

ACADEMIC SELF-EFFICACY OF ADULT FIRST-GENERATION STUDENTS

ENROLLED IN ONLINE UNDERGRADUATE COURSES

Delores Jackson, B.S., M.S., M.A

Dissertation Prepared for the Degree of

DOCTOR OF EDUCATION

UNIVERSITY OF NORTH TEXAS

August 2014

APPROVED:

Kathleen Whitson, Committee Chair
Beverly Bower, Committee Member
P. Daniel Chen, Committee Member
Janice M. Holden, Chair of the
Department of Counseling and
Higher Education

Jerry Thomas, Dean of the College of
Education

Mark Wardell, Dean of the Toulouse Graduate
School

Jackson, Delores. *Academic Self-Efficacy of Adult First-Generation Students Enrolled in Online Undergraduate Courses*. Doctor of Education (Higher Education), August 2014, 114 pp., 6 tables, 1 figure, references, 90 titles.

This study examined differences between adult first-generation (AFG) and adult-continuing generation (ACG) students' academic self-efficacy with regard to the online courses in which they were currently enrolled. The study used an online survey methodology to collect self-reported quantitative data from 1,768 undergraduate students enrolled in an online course at a mid-sized, four-year public university in the southwestern United States; 325 cases were usable for the study.

The *t*-tests revealed no statistically significant differences between the academic self-efficacy of the AFG and ACG students. Parents' level of educational attainment was unrelated to adult students' academic self-efficacy with online courses. Ordinary least-squares analysis was used to evaluate student characteristics that might be associated with academic self-efficacy in the online environment. A combination of gender, GPA, age, race/ethnicity (White, Black, Hispanic, and other), and number of previous online courses predicted a statistically significant 12% of the variance in academic self-efficacy in an online environment ($p < .001$). Age ($p < .001$) and self-efficacy were positively correlated, meaning that adult students reported greater academic self-efficacy than did younger students; and number of previous online courses ($p < .001$) was also positively correlated to academic self-efficacy, indicating that students with greater experience with online courses reported a greater sense of academic self-efficacy in that environment than students who had completed fewer online courses.

This study has implications of providing additional insight for higher education practitioners working with adult learners. Identifying additional factors influencing adult learners' academic self-efficacy in an online academic environment may be useful when building effective strategies to improve online retention and completion rates for these students. Future research should examine a wider variety of variables beyond demographic characteristics. External and internal factors, along with existing theories of behaviors should be investigated to help explain adult persistence and retention online and in face-to-face courses.

Copyright 2014

by

Delores Jackson

ACKNOWLEDGMENTS

I would like to thank those who uplifted and encouraged me with their prayers, patience, and persistence as I journeyed through this doctoral program.

I am truly indebted to my major professor, Dr. Kathleen Whitson, for seeing me through the end of this journey as promised in the beginning. Simply, deeply, and gratefully...thank you! Special thanks to Dr. Barbara Bower and Dr. P. Daniel Chen for their willingness to serve on my committee. Thanks to Dr. George Diekhoff for lending his expertise as a statistician, and also thanks to Ms. Betty Carroll for the editing and proofing support.

I would like to extend my deepest appreciation to Jennifer Gresham, for being a reservoir of encouragement and support as we journeyed through this program. To my sisters in Christ, my sisters in spirit, and my sisters in Omicron Epsilon Omega thank you for the encouragement, and the release time: Ms. Iva, Olga, and Rosie. To friends and co-workers (former and present) in the BAAS Department, thanks for continually checking on me: Antoinette, Brenda, Caroline, and Dawne!

Finally, to my loving and supportive family...I'm back! With deep gratitude I want to thank my husband Aaron for his support and the sacrifices he made during my doctoral journey. He was my anchor, wingman, gatekeeper, reader, listener, voice of reason, emergency procurer of computer equipment and supplies, and much more. Yes indeed, this *is* a "we" degree!

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.....	iii
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
Chapters	
1. INTRODUCTION.....	1
Background of the Problem	2
Statement of the Problem.....	9
Purpose of the Study.....	10
Research Questions.....	11
Definition of Terms.....	11
Significance of the Study	11
Conceptual Framework	12
Limitations and Delimitations	13
Conclusion	14
2. REVIEW OF THE LITERATURE	15
Introduction.....	15
Distance Education Through Online Learning.....	16
Student Profiles	23
Adult Online Challenges	38
Bandura’s Theory of Self-Efficacy.....	49

Gaps in the Literature.....	54
3. METHODOLOGY	57
Introduction.....	57
Research Questions.....	57
Research Design	58
Instrumentation	64
4. DATA ANALYSIS FINDINGS AND RESULTS	73
Introduction.....	73
Research Question 1.....	74
Research Question 2.....	75
5. DISCUSSION AND CONCLUSION.....	78
Discussion of the Findings.....	78
Implications for Practice.....	82
Recommendations for Future Research	84
Conclusion	86
APPENDICES.....	87
REFERENCES.....	108

LIST OF TABLES

Tables	Page
3.1 Characteristics for Online Population and Study Participants.....	63
3.2 Corrected Item-Total Correlation for Modified Academic Self-Efficacy Scale.....	69
4.1 Group Statistics for Independent Samples <i>t</i> -test.....	74
4.2 Independent Samples <i>t</i> -test.....	74
4.3 Regression Model Summary Table.....	76
4.4 Results of Ordinary Least-Squares Analysis	77

LIST OF FIGURES

Figure	Page
3 Distribution of self-efficacy total scores	71

CHAPTER 1

INTRODUCTION

Adult students, 25 years and older, now comprise more than 50% of the total enrollment within higher education (Aslanian & Clinefelter, 2012; Donaldson & Townsend, 2007; Ishitani, 2006; National Center for Education Statistics [NCES], 2012). Most of the growth in this adult student population is due to the increasing availability of courses and degree programs offered online. In fact, the majority of students enrolled online are adults (Deutsch & Schmertz, 2011; Chau, 2010; Rovai, 2003) and many are the first in their families to attend college (Seay, 2006; Vuong, Brown-Welty, & Tracz, 2010). As first-generation college students, these adult students may face additional risk factors that impact their persistence and academic success (Dumais, Rizzuto, Cleary, & Dowden, 2013; Giancola, Munz, & Trares, 2008; Lohfink & Paulsen, 2005). Several studies (Capps, 2012; Drouin & Vartanian, 2010; Muller, 2008) found the attrition rate for online students to be 10-20% higher than is seen among students in live, face-to-face classrooms, and noted low persistence and low retention rates impeded students' success. Since most online students are adults persistence and retention are particularly critical issues for adult students (Rovai, 2003; Wighting et al., 2008).

One factor associated with academic persistence and success is identified in the literature on self-efficacy. Self-efficacy has been shown by several researchers to be positively correlated to academic success (Bandura, 1977; Brady-Amoon & Fuentes, 2011; Hodges, 2008; Lundberg, McIntire, & Creasman, 2008; Schunk, 1991). Little is known about the academic self-efficacy of adult first-generation (AFG) college students. There is limited research that addresses the academic self-efficacy of these AFG students specific to the online academic

environment (Artino & McCoach, 2008; Dumais et al., 2013; Guidos & Dooris, 2008; Rovai, 2003). This study explores academic self-efficacy among AFG students in an online academic environment.

Background of the Problem

Growth of Online Education

Online education is an increasingly common method of course delivery in higher education (Aslanian & Clinefelter, 2012; Eom, Wen, & Ashill, 2006; NCES, 2012). Online enrollments have grown exponentially at many institutions of higher education, both public and private, and in the for-profit and not-for-profit sectors. Online courses and degree programs are now offered in a wide variety of subject areas. The impressive array of program offerings available today is attracting the attention of many individuals who want to return to school to complete a college degree online (Aslanian & Clinefelter, 2012; Chau, 2010; Kortesoja, 2009; Stella & Gnanam, 2004).

Distance learning, particularly through online education, transcends the constraints of the classroom by opening doors for greater access to higher education. The angst that accompanied the first efforts to move education online has subsided considerably (Casey, 2008; Eom et al., 2006). Although skepticism remains and concerns still arise regarding the quality and security of online learning, online enrollment continues to increase year after year (Allen & Seaman, 2013; Aslanian & Clinefelter, 2012; Tallent-Runnels et al., 2006).

Allen and Seaman (2013) and Eom et al. (2006) addressed two primary reasons for the growth of online enrollments: the increased number of adult students and the increased variety

of online offerings. Adult students are returning to college for a myriad of reasons. The literature (Giancola et al., 2008; Radford & Weko; 2011; Seay, 2006) points to employment-related educational and training needs, the death or divorce of a spouse, children leaving home (empty nest syndrome), and personal growth as some of the more common reasons adults return to college, often online.

According to Allen and Seaman (2013), during the fall 2002 semester, 1.6 million students had taken at least one online course at a degree-granting post-secondary institution. This figure represented 9.6% of the total enrollment of all students at those institutions in 2002. In the fall of 2011, 6.7 million students had enrolled in at least one online course, fully 32% of all students enrolled that year at degree-granting post-secondary institutions. This figure represented an online enrollment growth of 30% from fall 2002 (9.6%) to fall 2011 (32%), with adult students accounting for most of the growth. Aslanian and Clinefelter's (2012) report revealed that adult students aged 25 years and older comprised over 75% of the online undergraduate population, and 39% of these adults were the first in their families to attend college. NCES (2012) reported that during the years 2000-2010, the largest increase of college students (both face-to-face and online) were adult students. Adults largely accounted for the 42% rise in college enrollments during this period and NCES predicted that enrollment within this age demographic would continue to grow through the year 2020 as adult students continued to enroll online.

Allen and Seaman (2013) and Radford and Weko (2011) reported that increased online enrollment was facilitated by the expansion of online courses and full online degree programs offered by an increasingly large number of institutions. Allen and Seaman's 2013 survey

revealed that 28% of the institutions they surveyed did not offer any form of online instruction in 2002; however, by 2012 this figure was down to 13%. Thirty-four percent of the institutions offered full online degree programs in 2002, compared with 62% in 2012.

Online learning is particularly appealing to adult students who find it difficult or inconvenient to come to a brick-and-mortar campus to attend face-to-face classes on a rigid schedule. Domestic roles and responsibilities, work and career conflicts, physical limitations, and geographical constraints may hinder adults enrolling in face-to-face classes. In contrast, adult students are attracted to the accessibility, convenience, and flexibility afforded by online classes (Giancola et al., 2008; Stella & Gnanam, 2004; Tallent-Runnels et al., 2006). Many adults who once viewed a college education as unachievable have been encouraged to come back to school by the proliferation of online courses and degree programs that meet their special needs (Aslanian & Clinefelter, 2012; Chau, 2010).

Adult First-Generation College Students

Understanding the make-up of adult students, especially adult first-generation college students (AFG), is usually through comparison to their traditional-aged counterparts. Choy (2002), Pascarella and Terenzini (1997), and other researchers defined the traditional college student as a full-time student, between the ages of 18-24, and typically financially dependent on his or her parents. Usually these traditional students transitioned from high school directly into full-time college status and their main role is that of a college student. Traditional students frequently live on campus, but may also be commuter students who live off campus, or with parents. Adult students are those adults over the age of 24 with adult responsibilities and lifestyles. They are often part-time students who are financially self-sufficient with family, job,

and community responsibilities. The AFG student population can be viewed as a sub-population of the nontraditional student group (Giancola et al., 2008). Similar to traditional-aged first-generation college students, AFG students' parents may also have not attended college. AFG students, and the traditional-age first-generation students, often lack a parental or familial model of what is involved in preparing for college, and what it means to pursue and complete a college degree (Dumais et al., 2013; Lohfink & Paulsen, 2005; NCES, 2005). The expectations, attitude, and experiences of AFG students regarding higher education may greatly differ from those of the traditional student or the adult continuing-generation student, who has a parent with college experiences to share. Aslanian and Clinefelter (2012) reported that 39% of adult online students are AFG college students, with many of the risk factors associated with their younger, first-generation counterparts, including lack of support from family, and problems navigating the higher education system (Dumais et al., 2013; Ramos-Sanchez & Nichols, 2007). Other risk factors associated with AFG students include weak study habits, poor reading, writing, and math skills, under-developed critical-thinking and problem-solving skills, poor time management skills, conflicts with employment and family roles and responsibilities, and low academic self-esteem and low academic self-efficacy resulting from years of absence from an academic environment (Brown, 2002; Dumais et al., 2013; Giancola et al., 2008; Ishitani, 2006; Seay, 2006).

Considerable research (Astin, 1997; Lohfink & Paulsen, 2005; Pascarella & Terenzini, 1997, 2005; Vuong et al., 2010) on traditional-aged first-generation students has identified many of the special needs of this group, resulting in the development of a variety of age-appropriate programs and activities aimed at preparing them for the demands of college life.

According to Pascarella and Terenzini (2005), Reason and Terenzini (2006), and Tinto (2007) first year-orientation programs, freshman round-up, ambassador and peer group programs, Greek activities, TRIO, social activities, campus counseling, and bridge programs have been effective in assisting traditional-aged first-generation students with the high school to college transition. However, Rovai (2003) argued that applying the services and supports designed for first-generation traditional-aged students to the AFG population may not be appropriate or effective. The lack of adult-appropriate services may cause students to view their existence as unaccepted in higher education, lose confidence in their abilities, or further question their academic self-efficacy, ultimately impacting their persistence and retention (Capps, 2012; Donaldson & Townsend, 2007; Dumais et al., 2013; Muller, 2008; Ramos-Sanchez & Nichols, 2007).

Adult Online Persistence and Retention

Student attrition and retention in higher education has been studied extensively for the last 50 years. Retention issues were initially viewed from a psychological perspective which Tinto (1993) described as a result of the student's failure to adjust to college life. That view has expanded to take into consideration more sociological perspectives, including the institution and the social environment (Rovai, 2003; Tinto, 2007). Research specific to retention in online education has shown that attrition from online courses is considerably more problematic than is the case in face-to-face courses. Students tend to drop-out or stop-out (temporarily withdraw) at a rate 10-20% or higher than their campus face-to-face counterparts (Capps, 2012; Giancola et al., 2008; Holder, 2007; Lohfink & Paulsen, 2005). Since most online students are

adult students these low persistence and retention issues are particularly critical for AFG students who are very often enrolled online (Rovai, 2003; Wighting et al., 2008).

Morris, Wu, and Finnegan (2005) claimed they were able to develop a statistically significant classification rule to predict retention in online courses. They included nine predictor variables in their predictive discriminant function analysis model to achieve an overall rate of classification accuracy of 74.5% based on students' gender, age, verbal ability, mathematic ability, current credit hours, high school GPA, college GPA, locus of control, and financial aid availability.

In their review of other studies that were conducted regarding online retention, Morris et al. (2005) cited the work of several researchers: Diaz (2002) found that online students who had experienced previous success in online courses were more inclined to continue with their current online programs; Carr (2000) reported that low course completion and poor retention in online courses might be associated with age; and Nesler (1999) indicated that retention in distance courses might be associated with demographic characteristics and educational background.

Cochran, Campbell, Baker, and Leeds (2014) suggested course retention and program retention may be viewed differently since students' reasons for dropping out of an online course may be different than their reasons for dropping an overall university program, though those reasons could overlap. There are many reasons adult students do not persist in online education, ranging from lack of computer proficiency and lack of academic preparedness to conflicting family and work responsibilities. Bean and Metzner (1985), Hardin (2008), and Tinto (2007) all noted that social, psychological, institutional, and financial barriers also affected

persistence and retention for online adult students. Learner characteristics and skills, course characteristics, technology skills and experience, self-motivation, locus of control, perceived utility of courses taken, and lack of encouragement from family, friends, and employers have all been found to impact retention of adult online students (Brown, 2002; Capps, 2012; Seay, 2006). Research in the area of persistence, attrition, and retention in higher education has been overwhelmingly directed at traditional-aged students enrolled in campus or online courses, adult students on campus, or adults in the areas of training and development and continuing education (Ishitani, 2006; Muller, 2008). Rovai (2003) claimed that the current understanding of online persistence does not include models that address online adult learners and argued for a model that specifically addressed the factors that are relevant to persistence and attrition for this growing population.

