, emotional qualities, and spiritual gifts. In the Christian tradition, spirituality relates to the deeply-held belief in a celestial God, who assigns meaning and purpose for life. As a faith-based institution, the target university helps students connect their Christian beliefs and values pertaining to meaning and purpose with their educational goals and plans.

In addition, the institution challenges students to act on their divine design by engaging in purposeful activities, including community service, work in a local church, and short-term mission trips. Every traditional student must complete more than 60 hours of community service during their tenure. The university sponsored nearly 50 short-term mission trips in a single academic year. Extension site students engage in similar activities through their local church.

By virtue of this spiritual emphasis, students develop a rich perspective of life informed by their personal awareness and view of God and His plan for their lives. The intentional integration of spirituality into the college experience helps students develop a lens through which to interpret their college experiences. When faced with challenging seasons, students can rely upon their spirituality to navigate each situation. The deeply-held belief is that God has designed each individual for his or her specific role in the world, and He will fulfill His work in each life.

The effect of spirituality on thriving varied among the two student groups, however. Specifically, spirituality had a larger direct effect on thriving among the traditional students in the sample; however, the indirect effects of spirituality on thriving were greater among extension site students. These results indicated spirituality served a more complex role in the thriving model among extension site students, with indirect effects on thriving through PSC, faculty sensitivity to the needs of diverse learners, and institutional integrity. In essence, extension site students' beliefs in the meaning and purpose of life contributed to their perception of institutional congruence, as well as to their sense of belonging there and their perceptions that faculty were sensitive to the needs of diverse learners.

The direct and indirect relationship of spirituality to thriving highlights the centrality of this factor in the extension site environment, which is largely a by-product of the local church environment. The primary emphasis of the local church, especially in evangelical Christianity, is the salvific work of Christ that compels individuals to fulfill the Great Commission of preaching the Gospel to all humanity (Matthew 28), through the expression of individual gifts that are assigned by God (I Corinthians 12). Where a

higher education institution might emphasize one's divine design as a component of the student experience, this emphasis is a central component of church life. As such, students at extension sites will engage in a deeper exploration and integration of spirituality into one's educational goals and plans. Therefore, spirituality has either a direct or indirect effect on nearly every variable in the thriving model for extension site students, thereby functioning as a lens for interpreting the extension site experience.

For extension site students, sense of balance and certainty of their major contributed to the variation in their levels of spirituality. These relationships indicated students who were more confident in their academic plans and perceived they were able to balance the demands of their personal and academic lives were more likely to report higher spirituality scores. Within the extension site experience, these results relate to the structure of the academic environment. From a major certainty perspective, students engage with staff advisors as opposed to faculty advisors. Most faculty interactions involve engagements within the classroom as opposed to faculty-facilitated academic or career advising. The target university employs a team of advisors whose sole responsibility is to ensure students complete their degree plans and succeed in the college environment. In addition to these structural realities, extension site students have a very narrow selection of degree program options at sites, which results in most students being on the same degree plan. Students at a particular site, then, serve as an excellent peer mentoring environment that promotes clarity around one's degree plans and subsequently contributes to students' level of spirituality.

The degree to which extension site students perceived they were able to balance the demands of their personal and academic lives also contributed significantly to the

variation in their responses to the spirituality items. The emphasis given to balance reflects the requirements of the extension site experience. Each student is required to work between 10 and 25 hours per week in a local ministry in addition to their coursework and personal obligations, which may include work hours in another part-time job. The degree to which students manage the demands of their ministry, academic, and personal lives will contribute to their level of spirituality and subsequently their ability to thrive in this environment. Should students give priority to their ministry activities over personal and academic obligations, they will likely perform poorly in coursework or become emotionally and mentally weary, which will have an effect on their relationships and personal well-being. This outcome might reflect what Keyes (2003) described as languishing, where the individual is “not functioning well psychologically or socially” (p. 294). This state may erode students’ sense of purpose and the manner in which they navigate the college environment. The same outcome may be possible should students fail to balance any other aspect of their lives.

In addition to its direct effect on thriving among extension site students, spirituality had an indirect effect on thriving through PSC. Extension site students who reported higher spirituality scores also reported a greater sense of belonging in the extension site community. The smaller, Christian context of the extension site environment may promote this positive outcome. The target university as a whole emphasizes students’ divine design and intentionally creates spaces in curricular and co-curricular experiences for students to explore their meaning and purpose. In a smaller context, such as an extension site, this emphasis on one’s divine design will likely create

a homogeneous community that values these Christian ideals, especially as they work within the church community.

The connection between spirituality, religious congruence within an environment, and thriving has been noted by other researchers, as well. Richardson (2017) observed the path from spirituality to PSC in his study of religious majority and minority students and noted the linkage between spirituality, psychological well-being, and ultimately thriving. Also, Bryant and Astin (2008) found religious majority students reported a greater sense of community and connectedness with their religious minority peers. Patel (2007) posited that sense of community and connectedness relates to the ease with which majority students in religious institutions may engage in theological discourse without the fear of reprisal or rebuke. Among students of color, Ash and Schreiner (2016) observed that students who reported higher spirituality scores were also inclined to report a sense of community in the college environment. Discussed later, PSC is the second largest contributor to thriving among both student groups.

Among both groups, spirituality also had an indirect effect on thriving through students' perceptions of faculty sensitivity to diverse learners. To date, there is a dearth of research that connects faculty commitment to diverse students and perspectives with students' level of thriving. Ash and Schreiner (2016) introduced faculty sensitivity to diverse students as a variable and found faculty interactions with students of color at Christian institutions shapes students' perceptions of institutional integrity and commitment to student welfare. Central to the faculty sensitivity to diverse learners construct is the impact of student-faculty interactions, particularly involving students of

color. Thus, the variable labeled faculty sensitivity to diverse learners offers a novel construct for understanding the factors that contribute to student thriving.

Within the context of the extension site, the path between spirituality and faculty sensitivity to diverse learners may be explained by the close-knit Christian community that is often present at extension sites. Faculty, including full-time and adjunct, are typically members of the local church community and have positive relationships with students by virtue of their shared membership and emotional connections with the host church. These relationships developed in Christian community enable students to experience membership, integration, and shared emotional connections within the classroom environment, thus enabling students to develop a positive perception of faculty in the classroom.

A final indirect path from spirituality to thriving among both groups is through institutional integrity. Ash and Schreiner (2016) observed this pathway in their structural model among students of color and posited that spirituality functioned as the “lens through which students of color evaluate campus experiences” (p. 49). Indeed, Ash and Schreiner observed that student spirituality developed among students of color a “predisposition to grant the benefit of the doubt to a campus whose mission is congruent with the students’ own religious beliefs and practices” (p. 49). This perceptual lens is particularly powerful in the extension site model where students typically enroll at a site where they attend church or have an affinity with the leadership or denomination. The affinity with the host organization helps develop a positive perception of the university and its practices because the students have an inherent trust with their church community.

These pathways between spirituality, perceptions of faculty in the classroom, institutional integrity, and PSC offer intriguing insight into the extension site experience. Indeed, it might be assumed that students who live with a greater sense of meaning and purpose have a more positive disposition on life and their interaction with others. This philosophy is extrapolated from a Christian value that challenges each individual to love their neighbor (Mark 12:31). Thus, students with a Christian worldview may naturally assume the best in others and the institution while developing community.

These pathways also reflect the homogeneity of the extension site environment, wherein students and faculty are selected based on their congruence with church values. The host church may select students for enrollment into the university whose life experiences, personal values, and worldview are closely aligned with that of the church. The same is true of faculty, all of whom are also nominated by the church. Therefore, the combination of the right student with the right faculty and in the ideal setting significantly improves the probability of institutional fit, thus improving students' perceptions of faculty inside the classroom, institutional integrity, and their sense of community. This certainly has positive outcomes, as students will naturally fit into the environment and more likely persist. There may, however, be an unexpected negative effect, as students may only interact with those who are similar to them. The college experience provides a unique opportunity to interact with a diverse community of learners who express varying value systems. Thus, although the homogeneity of the extension site experience may produce positive student success outcomes, the environment has the potential to limit exposure to human diversity.

Among the traditional students in the sample, spirituality also had a direct effect on thriving for the same reasons as extension site students, with specific attention given to the emphasis on students' divine design and its relationship with educational goals and plans. The indirect effect of spirituality on thriving was through faculty sensitivity to diverse learners and institutional integrity. For these students, spirituality helped inform their perceptions of faculty and the institution through the same lens as extension site students. Traditional students likely developed a positive predisposition to the university based on the congruence between the institutional mission and their belief system (Ash & Schreiner, 2016). Further, the close-knit Christian community that is prevalent on the traditional campus likely informed the students' perception of faculty commitment to diverse student and perspectives.

The major difference between traditional and extension site students was the absence of a path between spirituality and PSC. To this end, the traditional students' beliefs in the meaning and purpose of life did not inform their sense of belonging in their environment. A likely explanation is the less homogeneous community that exists on the traditional campus, as such settings will likely attract a plethora of student groups with varying religious beliefs and affinities. Where the spiritual climate of the extension site naturally creates a homogeneous community, the spiritual dynamics on the traditional campus have a less significant relationship with students' sense of belonging, mattering, and membership.

For students on the traditional campus, involvement emerged as a positive contributor to the variation in spirituality. As students participate in campus events and activities, they will develop a greater reliance upon their beliefs in the purpose and

meaning of life. The context of the faith-based, traditional campus provides students with an array of opportunities to engage in purposeful activities related to spirituality, including weekly chapels, discipleship groups, and other spiritual formation activities. These activities provide opportunities for students to engage with peers and faculty in ways that might cement their sense of purpose and calling.

The connection between campus involvement and student success has been noted by other researchers, as well. Seppelt (2016) found in a study among sophomores that campus involvement contributed to the variation in thriving. Other thriving studies identified that campus involvement has a small yet consistent positive effect on college student thriving (Cuevas, 2015; Schreiner, 2012). Beyond the thriving literature, campus involvement has been found to contribute positively to student success outcomes, including student engagement, satisfaction with the college experience, and sense of belonging (Berger & Milem, 1999; Braxton et al., 2004; Kuh et al., 2006; Mayhew et al., 2016; Pascarella & Terenzini, 2005).

To summarize, the spirituality variable served an important role for both the extension site and traditional student populations. Spirituality functioned as a mediating variable through which other variables contributed to the variation in thriving. In essence, student spirituality served as an important lens for interpreting and navigating the college environment and ultimately served as an important contributor to student success for all students.

Psychological sense of community. PSC represented the second largest total effect and largest direct effect on thriving for both student groups. PSC reflects students' perceptions of membership, mattering, connection, and integration in a community

(McMillan & Chavis, 1986; Sarason, 1974). PSC was measured as students' sense of belonging in the college environment, connecting their college experience with an important need in their lives, feeling proud of their institution, and experiencing a strong sense of community on the campus. The results of this study are consistent with the majority of thriving studies, which have found that PSC significantly predicts college student thriving, often representing the largest contribution to thriving in structural models (Ash & Schreiner, 2016; McIntosh, 2012, 2015; Schreiner, 2016; Schreiner et al., 2015).

Earlier research has found students who reported higher levels of sense of community in college also reported higher levels of academic success, student engagement, and degree completion (Brown & Burdsal, 2012; Meeuwisse, Severiens, & Born, 2010). The connection between sense of community and student success outcomes reflects the central notion that social support systems and relationships are basic human needs. Sense of community, then, in the college environment offers a foundation for students to develop healthy relationships with their peers. An important findings from Meeuwisse et al. (2010) was that sense of community in the college environment promoted deeper academic and social integration among majority and minority students in the form of peer and faculty interactions. Meeuwisse et al. posited that the interactions between student, faculty, and peer students were “antecedents of students’ sense of belonging” (p. 543). In addition to these academic outcomes, an intervention with the aim to reduce the “psychological perception of threat on campus” (p. 543) among minority students improved students’ health and psychological well-being. As such, a

supportive campus climate determines the degree to which students experience a sense of community and ultimately succeed in the college environment.

Among extension site students, the variables that contributed to the variation in PSC were spirituality, institutional integrity, and major certainty. The contribution of spirituality to PSC was explored in the last section in relation to the homogeneous community that values Christian ideals of meaning and purpose. The path between spirituality and PSC also relates to the effect of institutional integrity on PSC. As Braxton et al. (2004) found, student commitment to an institution improves when they perceive the institution operates with integrity. Further, Braxton et al. (2014) later determined institutional integrity promotes social integration because students who experience congruence in institutional policies and practices develop the necessary political capital to properly integrate into the college community. Indeed, the policies and practices of an extension site are likely congruent with the students' religious beliefs and convictions, which ultimately informs their perception of the institution and encourages the development of social integration with peers, faculty, and other university administrators. Positive interactions within this supportive community developed a trust between students, faculty, administrators, and the host church, which ultimately benefited the university.

For extension site students, certainty of their major contributed to the variation in PSC. This relationship indicates students who were more confident in their academic plans were more likely to report a sense of community in the college environment. Similar to the conclusions presented for spirituality, the academic structure of the extension site experience promotes a sense of cohesion and similar experiences among

students. Extension site students enroll in a limited selection of degree programs, thus resulting in many students at one site being on the same degree plan. Students at a particular site, then, function as peer mentors, which provides clarity and cohesion on degree plans and subsequently contributes to students' sense of community.

Cuevas (2015) found in a study of thriving among honors students that major certainty contributed to the variation in PSC. Cuevas reasoned the relationship between PSC and major certainty may reflect the community provided through the honors college or program and offered a parallel to the experiences of graduate students, who find a sense of community with their program as opposed to the campus (Petridis & Schreiner, 2013). Extension site students, in contrast with their traditional peers, may benefit from the smaller extension site community that is intentionally designed to support a limited number of programs and advance student success. Inasmuch as the graduate and honors students may find a greater sense of community in their program than the overall campus, extension site students also develop meaningful relationships through the homogeneous student population of the local extension site in contrast with the overall university.

An important distinction between the two student populations was the contribution of financial difficulty to the variation in thriving. The financial difficulty variable was eliminated from the structural model for extension site students due to its non-significance as a predictor. However, among traditional populations, students who reported higher levels of financial difficulty had a more negative perception of the institution. Students with financial challenges might perceive the institution does not properly advertise the price of attending the main campus. As such, financially

challenged students may have a less positive perception of the institution, which influences their sense of community and ultimate thriving.

The absence of the financial difficulty variable as a predictor of the variation in thriving within the extension site model does not suggest these students are less financially challenged. As noted in the discussion of findings for the first research question, an institutional study found 54% of the extension site students were eligible to receive the Pell Grant, which indicates financial challenge in itself. Although the institutional data indicate a large portion of the site students were eligible for additional financial assistance, the financial difficulty variable did not have a significant effect on the ultimate outcome of thriving for extension site students. This finding may reflect the overall sense of tuition worth among these students. Although not included in the original analysis, extension site students ($M = 5.03$, $SD = 1.01$) reported significantly higher perceptions that their tuition was a worthwhile investment than did their traditional counterparts ($M = 4.24$, $SD = 1.33$).

In a study of students at Christian colleges and universities, Conn (2017) found financial difficulty was a predictor of perceptions of tuition worth. Students who reported higher levels of financial challenge had less positive perceptions of their tuition investment. However, Conn found PSC and institutional integrity had a mediating effect on perceptions of tuition worthwhileness. This phenomenon indicates students who perceive congruence between institutional policies and practices will develop a greater confidence in the institution and experience a greater sense of community, resulting in social integration and a more positive perception of their tuition investment. The inverse effect is true as well: Students who do not experience institutional congruence will lack

confidence in the institution, fail to socially integrate, and develop a poor perception of their tuition investment.

Among traditional students at the target university, the degree of institutional integrity serves as an indicator of students' social integration and ultimate thriving, which may be a factor of the price differential between the traditional campus and extension sites. Although financial difficulty does exist among extension site students, the lower tuition rates may inform students' overall perceptions of institutional congruence and sense of community, whereas the price of the traditional program has a negative effect on students' perception of institutional congruence and subsequently the development of a strong sense of community.

Role of faculty. The third largest contributor to the variation in thriving was the combined effect of two latent constructs: faculty sensitivity to diverse learners and frequency of student-faculty interactions. Although these two variables are distinct in the model, there is an interrelationship among the constructs. The first construct reflects the sensitivity of faculty in the classroom environment to the needs of diverse learners, whereas the student-faculty interaction variable relates to frequency of experiences outside the classroom (e.g., emails to faculty, career and academic advising, and attending office hours).

The literature on student-faculty interactions and the effect on student success support the findings from this study. Indeed, interactions between faculty and students help cultivate a positive campus climate (Kuh et al., 2005) and contribute to student success outcomes (Kim & Sax, 2009, 2011, 2017; Mayhew et al., 2016; Umbach & Wawrzynski, 2005), even among varying racial and ethnic groups (Cole, 2007, 2008a,

2008b, 2010b). Studies of student thriving have found frequent student-faculty interactions contribute to the variation in thriving, with White students gaining considerably more from these experiences (Schreiner, 2014). Moreover, positive interactions with faculty affirm students' sense of belonging and significantly predict thriving, regardless of one's race (Ash & Schreiner, 2016; McIntosh, 2012, 2015; Schreiner, 2014). A variety of other thriving studies confirms these findings and further highlights the positive effect of student-faculty interactions on thriving (Dy, 2017; Pothoven, 2015; Romero, 2016; Seppelt, 2016).

The contribution of the faculty-related variables to thriving, however, did vary among the two student groups. For extension site students, the effect of faculty experiences within the classroom contributed more significantly to the variation in their thriving than did their experiences with faculty outside the classroom. In contrast, these two variables contributed in a similar manner to the variation in thriving among students on the traditional campus. Moreover, the frequency of student-faculty interactions had a direct effect on thriving for traditional students, whereas among extension site students, the effect on thriving was indirect through PSC. These results reflect the contextual differences in these two environments. Traditional students have greater access to faculty both in the classroom and in the various spaces of the college campus, including social environments, offices, and chapels. Extension site students, however, mostly interact with faculty within the classroom, as the target university utilizes a high proportion of adjunct faculty who have other jobs. This finding demonstrates the importance of the classroom experience for extension site students and the effect of these experiences on college student success in these environments.

For both populations, students' perception of faculty commitment to the needs of diverse students had a direct effect on the frequency of student-faculty interactions. The faculty sensitivity construct reflects students' perceptions of faculty interactions inside the classroom. The construct measures the degree of satisfaction with the presentation of diverse perspectives in the classroom, sensitivity to the needs of diverse learners, faculty encouragement to discuss different perspectives, the quality of faculty interactions, and their satisfaction with the amount of faculty contact they had. The more students believed faculty were sensitive to their unique needs in the classroom, the more likely they were likely to interact with faculty outside the classroom in ways that positively contributed to their thriving.

The direct and indirect effect of faculty sensitivity on thriving, however, is mediated by the negative effect of student-faculty interactions on the variation in PSC among traditional students. In essence, traditional students who reported a higher frequency of student-faculty interactions were also less likely to report a sense of community on campus. This finding indicates not all interactions with faculty are equal among students.