Self-Efficacy in an Academic Environment

Self-efficacy, an individual's belief in his or her ability to function effectively when faced with a challenge, is an important construct that affects persistence and success when students face academic challenges. Self-efficacy was defined by Bandura (1977) as, "belief in one's capabilities to organize and execute the courses of action required producing given attainments" (p. 3). Bandura's theory of self-efficacy is widely cited by researchers and scholars in the field (Brady-Amoon & Fuentes, 2011; Schunk, 1991; Vuong et al., 2010; Zajacova, Lynch, & Espenshade, 2005). Self-efficacy is viewed as an important predictor of individual success, based on the individual's perception and judgment of their own abilities and likely outcomes.

Previous research supports a positive correlation between self-efficacy, persistence, and performance in an academic environment (Bandura, 1977; Brady-Amoon & Fuentes, 2011;

Hodges, 2008). Students who persist to successfully complete their courses and degree programs may be propelled by a higher sense of belief in what they can accomplish (Gore, 2006; Lundberg et al., 2008). Self-efficacy is important to success in both face-to-face and online learning environments (Hodges, 2008; Ramos-Sanchez & Nichols, 2007; Vuong et al., 2010). Hodges noted that academic self-efficacy contributed to one's confidence to perform successfully in online academic endeavor and also noted much of the research related to academic self-efficacy to be in other areas: children in primary and secondary schools, traditional-aged college students in relation to specific academic disciplines, or adult training and development in the work environment (Brady-Amoon & Fuentes, 2011; Schunk, 1991). Studies which addressed the academic self-efficacy of adult and AFG students in online academic environments are limited.

Statement of the Problem

Student retention is an overarching concern in higher education. The problem of attrition of AFG students enrolled online is particularly salient, as these students drop-out at a rate that is 10-20% higher than the rate of students in face-to-face classes (Drouin & Vartanian, 2010; Rovai, 2003). The limited studies that addressed academic persistence among adults or AFG students either online or in the classroom, highlighted academic self-efficacy as a factor that is positively correlated with success (Brady-Amoon & Fuentes, 2011; Dumas et al., 2013; Hodges, 2008; Lundberg et al., 2008). More information is needed regarding the academic self-efficacy of the adult and AFG student population in order to develop programs that improve online retention and completion rates for this group.

Purpose of the Study

The purpose of this study was to examine for differences between adult first-generation (AFG) and adult continuing-generation (ACG) students' academic self-efficacy in regards to the online course they were currently enrolled. The few studies which compared AFG and ACG students either did not examine them in the context of an online academic environment, or did not include academic self-efficacy as a research variable. Dumais et al. (2013) addressed differences in AFG and ACG students' motivation and perceptions of institutional support in pursuing their online education and concluded that AFG students were confident in their ability to succeed in an online environment because they utilized the supports offered through the schools. However, the construct of self-efficacy was not addressed directly as a variable in that study. Lundberg et al. (2008) addressed social support and academic self-efficacy among AFG students enrolled on campus. They concluded that adult students entering a program had a greater sense of self-efficacy for self-regulated learning while those near graduation had greater self-efficacy related to quality of work and the ability to integrate ideas learned.

This study examined differences between AFG and ACG students' academic self-efficacy in an online learning environment, controlling statistically for demographics and personal variables of gender, age, GPA, race/ethnicity, parents' educational attainment, and number of previous online courses that might be expected to influence academic self-efficacy. The study included traditional-aged students, both first-generation and continuing-generation, in order to provide the context and contrast necessary to fully interpret findings related to AFG and ACG students.

Research Questions

Two research questions guided this study:

- Is there a significant difference between AFG and ACG students' academic self-efficacy in online courses?
- What are the factors (gender, age, GPA, race/ethnicity, parents' educational attainment, and number of previous online courses) if any, which may contribute to the academic self-efficacy of AFG and ACG students enrolled in online courses?

Definition of Terms

- Academic self-efficacy: the enrolled student's confidence and belief about doing well (as defined by the student) in their currently enrolled course (Hodges, 2008).
- Adult continuing-generation (ACG) student: an adult student who has a parent (or guardian) who graduated from college with at least a 2-year college degree (Giancola et al., 2008).
- Adult first-generation (AFG) student: an adult student whose parent (or guardian) did not complete at least a 2-year college degree (Giancola et al., 2008).
- Adult student: an enrolled college student who is 25 years of age or older (Aslanian & Clinefelter, 2012). The AFG student may also be referred to as "nontraditional student" within this study.
- Online courses: courses in which the content is delivered fully online, and there are no face-to-face class meetings (Allen & Seaman, 2013).

Significance of the Study

This study is significant because it places the focus on adult and AFG students, a large and growing segment of the student population that has not been studied adequately in higher education research (Donaldson & Townsend, 2007; Giancola et al., 2008). Allen and Seaman's (2013) higher education enrollment figures, along with those reported by Aslanian and Clinefelter (2012) and NCES (2012), revealed that students 25 years and older numbered over 6.9 million in 2010 and constituted over 50% of enrolled college students. NCES predicted that enrollment within this age demographic is expected to grow 20% through the year 2020 as adult students continue to enroll online. Allen and Seaman reported that there were 6.7 million students who enrolled in online courses during fall 2011 and the majority of these students were adults (Dumais et al., 2013; Giancola et al., 2008). Aslanian and Clinefelter (2012) reported 39% of the adult students enrolled online were AFG students.

Issues of attrition and retention continue to plague higher education. Those involved with distance education realize that the growth in the enrollment of online students is not matched by improvements in retention, course completion, or graduation rates. Low online retention among adult and AFG students affect course and degree completion, causes additional financial and personal burdens for the student, and impacts campus and funding issues for the institution (Chau, 2010). If academic self-efficacy contributes to a positive outcome of students' academic goals, understanding adult and AFG students' academic self-efficacy would provide additional data that could be used to build effective strategies to improve online retention and completion rates for these students.

Conceptual Framework

Bandura's (1977) theory of self-efficacy provided the theoretical framework for this study. According to Bandura, self-efficacy is an individual's belief about their capability to successfully complete a task, activity, or goal. As self-efficacy increases, individuals tend to exert more effort to accomplish challenging goals or work through demanding situations. Bandura further asserted that those who doubt their ability to conquer difficult tasks will have lowered aspirations and weak commitments that will be obstacles in overcoming life's challenges. In the context of academic self-efficacy, believing in one's capabilities in an online academic environment would be expected to provide the determination needed in order to persist in reaching one's academic goals of online course completion (Brady-Amoon & Fuentes, 2011; Dumais et al., 2013; Gore, 2006; Hodges, 2008).

Limitations and Delimitations

One limitation of this study was online students who participated in the research were from a variety of majors. Students' academic self-efficacy regarding online courses may vary according to subject area, the rigor of courses, course content, and online teaching methodology associated with the different academic majors. Second, this research studied students from a single institution. The results may not be easily generalized beyond this population.

Conclusion

This chapter provided background information and foundation for this research into differences between AFG and ACG students' online academic self-efficacy. The chapter also presented research questions, defined key terms, and identified the significance and limitations of the study.

Chapter 2 reviews relevant literature about online education, current perspectives on adult and AFG students, including issues of persistence and retention, and also the literature on self-efficacy in the online academic environment.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

The attrition rate for online students is reported to be 10-20% higher than that of students in traditional face-to-face classes on college campuses (Capps, 2012; Drouin & Vartanian, 2010; Muller, 2008; Wighting, Liu, & Rovai, 2008). The majority of these online students are adults and many are first-generation college students. These adult students face additional risk factors that are associated with first-generation college status (Lohfink & Paulsen, 2005). These risk factors include weak study habits, poor reading, writing, and math skills, under-developed critical-thinking and problem-solving skills, poor time management skills, conflicts with employment and family roles and responsibilities, and low academic self-esteem and low academic self-efficacy resulting from years of absence from an academic environment (Brown, 2002; Dumais et al., 2013; Giancola et al., 2008; Ishitani, 2006; Seay, 2006).

Several researchers (Bandura, 1977; Brady-Amoon & Fuentes, 2011; Hodges, 2008; Lundberg et al., 2008; Schunk, 1991) have positively correlated self-efficacy with students' academic success. The purpose of this study was to examine for differences between adult first-generation (AFG) and adult continuing-generation (ACG) students' academic self-efficacy in regards to the online course they were currently enrolled. Literature relevant to online education, current perspectives on adult and AFG students, including their issues of persistence and retention, and also the literature on self-efficacy in the online academic environment was

reviewed. The literature review supported the appropriateness of this research topic for further study.

Distance Education Through Online Learning

Moore (2003; 2008) is considered an authoritative figure in the historical formation of distance education and is cited regularly (Donaldson & Townsend, 2007; Holmberg, 1995; Schlosser & Simonson, 2009) throughout the literature and research on distance education. Moore (2008), founder and editor of the *American Journal of Distance Education*, intimated that few educators and instructors were knowledgeable of the formation of distance education. He argued that those working with distance education usually approached it through the lens of, "... how to develop and apply different technologies versus gaining a historical or scholarly perspective regarding the framework of distance education, analysis of the field, and the biographical study of early pioneers of the field" (p. 69).

Moore (2003) proposed that his two books *Contemporary Issues in American Distance Education*, published in 1990, and *Handbook of Distance Education*, published in 2003, to be the first publications that included scholarly articles on theory, research, and practices regarding the field of distance education. Moore wrote these comments regarding his perspective on distance education:

Most of what is happening in the name of distance education is simply traditional pedagogy and traditional instructions of higher education with the addition of new technology. And people are proposing new names for this old wine in new bottles, such as e-learning, asynchronous learning, distributed learning, flexible learning, open learning, and so on. All of this is a part of distance education, and none of it alone is distance education. (2003, p. 74)

The terminology used to define distance education (often interchanged with distance learning) alludes to a physical separation of the instructor from the students and the method of teaching through some form of technology or mechanism that assists and supports in the delivery of teaching and learning (Simonson, Schlosser, & Orellana, 2011).

Schlosser and Simonson (2009) presented this definition of distance education:

... institution-based, formal education where the learning group is separated, and where interactive telecommunication systems are used to connect learners, resources, and instructors” (p. 1). The National Center for Education Statistics [NCES] Glossary (n.d.) described distance education as:

Education that uses one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously. Technologies used for instruction may include the following: Internet; one-way and two-way transmissions through open broadcasts, closed circuit, cable, microwave, broadband lines, fiber optics, satellite or wireless communication devices; audio conferencing; and video cassette, DVDs, and CD-ROMs, if the cassette, DVDs, and CD-ROMs are used in a course in conjunction with the technologies listed above. (NCES Glossary, n.d. first page)

Garrison and Shale (as cited in Casey, 2008), and Holmberg (1995) presented three conditions paramount to a distance learning environment: the instructor and student are physically separated from each other, the instructor and student must have a two-way channel of communication that augments the teaching and learning, and technology is required to connect the instructor and student to one another.

Simonson et al. (2011) expanded their definition to include four characteristics they believed further defined and distinguished distance education. They emphasized that self-study and correspondence courses highly differed from distance education’s approach and learning

methodology. Those familiar with correspondence courses and unfamiliar with distance learning are unaware that there are parameters and guidelines for the timely submission of coursework. The second characteristic distinguishing distance education is the geographic separation of the instructor and student, both physically and possibly through time zones, resulting in asynchronous work. Simonson et al. also noted that interactive technology is integral to facilitate a connection between instructor, student, and the learning material. As a fourth characteristic distinguishing distance education, Simonson et al. emphasized the importance of the instructor, student, and resource material in being inclusive of a learning group or learning community for a viable distance education/learning environment to exist.

Historical Perspective of Distance Education

Casey (2008) and Chau (2010) reasoned that distance education advanced in the United States due to the geographical separation of students from educational institutions, the desire of individuals to pursue learning and education, and technology advancing at unprecedented rates. Technological advances and the evolution of the World Wide Web have been catalysts in fueling the expansion of distance education, particularly in the area of online education.

According to Holmberg (1995), a rudimentary form of distance education may have emerged as early as 1728, when the Boston Gazette sent lessons of instruction in a new format of shorthand to those interested in learning this new form of writing. Casey (2008) credited the Pitman Shorthand Training Program as the first semblance of an instructional delivery method using the United States Postal Service in 1852. Women would complete stenography coursework and mail in their work to receive a certificate in stenographic shorthand.

Both Casey (2008) and Holmberg (1995) depicted the evolution of distance education from shorthand and stenography correspondence courses delivered by mail through the postal service to distance education delivered via radio, television, computer, and ultimately satellite transmission. Holmberg credited Illinois Wesleyan College in 1874, Correspondence University in Ithaca, New York, and the University Extension Department of the University of Chicago as pioneers in the concept of distance education. In 1892 the University of Chicago created and sanctioned the first college-level distance learning program in an effort to reach students who were geographically separated from the school. Casey lauded the institution's historical move as a precedent in establishing academic recognition of distance education.

According to Casey (2008), by 1921 three institutions were granted the first educational radio licenses to broadcast educational programming: the University of Salt Lake City, the University of Wisconsin, and the University of Minnesota. Casey's research indicated the Federal Communications Commission [FCC] granted over 200 such licenses to colleges between the years 1918-1946. According to her research, in 1934 the University of Iowa was the first to use the television as a mode of instruction by broadcasting courses. By 1963, the FCC had provided licenses, channels, and broadcasting services to educational institutions for the benefit of broadcasting instructional courses.

Enhanced technology continues to facilitate access to education resources worldwide through the Internet. The World Wide Web, satellite, and other technology opens access to virtual classrooms, directs interaction with instructors, students, classmates, and offers swift access to an unfathomable amount of information and resources across the globe (Carey, 2012; Casey 2008).

MOOCs (massively open online courses) erupted with the concept of delivering virtual educational opportunities to learners on a massive global scale. Mallon (2013) and Carey (2012) explained MOOCs as an online educational model which emerged in 2008. Though still in nascent stages MOOCs have generated attention and earnest discourse among stakeholders in higher education, particularly those involved with online education. Carey noted prestigious schools such as Harvard, Stanford, Yale, and MIT have opened their doors to embrace the MOOC concept. Both Carey and Mallon discussed the criticism and skepticism surrounding MOOCs, and the controversy within the higher education community regarding the quality of education behind this massive concept of online course delivery.

Status of Online Learning

The methodology of online learning is particularly appealing to nontraditional and adult students who find campus attendance in face-to-face classes impossible or inconvenient due to domestic roles and responsibilities, work and career conflict, physical constraints, or travel and location concerns. Giancola et al. (2008), Stella and Gnanam (2004), and Tallent-Runnels et al. (2006) suggested that students are attracted to the convenience and flexibility afforded by online learning, which allows the opportunity of completing a college degree that many viewed as an unlikely option.

Allen and Seaman's (2013) tenth annual survey regarding distance education trends in the United States, *Changing Course: Ten Years of Tracking Online Education in the United States*, revealed that 69% of senior administrators from the 2,800 higher education institutions responding to their national survey acknowledged the importance of online learning to their institution's strategic planning. Chau (2010) found that many institutions now viewed online

education as part of their long-term strategy in the growth of their university. Those who viewed education as a commodity in light of budget cuts and financial constraints were able to discern the benefits of providing online education.

Allen and Seaman (2013) reported during the fall 2002, 1.6 million students had taken at least one online course at a degree-granting post-secondary institution. This figure represented 9.6% of the total enrollment of all students at those institutions in 2002. The figures Allen and Seaman reported for fall 2011 revealed 6.7 million students had enrolled in at least one online course. This figure constituted 32% of all students enrolled at degree-granting post-secondary institutions in 2011, and represented an online enrollment growth of 30% from fall 2002 (9.6%) to fall 2011 (32%). According to Seaman and Allen, since their ten years of tracking online trends in higher education in the United States online enrollments have increased each year.

Two primary reasons for this growth of online enrollment are the increased number of adult students 25 years and older and the increased offerings of online courses and programs by institutions (Eom et al., 2006; Radford & Weko, 2011). NCES (2012) reported a 42% increase of students 25 years and older enrolled in higher education institutions between the years 2000 and 2010. The number of college students 25 years and older numbered over 6.9 million in 2010 and constituted over 50% of the enrolled college students (Allen & Seaman, 2013; Choy, 2002; Hardin, 2008). NCES reported enrollment within this age group is expected to continue into the year 2020.

Adult students 25 years and older are returning to college for a variety of reasons and due to many life scenarios. Job preparation and advancement, specific education and training, death or divorce of a spouse, children leaving home (empty nest syndrome), personal goals of

completing a college degree, and the recession and state of the economy are common reasons adult students have entered or re-entered higher education (Aslanian & Clinefelter, 2012; Donaldson & Townsend, 2007; Hardin, 2008; Kortesoja, 2009).