For example, Kim and Lundberg (2016) found student-faculty interactions contributed positively to students' sense of belonging, although the frequency of interactions was considerably lower among diverse students. Kim and Lundberg's study confirmed the findings from earlier studies that students' race moderated the effects of student-faculty interactions (Kim & Sax, 2009, 2011, 2017; Lundberg & Schreiner, 2004). In addition, the negative path between student-faculty interactions and PSC may be explained by those students who interact with faculty because of academic challenges

in the classroom. Consequently, these conversations do not promote a sense of community, as students perceive these interactions to be negative. This scenario highlights the importance of evaluating not only the quantity, but also the quality of student-faculty interactions (Lundberg & Schreiner, 2004).

Factors that contributed to the frequency of these student-faculty interactions were the degree to which traditional students were confident in their academic plans and were involved in campus activities. Traditional students have more access to faculty through activities outside the classroom. Engagement in such activities has a positive effect on the frequency of student-faculty interactions. Of similar importance, traditional students who were more confident in their academic plans were more likely to engage in student-faculty interactions. This finding reflects the academic advising structure of the main campus, which relies upon the full-time faculty to provide academic and career advising. As well, students who are more certain of their major are more likely to interact with faculty in their department and to perceive these faculty as role models and mentors, given their similar interests.

To summarize, the frequency of student-faculty interactions served a more significant role in the variation in student thriving among traditional students. Moreover, faculty sensitivity to diverse learners contributed to traditional students' perceptions of institutional integrity, which shaped students' sense of community and ultimately their ability to thrive on the traditional college campus. Thus, for traditional students, interactions inside and outside the classroom are critical to student success.

Among extension site students, however, interactions inside the classroom appear to be more critical to student success. The degree to which faculty are sensitive to

diverse learners will inform their interactions with those faculty outside the classroom, which then has a direct effect on their sense of community and thriving levels. In addition, faculty sensitivity to diverse learners has an effect on student perceptions of institutional integrity, their sense of community, and thriving levels.

Factors that contributed to student perceptions of faculty sensitivity to diverse learners were extension site students' level of spirituality, sense of balance in the college environment, and academic programming. As noted earlier, spirituality and sense of balance provide a lens through which students interact in the college environment. Students who live with a sense of meaning and purpose and properly balance the expectations of life and academics are more likely to develop positive perceptions of the classroom experience.

From an academic programming perspective, extension site students who enrolled in primarily face-to-face courses were more likely to interact with faculty outside the classroom as opposed to those who enrolled in online or hybrid courses. The design of online courses limits student-faculty interactions to discussion forums, grading, and other synchronous or asynchronous instructional methods. In contrast, students enrolled in face-to-face course will have more exposure to faculty prior to and following the actual class session, thus promoting additional interactions that develop a positive sense of community between faculty and students. Similar to the extension site sample, honors students in Cuevas' (2015) study reported less frequent interactions than the traditional undergraduate students in the study, which highlights the impact of other variables on thriving. Further evidence of the less direct effect of student-faculty interactions on thriving was observed in Tharp's (2017) thriving study involving high-risk students.

Although student-faculty interactions did not contribute to student persistence in her study, the variable did contribute to the variation in first-semester grades among this group, thus noting the contribution of other variables in the thriving equation.

Specific to faculty sensitivity to diverse learners and its impact on student thriving, Ash and Schreiner (2016) introduced the concept and found faculty interactions with diverse learners at Christian institutions influenced these students' perceptions of institutional integrity and the institution's commitment to student welfare. As such, students' perceptions of faculty serve as the lens for how students of color engage with the institution. The degree to which faculty are sensitive to the needs of diverse learners will encourage students to engage with the same or other faculty outside the classroom and result in a more favorable perception of the overall institution. Faculty, therefore, serve as a barometer of the institution's commitment to student welfare and success, particularly among students of color. This test of institutional commitment will support students' sense of community and ultimately their thriving. For extension site students, whose interactions with faculty are limited to the classroom, the commitment to diverse learners in the classroom will determine the extent to which the students engage with faculty outside the classroom, perceive the institution in a positive way, develop a sense of community, and ultimately thrive in the extension site environment.

Institutional integrity. Institutional integrity reflects student perceptions that the institution's mission, policies, practices, and advertising are congruent. This latent construct emerged as the fourth largest contributor to college student thriving. Braxton et al. (2004) found students' commitment to an institution improves when they perceive institutional policies and practices are administered with integrity and the institution is

committed to their welfare. Braxton et al. (2014) later found perceptions of institutional integrity promote social integration among students by helping them develop political capital. Political capital refers to the accumulation of relationships, power, and knowledge that enable an individual to navigate a social hierarchy. The concept is related to Bourdieu's (1973) cultural capital concept, where the individual possesses various skills, education, and credentials that grant access to a particular social class. Individuals from higher social classes have greater access to resources. The role, then, of the institution is to assist students with the development of political capital in the form of relationships and knowledge that will help them navigate the college environment.

Within the structural models for extension site and traditional students, institutional integrity contributed significantly to the variation in PSC, thus supporting the conclusions from Braxton et al. (2014). Moreover, institutional integrity mediated the effect of multiple variables and their contribution on thriving. These variables included faculty sensitivity to diverse learners and spirituality among both groups, as well as gender for extension site students.

The effect of gender on thriving among extension site students was mediated by the institutional integrity and PSC variables. This finding means females from this group were more likely to thrive in the extension site environment as a result of their positive perception of institutional integrity and their stronger experiences of a sense of community. In addition, spirituality had a significant effect on students' beliefs that faculty were committed to diverse students and perspectives in the classroom, which had an effect on their perceptions of the institution, sense of community, and thriving levels. The best explanation is that the affinity developed with the local church community

informed students' perspectives regarding faculty and the institution. Given the immense impact of the classroom experience for extension site students, this positive view of the institution and its faculty contributed significantly to student success.

Although both the traditional and extension site students had similar variables as their pathways to thriving, the effect sizes varied considerably between groups. The effect of students' perceptions of faculty sensitivity to diverse learners and their commitment to multiple perspectives in the classroom on institutional integrity among extension site students was nearly double that of traditional students. Given the limited exposure to faculty outside the classroom, this result reflects the great importance of the classroom experience for extension site students. The classroom experience, in effect, functions as the best representation of the university since many of the students will rarely interact with other representatives or programs of the university due to distance restrictions. Delivering on institutional promises vis-à-vis the classroom is critical to the student success outcomes of extension site students.

Another notable difference between the two structural models was the effect sizes on paths related to institutional integrity. The path between spirituality and institutional integrity was more significant among traditional students than their extension site counterparts. Additionally, the path between institutional integrity and PSC was more significant among the traditional students in the sample. These results may be explained by the more nuanced effect of spirituality for extension site students. For this population, spirituality served as a central element of the structural model and directly or indirectly related to nearly every variable. In particular, spirituality contributed significantly to the variation in PSC, whereas this pathway was non-existent in the traditional model.

Indeed, at extension sites, students have a natural affinity to the organization, its leaders, or the denomination, which informs their perceptions of the institution and further supports the development of community. As noted earlier, the tight-knit Christian community of the extension site program, combined with the deeply integrated Christian calling ethos, serves an important role in these structural relationships.

Academic programming. In addition to these latent constructs, the final structural model for extension site students included observed variables related to students' academic programming. The first item indicated whether the student was enrolled in primarily face-to-face or online courses. Among extension site students, the educational delivery model contributed to the variation in student-faculty interactions and students' perceptions of faculty sensitivity to diverse learners and multiple perspectives in the classroom, with those in primarily face-to-face programs reporting higher levels of interaction and more positive perceptions of faculty sensitivity. The first finding reflects the realities of the physical classroom experience compared with the online learning experience. Students enrolled in online courses are less likely to engage with faculty outside the classroom. Absent of discussion forums, graded assignment, and asynchronous or synchronous activities, students in online classes are provided minimal access to faculty. The physical classroom provides a richer experience for students, wherein relationships can be formed and nurtured with faculty.

The second finding, related to students' perceptions of faculty sensitivity to diverse learners, corresponds with the spirituality to faculty sensitivity pathway reviewed earlier. The context of the extension site reflects a close-knit Christian community, with faculty who are typically members of the local church community and have positive

relationships with students through shared membership and emotional connections with the host church. These relationships enable students to experience a positive sense of community within the classroom environment. Thus, students will naturally develop a positive perception of faculty in the classroom in the same way they might develop an affinity with the host organization that promotes positive perceptions of institutional congruence. In these affinity relationships, there is an inherent trust between the student, faculty, and church community.

An interesting finding from the extension site model was the direct effect of the academic delivery model on thriving. Enrolling in online courses had a direct positive effect on thriving. Students enrolled in online courses reported higher M thriving scores ($M = 5.15$, $SD = .45$), compared to their counterparts in fully face-to-face ($M = 5.13$, $SD = .51$) and hybrid ($M = 5.09$, $SD = .44$) courses, yet a univariate ANOVA found the M difference between these three groups was not significant ($F[2, 63.11] = .489$, $p = .614$, $\eta^2 = .003$). An explanation of this finding is there are likely other demographic characteristics associated with the academic delivery model influencing the results, as the model did not contain demographic characteristics.

The other variable in the structural model that reflected students' academic experiences was the number of enrolled credit hours within the current semester. Students who reported being enrolled in 12 or more credit hours were more likely to be confident of their major. The level of students' certainty about their major contributed to the variation in spirituality and PSC, indicating students who are more confident in their degree plans are also more likely to live with a sense of purpose and develop a sense of community. To this point, Suhre, Jansen, and Harskamp (2007) found a causal

relationship between satisfaction and student achievement, demonstrating that student satisfaction with one's academic program motivates students to progress as evidenced by credit hours earned. Further, a second study found completing an appropriate number of credits in the first semester of college correlated with persistence to graduation (Diehl, 2012). Thus, enrollment in a sufficient number of credit hours is an important element of the student success conversation at any institution.