Aslanian and Clinefelter's (2012) suggested reasons that adult students chose to return to school *online* also varied. Being able to balance work, family, and school responsibilities; having the convenience and flexibility to study from anywhere and at anytime; the availability of accelerated and fast-track courses; overall lowered cost; faster completion time; and access to a greater variety of programs were predominant reasons adults provided for pursuing their education online.

Increased enrollment was also reflected in the expansion of online courses and full online programs offered by institutions. Allen and Seaman (2013), along with Chau (2010), indicated the institutional culture of higher education had undergone changes within the last twenty years regarding its acceptance and accommodation of online education. Wighting et al. (2008) noted many educators remained skeptical regarding online courses and programs, and viewed depersonalization of the teacher-student relationship, the aspect of passive learning, and the lack of students' ability to utilize higher-learning thinking skills as reasons for skepticism of this teaching methodology. Despite the skepticism, online enrollment and courses continue to proliferate each year.

Approximately 28% of the institutions Allen and Seaman (2013) surveyed in 2002 indicated they *did not offer* any form of online courses. Ten years later in 2012, this figure had decreased to 13% of the institutions *not offering* online courses. Regarding exclusively online degree programs, 34% of the institutions offered these degree programs in 2002, compared

with 62% of institutions offering full online programs in 2012. Research conducted by Stella and Gnanam (2004) and Tallent-Runnels et al. (2006) also addressed the number of colleges and universities offering increased numbers of courses and programs and the growing numbers of additional courses these institutions added each semester. These online offerings continue to attract the nontraditional and adult student over the age of 25.

Student Profiles

Traditional Student Perspective

From the 1960s through the 1990s, Pascarella and Terenzini's (1997) description of the traditional undergraduate was of a white student between the ages of 18-22, attending a 4-year university full-time. The student resided on campus, did not work, and had minimal familial responsibilities. Changing demographics, along with evolving roles and responsibilities in students' personal and professional lives, have led to changes in the traditional undergraduate students' profile.

Astin (1997) noted the evolving demographic changes of the undergraduate students' profile throughout his thirty years of collecting cross-sectional data on the vast numbers of freshmen entering colleges and universities each year. Student characteristics in terms of age, gender, ethnicity, first-generation college status, and other socioeconomic distinctions that previously delineated the traditional and nontraditional status of college students have since merged to blend characteristics that are manifested in both traditional and nontraditional student groups. Bean and Metzner's (1985), Chau's (2010), and Choy's (2002) research also noted the growing numbers of traditional students under the age of 25 who worked, attended

school full-time, and cared for dependents. Pascarella and Terenzini (2005) and Tinto (2007) criticized their own research methodology for not acknowledging the changing profile of the college student during their earlier research and studies. Realizing their focus was primarily aimed at students as a homogeneous group, they now question the veracity and generalizability of their earlier research in providing an accurate portrayal of the traditional undergraduate student from the 1960s through the 1980s.

Traditional undergraduate students are not a homogenous group, though Bean and Metzner (1985) noted there were similar characteristics which allowed for a broad categorization. Age and school enrollment status are the more prominent characteristics distinguishing the traditional student from the nontraditional student. Giancola et al. (2008), Seay (2006), and other researchers consistently referred to the chronological age of 18-24 to differentiate the traditional college student from the adult or nontraditional student.

Deutsch and Schmertz (2011) noted the cutoff age of 24 to be representative of full-time students having graduated with their undergraduate degrees and perhaps graduate degrees if continuing on full-time to graduate-level programs. They asserted 25 years may be the age of differing adult experiences of individuals. Bean and Metzner (1985) reasoned that adults over the age of 24 usually have family and work responsibilities which may signal the sociological and psychological onset of adult maturity as related to family, work, life experiences, and social responsibilities. Likewise, NCES (2012) used the age category of 18-24 in their national data collecting and reporting to distinguish this group from older adult students.

In further describing the traditional student, Choy (2002) and Deutsch and Schmertz (2011) noted that the traditional student graduated from high school and transitioned into

college soon after graduation; in other words, there were no years of delayed enrollment. When discussing the traditional college student the research and literature focused more on the 18-24 year olds whose sole responsibility was attending college as a full-time, undergraduate student (Choy, 2002; Pascarella & Terenzini, 1997).

Other characteristics of the traditional student as mentioned by Choy (2002) and Pascarella and Terenzini (1997) would be the student's financial dependence on parents throughout their undergraduate education. Both researchers indicated traditional students typically did not work full-time, but they might be employed throughout, or outside of, the academic semesters. Many traditional students were noted to be campus residents though they might also be commuter students residing off-campus independently or still residing with parents. Deutsch and Schmertz (2011), Donaldson and Townsend (2007), Hardin (2008), and Pascarella and Terenzini (2005) all discussed the decreasing number of college students between ages 18-24 and the increasing number of nontraditional adult students 25 years and older.

According to Pascarella and Terenzini (2005), by 1993 undergraduates 25 years of age and older were 40% of the undergraduate enrollment. Because their previous work was not inclusive of these students, Pascarella and Terenzini cautioned against exclusion of student groups or traditional approaches to research if the intent is to generalize or present accurate portrayal of the college student. They suggested, within the next decade or two, the heterogeneity of the undergraduate enrollment will increase and can no longer be ignored in studies and research.

Historical Perspective of Nontraditional Student

Loss (2005) depicted the typical college student, prior to World War II, as predominately white, between the ages of 18-22, more often male, and from an elite or higher socioeconomic background. Bean and Metzner (1985), along with Bound and Turner (2002), suggested the growth of the nontraditional student may have stemmed from changing demographics as military veterans surged upon college campuses post-World War II.

According to Bound and Turner's (2002) research post-World War II male veterans accounted for 70% of the enrollment in American colleges and universities. Bound and Turner reported by the end of 1949 that over 2.2 million veterans, due mostly to the economical and educational provisions of the G.I. Bill, were attending college. These veterans were from diverse socioeconomic backgrounds, with respect to age, minority status, and many were first-generation college students.

Sociological Factors and Events Impacting Nontraditional Student Emergence

Dongbin and Rury (2007) discussed other socioeconomic occurrences during the 1960s and 1970s that impacted college enrollments and continued to add diversity to what was once considered a homogeneous student population on college campuses. The civil rights movement, the 1954 landmark decision of *Brown v. Board of Education*, the emerging women's movement, campus and war demonstrations, and a shifting of attitudes regarding gender-specific roles which previously kept women from seeking higher education, all helped to facilitate this demographic shift (Deutsch & Schmertz, 2011). Astin (1998) noted the impact of societal events and shifting attitudes on the evolving student profile during his thirty years of collecting data on newly entering college students from the 1960s to the 1990s.

Bound and Turner (2002) claimed before the 1960s there was a significant growth in the number of traditional students transitioning to college directly from high school. As the number of veterans enrolled began to drop to lower percentages college enrollments of traditional-aged students expanded in the mid-1960s. Dongbin and Rury (2007) reported 40% of high school graduates aged eighteen through twenty-one were attending college by 1980.

Bound and Turner (2002) indicated that the years following the 1960s, changes in the social and demographic profile of the college student became more apparent. Astin (1998) discussed the increase of female students and gender-role shifts during 1960s through the 1990s. Deutsch and Schmertz's (2011), Hardin's (2008), and Muller's (2008) research also acknowledged this gender shift. The researchers reflected on the manner in which the women's movement and other gender issues impacted the characteristics of undergraduate college students as more women entered higher education. All of the researchers described the 1960s through 1980s as the pivotal time of women entering higher education, with women now outnumbering men in higher education enrollment (NCES, 2012). According to Bound and Turner (2002), during the 1960s and 1970s, the greatest number of women and minorities appeared on college campuses. Astin's (1998) thirty-year review, Deutsch and Schmertz's (2011) research, and Pascarella and Terenzini's, (1997) research reflected this, as well.

Bean and Metzner (1985) addressed political and economic events such as President Truman's Commission on Higher Education, as opening access to all. The passing of legislation such as the National Defense Education Act of 1958, and the Higher Education Act of 1965 were precursor events that helped redefined college access. Bean and Metzner, Bound and Turner

(2002), Dongbin and Rury (2007) acknowledged these events helped to provide resources and access for those students who normally might not have had such access to higher education.

Dongbin and Rury's (2007) analysis of regional and national enrollment patterns concluded that as colleges grew and expanded in different regions of the country students began commuting to campuses, working while in school, and ultimately shifting the traditional make-up of college campuses. Expansion of colleges in urban areas and access to colleges and universities brought in diverse students which aided in the emerging diversity of student demographics on many campuses. According to Dongbin and Rury, between 1960 and 1980 the number of students living in dormitories and attending college full-time declined from 68% to 59%, with evidence that students were increasingly balancing school with work. Dongbin and Rury further asserted, before the 1960s smaller numbers of students worked and attended college. This statistic changed after the 1960s as nontraditional students became more prevalent on college campuses.

Current Perspective on the Nontraditional Student

Bean and Metzner's (1985) research noted the heterogeneity of nontraditional students made it difficult to uniformly categorize or classify them based solely on their age and their school status. Their seminal research regarding the nontraditional student usually relied on definitions or descriptions which quantified the *extent* to which characteristics varied between the traditional and nontraditional student groups. Bean and Metzner focused on three main factors generally used in considering or describing the student as nontraditional: age, whether or not the student resided on or off-campus, and whether or not the student attended school full-time. They noted there were still variations in age, whether or not the student resided on or

off-campus, and the student's school enrollment status. Bean and Metzner emphasized age was not a singular defining characteristic of being a nontraditional student; however, other researchers (Holmberg, 1995; Muller, 2008; NCES, 2012; Seay, 2006; Stella & Gnaman 2004) highlighted age as the most distinctive characteristic defining the nontraditional student. Rarely was campus residency mentioned as a characteristic of defining nontraditional status (Hoyt & Allred 2008; Kortesoja, 2009; Tallent-Runnels et al., 2006).

Kasworm's (2003) definition of the adult student indicated two or more of the following characteristics held true for the nontraditional student profile: The student was 25 years or older, worked full-time while enrolled in school part-time, and re-entered higher education after an extended period of graduation from high school. She also noted these students may be married, have parental/guardian responsibilities, and be self-sufficient as they met their own financial obligations.

Horn and Carroll's (as cited in Choy, 2002) definition and description of nontraditional students did not mention age, but age was inferred due to the adult roles and responsibilities Horn and Carroll used to shape the nontraditional student profile they established. Their descriptions appeared linear and used the following characteristics to describe or categorize nontraditional students:

- Nontraditional students did not enter college directly from high school.
- Nontraditional students may have work history or military service.
- Nontraditional students usually attended school part-time during the academic school year.
- Nontraditional students may be working full-time while they are enrolled in school.

- Nontraditional students are considered financially independent as part of their criteria in determining financial aid eligibility through tax purposes and other financial scrutiny.
- Nontraditional students may have dependents, a spouse, and other familial responsibilities.
- Nontraditional students may also be single parents with the sole responsibility of caring for minor dependent children.
- Nontraditional students may also be in the category of not having a high school diploma, but may have obtained a GED [General Educational Development] (Choy, 2002, pp. 2-3)

Horn and Carroll (as cited in Choy, 2002) further categorized the nontraditional student as minimally, moderately, or highly nontraditional based on the number of the above characteristics the student possessed. A minimally nontraditional student has one of the aforementioned characteristics (attends school part-time); a moderately nontraditional student has two to three characteristics (attends school part-time, works full-time, is a military veteran); and a highly nontraditional student has four or more of the nontraditional characteristics (attends school part-time, works full-time, is a military veteran, singularly cares for a developmentally disabled family member).

Choy (2002) asserted that 73% of undergraduate students enrolled in higher education carry one to several of the nontraditional characteristics indicated in Horn and Carroll's portrayal, which suggested the majority of college students can be viewed as nontraditional. The literature emphasized the majority of the students enrolled in higher education could be deemed as nontraditional and/or over the age of 25 (Brown, 2002; Muller, 2008; NCES, 2012; Vuong et al., 2010).

NCES (2012) reported that between the years 2000 and 2010, the enrollment of students under the age of 25 increased by 34%, while enrollment of nontraditional students 25

and older increased by 42%. NCES projected a rise of 11% in enrollments of students under 25, and a rise of 20% in enrollments of students 25 and older through the year 2020.

Adult First-Generation Student

Several researchers (Aslanian & Clinefelter, 2012; Guidos & Dooris, 2008; Muller, 2008) agreed that adult and nontraditional students were returning to college for a host of reasons and due to many life scenarios. Deutsch and Schmertz (2011) and Hardin (2008) suggested the death or divorce of a spouse sent many women back to school for skills and a degree to help enter the workforce. Many may not have worked a paying job outside of the home in years. Chau (2010) indicated society's transition to service industry jobs and economic changes have also propelled adults to return to school to complete a degree to help with their marketability, in preparation for entering or re-entering the workforce, or advancing within their current employment.

The increase of adult and nontraditional students, in numbers and characteristics, has ushered in a student subgroup of adult first-generation (AFG) college students. AFG students are enrolled students over the age of 25 whose parent did not graduate from college with at least a 2-year degree (Dumais et al., 2013; Giancola et al., 2008; Ishitani, 2006). Throughout the literature there were varying definitions for first-generation students. Dumais et al., and Ramos-Sanchez and Nichols (2007) defined this group as students whose parents had *never attended college*. Ishitani and Giancola et al. described first-generation students as students whose parent may have *attended college but did not earn a degree*. London (as cited in Inkelas, Daver, Vogt, & Leonard, 2007) greatly narrowed the definition to include only *students who were the first in their families* to go to college. Inkelas et al. defined first-generation students as

those whose parent had a *high school education or less and did not begin postsecondary education*. Additionally, Seay noted that the United States Department of Education in 1965 and 1968, for funding purposes, defined a first-generation student as a student who resided and received support from a *parent who had not completed a baccalaureate degree*. Although there are varying degrees of defining the first-generation student the common theme is the parent did not graduate from college or the student may be the first in their family to attend college.

Aslanian and Clinefelter (2012) reported 39% of the undergraduate adult students enrolled online are first-generation college students. Adult first-generation students are more likely to be older, female, single parents and have lower incomes. The vast majority of single parents enrolled on college campuses are female. Within the last ten years, single-parent, minority and low-income women over 40, have been the largest group of adult learners entering higher education (Brown, 2002; Deutsch & Schmertz, 2011; Muller, 2008; Stella & Gnaman, 2004).

Giancola et al. (2008) and Ishitani (2006) noted AFG students may be less academically and psychologically prepared for college, exhibiting lowered math, reading, and critical-thinking skills which, in turn, may lower self-confidence. Kortesoja (2009) and Stella and Gnaman (2004) reasoned as the first in their families to attend college first-generation students tend to receive less family and peer support, and they tend to select colleges based on proximity, cost, convenience, and focused on obtaining job skills. These students may have less social and academic interaction with school due to family obligations and work responsibilities which

compete for their time. Giancola et al and Ishitani noted AFG students' performance in college tends to be lower, and there is higher attrition among first-generation students.

The studies conducted by Pascarella and Terenzini (2005) and Reason and Terenzini (2006) regarding first-generation college students focused on the pre-college characteristics of the traditional-aged students and explored other phenomena and barriers contributing to the first-year experience of these students. Common to both the traditional-aged, first-generation student and the AFG student was their unpreparedness, as gauged through lowered assessment scores and GPAs (Ishitani, 2006; Vuong et al., 2010). This general unpreparedness translated into weak study habits, poor reading, writing, and math skills, underdeveloped critical-thinking and problem-solving skills, and poor time management skills; all which are barriers to successful academic performance and completion of courses and program (Brown, 2002; Dumais et al., 2013; Giancola et al., 2008; Ishitani, 2006). McGivney (2004) and Park and Choi (2009) noted these barriers often generated a sense of frustration and isolation for the AFG college student due to the competing and conflicting roles they assumed academically, personally, and professionally: spouse, parent, employee, student, and first in the family to attend college. As noted by Dumais et al., Hodges (2008), and Muller (2008), the older student also had age concerns, and low academic self-esteem and low academic self-efficacy resulting from years of absence from an academic environment.