In summary, this study found the church-based extension site model is an effective alternative to the traditional campus experience for students who are older, employed during college, and less likely to desire advanced education beyond the bachelor's degree. Students enrolled at extension sites are more likely to thrive when the institution creates an environment that (a) emphasizes student spirituality as a lens for navigating college, (b) develops community that promotes students' sense of belonging and integration, (c) ensures a rich classroom experience that leads to positive interactions with faculty, (d) expresses an institutional commitment to student welfare through consistent policies and practices, and (e) offers academic programs that support personal achievement and degree completion.

Limitations of the Study

Although this study highlighted differences in the pathways to thriving for extension site and traditional students at the target university, limitations exist within this study. The primary limitation was the sampling method, which relied upon the results from a single institution. To date, the target university is the only significant provider of church-based extension site programs in higher education, limiting the ability to evaluate the effectiveness of the model as an effective alternative for traditional education on a

national scale. The results cannot be applied universally to other similar programs.

Notwithstanding this limitation, this study is the first of its kind and will contribute to the literature on the church-based extension site model, thriving, and disruptive innovation in higher education.

A second limitation is that the sample was not representative of students from the target university. Despite starting with an initial sample of 4,300 students, only 796 cases were usable following the data screening procedure. Although this sample was sufficient for the statistical analyses, a larger sample might have provided a more comprehensive picture of student thriving among extension site and traditional students. Additionally, the final sample of those who completed the full survey included a disproportionate number of first-year, White, and female students. Although recent studies have determined a high number of White female respondents is common in social science research (Pike, 2008), participant rates in this study are not a representative sampling of the target university's traditional and extension site students. The high number of first-year students reflects the composition of the university's enrollment; however, the perceptions of first-year students may be more favorable compared to their upper-class peers. Further, data were collected as a one-time sample during the first semester of the academic year. Thus, the results cannot explain the relationship between time spent in college and thriving.

Implications for Practice

The U.S. higher education system faces myriad financial challenges that have the potential to disrupt the operations of many institutions, particularly smaller, private colleges and universities (Denneen & Dretler, 2012; Eide, 2018; Lederman & Jaschik,

2018). Thus, there is a need in higher education to develop new strategies that will enable the sector to adapt to these external and internal threats. This study offers insights into the effectiveness of the church-based extension site model as an alternative for traditional residential education. The implications of this study are outlined in the following subsections as recommendations for higher education leaders seeking to diversify their traditional campuses with alternative educational models.

Expansion of Church-Based Extension Site Model

The first implication for practice is that higher education leaders at private, faith-based institutions should strongly consider the implementation of the church-based extension site model as an alternative to the traditional residential campus. The results of this study determined the extension site model is a viable alternative for a particular set of students. As noted earlier in this chapter, it is erroneous to believe the extension site model will altogether replace traditional education. Instead, the extension site model is an alternative experience that can meet the unique needs of a narrow selection of students whose life experience may prohibit them from enrolling at a traditional campus.

Moreover, it should be assumed the extension site model will not drastically threaten the enrollment of a traditional campus. Instead, the extension site environment should serve students whose financial, familial, or academic backgrounds prohibit them from enrolling in a residential program, thereby improving their likelihood to succeed in the college environment. Such programs will enable institutions to expand their geographic footprint and increase enrollment by serving a broad array of students who cannot enroll at the traditional campus for financial or geographic reasons.

It is important to note the expansion of the extension site model should not be exclusive to church partnerships. Similar partnerships could be formed with for-profit and non-profit organizations who wish to educate their current or future employee base. Thus, the extension site model has an unlimited number of applications in terms of organizations that might partner with a university to deliver on-site instruction and co-curricular experiences that utilize the best of the academic and professional environments. Notwithstanding this implication, institutions must be confident that the mission and values of any potential partner are in alignment with that of the institution. Should the institution partner with an external organization that has a conflicting mission and values, the partnership has the ability to erode the institution's ability to provide an environment that promotes student thriving. For example, conflicts regarding spirituality may erode the Christian calling ethos and curriculum that are central to a faith-based mission.

The expansion of any extension site program should include a set of curricular and co-curricular experiences as described at length in this study. The aim of these experiences should be to promote student success in this alternative educational model. The remaining implications for practice will highlight the specific experiences that are critical for program effectiveness and student success in the extension site context.

Expanding the Student Success Definition

As reviewed at length in the literature review, the majority of higher education theorists have defined student success in the college environment as persistence and degree completion (Kuh et al., 2006; Kuh, Kinzie, Buckley, et al., 2007; Mayhew et al., 2016; Reason, 2009). This view of student success offers an overly simplistic

perspective and measurement of the student experience. In response, Kuh, Kinzie, Buckley, et al. (2007) challenged the higher education community to consider a broader definition of student success, utilizing the following terms: “academic achievement; engagement in educationally purposeful activities; satisfaction; acquisition of desired knowledge, skills, and competencies; persistence; and attainment of educational objectives” (p. 10). This broader definition of student success considers the array of factors and outcomes associated with the college experience.

To this end, Schreiner (2012, 2016) broadened the definition of student success to include student well-being. Building on the work of positive psychologists, Schreiner (2010c) presented college student thriving as students being “fully engaged intellectually, socially, and emotionally in the college experience” (p. 4). As such, thriving students are academically, socially, and psychologically successful during their college tenure. Previous studies found thriving contributes to the variation in important student success outcomes, including intent to graduate, academic performance, perceptions of tuition as a worthwhile investment (Schreiner et al., 2013), and satisfaction with the college experience (Nelson, 2015). In summary, thriving offers a holistic measurement and expanded definition of student success.

This study introduced thriving as a measurement of student success in the church-based extension site model. The findings of this study indicate the Thriving Quotient (TQ) instrument is appropriate for measuring student thriving in nontraditional programs in the same manner as traditional residential students. Indeed, the results from this study are consistent with early studies, including the contribution of spirituality, PSC, and institutional integrity to the variation in thriving. Future thriving studies might use the

TQ instrument to measure student success in similar nontraditional programs that are dissimilar from the traditional residential program.

In addition to expanding the definition of student success for nontraditional students, this study expanded the functionality of the TQ instrument. Prior to this study, no other research has assessed the effectiveness of a particular educational model based on students' self-reported thriving scores. This study analyzed a comparative dataset of traditional and extension site students and found the extension site students reported significantly higher thriving scores than their traditional counterparts with similar characteristics. These findings shaped further research on the differences in pathways to thriving between these two student groups. Thus, this study increased the utility of the college student thriving concept and the TQ instrument as a means of evaluating program effectiveness and supporting institutional improvement and innovation projects in higher education.

Based on the findings related to the second research question, the following sections detail implications for practice related to the student experience. Emphasis is given to the major pathways to thriving among extension site students, including spirituality, PSC, the role of faculty, curriculum, and co-curricular experiences.

Divine Design Curriculum

A central factor in the structural model for extension site students was the contribution of spirituality to thriving, either directly or indirectly through other variables. As such, spirituality, which represents one's beliefs in the meaning and purpose of life, served as a lens through which students in the sample interpreted the college experience. Spirituality specifically contributed to students' belief that faculty

were sensitive to the needs of diverse learners, perceptions of institutional congruence, sense of community, and ability to thrive in the college environment. Moreover, students' level of spirituality along with the homogeneous Christian community at the extension site established an affinity between the student and the host church that informed students' trust in the institution. Students, in effect, granted the benefit of the doubt to the institution based on the congruence between institutional and personal values and beliefs.

These findings highlight the important role of the institution in guiding students in conversations related to their meaning and purpose in life. The target university describes this perspective as divine design, which highlights the unique design and equipping of each person by God. Meaning and purpose, therefore, are not fabrications of the human mind; rather, these beliefs are a result of God's divine involvement in human affairs. Christian higher education institutions, in particular, are properly equipped to structure the curricular and co-curricular environments to explore the divine design concept. Extension sites have a more significant role in such conversations, given the role of the local church to equip individuals for service (Ephesians 4:12).

In practical terms, institutions should invest considerable attention to help students identify and utilize their divine design. Such investment should include both curricular and co-curricular experiences that foster personal exploration, evaluation, and planning. To this end, institutions might implement a first-year experience program that provides opportunities for students to explore their temperament, strengths, and personality traits. FYE programs could use self-discovery tools, such as the Myers-Briggs Type Indicator (MBTI) or Clifton's *StrengthsFinder* to help students identify their

unique makeup. Additional exercises would grant students opportunities to reflect on their divine design and consider ways they might improve. Thus, the divine design concept cements students' beliefs in the meaning and purpose of life as a by-product of God's work in an individual's life.

Psychological Sense of Community at Sites

A psychological sense of community (PSC) represented the second largest contributor to thriving among the extension site students, second only to spirituality. This finding demonstrates the importance of students feeling they belong, are connected, and become integrated into the extension site environment. Given the geographic distance between an extension site and the traditional campus, it is especially important for the local site to provide opportunities for students to develop community with their peers, faculty, and administrators. The geographic distance from the main campus is likely to prohibit students from having direct access to faculty and administrators who are otherwise accessible to the traditional student. To this end, the following section provides practical strategies to promote a sense of community on the college campus and promote student thriving.

Schreiner (2015) posited that four aspects of PSC can be enhanced in the college environment, including students' perceptions of membership, ownership, relationship, and partnership. Membership relates to students' sense of belonging within a particular college community. A common approach to enhancing membership on the college campus is to provide various learning or social communities through which students can join with other groups of students. Within an extension site environment, the host church could strengthen a sense of community by establishing academic and social groups that

enable students to develop networks of peers. These groups may serve to meet students' spiritual, academic, or social needs. Additionally, the local site can recognize the academic and ministry accomplishments of students as a tangible demonstration that the institution, vis-à-vis the local site, values and celebrates students' membership in the extension site community.

The second component, ownership, reflects the contributions from members of the community (Schreiner, 2015) and the resulting perception that the institution values this input (McMillan & Chavis, 1986). To this end, the extension site should intentionally create opportunities for students to provide input on local decisions and offer feedback on the quality of their experience. In the same manner a traditional campus might encourage student involvement through a student government association, extension sites can develop student leadership positions that provide an advisory council to local site leadership. Moreover, the institution as a whole must ensure satisfaction surveys and focus groups are conducted regularly with extension site students to collect their perceptions.

Once a student establishes membership in the community and has an ability to contribute to its design, students are able to develop “emotional connections and positive interactions with other community members” (Schreiner, 2015, p. 19). The relational aspect of community occurs in spaces where students have frequent opportunities to share positive experiences with other students. In the extension site environment, frequent social events can ensure students develop meaningful relationships with both faculty and peers outside the classroom. The church is the ideal location for such relationships to be developed. Extracurricular activities, including intramural sports, social mixers, and

mission trips, provide ideal settings for relationships to be nurtured among students.

Further, the church could provide physical spaces where students gather, share meals, and otherwise interact with one another.

Last, the partnership component of PSC denotes an interdependence, wherein students accomplish common goals (Schreiner, 2015). In a traditional academic setting, these partnerships might involve student-faculty research, intercollegiate athletics, and community service projects that involve students and faculty working together toward common goals (Schreiner, 2010a). The extension site can enhance students' sense of partnership through the local ministry context. Grouping students into ministry teams for the purpose of student learning and goal accomplishment is a potential model. Long-term, practical projects in a local ministry enables students to develop teamwork and critical thinking as they achieve a common goal.

To summarize, students' membership, ownership, relationship, and partnership in a community are the result of intentional programming at the local extension site. To ensure a sense of community within the extension site, it would be wise for the university to empower the local site leadership to create programs and experiences for students that build networks of interdependent relationships to meet students' needs across the duration of the student experience. Involving a variety of constituents, including local faculty, staff, and church personnel will communicate institutional integrity and commitment to student welfare (Schreiner, 2015) that will contribute positively to student thriving in the extension site environment.

Faculty as Institutional Agents

An important finding from this study was the role of faculty both inside and outside the classroom. Among extension site students, students' perceptions of faculty sensitivity to the needs of diverse learners and inclusion of multiple perspectives in the classroom had both a direct and indirect effect on student thriving. Moreover, faculty sensitivity had a direct effect on the frequency of student-faculty interactions, which also had an indirect effect on thriving. The more consequential factor was students' perceptions of faculty in the classroom. To this end, the faculty member serves as an institutional agent by potentially aiding students' ability to thrive in the extension site environment.

Stanton-Salazar (1997) used the institutional agent concept to describe the impact of faculty, staff, and administrators on students' ability to navigate the college environment. By virtue of their relationship with students, institutional agents transfer social capital to students that enables them to manage the higher education environment. As such, faculty play a pivotal role in the extension site environment by serving as institutional agents of the university. Oftentimes, faculty who teach in face-to-face courses at sites are the only institutional agents with whom extension site students interact during their tenure, given the geographic distance from the main campus. For this reason, interactions with faculty within and outside the classroom are critical to student success in the extension site environment.

Thriving is more likely when faculty who teach in the online and face-to-face courses demonstrate a commitment to diverse learners, by being sensitive to their unique need and ensuring multiple perspectives are presented in the classroom. Classroom

pedagogy, then, must communicate that the institution is supportive of students from varying social, racial, and ethnic backgrounds. Indeed, there must be a commitment to creating spaces where faculty recognize and appreciate the diversity students bring to the classroom. Recognition and appreciation of diverse students is evident in class discussions and activities, whether virtual or physical, that encourage students to share their personal experiences. When the instructor ensures these experiences and stories are honored and respected by peers within the classroom, not only do students of color thrive, but also all students benefit (Rychly & Graves, 2012).

Ash and Schreiner (2016), in their study of thriving among students of color, challenged institutions to equip faculty with an inclusive or culturally relevant pedagogy. In a national study of Christian campuses, Taylor (2013) found that despite acknowledging the importance of diversity, many faculty viewed cultural competence as tangential to their profession; however, faculty who articulated a biblical and theological foundation for diversity were more likely to engage in inclusive pedagogical practices. An inclusive pedagogy involves the attitudes, physical disposition, relationships, and compassion demonstrated to diverse students (Ash & Schreiner, 2016; Rychly & Graves, 2012; Taylor, 2013). Of importance is faculty messaging that conveys to diverse students they are welcome and deserve to be members of the classroom community. Achieving this optimal outcome often requires a commitment to faculty development that challenges faculty to create safe and welcoming learning environments (Taylor, Van Zandt, & Menjares, 2013).

To ensure the success of the extension site model, institutional leadership should commit resources to faculty development programs that highlight the importance of

diversity in the classroom and provide practical pedagogical training. Emphasis should be given to communication and practical classroom experiences that ensure students feel welcome in the classroom environment. The distribution of faculty across multiple sites may prevent the university from delivering this faculty development in person; however, the institution should utilize electronic resources, including webinar software, to deliver the inclusive pedagogy training.

Culturally sensitive pedagogy also extends beyond the classroom and involves the interactions between faculty and students in non-academic environments (Ash & Schreiner, 2016). As noted earlier, the frequency of student-faculty interactions external to the classroom is limited at extension sites because of faculty hiring practices of the target university, which hires a high proportion of adjunct faculty. Despite this trend, the university should encourage adjunct and full-time faculty to create spaces for students to engage with faculty and ensure such interactions support all students. Although not generally included in the contractual expectations of adjunct faculty, such faculty should be encouraged and incentivized to develop positive relationships with students, through community service or ministry projects, mentor relationships, and engagement in student activities. These interactions will positively contribute to students' sense of community and increase their levels of thriving in the extension site environment.

Last, where possible, the institution should schedule face-to-face courses at extension sites to ensure students receive the full benefit of the college experience. As noted earlier, enrollment in primarily face-to-face courses contributed to students' perceptions of faculty sensitivity to the needs of diverse learners and the frequency of student-faculty interactions. Where enrollment at a particular site is inadequate for face-

to-face classes, the university might invest in synchronous learning tools, such as webinar technologies, to provide students access to faculty.

Academic Advising

Not only are faculty an integral aspect of the extension site experience that contributes to thriving, but also are mechanisms that enable students to feel certain of their academic plans. This finding highlights the importance of the academic advising experience. In support of this finding, the target university currently utilizes a team of academic advisors, centralized at the main campus, whose sole responsibility is to ensure student success primarily through their degree plans. Where financially feasible, the university may hire a local academic director or student support position that provides localized advising services for a population of students. A major implication of this study is that an effective extension site model will rely heavily upon a robust academic advising service.

Similarly, the findings from the structural model for extension site students highlighted the importance of a full-time (i.e., 12 credit hours or more each semester) course schedule. Students enrolled in a full-time schedule were more likely to express confidence in their academic plans. As such, the academic advising experience should encourage students to enroll in an appropriate number of credits each semester. In doing so, the university will support progress toward degree completion and thereby promote student thriving.

Academic advising is not just course registration, however. The best advising experiences relate to the broader student success conversation, guiding students as they navigate the learning environment (Kimball & Campbell, 2013). An important finding

from the extension site structural model was the indirect effect of students' sense of balance on thriving. Sense of balance was the degree to which students balanced their personal, academic, and ministry expectations and also the degree to which the institution supported student balance. Students who expressed a sense of balance were more likely to report higher spirituality scores, which had an effect on their sense of community; they also were more likely to perceive faculty were committed to diverse learners, which had a subsequent effect on their perceptions of institutional integrity, PSC, and thriving.

These results demonstrate the importance of carefully structuring the academic and experiential environments with the aim to help students balance the competing demands of academic, ministry, and personal commitments. Students who give priority to their ministry activities over personal and academic obligations will likely perform poorly in coursework or become emotionally and mentally weary, further impacting their relationships and personal well-being. As such, an important role of the academic advising experience, whether facilitated through a centralized office or localized services, is to provide students counsel on balancing life during college. Such advising should equip students with the skills to navigate the extension site experience, including time management, study skills, and other techniques that will promote student success (Turner & Thompson, 2014). In so doing, academic advising will help students be confident in their academic plans, navigate the difficult seasons of the college journey, develop a sense of community, and ultimately thrive in the extension site environment.

Recommendations for Further Research

This study offered several important contributions to the higher education literature. First, I introduced the church-based extension site program and differentiated

the model as a potentially disruptive innovation in higher education. Second, I evaluated the effectiveness of the extension site model through a novel application of the Thriving Quotient (TQ) instrument, which utilized students' perceptions of thriving and the college experience as a measure of program effectiveness. In so doing, I positioned the extension site model as an effective alternative to the traditional campus experience for a select group of students. Last, I broadened the TQ data collection to include students in a nontraditional program, thereby expanding the utility of the instrument for future studies.

Future research might involve a national study of church-based extension sites to develop a comprehensive dataset that compares the thriving data between institutions. This research will provide a better sense of the universal factors that might contribute to thriving in extension site settings, regardless of the type of institutions. Doing so will also provide a more robust dataset that supports a comprehensive evaluation of program effectiveness among church-based extension sites. In addition, future research might replicate this study among rural land-grant extension sites that extend the mission of the institution to disbursed communities in their state. Although these land-grant extension sites do not have the same Christian ethos as the church-based extension site program, these environments may offer similar student experiences. Such research would offer a comparable experience to the church-based extension site program and advance the purpose of this study to assess the effectiveness of innovative educational models.