Giancola et al. (2008) noted that few studies have concurrently examined *both* first-generation college status and adult learner status in the same study, and even fewer have considered the differences in college first-generation status within the adult *online* learner population. Giancola et al. examined adult first-generation students in a university setting to

compare these students' perceptions of importance and satisfaction with college services to their adult continuing-generation counterparts' perceptions. They noted the limited research on adult first-generation students as most studies of adult students focused on learning styles, academic performances, and andragogy preferences. The majority of studies with first-generation students addressed the traditional-aged students. Giancola et al. found that females accounted for variance in the variables related to *importance* of services, and there were no differences between the groups in *satisfaction* with services. The Giancola et al. study concluded that research with college generational students should control for demographics such as variables of gender, age, race, marital status, employment, and dependents. Their suggestion was for more studies at 4-year institutions that further examined the AFG student.

Donaldson and Townsend (2007) explained that the imbalance of research regarding the adult student was the result of the predominant focus on the traditional-age students' experiences as the standard and characteristic of college experiences. Scant attention was provided to adult undergraduates' needs and experiences. Through their meta-analysis of higher education literature with a focus on adult students attending higher education, they noted only 1% of the articles published in the peer-reviewed journals for higher education indicated attention to the adult student population. From their research Donaldson and Townsend concluded four perspectives on how adult students tend to be viewed or portrayed within higher education:

- Adult students tend to be devalued and regularly portrayed as problematic.
- Adult students were usually compared to the traditional student perspective, thus the comparison was used to explain the deficits or problems of the adult students.

- Adult students were accepted and the literature viewed the traditional and adult students separately but used age as a defining characteristic as to why the differences existed.
- Adult students' differences were embraced. There were studies that recommended strategies more conducive to supporting the adult student, and further study of the nontraditional student was usually recommended in this type of literature.

Donaldson and Townsend commended the perspective of adult students being embraced in higher education. They believed research, new models, frameworks, and theories that addressed adult students' issues in higher education without comparison to traditional group issues, presented a position of valuing adult students' presence in higher education.

Philosophical Perspectives of Adult Learning

Adult learners are mature, socially responsible individuals who participate in sustained informal or formal activities that lead them to acquire new knowledge, skill, or values; elaborate on existing knowledge, skills, or values; revise basic beliefs and assumptions; or change the way they see some aspect of themselves or the world around them. (Cranton, 2006, p. 2)

Cranton (2006) further suggested that there were two ideologies which were pervasive throughout the different perspectives guiding adult education and learning: the individual-to-social continuum, and the interest to learn and the type of knowledge which resulted from that learning. The individual-to-social continuum puts an emphasis on the adults' learning process at one end of the continuum, whereas the other end of the continuum is more interested in the social change and advocacy of reform students undertake as a result of their learning. Cranton described the second ideology in adult learning as interrelated understandings of the world and those within the world. This prevalent thought emphasized the learning process and the type of knowledge which resulted from the learning. Cranton identified the three types of learning as technical knowledge, practical knowledge, and emancipatory knowledge.

Cranton (2006) described technical knowledge as instrumental learning and the knowledge of supreme importance for industry and production in society. This type of knowledge is gained mainly through training and technology programs. Practical knowledge is social and communicative knowledge based on a need to understand and interact with others. Studies in the liberal arts, communication workshops, and people working collaboratively in groups illustrate this type of learning. Emancipatory knowledge is gained through the process of critically evaluating and deeply reflecting on self and society. This learning occurs in both formal and informal settings.

MacKeracher (2004) similarly discussed two main paradigms from her philosophical perspectives of adult learning: the technical-rational paradigm and the participatory-liberating paradigm. She provided the educational emphasis and learning purposes of each paradigm to adult learning. MacKeracher noted under the technical-rational paradigm the adult learning process was focused towards a vocational and liberal arts orientation. Students were involved in this type of learning in preparing for employment and developing skills, or for the sake of extending intellectual knowledge on a cultural, social, or personal level. The second paradigm discussed was the Participatory-Liberatory Paradigm, which viewed adult learning from the humanist and liberatory orientation. Adults involved themselves in the humanist orientation of learning for personal growth and development: the liberatory orientation of learning evoked critical-thinking and political awareness for social change and organization. Chyung's (2001) research concluded adult learners sought to improve professional career-related knowledge and skills to be used towards professional or personal goals.

Adult Learning Assumptions

Knowles (1984), through his construct of andragogy, asserted adults learn differently than children, and adult learning is based on the adult's background, prior learning, and experiences. Paramount to adult learning are five themes which Knowles believed guided adults through their learning processes: adults must have relevancy from their learning, adults are self-directed, adults bring life experiences and knowledge to their learning experiences, adults are ready to learn, and adults are goal-oriented and problem-solving focused. More explicitly:

- (1) *Adults have a need to know and seek relevancy in what they are learning:* Chyung (2001) proposed students can be motivated, committed, and participative in their learning when they feel the subjects covered are relevant to their professional, personal, and academic future.
- (2) *Adults have their own self-concepts and are capable of self-direction:* Knowles (1984) claimed students who are responsible and motivated to take the initiative for their learning have a higher propensity towards academic success. Artino and McCoach (2008) concluded from their research on self-directed learning in adults that self-directed learning is useful as a predictor of adults' academic success in learning.
- (3) *Adults bring life experiences and knowledge to learning experiences:* Hoyt and Allred (2008) reasoned that adult learners generally have had some level of success in their non-academic lives, and they can replicate this success in their academic endeavors. Conversely, Holder (2007) noted because students have high self-efficacy in one area of their lives, they can still doubt their ability in other areas.
- (4) *Adults are practical and come to class/school with a readiness to learn:* Adults are ready to learn so they can begin applying their new knowledge, information, or performance to real-life situations. Hoyt and Allred (2008) indicated adults are looking for relevant information to enhance their personal and professional lives.
- (5) *Adults are goal-oriented and oriented to problem-solving:* Houle (as cited in Knowles, 1984) concluded from his research with adult learners that they were either goal-oriented participants of learning, learning-oriented, or activity-oriented. Houle's research identified adult learners to be learning-oriented and goal-oriented. According to the study conducted by Dumais et al. (2013), adult learners are intrinsically motivated

towards degree completion even though there may be obstacles and barriers in their path.

Researchers and scholars have referenced Knowles' assumptions when discussing and researching adult learning (Giancola et al., 2008; Hardin, 2008). MacKeracher (2004) noted other researchers have also criticized Knowles' assumptions of adult learning as an overgeneralization of the adult population regarding learning. The learning assumptions are not applicable to all adult learners due to the different context of learning situations and environments.

Adult Online Challenges

McGivney (2004) noted that for many adults in higher education their learning paths are not linear. School attendance tends to be part-time, intermittent and varied, and often has gaps throughout the process. With this type of education path it is easy for adult students to become distracted, frustrated, and confused by external challenges and barriers which divert attention from courses and school, even when situations such as family and employment are important priorities to address. Issues surrounding persistence and retention may be more complex for the adult student, as compared to the traditional student (Hardin, 2008; Park & Choi, 2009; Seay, 2006).

Rovai (2003) defined persistence as continuing action despite obstacles and challenges encountered. He proposed that because most online students tend to be adult students, low persistence rate and high attrition were specific problems for adult learners. The models, research, and studies that addressed online students' attrition is overwhelmingly directed at the traditional-aged student enrolled in online courses. Researchers on the topic (Capps, 2012;

Deutsch & Schmertz, 2011; Muller, 2008) noted persistence and retention were areas of concern in higher education, particularly for students in online courses. Since the majority of students in online courses are adult students, online retention may warrant closer scrutiny by those concerned with student persistence and attrition issues in higher education (Park & Choi, 2009; Tinto, 2006).

Tinto's (1993) earlier work is considered foundational in addressing persistence and retention in higher education (Guiffrida, 2006; Metz, 2005). Tinto claimed there were massive studies in the area of retention, and the results have generated an abundance of information. Through the information gathered effective programs were instituted, even though college graduation rates had not significantly increased within the last 20 years. NCES reported in 2005 (as cited in Tinto, 2006) that slightly more than 50% of students who enrolled at a 4-year institution graduated. Of those who graduated, 40% graduated within 6 years of enrolling at both the 2-year and 4-year institutions.

Tinto (1993) described persistence as the student's continuous or intermittent program attendance until academic goals are met. He asserted the more academically and socially connected the student was to the university, the more likely the student would remain engaged to complete academic goals; conversely, the less connected and integrated the student was to the university, the easier it was to depart. Tinto's theory of departure called for a connection between the student and the institution; the student's motivation and academic ability should be matched to the institution's academic and social qualities. Tinto's model of student persistence and departure encompassed three factors that he found drove students' decisions to stay or leave the institution. Tinto maintained departure issues were related to students

having either academic or pre-college entry struggles; the students' inability to integrate or acclimate into the institution on any level; and the quality of students' interactions with faculty, staff, peers, and other students. Although Tinto's theory is highly acclaimed among scholars and researchers, and replicated in other studies, there is criticism of his earlier work.

Capps (2012), Guiffrida (2006), Metz (2005), and Rovai (2003) contested Tinto's (1993) original research on the basis that it was not well supported by empirical research. Capps critiqued aspects of Tinto's study, which concluded academic integration and social integration were not as important to persistence in the 2-year institution as it was in the 4-year institution. According to Capps this inferred community college students were not connected or involved with the institution, and had implications for explaining persistence in the community college. Capps' study revealed adult community college students were connected to the institution and usually had higher GPAs than the traditional students; however, persistence for the adult students remained low, and it usually took them longer to graduate compared to the traditional student at the community college. Tinto (2007) has since acknowledged academic integration also matters to retention in the 2-year colleges.

Guiffrida (2006) argued Tinto's (1993) theory lacked regard for minority students. He claimed Tinto's assertion that minority students needed to break away from past communities to acclimate into the mainstream of college to be successful was not supported by sound empirical research. Guiffrida's research revealed the importance of students cultivating familial, cultural, and ethnic ties to encounter success in college. He stressed continued research is needed in the area of minority students and their persistence issues.

Metz (2005) and Rovai (2003) noted Tinto's (1993) foundational research in the area of persistence ignored large segments of student populations. They found Tinto's earlier work did not incorporate adult and nontraditional students, nor were students at 2-year colleges considered. Tinto's research was often based solely on the traditional student at 4-year colleges or universities.

Tinto (2007) acknowledged the substantial bias of his earlier research. His research has now evolved to include a diverse view of students' status, backgrounds, and other departure models within the community college realm that are more inclusive of nontraditional and minority students. Tinto stated:

Much of the early work was drawn from quantitative studies of largely residential universities and students of majority backgrounds. As such it did not, in its initial formulation, speak to the experience of students in other types of institutions, two- and four-year, and of students of different gender, race, ethnicity, income, and orientation. (Tinto, 2007, p. 3)

Tinto further acknowledged, "We now have a range of models, some sociological, some psychological, and others economic in nature that have been proposed as being better suited to the task of explaining students leaving" (p. 4).

Holder (2007) addressed the lowered retention and higher attrition in online courses compared to face-to-face courses. Online students tend to drop-out or stop-out at a rate 10-20% higher than their campus face-to-face counterparts (Drouin & Vartanian, 2010; Muller, 2008; Wighting et al., 2008). Brown (2002) indicated nontraditional and adult students are twice as likely as traditional students to leave school in their first year. Brown's research indicated adult students were more likely to persist when they believed college would provide better employment and career options. She also discovered that the adult students' first term

GPA along with the students overall satisfaction with their academic performance and accumulative GPA could also be a predictor on returning or persisting.

Cochran et al., (2014) used previous research of retention in face-to-face classes as a contextual point in beginning their own research regarding online course retention. Their research focused on individual characteristics that could identify students who were more apt to drop from their online courses. Their study encompassed 2,314 online students from a large state university to determine how individual characteristics such as college major, GPA, student classification, gender, race/ethnicity, previous online course completion, previous online course drops, and the type of financial aid utilized might be associated with students' online retention. They controlled for instructor quality of teaching, the course content, and previous retention strategies that may have been used. One of the findings revealed that prior performance in online courses and students' GPA were related to student retention in online classes for all of the student groups they examined. Cochran et al. noted studies which investigated other student characteristics that were also found to have a relationship with online course retention: Ishitani and DesJardins' 2002 and 2003 studies (as cited in Cochran et al., 2014) reported students with parents who have a college education have a higher retention rate than students whose parents do not have a college education; and the 2007 study conducted by Stratton et al. (as cited in Cochran et al., 2014) found a relationship between student retention and the education level of parents. Cochran et al. suggested looking beyond correlational studies of demographics to existing theories of behavior may be more helpful in predicting student persistence and course retention.

Bean and Metzner's (1985) model suggested nontraditional and adult students left the institution more often because of academic and psychological outcomes and due to external factors surrounding their adult status. Although the model is oriented to the nontraditional student versus the traditional student, Park and Choi (2009) indicated Bean and Metzner's model does not address the distance education aspect sufficiently to be a model applicable to online adult students.

Kember's (as cited in Park and Choi, 2009) longitudinal model of drop-out education proposed that the students' social and academic integration and progress should be considered along with student characteristics, background, and persistence. This was based loosely on Tinto's theory of the student and the institution being a match, with the student integrated into the university's culture. This model also, was mainly focused on the nontraditional student on campus.

Cabrera, Nora, and Casteneda (1993) claimed Tinto's (1993) and Bean and Metzner's (1985) models overlapped in some areas and contrasted in others. Both models exerted emphasis on pre-college attributes, the student and institution being a fit, and the academic and social integration of the student. Bean and Metzner noted the role of the external environment on persistence and attrition, and Tinto did not. Cabrera et al. revealed the synergy of the two models when merged. The models were more effective in explaining and predicting student departure when combined than they were when addressed separately. Cabrera et al. acknowledged their integrated model of Tinto's, and Bean and Metzner's models were directed towards the traditional student and required modifications to be applicable to nontraditional students. The model is also not applicable to online students.

Rovai (2003) contended the present models that addressed persistence with traditional students, and the on-campus nontraditional students, were not suitable or appropriate models in addressing online adult learners. He made an argument for a more composite persistence model to explain and address the persistence and attrition issues among online adult students. Rovai developed a composite model, which is also a merged version of Tinto's (1993) and Bean and Metzner's (1985) models. Rovai's model of viewing online persistence for nontraditional students incorporated student characteristics before entering college and student's characteristics after their admission. His model considered student characteristics such as gender, age, academic performance, and prior college preparation. He also noted student skills such as computer and information literacy, and time management. According to Rovai these characteristics affected student persistence. He explained students without a sense of community or connectedness in their online courses may feel isolated and drop out; gender-related differences can explain communication patterns; and lack of time management impacted academic achievement and performance. Rovai also noted the external and internal factors in his model which affected online students while in school. External events were described as support from outside of the institution, employment, and finances; internal events would be academic and social integration, study habits, and self-esteem. Rovai cautioned there was no simple formula or model to base online adult students' persistence due to the many internal and external factors that may occur or co-exist in adult students' lives.

Barriers to Success

Hadfield (as cited in Dumais et al., 2013) noted adults see themselves as paying consumers in education. Their satisfaction and retention tend to be tied to the level and quality of services received that are conducive to their unique student status, family, and employee roles.

Adult students, compared to traditional 18-22 year old college students, face challenges and barriers differing in scope and magnitude in completing a college degree. Unique challenges and obstacles block degree obtainment. McGivney (2004) noted that adults tend to have barriers that interfered with program completion, even with those courses or programs online. Common themes such as multiple responsibilities, emotional hurdles, dissatisfaction with faculty, technological problems, financial hardship, feelings of isolation, and falling behind in coursework usually surfaced as some of the barriers AFG students encountered (Muller, 2008). Chyung (2001) suggested adults drop out when their interests and the courses do not match, when they do not feel confident about learning, and when they have learned what they wanted or needed and lost interest.

Research on traditional-aged, first-generation college students and online students reveal these groups as separate entities that have an even lower attrition rate compared to the continuing-generation college students, or students who are completing their courses in face-to-face modality in the classroom (Dumais et al., 2013; Ramos-Sanchez & Nichols, 2007). According to Dumais et al. and Giancola et al. (2008) to further compound these concerns, AFG students who enrolled in online courses and programs had a higher attrition rate than their campus counterparts. This increases concern for the persistence and retention of the adult

student where first-generational college status and online course delivery may be distinguishing variables.

The majority of online students are female. Deutsch and Schmertz's (2011) and Muller's (2008) research indicated female students tend to be older than their male classmates, tend to be single parents, and tend to have lower household income as they combine family needs with work and school attendance. The researchers noted many women failed to persist due to gender-specific reasons. Reasons such as conflict with family, work, and school, as well as the financial and emotional reasons were all perceived as gender-related. Kasworm (2003) suggested women's educational decisions may be shaped by events such as divorce, geographic moves, children's school entry, or children's departure from home.