Future research might also consider the contribution of online learning to the church-based extension site mode. As discussed earlier in this chapter, students enrolled in primarily online courses reported higher thriving scores than their counterparts in primarily face-to-face and hybrid programs. Future research might consider the power

and importance of this experience for the extension site students, especially in correlation with the learning community provided by the host church.

Additional quantitative studies might measure whether the pathways to thriving for extension site students differ by student class level. As noted in the limitations section, a large portion of the respondents in this study were first-semester, first-year students who had a limited perspective of the institution and the extension site program. Thus, a follow-up study would evaluate the structural pathways to thriving for these different class levels to determine if significant differences exist.

A final quantitative research recommendation is to apply the propensity score analysis (PSA) technique to other higher education studies, particularly involving the comparison of various groups. Despite the randomized controlled trial (RCT) design being the gold standard in experimental research, the higher education environment often precludes the use of this research design, given the ethical and logistical challenges of randomly assigning students to control and treatment groups (Grunwald & Mayhew, 2008). Particularly in studies where students self-select their environment (e.g., extension site or traditional campus), an RCT design is implausible. Thus, the researcher must simulate random assignment by using advanced statistical techniques that control for the differences between groups. PSA provides the necessary statistical control by identifying the predictors of group membership and matching students in a sample, thereby improving the statistical power of subsequent analyses and the accuracy of future predictions. Therefore, higher education researchers would benefit from the PSA technique in comparative studies that evaluate student experiences across multiple groups.

Another future study might involve a qualitative follow-up study that would provide rich descriptions of student experiences at extension sites. Using the findings from this study, the qualitative researcher would identify the common behaviors and experiences of students that enable them to thrive in the extension site environment. Individualizing the thriving research would provide stories and case studies that would illuminate the ways students personally navigate their college journey as well as the institutional and church experiences that contributed most to their ability to thrive.

A final recommendation is to conduct a case study to identify the unique attributes that promote student thriving in each extension site. Such research might identify specific practices, cultural environments, leadership styles, and physical locations that uniquely promote thriving. A case study would examine physical and virtual artifacts at sites and also include interviews with students and leaders to identify themes.

Conclusion

The U.S. higher education system will continue to be impacted significantly by economic and financial challenge in the industry, including internal and external threats (Brewer & Tierney, 2012; Christensen et al., 2011; Webber, 2017). These financial threats have the potential to negatively impact the viability of many colleges and universities, particularly smaller, private institutions (Denneen & Dretler, 2012; Eide, 2018; Lederman & Jaschik, 2018). It is important, then, that these smaller colleges and universities embrace a culture of innovation and implement alternative educational models that support a broader array of students, thereby diversifying student enrollment and institutional revenue sources.

Through an evaluation of program effectiveness as measured by college student thriving, this study found the church-based extension site model is an effective alternative to the traditional campus experience for a select group of students whose academic, financial, and personal backgrounds may prohibit them from attending a traditional campus. Moreover, this study identified the unique pathways that contribute to the variation in college student thriving among extension site students.

Based on this study's findings, when extension site students rely upon their belief in the meaning and purpose of life, experience a sense of community, perceive institutional congruence, experience positive interactions with faculty inside and outside the classroom, are certain of their academic plans, and balance their personal and academic lives, they are likely to thrive in the extension site environment.

Acknowledging these findings, institutional leaders can successfully implement the church-based extension site model by designing the program with an emphasis on students' divine design, experiences that promote students' sense of community, faculty as institutional agents, and a comprehensive academic advising structure. In so doing, institutional leaders will establish an educational model that will advance the university's mission and support enrollment and financial goals without disrupting the viability of the traditional campus. Students on both the tradition campus and extension sites will then be able to thrive.

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APPENDIX A
THRIVING QUOTIENT INSTRUMENT

Thank you for agreeing to complete this survey on student success as part of a national project to better understand the college student experience. This survey will take about 15-20 minutes to complete. Because we value your time and it is so important that students complete the entire survey, if you provide your Student ID at the end of the survey, we will enter you into a drawing for a prize for 1 of 5 \$25 Amazon gift cards!

Possible Risks: It is expected that participation in this study will provide you with no more than minimal risk or discomfort, which means that you should not experience it as any more troubling than your normal daily life. While there are no direct benefits to participating, your response will help us to better understand student success in college.

Confidentiality: All responses to this survey are confidential. Although the survey asks for your email address and/or student ID in order to match your responses at the beginning and end of the semester to your GPA and enrollment status next semester, your identity will be protected at all times and the information will only be used for this research project and for no other purpose. Your name will not be linked in any way to the research data. Concerning your rights or treatment as a research subject, you may contact the Research Integrity Officer at Azusa Pacific University (626) 812-3034.

Consent: I understand that providing data to this research study is entirely voluntary and that I may refuse to do so or may withdraw from the study at any time without penalty. I have read this entire form and I understand it completely. By clicking a box at the end of this survey and completing the online assessments, I am giving my consent to participate in this study.

By submitting the completed survey electronically, you are granting us permission to use your results in our study. No individual information will ever be reported or released from this survey; only the researchers will see individual data and only grouped data will be reported. Thanks for helping us better understand your college student experience!

Should you have any questions or concerns regarding this survey, please contact the principal researcher, Dr. Laurie Schreiner, at lschreiner@apu.edu.

- ☐ I consent to have my responses gathered for research purposes
- ☐ I do not consent

Please select one of the following to proceed:

- ☐ I consent to have my responses gathered for research purposes
- ☐ I do not consent

Please indicate your student type at Southeastern University:

- ☐ Traditional student
- ☐ Extension site student

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating “strongly disagree” and 6 indicating “strongly agree.”

- I feel as though I am learning things in my classes that are worthwhile to me as a person.
- I can usually find ways of applying what I'm learning in class to something else in my life.
- I am confident I will reach my educational goals.
- I find myself thinking about what I'm learning in class even when I'm not in class.
- Even if assignments are not interesting to me, I find a way to keep working at them until they are done well.
- I feel energized by the ideas I am learning in most of my classes.
- I know how to apply my strengths to achieve academic success.
- I am good at juggling all the demands of college life.
- Other people would say I'm a hard worker.
- I feel like I belong here.

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating “strongly disagree” and 6 indicating “strongly agree.”

- Other people seem to make friends more easily than I do.
- Being a student here fills an important need in my life.
- I spend time making a difference in other people's lives.
- I feel proud of the college or university I have chosen to attend.
- I don't have as many close friends as I wish I had.
- There is a strong sense of community on this campus.
- I value interacting with people whose viewpoints are different from my own.
- I feel like my friends really care about me.
- I know I can make a difference in my community.
- It is important to become aware of the perspectives of individuals from different backgrounds.

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating “strongly disagree” and 6 indicating “strongly agree.”

- I feel content with the kinds of friendships I currently have.
- My spiritual or religious beliefs provide me with a sense of strength when life is difficult.
- When I'm faced with a problem in my life, I can usually think of several ways to solve it.
- My perspective on life is that I tend to see the glass as “half full” rather than “half empty.”
- My spiritual or religious beliefs give meaning and purpose to my life.
- It's hard to make friends on this campus.
- It's important for me to make a contribution to my community.
- I look for the best in situations, even when things seem hopeless.
- My knowledge or opinions have been influenced or changed by becoming more aware of the perspectives of individuals from different backgrounds.
- I often feel lonely because I have few close friends with whom to share my concerns.

Please rate your agreement with each of the items by using a 1 to 6 scale, with 1 indicating “strongly disagree” and 6 indicating “strongly agree.”

- My spiritual or religious beliefs are the foundation of my approach to life.
- I am confident that the amount of money I'm paying for college is worth it in the long run.
- I intend to re-enroll at this institution next year (graduating seniors please leave this blank!).
- I intend to graduate from this institution.
- Given my current goals, this institution is a good fit for me.
- If I had to do it over again, I would choose a different university to attend.
- I really enjoy being a student here.
- My experiences on this campus so far have met my expectations.
- The institution was accurately portrayed during the admissions process.
- Overall, the actions of faculty, staff, and administrators on this campus are consistent with the mission of the institution.

Each item uses a 1 to 6 scale, with 1 indicating “never” and 6 indicating “frequently.”

How often do you participate in?

- Campus events or activities
- Interaction with faculty outside of class
- Fraternity/Sorority
- Community Service
- Religious services or activities
- Campus ethnic organizations (such as Black Student Association)

How often this year have you:

- Met with your academic advisor
- Discussed career or grad school plans with faculty
- Discussed academic issues with faculty
- Met with faculty during office hours
- E-mailed, texted, or Facebooked faculty

During your time in college so far, how often have you:

- Participated in a learning community or some other formal program where groups of students take two or more classes together
- Participated in a first-year seminar
- Taken writing-intensive courses
- Taken courses that required a group project
- Taken courses that included a community-based project (service learning)
- Taken courses that relied solely on lecture
- Participated in an internship, co-op, field experience, student teaching, or clinical placement
- Studied abroad
- Conducted research with a faculty member
- Participated in a culminating experience, such as a capstone course, senior project or thesis, art exhibit, senior recital, or portfolio

Please indicate the number of hours per week that you devoted to your involvement in a student organization or student leadership role during this semester:

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ more than 30

Please indicate how many of your hours per week devoted to student organizations or leadership roles are incentivized or mandated (i.e., stipend, hourly pay, scholarship-dependent, etc.).