Hardin (2008) suggested that adult students who returned to college are moved through transitional phases in their lives that usually occurred due to major life changes such as spouses' death, divorce, lay-off, or other significant emotional events. Pinkston's initial research (as cited in Hardin) identified four broad categories that appeared to present barriers for adult students: procedural, environmental, psychological, and financial. Hardin's research refined these areas, or barriers, as institutional, situational, psychological, and educational, respectively. Institutional barriers were described as time constraints on obtaining the degree, including lack of services, lack of support groups, and the occurrence of those events, activities, or procedures and policies that unduly blocked access from admission to graduation. Situational barriers were time management, organizational skills, family, work, and logistical problems. These were skills, deficiencies, or situational problems which could be honed or addressed through services and supports that promote easier transition into school. These may

still be viewed as barriers because adults may encounter difficulty managing this transition. Psychological barriers would be poor confidence, low academic self-efficacy, low self-esteem, high anxiety, and negative feelings about academic performance. Educational barriers could include being underprepared for the rigor of schoolwork, having a low GPA, having difficulty with reading and writing at the college level, having difficulty with courses, and not being able to progress with school work. Hardin noted it was extremely difficult to determine all of the barriers adults may face as they returned to school. She cautioned against assuming that a fit for one group of adult students will be the same fit for another group of adult students. Nontraditional and adult student groups also need to be studied as a heterogeneous group.

Strategies for Adult Success

Brown (2002) claimed the needs of adult students were not uniform or linear but often differed from the nontraditional students in intensity and scope. Other researchers (Deutsch & Schmertz, 2011; Giancola et al., 2008; Seay, 2006) addressed services that centered on issues related to managing time, balancing work and family responsibilities, academically underprepared, self-esteem and confidence issues as a result of being of long periods of time, and finding appropriate financial aid and career counseling as services and supports adult and online students could benefit from greatly.

Donaldson and Townsend (2007) and Hoyt and Allred (2008) further noted one-stop enrollment, advising and registration opportunities, career counseling for adult students, advisors and counselors experienced in counseling adult students, and faculty members who developed inclusive student learning environments, as more helpful to the older students' success. Both noted that age should not be the sole criteria for providing services to adult

students, as there are services that both traditional and nontraditional students can equally receive benefits.

Giancola et al. (2006) suggested support for the AFG student could be in the form of cohorts which help provide a sense of community. Lohfink and Paulsen (2005) argued that class based differences be considered by researchers and educators when developing and implementing retention policies and programs. First-generation students tend to come from diverse cultural, racial, social, and economic backgrounds.

Tinto (2006) asserted that student persistence is reflected in institutional practices and policies. He argued that the responsibility rests with the institution to evaluate its role in student persistence and retention. Hardin (2008) suggested colleges and universities consider approaches such as outreach, life and career planning, financing, assessment of learning outcomes, student support systems, and strategic partnerships with employers of students. She indicated support in transitioning the adult into school could help alleviate some of these barriers. Hardin suggested creating weekend and distance learning courses, redesigning school information that is more inclusive of adults, forming committees that are focused on working with adult issues, and promoting more convenient times for adults to access school services and staff. Cleveland-Innes' 1994 study (as cited in Brown, 2002) indicated academic integration could be a significant variable in whether or not adult students persist.

Bandura's Theory of Self-Efficacy

Bandura's (1977) theory of self-efficacy is derived from his social-cognitive theory, which asserts that people will act to produce the outcome desired, when they believe they

have the ability to act. He defined self-efficacy as the belief one has about one's capability to produce designated levels of performance, which will exert influence over events affecting one's life. Research in this area strongly correlated self-efficacy as foundational to human motivation and performance (Brady-Amoon & Fuentes, 2011; Schunk, 1991). Bandura's research theorized that individuals who have high self-efficacy beliefs are able to navigate through life events with a more positive outlook and are able to translate that confidence into a more productive outcome of their situation. With this enhanced and perceived capability an individual exhibits stronger motivation to accomplish the challenging goal or conquer the difficult situation. Consequently, those who do not believe themselves strong in their abilities or who doubt their capacity to conquer the difficult tasks they are encountering will have low aspirations of what they are able to do and weak commitments in following through. This low self-efficacy will manifest as obstacles and barriers in overcoming life's difficulties. Bandura clarified that the construct of self-efficacy was initially used in clinical psychology, addictive counseling, for those experiencing health related issues, and other areas of clinical treatment. The construct of self-efficacy has also been addressed from a psychological perspective in the areas of motivation and human performance. A high volume of empirical research and literature exists that supports a positive correlation between self-efficacy, persistence, and academic performance (Bandura, 1977; Brady-Amoon & Fuentes, 2011; Hodges, 2008; Schunk, 1991).

Hodges (2008) explained that self-efficacy simply answers the question of whether or not an individual can see themselves completing a task. When the individual believes so, more effort and energy is exerted towards the task. When the individual believes the task to be

beyond their capability, less effort and energy is exerted. Schunk's (1991) research built on the notion of self-efficacy predicting motivational outcomes. Individuals with low self-efficacy for accomplishing a task will be more than likely to avoid the task. Those with a stronger conviction of being able to complete a task may be more apt to participate.

Hodges (2008) and Brady-Amoon and Fuentes (2011) discussed the situational and contextual nature of self-efficacy. Self-efficacy beliefs are context-specific, and these beliefs will change as situations change. High self-efficacy in one area does not automatically translate to high self-efficacy in another area or task.

Bandura (1977) and Hodges (2008) asserted the importance of influence as the substance of self-efficacy. The four areas of influence which operate in the construct of self-efficacy are mastery of experiences, vicarious experiences, social persuasion, and emotional states. Schunk (1991) explained that mastery experiences related to the previous and successful experiences a learner had in the performance of a task. Previous successes with past tasks tend to build on and reinforce self-efficacy beliefs about successfully completing subsequent tasks. Failures of past tasks tend to weaken and undermine self-efficacy. Hodges claimed mastery experiences exerted the most influence over an individual's self-efficacy. Self-efficacy involves cognitive processes whereby the individual must evaluate each situation to determine their own beliefs regarding that specific task. Bandura's research confirmed the role self-efficacy has on the individual's judgment of their abilities regarding successful task performance.

Bandura (1977), Hodges (2008), and Schunk (1991) clarified the importance of role modeling through vicarious experiences and the importance of individuals having the opportunity to observe the performance. Observing another person perform the task

successfully increases the individual's own self-efficacy to complete the same task. Hodges cautioned that self-efficacy beliefs are contingent upon the observation and abilities of those chosen to model the task. Knowledge of how others performed the task allows one to judge one's own self-efficacy regarding performing that same task.

Bandura (1977) and Hodges (2008) noted the limitations and the usefulness of verbal or social persuasion, which is the third influence of self-efficacy. Persuasive comments that are meaningful and provide useful feedback will need to come from someone who is credible and competent, according to the individual who is to perform the task. Bandura cautioned that off-hand comments of encouragement or unrealistic feedback may decrease and diminish the self-efficacy that is trying to be encouraged.

An individual's physiological and emotional state will affect their decision-making abilities. Self-efficacy beliefs are also affected by an individual's state. Hodges (2008) asserted that stress, fatigue, anger, pain, and other emotional states will weaken performance. This is contingent upon the function or the complexity of the situation and the task the individual is attempting to perform.

Self-Efficacy in an Academic Environment

Gore (2006) noted that self-efficacy in academic settings was found to be correlated with college performance, college persistence, predicting performance in the fields of science and engineering, and the range of perceived career options with positive outcomes. Gore's study examined the correlation between academic self-efficacy and college outcomes. He concluded that when self-efficacy was evaluated at the beginning of a semester the results were weaker than towards the end of the semester, and the self-efficacy of experienced

students was higher than that of less experienced students. Gore concluded that academic self-efficacy can be used to predict academic performance and persistence; however, this study was conducted on traditional students in the classroom.

Hodges (2008) claimed the majority of studies in the area of academic self-efficacy focused on modeling behaviors with children and youth in classrooms, or conducted with traditional-age students on a college campus in specific disciplines. Adult students were rarely considered in self-efficacy research outside of the area of training and development within the work environment. Hodges further noted that the bulk of the studies surrounding adult online students dealt with adults' self-efficacy related to computer usage, technology, and Internet self-efficacy. Much of this research was conducted between the late 1970s and early 1990s, before the advent of Internet-based online learning. Hodges noted the study of adult students' academic self-efficacy in asynchronous online learning environments is in a nascent stage. There is limited research in the area of academic self-efficacy with adult students in an online environment.

Spitzer's (2000) research compared the academic self-efficacy of nontraditional and traditional students on personal and learning dimensions. She evaluated the groups on five personal dimensions and two learning dimensions. She found that academic self-efficacy, self-regulation, and social support were predictors of GPA, career decision making, and social support. She also found that nontraditional students and females had higher GPAs and greater career focus. Spitzer offered that the significant predictors did not vary much between the two groups. Spitzer's study was conducted with on-campus students, also.

Applicability to Adult First-Generation Students Online

Ramos-Sanchez and Nichols' (2007) hypothesized that self-efficacy would enhance the correlation between generational status and GPA. Their results supported previous findings that continuing-generation students generally performed better academically than did first-generation students. Ramos-Sanchez and Nichols reported that although student's self-efficacy and confidence in succeeding academically were high for first-generation students, their performance remained low academically compared to continuing-generation students. Their findings that a student's level of self-efficacy at the beginning of the year predicted later college adjustment had implications for counseling interventions, particularly because at-risk students could be identified early by assessing their level of self-efficacy. Overall, confidence in academic ability was related to better adjustment to college. Although Ramos-Sanchez and Nichols' study addressed the self-efficacy of nontraditional students, the study was conducted with students in the face-to-face classroom and may not be applicable to online students.

Dumais et al. (2013) examined adult first-generation and adult continuing-generation students in an online environment. Their mixed method approach examined students' ability to persist, their barriers, and the institutional support they received. They concluded that both groups were confident about doing well in school. First-generation adult students had a higher rate of using supports offered by the school than continuing-generation students. Dumais et al. also noted adult first-generation students were more vocal about problems with teachers that might impact their academic success.

Research conducted by Lundberg et al. (2008) involved adult students on a traditional campus. Their study compared entering and graduating adult students' self-efficacy to

determine variance in how each group viewed support and services received. Their findings concluded that the *quality* of support versus the *quantity* of support services were more important to adult students. Additional findings indicated adult students received more emotional support from family and friends at the beginning of their programs versus the end of their programs. Dumais et al. (2013) also found adult students beginning their college program experienced a higher sense of self-efficacy about their ability to complete homework and use the library, and they attributed these aspects to adults exhibiting a realistic appraisal of their abilities regarding these academic endeavors.

Gaps in the Literature

The literature revealed gaps between theory and actual practices with regards to strategies, supports, and services for online adults, and adult first-generation students (Donaldson & Townsend, 2007; Dumais et al., 2013; Giancola et al., 2008; Lundberg et al., 2008). First-generation and adult students are not studied concurrently in the literature. There was limited literature which explored the two groups concurrently. Giancola et al. (2008) reported that the majority of studies regarding adults in higher education focused on learning styles. Giancola et al. argued that minimal studies have addressed the adult students when studying the first-generation student to determine if the results can be generalized.

Ramos-Sanchez and Nichols (2007) indicated that the research examining the relationship between self-efficacy, academic outcomes, and the adjustment and transition of first-generation college students merits further investigation in order to develop interventions to ensure a smooth transition of these students to college. Guidos and Dooris (2008) and

Hardin (2008) commented on the limited amount of research regarding degree completion at 4-year universities and the lack of research into factors affecting adult student retention.

Ten years after Pascarella and Terenzini's (1997) work Tinto (2007) noted the difficulty of access to groups geographically separated from the campus as a challenge when studying the online population and the problems of obtaining access to the nontraditional, commuter students. Dumais et al. (2013) also noted a difference in the methodology used to study adult learners online. Little is known about the best methodological approach for research with this population. Web-based surveys and telephone interviews targeting home contact numbers during weekdays may not yield a representative sample. Reaching part-time and weekend students during the day may not always be practical. Dumais et al. reported that more research is needed to improve methodology in the study of adult online students.

Donaldson and Townsend (2007) asserted that the research and studies which compared adults to the traditional student and used the traditional student as the barometer may devalue, overlook, or minimize the issues related to adult students in higher education. According to their meta-analysis of higher education literature, 1% of the articles published in the peer-reviewed journals for higher education indicated attention to adult students in higher education.

CHAPTER 3

METHODOLOGY

Introduction

The literature reviewed in Chapter 2 supported self-efficacy as a predictor of academic success. Compared to students enrolled in face-to-face classrooms, attrition for online students is 20% higher (Capps, 2012; Drouin & Vartanian, 2010; Muller, 2008; Wighting, Liu, & Rovai, 2008). Since adult students comprise the majority of online enrollments, and many are first-generation college students, there is growing concern regarding online attrition, retention, and course completion rates for the AFG students (Dumais et al., 2013; Giancola et al., 2008). The purpose of this study was to examine for differences between AFG and ACG students' academic self-efficacy in regard to the online course in which they were currently enrolled. Data were also collected from traditional-aged students, 24 years and under, to provide interpretative context and contrast. This chapter will present the specific research questions that focused the study, and will describe the research design and instrumentation used to gather data pertinent to addressing the research questions.

Research Questions

- Is there a significant difference between AFG and ACG students' academic self-efficacy in online courses?
- What are the factors (gender, age, GPA, race/ethnicity, number of previous online courses, and parents' educational attainment) if any, which may contribute to the academic self-efficacy of AFG and ACG students enrolled in online courses?

Research Design

With approval from the Institutional Review Board at the data collection site (Appendix A) and the approval of the Institutional Review Board at the University of North Texas (Appendix B), a student roster was obtained from the Director of Information Systems at the data collection site. The roster listed all 1,768 undergraduate students enrolled in at least one of nearly 100 sections of online undergraduate courses offered during the spring 2014 semester. The roster also included email addresses and information on students' age, gender, GPA, race/ethnicity, number of previous online courses, and the highest educational attainment of the students' parent(s).

Professors and instructors of the online courses were informed by email (Appendix C) of the purpose of this study, and assured the study was not a course or instructor evaluation. All of the enrolled online students were contacted by email approximately three weeks into the 2014 spring semester and invited to participate in the survey. The email contact included a cover letter (Appendix D) that provided information about the study and the researcher, as well as a link to the online survey instrument. A follow-up email (Appendix E) was sent two weeks following the initial student contact to encourage those who had not yet participated in the survey, to do so. A second follow-up email (Appendix F) was sent approximately two weeks after the first follow-up email. As an incentive students were offered the chance to win a \$25 gift card to the study site's campus bookstore. The gift card was mailed to the winner during the same semester.

The online survey was hosted by Qualtrics, a survey software program offered through the University of North Texas. The survey, which was returned anonymously, included

questions about participants' demographics and other personal characteristics as well as the five-item scale used to measure academic self-efficacy in an asynchronous online learning environment. Data collected in this manner were encrypted and downloaded from Qualtrics in a file formatted for analysis using SPSS (statistical package for social sciences) Version 22.0.

Participants

Study participants were from a mid-sized, four-year public university in the southwest United States. The student population during the spring 2014 semester, when data were collected, was 5,470. Although the institution offered several master's degree programs and one cooperative doctoral program the enrollment at the university was predominantly undergraduate students. There were 4,776 undergraduate students enrolled during the time this study was conducted. At least a third of the students enrolled at the institution were adults aged 25 years and older. Demographically, the student population was approximately 58% female and 42% male; 61% White, 12.3% Hispanic, 12.2% Black, 8% Non-Resident Alien (predominantly Caribbean), 3.1% Asian, 0.9% American Indian/Alaskan Native, and 0.3% Native Hawaiian/Pacific Islander. Students came to the institution from 42 states and 45 countries, adding diversity to the student body. Instructional programs were offered in six colleges: Science and Math, Humanities and Social Sciences, Education, Fine Arts, Health Sciences and Human Services, and Business Administration.

Sample size requirements for the projected analyses were determined in advance of data collection and used software available online for that purpose. It was expected that the study analyses might include independent samples *t*-tests and ordinary least squares analysis, and sample size calculations were completed for those types of procedures. Soper's (2014a) a-

priori sample size calculator for *t*-tests determined that a per-group sample size of $N = 64$ would provide two-tailed significance of the *t* statistic for a Cohen's *d* effect size of .50, using an alpha level of .05 and power of .80. Soper's (2014b) calculator for ordinary least squares sample size determined that an *N* of at least 108 cases would yield a statistically significant *F* test for $R^2 \geq .15$ using as many as 8 predictor variables, an alpha level of .05, and power of .80. All of these estimated sample size requirements were met with the number of individuals participating in the study.