- ☐ 0
- ☐ 1-5
- ☐ 6-10
- ☐ 11-15
- ☐ 16-20
- ☐ 21-25
- ☐ 26-30
- ☐ more than 30

Please indicate the number of elected or appointed positions you have held during this semester (e.g., president/chairperson/captain/editor, secretary, treasurer, committee/project chairperson, Resident Assistant (RA), orientation leader, etc.):

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3

☐ 4

☐ 5 or more

Please indicate your frequency with the following, using the following scale: 1 = N/A, 2 = never, 3 = occasionally, 4 = often, and 5 = very often

- When I attended organization meetings, I expressed my opinion and/or took part in discussion.
- When I was away from members of the group/organization, I talked with others about the organization and its activities, or wore a shirt or button to let others know about my involvement.
- When the group/organization sponsored a program or activity, I made an effort to encourage other students and/or members to attend.
- I volunteered or was assigned responsibility to work on something that the group or organization needed to have done.
- I fulfilled assigned duties or responsibilities to the group or organization on time this semester.

Please rate your satisfaction with each of the following, using the following scale 1 = very dissatisfied to 7 = very satisfied:

- The amount you are learning in your classes.
- Your overall experiences at this university.
- The amount of contact you have had with faculty this year.
- The academic advising you have received this year.
- The kinds of interaction you have had with other students this year.
- The quality of the interaction you have had with faculty so far this year.
- The interactions you have had this year with students of different ethnic backgrounds.
- The amount of money you personally have to pay to attend college here.
- Faculty sensitivity to the needs of diverse students.
- Faculty encouragement for students to contribute diverse perspectives in class discussions.
- The degree to which faculty include diverse perspectives in the curriculum.
- Your physical health right now.
- The amount of financial aid I have received.

My program is conducted primarily:

☐ Face-to-face in the classroom at a regional campus or extension site

☐ Combination of online and face-to-face classroom at a regional campus or extension site

☐ Online

How many credits are you taking this semester?

- ☐ 1-4
- ☐ 5-8
- ☐ 9-12
- ☐ More than 12

How many hours per week do you work in a church ministry practicum/internship?

- ☐ None
- ☐ 1-10 hours per week
- ☐ 11-20 hours per week
- ☐ 21-30 hours per week
- ☐ 31-40 hours per week
- ☐ More than 40 hours per week

How many hours per week do you work outside of your extension site program?

- ☐ None
- ☐ 1-10 hours per week
- ☐ 11-20 hours per week
- ☐ 21-30 hours per week
- ☐ 31-40 hours per week
- ☐ More than 40 hours per week

How often do you feel overwhelmed by all you have to do in your classes, ministry, and personal life?

- ☐ Seldom
- ☐ Occasionally
- ☐ Sometimes
- ☐ Frequently
- ☐ Quite often
- ☐ Almost all of the time

“Balance” is a goal of many students in this program, but it is difficult to achieve consistently because of the many expectations in life. We define balance as feeling able to handle the demands of your class, church, and personal commitments.

Give the above definition of balance, how balanced do you feel right now?

- ☐ Very out of balance
- ☐ Out of balance
- ☐ Somewhat out of balance
- ☐ Somewhat balanced
- ☐ Mostly balanced
- ☐ Very well-balanced

Given the prior definition of “balance,” to what extent do you agree that the learning environment supports a balance between your college, church, and personal commitments?

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Somewhat disagree
- ☐ Somewhat agree
- ☐ Agree
- ☐ Strongly agree

Did either of your parents attend college?

☐ Yes

☐ No

Gender:

☐ Female

☐ Male

☐ Other _____

Age:

☐ 17 or younger

☐ 18-20

☐ 21-23

☐ 24-26

☐ 27-30

☐ 31-34

☐ 35-38

☐ 39-42

☐ 43-46

☐ 47-50

☐ over 50

Class level:

☐ First-year

☐ Sophomore

☐ Junior

☐ Senior

☐ Other (Please Specify)

Enrollment Status

- ☐ Full-time student
- ☐ Part-time student

Did you transfer into this institution?

- ☐ Yes
- ☐ No

How would you describe your grades in high school?

- ☐ mostly A's
- ☐ mostly A's and B's
- ☐ mostly B's
- ☐ mostly B's and C's
- ☐ mostly C's
- ☐ below a C average

What is the HIGHEST degree you intend to pursue in your lifetime?

- ☐ none
- ☐ bachelor's
- ☐ teaching credential
- ☐ master's degree
- ☐ doctorate
- ☐ medical or law degree
- ☐ other graduate degree

(specify) _____

What is your best guess about your household income level?

- ☐ less than \$30,000 a year
- ☐ \$30,000 to \$59,999
- ☐ \$60,000 to \$89,999
- ☐ \$90,000 to 119,999
- ☐ \$120,000 and over

Do you live on campus?

- ☐ Yes
- ☐ No

Do you work for pay?

- ☐ no
- ☐ on campus
- ☐ off campus
- ☐ both on and off campus

Collecting information about race and ethnicity assists colleges to understand the varying needs of students on campus. How do you identify your racial or ethnic family background?

- ☐ African-American / Black
- ☐ American Indian / Alaskan Native
- ☐ Asian-American/Asian/Native Hawaiian/Pacific Islander
- ☐ Caucasian / White
- ☐ Latino / Hispanic
- ☐ Other (specify)

☐ Prefer not to respond

Are you an international student?

- ☐ Yes
- ☐ No

When you chose to enroll in this institution, was it your first choice?

- ☐ Yes
- ☐ No

Are you a member of an intercollegiate athletic team on this campus?

- ☐ Yes
- ☐ No

How sure are you of your major?

- ☐ Very Unsure
- ☐ Unsure
- ☐ Somewhat Unsure
- ☐ Somewhat Sure
- ☐ Sure
- ☐ Very Sure

Considering the financial aid you've received and the money you and your family have, how much difficulty have you had so far in paying for your school expenses?

- ☐ No difficulty
- ☐ A little difficulty
- ☐ Some difficulty
- ☐ A fair amount of difficulty
- ☐ Great difficulty

How would you describe your grades in college so far?

- ☐ mostly A's
- ☐ mostly A's and B's
- ☐ mostly B's
- ☐ mostly B's and C's
- ☐ mostly C's
- ☐ below a C average

We are interested in what helps students thrive in college. Thriving is defined as getting the most out of your college experience, so that you are intellectually, socially, and psychologically engaged and enjoying the college experience. Given that definition, to what extent do you think you are THRIVING as a college student this semester?

- ☐ not even surviving
- ☐ barely surviving
- ☐ surviving
- ☐ somewhat thriving
- ☐ thriving most of the time
- ☐ consistently thriving

What has happened this semester that has led to your perception of whether you are thriving or not?

If you would like to be entered into a drawing for a prize, please provide your student ID:

** Identifying information is collected for research purposes and prize award only – no identifying characteristics will be shared or disseminated. **

APPENDIX B

MODEL FIT STATISTICS FOR SEM OF THRIVING

IN TRADITIONAL AND EXTENSION SITE STUDENTS

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	p ($\Delta \chi^2$)
Initial Model	801.194	355	<.001	0.935	0.045			
Model 2: FinDiff -- > FacDiversity	790.780	354	<.001	0.937	0.045	10.41	1	<.005
Model 3: MajorSure --> FacInteraction	782.403	353	<.001	0.938	0.044	8.38	1	<.005
Model 4: MajorSure --> Spirituality	774.803	352	<.001	0.939	0.044	7.60	1	<.010
Model 5: FirstChoice --> InstIntegrity	769.608	351	<.001	0.939	0.044	5.20	1	<.025
Model 6: Remove path MajorSure --> InstIntegrity	769.638	352	<.001	0.939	0.044	-0.03	-1	NS
Model 7 HSGrades_R --> InstIntegrity	765.354	351	<.001	0.940	0.044	4.28	1	<.050
Model 8: Female -- > InstIntegrity	758.967	350	<.001	0.941	0.044	6.39	1	<.005
Model 9: Remove path HSGrades_R -- > PSc	758.944	351	<.001	0.941	0.043	0.02	-1	NS
Model 10: Remove path FirstChoice --> MajorSure	759.089	352	<.001	0.941	0.043	-0.15	-1	NS
Model 11: Remove path Female --> Thriving	759.246	353	<.001	0.941	0.043	-0.16	-1	NS
Model 12: Remove path FacInteraction --> InstIntegrity	759.510	354	<.001	0.941	0.043	-0.26	-1	NS
Model 13: Remove path HSGrades_R -- > Spirituality	766.547	355	<.001	0.940	0.043	-7.04	-1	<.010
Model 14: Remove path FirstChoice --> FacDiversity	767.904	356	<.001	0.940	0.043	-1.36	-1	<.250
Model 15: Remove path InstIntegrity -- > Thriving	789.281	357	<.001	0.937	0.044	-21.38	-1	<.001
Model 16: Spirituality --> Thriving	724.758	356	<.001	0.946	0.041	64.52	1	<.001
Model 17: HSGrades_R --> InstIntegrity	719.788	355	<.001	0.947	0.041	4.97	1	<.050
Model 18: FinDiff - -> PSc	714.643	354	<.001	0.948	0.041	5.14	1	<.025

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Model 19: Remove path HSGrades_R --> Spirituality	715.781	355	<.001	0.948	0.041	-1.14	-1	<.250
Model 20: Remove covariance FirstChoice <--> HSGrades_R	715.797	356	<.001	0.948	0.040	-0.02	-1	NS
Model 21: Remove covariance FirstChoice <--> Female	715.893	357	<.001	0.948	0.040	-0.10	-1	NS
Model 22: Remove covariance HSGrades_R <--> FinDiff	715.993	358	<.001	0.948	0.040	-0.10	-1	NS
Model 23: Remove covariance Female <--> FinDiff	717.408	359	<.001	0.948	0.040	-1.41	-1	<.250
Model 24: Remove covariance FinDiff <--> FirstChoice	719.685	360	<.001	0.948	0.040	-2.28	-1	<.250
Model 25: e15 <--> e17	712.362	359	<.001	0.949	0.040	7.32	1	<.010
Model 26: e10 <--> e11	703.381	358	<.001	0.950	0.040	8.98	1	<.005
Model 27: Remove covariance e9 <--> e10	704.336	359	<.001	0.950	0.039	-0.96	-1	NS
Model 28: FacDiversity --> Thriving	696.164	358	<.001	0.951	0.039	8.17	1	<.005