Survey responses were received from 325 participants, representing an 18.4% response rate on return. This seemingly low response rate is not an unusual occurrence when working with online and web-based surveys. Andrews, Nonecke, and Preece (2003) reported when the sample frame is known survey response rates can be calculated, and survey response rates of 20% or lower for electronic surveys are not uncommon. Literature on the topic of online survey response rates revealed no consistency in the minimum number of responses that constituted an adequate response rate. Research conducted by Sax, Gilmartin, and Bryant (2003) indicated an average response rate for online surveys to be 21.5%. Singh, Taneja, and Mangalaraj (2009) noted that the low response rate was a major concern when working with web-based and online surveys, and found responses for web-based and online survey formats to be approximately 11% less than other survey methods.

The demographics of participants in the study differed significantly from the online student population, on most of the demographic variables examined. In comparison to the total online population, there was not a large difference in the percentages of female and male students participating in the study. Females comprised 65.4% of the online population, and

made up 70% of the study participants. Males comprised 34.6 percent of the online population and 30% of the study participants. Under the race/ethnicity demographic the groups of Hispanic and Other differed greatly from the online population. The percentage of Hispanics participating in the study was 12.9% and the overall Hispanic percentage for the online population was 5.6%. In the area of Other, the percentage of participants in the study was 3.4%, while overall percentage for the online population was 19.9%. Demographics for the online population were derived from information students completed during their admission to the university. Race/ethnicity is a category individuals self-report or select based on the available choices. The student profile of the university lists students from 45 different countries. Individuals may have selected Hispanic or Other if their relatable race/ethnicity category was not listed. For instance, those participants now reporting Hispanic on the survey demographics may have indicated the race/ethnicity category of White, Black, or Other in their admission reporting. Those initially selecting Other in their admission reporting may now have indicated White, Black, or Hispanic in the survey. It is difficult to determine what strategy students employed to self-report their race/ethnicity. The percentages of the online population and the study participants who indicated this was *not* their first online course was considerably high at 80.7% for the online population and 83.4% for the study participants. Percentages of the online population whose parents *did not* have a 2-year degree was 76.9% in the online population and 47.5% in the participant group; in the online population 23.1% of the students' parents had at least a 2-year degree, and 52.5% of the participants' parents had at least a 2-year degree.

Information on participants' GPA, age, and number of previous online courses was collected using categorical data. The categories' midpoints were used to estimate and report descriptive statistics in order to compare and contrast the online population and study participants' age, GPA, and number of previous online courses. Participants' survey responses in the respective categories were estimated at midpoint. For example, a participant responding in the age category of 25-39, was estimated at the midpoint of 32; GPA reported at 2.50–2.99 category was estimated at the midpoint 2.75; and the number of previous online courses category response of 4–7 courses was estimated at the midpoint 5.5. Calculations in this manner allowed for reporting the mean and standard deviation of the demographics of age, GPA, and previous online courses for the online population and the study participants. The age of the online population ($M = 25.14$, $SD = 9.09$) and age of study participants ($M = 32.32$, $SD = 11.42$) differed and helped to provide interpretative context and contrast between the traditional and adult students. GPA for the online population ($M = 2.79$, $SD = 1.00$) and study participants ($M = 3.34$, $SD = .50$); and previous online courses for the online population ($M = 4.99$, $SD = 4.29$) and study participants ($M = 5.87$, $SD = 3.97$) also differed.

Table 3.1 shows the demographic characteristics of the 325 participants responding to the survey and the corresponding parameters for the population making up the 1,768 online students. The participants' sizes in some areas vary slightly among the variables due to small amounts of scattered missing data. Where data were missing on one or more variables, cases were eliminated from the analysis in a list-wise fashion (Bartlett, Kotrik, & Higgins, 2001; Diekhoff, 1999).

Table 3.1

Characteristics of Online Population and Study Participants

Gender				
	<u>Population</u>		<u>Participants</u>	
Female	1156	(65.4%)	Female	226 (70.0%)
Male	<u>612</u>	<u>(34.6%)</u>	Male	<u>97</u> (30.0%)
	N = 1768 (100%)		n = 323 (100%)	
Race/Ethnicity				
	<u>Population</u>		<u>Participants</u>	
White	1073	(60.7%)	White	221 (68.0%)
Black	243	(13.8%)	Black	52 (15.7%)
Hispanic	99	(5.6%)	Hispanic	42 (12.9%)
Other	<u>353</u>	<u>(19.9%)</u>	Other	<u>10</u> (3.4%)
	N = 1768 (100%)		n = 325 (100%)	
First Online Course				
	<u>Population</u>		<u>Participants</u>	
No	1433	(80.7%)	No	270 (83.4%)
Yes	<u>335</u>	<u>(19.3%)</u>	Yes	<u>55</u> (16.6%)
	N = 1768 (100%)		n = 325 (100%)	
Parents' Educational Level				
	<u>Population</u>		<u>Participants</u>	
≤ 2-year	1362	(76.9%)	≤ 2-year	150 (47.5%)
> 2-year	<u>406</u>	<u>(23.1%)</u>	≥ 2-year	<u>170</u> (52.5%)
	N = 1768 (100%)		n = 320 (100%)	
Cumulative GPA				
	<u>Population</u>		<u>Participants</u>	
Population <i>M</i>	2.79		Sample <i>M</i>	3.34
Population <i>SD</i>	1.00		Sample <i>SD</i>	.50
	N = 1768		n = 308	
Age				
	<u>Population</u>		<u>Participants</u>	
Population <i>M</i>	27.14		Sample <i>M</i>	32.31
Population <i>SD</i>	9.09		Sample <i>SD</i>	11.42
	N = 1768		n = 325	
Number of Online Courses Taken (including current)				
	<u>Population</u>		<u>Participants</u>	
Population <i>M</i>	4.99		Sample <i>M</i>	5.87
Population <i>SD</i>	4.29		Sample <i>SD</i>	3.97
	N = 1768		n = 324	

Instrumentation

An academic self-efficacy scale was used to collect data for this study. The survey instrument was administered through an online survey software program, Qualtrics, which was offered through the University of North Texas. The survey provided a quantitative measure of the construct of academic self-efficacy, in an asynchronous online learning environment. This self-report instrument, Online Academic Self-Efficacy Survey (Appendix G) was modified from the five-item Self-Efficacy Subscale of the Online Learning Value and Self-Efficacy Scale (OLVSES) (Appendix H). The OLVSES was developed by Artino and McCoach (2008) and used with their permission (Appendix I).

Many researchers in the area of self-efficacy reported using some type of self-efficacy scale to measure the construct of self-efficacy (Brady-Amoon & Fuentes, 2011; Dumais et al., 2013; Gore, 2006; Hodges, 2008; Ramos-Sanchez & Nichols, 2007). Bandura (2006) stated that self-efficacy can be measured reasonably well using surveys as long as respondents are able to judge their own performance capabilities. Bandura emphasized that self-efficacy is not a single construct, but is a domain-specific characteristic. In his words:

There is no all-purpose measure of perceived self-efficacy. The “one size measure fits all” approach usually has limited explanatory and predictive value because most of the items in an all-purpose test may have little or no relevance to the domain of functioning. (p. 307)

The literature reviewed in Chapter 2 revealed few instruments designed specifically to measure academic self-efficacy in an asynchronous online learning environment. Artino and McCoach (2008) developed the OLVSES to meet that need. The authors described their instrument as “a psychometrically sound instrument for measuring respondents’ perceived task value and self-efficacy with respect to self-paced, online learning” (p. 300).

The 11 items of the original OLVSES served as a self-report measure of four separate, but related, constructs: attainment value/importance, intrinsic motivation, extrinsic motivation (these first three were combined to form the construct of task value), and self-efficacy for learning in a self-paced, online training environment. Only the self-efficacy scale is relevant to this present study.

Content and Construct Validity of the OLVSES

In creating the OLVSES, Artino and McCoach (2008) began with a conceptual definition of each of the constructs comprising their instrument. They reviewed previously published studies with measures of those constructs, and then wrote ten 7-point (1 = *completely disagree* to 7 = *completely agree*) Likert-type rating scale items of their own for each of the four constructs. Content experts were asked to complete the following tasks in assessing scale content validity: (a) identify the construct category for which each item was suited; (b) determine that each item was in its appropriate construct category; (c) evaluate the relevance of each item within its construct category; and (d) rate the importance of each item to its construct category. The experts were also asked to change any content that they considered unsuitable. This process reduced the original collection of items from 40 to 28, including a five-item self-efficacy scale, scored such that higher scores indicated greater levels of self-efficacy and lower scores indicated lower levels of self-efficacy. Scores on the self-efficacy scale were formed by adding the ratings across the five items. Scores ranged from a low 5 to a high of 35.

Artino and McCoach (2008) conducted a series of three additional studies to further test the validity and reliability of the OLVSES. Sample sizes were 475 participants for the first study, 780 for the second, and 481 for the third. All participants were undergraduate students

enrolled in the United States Naval Academy taking various online courses in a self-paced, online training environment. The survey was administered online to participants in the first and third studies, and a printed copy of the survey was administered in the second study. Data analyses included exploratory factor analysis to identify and remove redundant items. Confirmatory factor analysis was used to establish the construct validity of the OLVSES (Krathwohl, 2009; Stapleton, 1997). The end result was the final 11-item, two-scale OLVSES at Appendix H.

Reliability of OLVSES

Artino and McCoach (2008) evaluated the internal consistency and split-half reliability of the OLVSES task value and self-efficacy scales using Cronbach's alpha. The split-half reliability statistic also provides a measure of the internal consistency of a collection of items as follows: If all of the various halves of a scale are strongly correlated (high split-half reliability), it follows that all of the items forming that scale measure the same construct and has strong internal consistency (Diekhoff, 1999; Nunnally, 1994; Peterson & Kim, 2013). Artino and McCoach reported that the five-item self-efficacy scale of the OLVSES showed a Cronbach's alpha coefficient of .89, indicating strong internal consistency and very good split-half reliability. They concluded that the five-item self-efficacy scale "appears to demonstrate evidence of adequate construct validity, criterion-related validity, and internal consistency reliability" (p. 300).

Artino and McCoach (2008) also noted significant limitations to their studies. First, the samples were based on convenience sampling, a challenge to the external validity of the studies. Second, they acknowledged differences in the demographics and other characteristics of the three samples they studied, related to participants' developmental learning, their

motivation, and their behaviors towards learning, and cautioned that these sample differences could bias their conclusions. The authors called for additional studies of the OLVSES in samples from diverse populations utilizing other methods to establish construct validity (e.g., convergent validity, divergent validation, discriminant validation), as well as studies relating the OLVSES to other academic outcomes.

The Modified Self-Efficacy Scale

The Online Academic Self-Efficacy Scale used in this present study is at Appendix G. While the scale created by Artino and McCoach (2008) was intended to measure self-efficacy in a *self-paced online learning format*, this study measured academic self-efficacy in an *asynchronous online* learning environment. Simonson et al. (2011) emphasized that self-paced courses are noticeable different from asynchronous online courses. In an asynchronous environment there is less flexibility with timelines and course activities. There are timeframes for submitting assignments, scheduled online discussions, set testing dates and times, and deadlines for course completion, all of which constrain the “self-paced” flexibility.

To adapt the original scale to the academic environment for this study, the following modifications were made:

- The five items forming the academic self-efficacy scale used for this study were removed from the context of the surrounding items of the OLVSES that measured task value. These five academic self-efficacy items were then embedded in a different instrument that included a different context of questions about participants’ demographics and other individual characteristics addressed in this study.
- In the original OLVSES the word “self-paced” was removed from the original items numbered SE5 and SE6, leaving the measure to ask only about online courses.
- The original item SE3, “I am confident I can learn without the presence of an instructor to assist me,” was changed to “I am confident I can learn without the *physical* presence of an instructor to assist me.”

The resulting academic self-efficacy scale used in this study contained five 7-point Likert-type rating scales, each scored 1 = *strongly disagree* to 4 = *neither agree nor disagree* to 7 = *strongly agree*. Higher ratings indicated a stronger sense of academic self-efficacy in an online learning environment, and lower ratings indicated less academic self-efficacy in an online learning environment. The total scores on the scale were calculated by adding ratings across the five items for total scores that can range from a low of 5 to a high of 35.

It was necessary to adjust the original OLVSES scale to fit this study. The minor modifications described above required that the validity and reliability measures of the instrument be reexamined for this study. Data from the 325 study participants were used to further test the internal consistency and reliability of the modified academic self-efficacy scale using Cronbach's alpha, and item-total correlations among the five items forming the scale. Participant sizes varied slightly from one analysis to the next due to scattered missing data. Where data were missing on one or more variables, cases were eliminated from the analysis in a listwise fashion (Bartlett, Kotrik, & Higgins, 2001; Diekhoff, 1999).

Cronbach's alpha for the modified five-item academic self-efficacy scale was .894, virtually identical to the value of .89 for the OLVSES, as reported by Artino and McCoach (2008). Internal consistency and split-half reliability of the scale, both measured by Cronbach's alpha, was considered to be very good (Kline, 2000; Peterson & Kim, 2013).

Corrected item-total correlations for the five items are shown in Table 3.2. The corrected item-total correlation for any given item is the correlation between responses to that item and the sum of the responses to the other items forming the scale. A corrected item-total correlation less than .3 indicates that the item is poorly correlated with the other items forming

the scale, and does not measure the same construct that is measured by the other items (Field, 2005). All corrected item-total correlations shown in Table 3.2 are well in excess of this minimum standard and establish strong internal consistency of the modified self-efficacy scale.

Table 3.2

Corrected Item-Total Correlations for Modified Online Academic Self-Efficacy Scale

Scale Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Efficacy1	.666	.887
Efficacy2	.770	.864
Efficacy3	.749	.870
Efficacy4	.777	.864
Efficacy5	.751	.868

Removing any of the items would reduce the reliability of the scale as measured by Cronbach's alpha for the scale. Bartlett, Kotrik, and Higgins (2001) and Knofczynski (2008) contend that a multi-item scale is just a sample from the population of all of the possible items that could have been included, and larger samples tend to produce more reliable findings than do smaller samples. Thus, the more items on the scale the more reliable the scale, provided that the items are internally consistent.

The items forming the modified academic self-efficacy scale measure a single construct and do so with good split-half reliability. The face validity of the modified academic self-efficacy scale was evaluated for this study by experts in survey research and online education who determined that the minor wording changes that were required did not negatively affect the validity of the scale as a measure of self-reported academic self-efficacy in an asynchronous online learning environment. There are also more objective data, presented in Chapter 4, which

point to the construct validity of the modified academic self-efficacy scale; specifically, scores on the modified scale show statistically significant positive correlations of age and the number of previous online courses to the criterion academic self-efficacy. This is the pattern that would be expected from a measure of self-efficacy in an online learning environment: Students who have taken previous online courses and done well would be expected to report higher levels of academic self-efficacy in an online learning environment.

In addition to evaluating the internal consistency, reliability, and validity of the academic self-efficacy scale, the distribution scores on the scale were also examined. Figure 3 is a frequency histogram for the modified academic self-efficacy scores from the 325 cases. A normal curve has been superimposed on the distribution. Descriptive statistics provide precise measures of some of the characteristics that are visually apparent in Figure 3. The mean of the distribution was 27.94 with a standard deviation of 5.421. The distribution shows substantial negative skew (Skewness = -1.252), resulting from the fact that very few participants judged their online academic self-efficacy to be lower than 25 on the possible 5-35 scale.

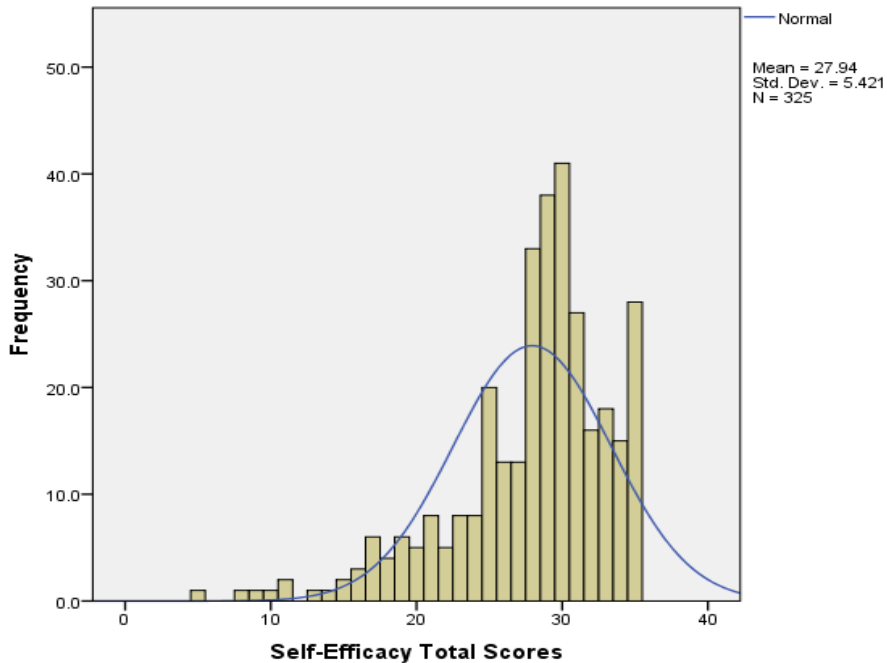


Figure 3. Distribution of self-efficacy total scores.

The distribution of academic self-efficacy total scores was negatively skewed and leptokurtic in comparison to a normal distribution. The distribution also showed substantial leptokurtosis (Kurtosis = 1.926) as a result of its relative steepness. Given that the deviations from normalcy were substantial, and given that many statistical methods are based on the assumption that the variables being analyzed are normally distributed, a log transform was applied as follows (Tabachnick & Fidell, 1996):

$$\text{log-transformed score} = \log_{10}(k - \text{original score}),$$

where k = the highest score in the distribution + 1 = 36

This log transform brought the distribution closer to the normal curve (Skewness = $-.795$ and Kurtosis = $.359$), reduced the number of low-scoring outliers, and resolved some violations of the homogeneity of variance assumption associated with some subsequent analyses; however, the log transform renders the data more difficult to interpret. First, the log-

transformed scores were inversely related to the original scores, so that low scores indicated high academic self-efficacy and high scores indicated low academic self-efficacy. Second, log-transformed scores were no longer distributed along the original scale and were consequently more difficult to interpret. Because of the interpretative difficulties associated with score transforms Meyers, Gamst, and Guarino (2014) suggested they be used only when they are needed *and they make a difference*. All data analyses reported in Chapter 4 were performed using both raw academic self-efficacy scores and using log-transformed scores. The results of the analyses and the conclusions drawn from these results were virtually unchanged by the log transformed scores. Since there is no difference in data results Chapter 4 reports only results from analyses on raw scores.

CHAPTER 4

DATA ANALYSIS FINDINGS AND RESULTS

Introduction

The purpose of this study was to examine for differences between adult first-generation (AFG) and adult continuing-generation (ACG) students' academic self-efficacy in regards to the online course they were currently enrolled. Data were also collected from younger traditional-aged college students, 24 years and younger, to provide interpretative context and contrast.

Chapter 3 described the methodology that guided the data collection in this study, including a description of the recruitment of study participants, characteristics of study participants and the population from which they were derived, a description of the survey instrument, and a discussion on the reexamination of the modified self-efficacy scale, Online Academic Self-Efficacy Survey, used to measure self-reported academic self-efficacy in an asynchronous online learning environment. This chapter will present data analyses for each of the research questions:

- Is there a significant difference between AFG and ACG students' academic self-efficacy in online courses?
- What are the factors (gender, age, GPA, race/ethnicity, number of previous online courses, and parents' educational attainment) if any, which may contribute to the academic self-efficacy of AFG and ACG students enrolled in online courses?

Research Question 1

Is there a significant difference between AFG and ACG students' academic self-efficacy in online courses? An independent-samples t-test was conducted to determine if there was a significant difference between the academic self-efficacy of AFG and ACG students enrolled in online courses. The group variances are close enough that the homogeneity of variance assumption of the *t*-test was met ($p = .906$). The *t*-test revealed no statistically significant differences between the academic self-efficacy of the AFG students ($M = 29.29, SD = 4.646$) and ACG students ($M = 29.22, SD = 4.245$), $t(186) = .101, p = .919$. Table 4.1 and Table 4.2 show descriptive group statistics and results of the *t*-test, respectively.

Table 4.1

Group Statistics for Independent Samples t-test

	AFG vs ACG	N	Mean	Std Deviation	Std. Error Mean
Efficacy Total	0 - AFG	111	29.29	4.646	.441
	1 - ACG	77	29.22	4.245	.484

Table 4.2

Independent Samples t-test

	Levene's Test for Equality of Variances		t-Test for Equality of Means						
	F	Sig	t	df	Sig (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Efficacy Total	.014	.906	.101	186	.919	.068	.665	-1.245	1.380
Equal variances assumed			.103	172.508	.918	.068	.655	-1.225	1.360
Equal variances not assumed									

The primary focus of this research was on the difference in academic self-efficacy between AFG students ($M = 29.29$, $SD = 4.646$) and ACG students ($M = 29.22$, $SD = 4.245$) enrolled online. Both of these groups were comprised of adult students 25 years and older but differed in that AFG students' parents had not completed at least a 2-year college degree, while ACG students' parents had at least a 2-year college degree. The difference between the groups in self-reported academic self-efficacy in an online learning environment was negligible (less than 1 point on a 5-35 scale). A Bonferroni-adjusted post-hoc comparison (adjusted to achieve an alpha error rate of .05 across the set of comparisons) showed the difference to be statistically non-significant ($p = .931$). Though not the focus of this study, it was noted that online younger, traditional students also indicated no differences in academic self-efficacy based on their first generational status. The presence or absence of their parents' educational attainment did not significantly impact academic self-efficacy in either traditional or adult students in this study.

Research Question 2

What are the factors (gender, age, GPA, race/ethnicity, number of previous online courses, and parents' educational attainment) if any, which may contribute to the academic self-efficacy of AFG and ACG students enrolled in online courses? Ordinary least-squares analysis was used to address this second research question. In this analysis academic self-efficacy served as the dependent (criterion) variable, and was regressed on the following independent (predictor) variables: gender (0 = female, 1 = male), age, GPA, race/ethnicity (White, Black, Hispanic, and other following dummy variable coding of the four-category

race/ethnicity variable), parents' education (AFG, 0 = no degree; ACG, 1 = 2-year degree or higher), and number of previous online courses. Cases were deleted from the analysis on a listwise basis if they were missing values on any of the variables, leaving a sample of 302 cases for the analysis. The eight predictors listed accounted for 12% of the variance in academic self-efficacy, $R = .346$, $F(8, 293) = 4.982$, $p < .001$. The regression model summary is at Table 4.3.

Table 4.3

Regression Model Summary Table

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	Sig.
1	.346 ^a	.120	135.910 27.281	5.223	.120	4.982	8	.000 ^b

Two predictor variables were identified that provided statistically significant predictive power when controlling for the other variables in the analysis: age, $t = 2.105$, $p = .036$ and number of previous online courses, $t = 2.575$, $p = .011$. Table 4.4 provides additional information about the analysis, including regression coefficients and tests of the significance of the predictors.

Table 4.4

Ordinary Least-Squares Analysis to Predict Academic Self-Efficacy from Gender, Age, Previous Online Courses, GPA, Race/Ethnicity, and Parents' Education

Predictor Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	19.376	2.125		9.118	.000
Gender	.547	.682	.046	.802	.423
Age	.661	.314	.138	2.105	.036*
Number Online Courses	.640	.248	.159	2.575	.011*
GPA	.522	.301	.098	1.735	.084
White	3.078	1.642	.261	1.874	.062
Black	1.913	1.790	.123	1.069	.286
Hispanic	1.784	1.807	.110	.987	.324
Parents' Education (AFG/ACG)	-.004	.640	.000	-.007	.995

*Significant findings

Age and academic self-efficacy were positively correlated $r(300) = .251$, $p < .001$, meaning that adult students reported greater academic self-efficacy than did younger students. Number of previous online courses was also positively correlated to self-efficacy, $r(300) = .250$, $p < .001$, indicating that students with greater experience with online courses reported a greater sense of academic self-efficacy in that environment.

CHAPTER 5

DISCUSSION AND CONCLUSION

The literature discusses the differences in the academic performances of adult first-generation (AFG) and adult continuing-generation (ACG) students and suggests these differences are due to the challenges associated with students' first-generational college status (Dumais et al., 2013; Giancola et al., 2008; Seay, 2006). A high sense of academic self-efficacy can help to mitigate these challenges and barriers, and exert positive influence on the academic achievement of adult learners online and in face-to-face-classes (Brady-Amoon & Fuentes, 2011; Hodges, 2008; Lundberg et al., 2008; Vuong et al., 2010). This study focused on the academic self-efficacy of AFG and ACG students enrolled in an online course and concluded two major findings: There were no differences between AFG and ACG students' academic self-efficacy regarding the online courses in which they were currently enrolled. This study also revealed that age and experience in previous online courses were positively correlated with students' academic self-efficacy regarding the online course in which they were currently enrolled.

Discussion of the Findings

Research Question 1

Is there a significant difference between AFG and ACG students' academic self-efficacy in online courses? The findings resulting from this research question revealed no statistically significant differences between the academic self-efficacy of the AFG and ACG students who were enrolled in online courses. AFG and ACG students indicated high academic self-efficacy

regarding the online course in which they were currently enrolled. The level of education attained by the parents' of these adult students had no bearing on their academic self-efficacy. What their parents did or did not achieve educationally would not be expected to impact these adult students whose role models for education may now be mentors, colleagues, significant others, and perhaps their own college-educated children. Adults generally have learned to take the initiative to ask questions, seek information, and follow-up on concerns and questions they may have. Their life experiences in work and in the world, along with developed problem-solving skills, may override perceived barriers of their parents not having a college education, or the challenges associated with being the first in the family to attend college. Giancola et al. (2008) similarly concluded that as adults age the differences between their first-and continuing-generation school status may dissipate due to their maturity, experiences, and growth. Dumais et al.'s (2013) research also supported similar findings in this area. Their study indicated high levels of academic self-efficacy and confidence among AFG students, also. They found that whether or not the adult came from a college-educated family, AFG students expressed confidence in their abilities to succeed in school; and reported greater intrinsic motivation towards degree completion than ACG students.

Although the findings from this study positively focused on adult students' academic self-efficacy, there remains a problem with adult students' persistence and retention in the classroom and particularly online. Giancola et al. (2008) and Seay (2006) indicated AFG students, though self-efficacy is high, tend to have less familiarity with college and may be unrealistic in their beliefs of what college actually entails. There may be a lack of support from family members who do not fully understand what the student is encountering as the

student/family member works to balance these multiple roles. Adult students may also experience a lack of support from family and peers due to the adult students' new and differing values and goals. Despite the high self-efficacy, similarities mentioned above Dumais et al. (2013) concluded there were still enough differences between the AFG and ACG student groups to lead to differences in persistence and graduation rates, just as they do with traditional undergraduate students.

Students' judgments and perceptions about doing well may not always manifest in their actual academic abilities or their academic performances. Bandura (2006) and Hodges (2008) noted that high self-efficacy in one area does not automatically translate to high self-efficacy in another area, or to the intended outcome of the task performed. While these findings did not show a difference in the perception of academic self-efficacy among AFG and ACG students in this study, positive perceptions are not always demonstrated in the success indicators of persistence or higher grades. Lundberg et al. (2008) found that adult students' self-efficacy regarding their coursework to be higher at the beginning of the semester than towards the end of the semester. They suggested the differences in self-efficacy may be due to students having an unrealistic appraisal of their abilities at the beginning of the semester. As the semester progressed, and based on students' actual performances and experiences throughout the semester, students were more realistic about their abilities at the end of the semester. Since this study collected self-efficacy data at the beginning of the semester, an exaggerated sense of self-efficacy may also have occurred within this study. It is not known if the high self-efficacy reported was due to ease of the subject matter or course the student was currently enrolled or students' sense of comfort with the technology. Future research should include collections of

data close to the end of the semester as well as the beginning of the semester. Delving further into why there were no differences between AFG and ACG students' self-efficacy would benefit future studies in this area. The design of this study only addressed students' judgment about doing well in their online class at the onset of the course. There was no comparison or measure of student's academic self-efficacy to their actual performance, grades, persistence, or retention in the course.

Research Question 2

What are the factors (gender, age, GPA, race/ethnicity, number of previous online courses, and parents' educational attainment) if any, which may contribute to the academic self-efficacy of AFG and ACG students enrolled in online courses? The findings from this research question revealed the variables gender, age, GPA, race/ethnicity, number of previous online courses, and parents' educational attainment accounted for 12% of the variance in academic self-efficacy. Age and number of previous online courses provided statistically significant predictive power when the other variables of gender, GPA, race/ethnicity, and parents' educational attainment were statistically controlled. Age and academic self-efficacy were positively correlated, meaning that adult students 25 years and older reported greater academic self-efficacy than did traditional students 24 years and younger.

The number of previous online courses was positively correlated to academic self-efficacy which suggested students with greater online experience and possibly, past academic success, reported a greater sense of academic self-efficacy with their current online course. Students who have taken previous online courses and done well would be expected to report higher levels of academic self-efficacy in an online learning environment. Schunk (1991)

suggested that previous successes with past tasks tend to build on and reinforce self-efficacy beliefs about successfully completing subsequent tasks. Failures of past tasks tend to weaken and undermine self-efficacy. Adult students' own personal history of success with previous online courses, along with their age, may determine students' current sense of academic self-efficacy online.

Other studies are supportive of these findings which addressed online persistence, retention, and academic self-efficacy using age, GPA, and previous online classes as predictor variables (Hodges, 2008; Park & Choi, 2009; Ramos-Sanchez & Nichols, 2007; Vuong et al., 2010).

Diaz's study (as cited in Morris et al., 2005) found that online students who had experienced previous success in online courses were more inclined to continue with their current online programs. Wighting et al. (2008) found that adult learners online appeared to have higher self-efficacy and motivation based on their GPA and their satisfaction with previous courses completed. The findings of this present study support other research (Hodges, 2008; Park & Choi, 2009; Ramos-Sanchez & Nichols, 2007; Vuong et al., 2010) which found age and successful past performances to be positively correlated with self-efficacy and student persistence.

Implications for Practice

This study has implications of providing additional insight for those desiring a better understanding of adult students and their academic self-efficacy, persistence, and retention in an online academic environment. Although there were no differences in the academic self-efficacy of AFG and ACG students based on parents' educational attainment, AFG students still

tend to underperform in comparison to ACG students based on GPA, course persistence, retention, and graduation (Cochran et al., 2014; Giancola et al., 2008; Lundberg et al., 2008; Vuong et al., 2010). Dumais et al. (2013) found that AFG students still required many of the educational support services to help balance family, work, and school. Research indicated adult students who have the support of their families, support from their organizations, and strong social networks regarding their educational endeavors, are more confident and likely to persist (Dumais et al., 2013; Giancola et al., 2008; Park & Choi, 2009). This has implications for providing support specific and relevant to the unique barriers and circumstances adult students encounter. Dumais et al. (2013), Hardin (2008), and Kasworm (2003) suggested counselors and advisors experienced in working with adult students who can counsel and assist them with balancing academic, family, and work challenges will provide support in working through some of these barriers. Faculty and instruction inclusive of adult students and their experiences will help to provide a learning atmosphere that supports and retains adult students.

Given the strong relationship between age and previous online experience and increased academic self-efficacy it is easy to determine whether or not a student has previously completed other online courses. This has implications of ensuring online students are exposed to the online format before taking their first online course. Interactive online orientation programs should be required for online students who have not previously taken an online course. Guidance on navigating the online course management system used for online classes prior to students taking their first online course is a way to continue to increase the self-efficacy of online students.

The correlation of age to academic self-efficacy has implications for institutions to work closer with older students. Donaldson and Townsend's (2007) meta-analysis regarding adults in higher education found there was an imbalance in the attention that higher education afforded to the needs and experiences of adult students. Age, and its connection to higher academic self-efficacy, has implications for providing programs and environments which are inclusive of adults, age appropriate, and relevant to personal, academic, and professional experiences. Cranton (2006) and MacKeracher (2004) noted the relevancy adults seek in their learning paths. Knowles (1984) and Rovai (2003) suggested a pedagogy that matches adults' learning style helps to engage adult students. Park and Choi (2009) noted adults are more likely to remain engaged with their online course when there is relevancy to their jobs, prior knowledge, and experiences. Instructors can provide relevancy by connecting work and course assignments through capstone courses and internships. Opportunities to apply newly acquired knowledge can be accomplished through assigning case studies to real situations and designing courses that are closely related to adults' interests, goals, experiences, and practicality, and age-appropriate.