APPENDIX C

MODEL FIT STATISTICS FOR SEM OF THRIVING

AMONG EXTENSION SITE STUDENTS

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Initial Model	858.391	492	<.001	0.904	0.049			
Model 2: Major Sure --> PSC	849.521	491	<.001	0.906	0.049	8.87	1	<.001
Model 3: WorkOffSite --> Thriving	842.299	490	<.001	0.908	0.048	7.22	1	<.010
Model 4: F2F_Hybrid --> Diversity	835.741	489	<.001	0.909	0.048	6.56	1	<.010
Model 5: FacInteraction --> PSC	828.687	488	<.001	0.911	0.048	7.05	1	<.010
Model 6: F2F_Hybrid --> Thriving	822.962	487	<.001	0.912	0.047	5.73	1	<.025
Model 7: Overwhelmed --> FacInteraction	818.537	486	<.001	0.913	0.047	4.42	1	<.050
Model 8: Remove path Credits --> FacInteraction	818.592	487	<.001	0.913	0.045	-0.05	-1	NS
Model 9: Remove path Overwhelmed --> PSC	818.691	488	<.001	0.914	0.047	-0.10	-1	NS
Model 10: Remove path Balance --> PSC	818.811	489	<.001	0.914	0.047	-0.12	-1	NS
Model 11: Remove path FacInteraction --> Thriving	818.939	490	<.001	0.914	0.047	-0.13	-1	NS
Model 12: Remove path FinDiff --> FacDiversity	819.103	491	<.001	0.914	0.047	-0.16	-1	NS
Model 13: Remove path MajorSure --> FacInteraction	819.103	491	<.001	0.914	0.047	0.00	0	NS
Model 14: Remove path WorkMinistry --> Spirituality	819.639	492	<.001	0.915	0.047	-0.54	-1	<.050
Model 15: Remove path WorkOffSite --> InstIntegrity	819.946	494	<.001	0.915	0.046	-0.31	-2	NS
Model 16: Remove path F2F_Hybrid --> MajorSure	820.738	495	<.001	0.915	0.046	-0.79	-1	NS
Model 17: Remove path MajorSure --> Thriving	821.995	496	<.001	0.915	0.046	-1.26	-1	NS

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Model 18: Remove path MajorSure --> FacDiversity	823.442	497	<.001	0.915	0.046	-1.45	-1	<.250
Model 19: Remove path Balance --> Thriving	824.964	498	<.001	0.915	0.046	-1.52	-1	<.250
Model 20: Remove path WorkMinistry --> Thriving	826.658	499	<.001	0.914	0.046	-1.69	-1	<.250
Model 21: Remove path WorkOffSite --> PSC	828.365	500	<.001	0.914	0.046	-1.71	-1	<.250
Model 22: Remove path FinDiff --> PSC	830.190	501	<.001	0.914	0.046	-1.83	-1	<.250
Model 23: Remove path FinDiff --> InstIntegrity	832.258	502	<.001	0.914	0.046	-2.07	-1	<.250
Model 24: Balance -> InstIntegrity	826.747	501	<.001	0.915	0.046	5.51	1	<.025
Model 25: Remove path WorkMinistry --> InstIntegrity; Removed WorkMinistry (No Relationships)	788.203	477	<.001	0.918	0.046	38.54	24	<.001
Model 26: Remove path HSGrades_R --> InstIntegrity; Removed HSGrades_R (No Relationships)	770.385	451	<.001	0.918	0.046	17.82	26	<.001
Model 27: Remove path FirstChoice --> InstIntegrity; Removed FirstChoice and FindDiff (No Relationships)	704.109	399	<.001	0.919	0.050	66.28	52	<.001
Model 28: Remove path WorkOffSite --> Thriving	707.851	400	<.001	0.918	0.050	-3.74	-1	<.100
Model 29: Covary e14 <--> e16	686.991	399	<.001	0.924	0.049	20.86	1	<.001
Model 30: Covary e14 <--> e15	670.985	398	<.001	0.928	0.047	16.01	1	<.001
Model 31: Covary e15 <--> e18	659.734	397	<.001	0.930	0.047	11.25	1	<.001

Model	χ^2	<i>df</i>	<i>p</i>	CFI	RMSEA	$\Delta \chi^2$	Δdf	<i>p</i> ($\Delta \chi^2$)
Model 32: Remove path Balance --> InstIntegrity	661.979	398	<.001	0.930	0.047	-2.25	-1	<.250
Model 33: Remove path Overwhelmed --> FacInteraction; Removed WorkOffSite (No Relationships)	630.787	374	<.001	0.932	0.047	31.19	24	<.001
Model 34: Covary e10 <--> e13	624.402	373	<.001	0.933	0.047	6.38	1	<.025
Model 35: Remove covariance F2F_Hybrid <--> Female	624.415	374	<.001	0.933	0.047	-0.01	-1	NS
Model 36: Remove covariance Balance --> Female	624.473	375	<.001	0.934	0.047	-0.06	-1	NS
Model 37: Remove covariance F2F_Hybrid <--> Credits	624.537	376	<.001	0.934	0.046	-0.06	-1	NS
Model 38: Removed covariance Overwhelmed <--> Female	624.695	377	<.001	0.934	0.046	-0.16	-1	NS
Model 39: Remove covariance Female <--> Credits	624.932	378	<.001	0.934	0.046	-0.24	-1	NS
Model 40: Remove covariance e1 <--> e2	625.351	379	<.001	0.934	0.046	-0.42	-1	NS
Model 41: Remove covariance F2F_Hybrid <--> Balance	626.508	380	<.001	0.934	0.046	-1.16	-1	NS
Model 42: Remove covariance Balance <--> Credits	628.796	381	<.001	0.934	0.046	-2.29	-1	<.250
Model 43: Remove covariance Overwhelmed <--> Credits	629.724	382	<.001	0.934	0.046	-0.93	-1	NS
Model 44: Remove covariance e16 <--> e18	632.632	383	<.001	0.934	0.046	-2.91	-1	<.100

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Model 45: Remove covariance e9 <--> e13	632.200	384	<.001	0.933	0.046	0.43	-1	NS
Model 46: Remove path Overwhelmed <--> Thriving; Removed Balance (No Relation.)	612.369	358	<.001	0.931	0.048	19.83	26	<.001

APPENDIX D

MODEL FIT STATISTICS FOR SEM OF THRIVING

AMONG TRADITIONAL STUDENTS

Model	χ^2	<i>df</i>	<i>p</i>	CFI	RMSEA	$\Delta \chi^2$	Δdf	<i>p</i> ($\Delta \chi^2$)
Initial Model	603.224	378	<.001	0.923	0.045	0.869		
Model 2: CampusInv --> FacInteraction	583.209	377	<.001	0.930	0.044	0.942	20.02	1
Model 3: CampusInv --> Spirituality	569.943	376	<.001	0.934	0.042	0.969	13.27	1
Model 4: FacInteraction --> PSC	562.332	375	<.001	0.936	0.042	0.978	7.61	1
Model 5: HSGrade_R --> MajorSure	556.775	374	<.001	0.938	0.041	0.983	5.56	1
Model 6: Remove path CampusInv --> InstIntegrity	556.803	375	<.001	0.938	0.041	0.984	-0.03	-1
Model 7: Remove path Spirituality to PSC	557.318	376	<.001	0.938	0.041	0.985	-0.51	-1
Model 8: Remove path CampusInv --> Thriving	558.083	377	<.001	0.938	0.041	0.986	-0.76	-1
Model 9: Remove path Female --> InstIntegrity; Removed Female (No Relationships)	529.061	351	<.001	0.939	0.042	0.970	29.02	26
Model 10: Remove path HSGrades_R -- > InstIntegrity	529.980	352	<.001	0.939	0.042	0.971	-0.92	-1
Model 11: Remove path FirstChoice --> InstIntegrity; Removed FirstChoice (No Relationships)	513.595	326	<.001	0.936	0.045	0.887	16.39	26
Model 12: Remove path CampusInv --> MajorSure	514.968	327	<.001	0.936	0.045	0.889	-1.37	-1
Model 13: Remove path FacDiversity -- > Thriving	516.579	328	<.001	0.936	0.045	0.889	-1.61	-1
Model 14: Remove path MajorSure --> Spirituality	518.789	329	<.001	0.935	0.045	0.886	-2.21	-1
Model 15: Remove path MajorSure --> Thriving	522.428	330	<.001	0.935	0.045	0.875	-3.64	-1

Model	χ^2	df	p	CFI	RMSEA	$\Delta \chi^2$	Δdf	$p (\Delta \chi^2)$
Model 16: CampusInv --> PSC	525.606	331	<.001	0.934	0.045	0.867	-3.18	-1
Model 17: HSGrades_R --> Thriving	521.449	330	<.001	0.935	0.045	0.881	4.16	1
Model 18: Remove path MajorSure --> FacDiversity	525.033	331	<.001	0.934	0.045	0.870	-3.58	-1
Model 19: FacDiversity --> MajorSure	520.364	330	<.001	0.935	0.045	0.886	4.67	1
Model 20: Remove covariance e9 <--> e13	522.589	331	<.001	0.935	0.045	0.883	-2.23	-1
Model 21: Remove covariance e16 <--> e18	525.229	332	<.001	0.934	0.045	0.878	-2.64	-1
Model 22: Remove covariance CampusInv <--> HSGrades_R	528.673	333	<.001	0.933	0.045	0.868	-3.44	-1
Model 23: Remove covariance FinDiff <--> CampusInv	532.029	334	<.001	0.933	0.045	0.859	-3.36	-1