Recommendations for Future Research

This study needs to be replicated at other institutions using a sample from a broader, more diverse population, and using a larger assortment of well-validated measures of academic self-efficacy scales and other measures of academic effort and outcomes. To obtain a full spectrum of the adult student, future research warrants inclusion of adult students in both face-to face-and online classes. In short, this study identified several variables that are associated with self-reported academic self-efficacy in the online learning environment, but we

do not know if that self-efficacy actually affected effort, grades, persistence, or course retention. Comparison data at the beginning and end of the semester would help to link academic self-efficacy to grades, persistence, course retention, and additional outcomes.

More research is needed to improve the methodology for the study of adult online learners and what helps these students to succeed online. A research methodology which includes collecting enriching data beyond qualitative data may help to better understand experiences, behaviors, characteristics, and attitudes regarding adult students online (Krathwohl, 2009). As an example, the study conducted by Dumais et al. (2013) used a mixed methods approach of collecting data through web-based surveys and then, telephone interviews. Responding to open-ended interview questions allowed participants to quantify their responses with personal examples and anecdotes adding depth to their feelings regarding their online experiences.

Subsequent research should also examine a wider variety of variables such as family support, career paths, employer support and work hours, marital status, and other demographics which may impact adult student success online and in the face-to-face classroom. Cochran et al. (2014) makes a cogent argument for pursuing beyond correlational studies of demographics to existing theories of behavior which might be more helpful in explaining and predicting adult persistence and retention in online courses. Park and Choi (2009) also suggested looking beyond individual characteristics to external factors, such as employers and family support, and internal factors which may also affect the persistence and retention of adult students online.

Conclusion

The purpose of this study was to determine if the academic self-efficacy of adult students online differed, based on whether or not their parents had at least a 2-year college degree; and to determine any other factors which might impact the adult students' academic self-efficacy in an online course. Simply, the findings of this study indicated that parental degree attainment had minimal influence on adult students' academic self-efficacy regarding their current online course. What appeared to have a larger impact on the academic self-efficacy of adult students were age and the number of previous online courses.

As online education grows considerable research is warranted to ensure success of all online students, particularly those believed to have risk factors impeding success. As educators it is incumbent upon us to identify factors which may further enhance adult students' academic self-efficacy, and those factors which present as barriers to their academic success.

APPENDIX A

MIDWESTERN STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVAL



Human Subjects In Research Committee

Institutional Review Board in
Compliance with 45 CFR 46

MSU Policy 2.37

MEMORANDUM

TO: Delores Jackson

RE: IRB Claim for Exemption – Adult first generation students: Academic self-efficacy in online course enrollment

DATE: December 11, 2013

Your proposal for research utilizing human subjects has been reviewed and determined to be exempt from further IRB monitoring of your research.

The number assigned this project is 13121001.

Please include this file number in any presentation or publication arising from this research. You may be required to place a copy of this letter within the thesis or other class, department, or college documentation.

Respectfully,

Laura C. Spiller, Ph. D.
Chair, Human Subjects in Research Committee (IRB)

APPENDIX B

UNIVERSITY OF NORTH TEXAS INSTITUTIONAL REVIEW BOARD APPROVAL



A green light to greatness.

OFFICE OF RESEARCH INTEGRITY AND COMPLIANCE

January 29, 2014

Dr. Kathleen Whitson
Student Investigator: Delores Jackson
Department of Higher Education
University of North Texas
RE: Human Subjects Application No. 14-009

Dear Dr. Whitson:

In accordance with 45 CFR Part 46 Section 46.101, your study titled "Adult First-Generation Students: Academic Self-Efficacy in Online Course Enrollment" has been determined to qualify for an exemption from further review by the UNT Institutional Review Board (IRB).

Enclosed are the consent documents with stamped IRB approval. Please copy and use this form only for your study subjects.

No changes may be made to your study's procedures or forms without prior written approval from the UNT IRB. Please contact Jordan Harmon, Research Compliance Analyst, ext. 4643, if you wish to make any such changes. Any changes to your procedures or forms after 3 years will require completion of a new IRB application.

We wish you success with your study.

Sincerely,

Patricia L. Kaminski, Ph.D.
Associate Professor
Chair, Institutional Review Board

PK:jh

UNIVERSITY OF NORTH TEXAS

1155 Union Circle #310979 Denton, Texas 76203-5017
940.369.4643 940.369.7486 fax www.research.unt.edu

APPENDIX C
EMAIL CONTACT TO FACULTY

Dear Online Instructor/Professor,

My name is Delores Jackson. I am a doctoral student at the University of North Texas, and also Assistant Director of the Bachelor of Applied Arts and Sciences (BAAS) Program here at MSU. I am conducting a study to examine students' self-efficacy regarding their online courses. This is not an evaluation of courses or instructors. As a courtesy I wanted to inform you I will be collecting data from undergraduate students enrolled in your online undergraduate courses during the spring 2014 semester.

I will email students a link to an external survey *Online Self-Efficacy Survey*, and request their participation in completing and submitting the survey. The survey is voluntary and responses are anonymous. It should take no more than 10 minutes for students to complete and submit the survey electronically. Students will be informed the survey is not related to their grade or progression in their online course. They have also been informed we (you and I) will not be able to view their responses. There is nothing required of you and the survey should present no disruption or interference for students or the course.

If you have questions regarding the survey or would like more information regarding my study, please contact me at delores.jackson@mwsu.edu (940) 397-4721, or my Faculty Advisor, Kathleen Whitson, kathleen.whitson@unt.edu, (940) 369-7173.

Items on the *Online Self-Efficacy Survey*

1. Even in the face of technical difficulties, I am certain I can learn the material presented in an online course.
2. I am confident I can learn without the physical presence of an instructor to assist me.
3. I am confident I can do an outstanding job on the activities in an online course.
4. I am certain I can understand the most difficult material presented in an online course.
5. Even with distractions, I am confident I can learn the material presented online.

Thank you for your participation and have a productive semester

Delores Jackson
Assistant Director
Bachelor of Applied Arts and Sciences (BAAS) Program

 *Prothro-Yeager*
COLLEGE OF HUMANITIES & SOCIAL SCIENCES
3410 Taft Boulevard | Wichita Falls, Texas 76308
(940) 397-4721 Fax (940) 397-4918
delores.jackson@mwsu.edu
<http://libarts.mwsu.edu/baas>

APPENDIX D

INITIAL EMAIL CONTACT TO STUDENT

Dear Online Student,

I hope that your classes are off to a great start this semester! My name is Delores Jackson and I am a doctoral student at the University of North Texas. I also work at MSU as the Assistant Director of the Bachelor of Applied Arts and Sciences (BAAS) Program. I am conducting a study regarding your confidence in with online courses.

Online education has experienced quite a bit of growth within higher education during the last 10 years. Each year schools offer more online courses and programs to meet unique student needs, conflicting schedules, and busy lifestyles. Although many students do not select online learning as their method of learning, online education may meet the needs of those seeking an alternative to being in a face-to-face classroom.

I am interested in learning about your confidence with your online courses. Overall, I would like to better understand students' perceptions regarding their capabilities online. We (those involved with online learning) want to help students better adjust to this growing methodology of online learning! Gathering information from students will help us to do this. With the additional knowledge we can work towards better online strategies to effectively support you and other students online. Completing this voluntary survey will provide us a good start.

Please assist me by completing and submitting this quick *10 minute survey...I promise, it should not take longer than 10 minutes!*

Follow this link to the anonymous Survey:

https://unt.az1.qualtrics.com/SE/?SID=SV_6rKt4GTyRWph1Bz

Or copy and paste the URL below into your internet browser:

https://unt.az1.qualtrics.com/SE/?SID=SV_6rKt4GTyRWph1Bz

After completion of the survey you will have an opportunity to submit your email address for a chance at winning a \$25 gift card to the campus bookstore. Remember, although you provide your email address, your address cannot be linked to your survey responses.

Thank you very much for participating. Have a great semester!

Delores Jackson
Assistant Director
Bachelor of Applied Arts and Sciences (BAAS) Program

 *Prothro-Yeager*
STATE UNIVERSITY | COLLEGE OF HUMANITIES & SOCIAL SCIENCES
3410 Taft Boulevard | Wichita Falls, Texas 76308

APPENDIX E

FOLLOW-UP EMAIL REMINDER LETTER

Dear Participant,

My name is Delores Jackson. I am a doctoral student at the University of North Texas, and also Assistant Director of the Bachelor of Applied Arts and Sciences (BAAS) Program here at MSU. I am conducting a study to understand your confidence regarding your online course enrollment.

I hope that your semester is off to a great start! Two weeks ago I sent you an email which included the link to a survey. The survey is voluntary and anonymous. I would like to encourage you to please take 10 minutes to complete the survey and immediately submit it back. Responses are returned to me in anonymous format. Please complete the survey only once, even though you may be enrolled in other online courses.

If you've completed the survey thank you for your participation! If you have not completed the survey I urge you to do so. Your input is important to the results of my study. I am interested in learning about your feelings regarding your online enrollment. I would like to better understand your needs regarding online education, so that we are better able to help you and other students in the future.

If you have questions regarding the survey or would like more information about my research study you can contact me at delores.jackson@mwsu.edu (940) 397-4721.

Enjoy your semester!

APPENDIX F

SECOND EMAIL REMINDER LETTER

Dear Participant,

Last Call from Delores Jackson regarding the online survey! Three to four weeks ago I sent an email with the link to a survey, requesting your participation in completing and submitting the survey back electronically. I followed up with a reminder email about a week ago.

If you've already completed and submitted the survey thank you very much! If you have not completed and submitted the survey please take 10 minutes to do so.

I am interested in learning about your feelings regarding your online enrollment. I would like to better understand your needs regarding online education, so that we are better able to help you and other students in the future.

Please assist me by completing and submitting this quick *10 minute survey...I promise, it will take no longer than 10 minutes!*

Again, if you've completed the survey thank you for your participation. If you have not completed the survey now is your last opportunity. Remember, your input is important to the results of my study.

If you have questions regarding the survey or would like more information about my research study you can contact me at delores.jackson@mwsu.edu (940) 397-4721.

Enjoy your semester!

APPENDIX G

ONLINE ACADEMIC SELF-EFFICACY SURVEY

Online Academic Self-Efficacy Survey

Gender:

- Male
- Female

Age:

- 18-21
- 22-24
- 25-39
- 40-59
- 60 or older

Is this your first online college course, ever?

- Yes
- No

If this is not your first online college course how many online courses have you taken before, including this one?

- 1-3 courses
- 4-7 courses
- 8-10 courses
- 11 or more courses

What is your cumulative GPA?

- 1.9 or below
- 2.0-2.49
- 2.50-2.99
- 3.0- 3.49
- 3.50- 3.99
- 4.0
- Unsure

What racial/ethnic background do you claim?

- White
- Black or African American
- Hispanic or Latino
- Asian
- American Indian or Alaskan Native
- Native Hawaiian or Other Pacific Islander

In the household that you were primarily raised, did either parent or guardian complete at least a 2-year college degree, or higher?

- Yes
- No
- Unsure

Please indicate on the items below your judgment about your total online performance at this point, in regards to being able to complete the action noted. Please mark only one block in each area. Complete the survey only once.

1. Even in the face of technical difficulties, I am certain I can learn the presented material in an online course.

- Completely Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Completely Agree

2. I am confident I can learn without the physical presence of an instructor to assist me.

- Completely Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree

- Somewhat Agree
- Agree
- Completely Agree

3. I am confident I can do an outstanding job on the activities in an online course.

- Completely Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Completely Agree

4. I am certain I can understand the most difficult material presented in an online course.

- Completely Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Completely Agree

5. Even with distractions, I am confident I can learn the material presented online.

- Completely Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Completely Agree

Thank you again for participating in this survey. If you would like to enter your email address in a \$25 drawing to the MSU bookstore please click the radio button and include your email address in the box below. (Remember, this survey is anonymous and I cannot connect email addresses to survey responses.) The drawing will be March 3, 2014. You will be notified by email if your email address was selected for the \$25 gift card. We will then make arrangements for you to collect the \$25 gift card.

APPENDIX H

SELF-EFFICACY SUBSCALE OF THE ONLINE LEARNING VALUE AND SELF-EFFICACY SCALE (OLVSES)

Reproduced with permission from Arthur Artino

Online Learning Value and Self-Efficacy Scale (OLVSES)

Task Value (TV)

TV-3 It was personally important for me to perform well in this course

TV-7 This course provided a great deal of practical information.

TV-8 I was very interested in the content of this course.

TV-10 Completing this course moved me closer to attaining my career goals.

TV-12 It was important for me to learn the material in this course.

TV-13 The knowledge I gained by taking this course can be applied in many different situations.

Self-Efficacy for Learning with Self-Paced, Online Training (SE)

SE-2 Even in the face of technical difficulties, I am certain I can learn the material presented in an online course.

SE-3 I am confident I can learn without the presence of an instructor to assist me.

SE-5 I am confident I can do an outstanding job on the activities in a self-paced, online course.

SE-6 I am certain I can understand the most difficult material presented in a self-paced online course.

SE-7 Even with distractions, I am confident I can learn material presented online.

From "Development and Initial Validation of the Online Learning Value and Self-Efficacy Scale," by A. R. Artino and D. B. McCoach, 2008, *Educational Computing Research*, 38(3), 279-303. Reprinted with permission.

APPENDIX I

PERMISSION TO USE SURVEY INSTRUMENT

From: Artino, Anthony [mailto:anthony.artino@usuhs.edu]
Sent: Friday, August 02, 2013 1:08 PM
To: Jackson, Delores
Subject: Re: Permission Request - Online Learning Value and Self-Efficacy Scale (OLVSES)

Thanks for your interest in our instrument. You have my permission. Please just reference our work accordingly.

The components of survey are described in our paper. Please let me know if you need a copy of this paper.

Good luck with your research!

Regards,
Dr. Artino

Anthony R. Artino, Jr., Ph.D.
Commander, Medical Service Corps, U.S. Navy
Associate Professor of Preventive Medicine & Biometrics
Associate Professor of Medicine
Uniformed Services University of the Health Sciences
4301 Jones Bridge Road, Bethesda, MD 20814-4712
Phone: (w) 301.295.3693, DSN 291, (c) 860.942.9345
Web: <http://www.usuhs.mil/faculty/anthonyartino-pmb.html>

On Thursday, August 1, 2013, Jackson, Delores <delores.jackson@mwsu.edu> wrote:
Good Morning, Dr. Artino!

I hope that all is well with you. I left a voice message for you, 8:30 am (central) on August 1, 2013. I wanted to follow- up with an email.

I am a doctoral student (higher education) at the University of North Texas, Denton TX, preparing for presentation of my dissertation proposal. My research area is academic self-efficacy and online course completion for adult students, particularly first-generation adult students. My literature review revealed a dearth of research related to academic self-efficacy in an online environment. As you also noted (Artino & McCoach, 2008) much of literature addressing online students is in the form of online technology usage, navigation, and proficiency with the computer.

It was exciting to locate your article Development and Initial Validation of the Online Learning Value and Self-Efficacy Scale (2008) during my literature review. I believe the OLVSES is an appropriate instrument for my research question. I am seeking permission to use this scale in my research.

Thank you for your consideration.

Title: Online Learning Value and Self-Efficacy Scale [OLVSES] (2008)

Copyright:

Author(s): Anthony R. Artino, Jr., and D. Betsy McCoach (2008)

Material to be duplicated: The Online Learning Value and Self-Efficacy Scale [OLVSES] in its entirety, along with evaluative instructions/information.

Number of Copies: I would request seven (7) copies.

Distribution: A copy will be included in my written dissertation, copies each to the three members of my committee, copies each to the University of North Texas and Midwestern State University Internal Review Boards, and a copy to be disseminated online to the participants in my study. I will have a sample population of 250-300 students.

Type of reprint: Photocopy

Use: The survey and results will be used to capture the needed data from my research sample, in support of my study of self-efficacy and online course completion for adult students, particularly first-generation adult students.

Best regards, and I hope to hear from you soon.

Sincerely,

Delores Jackson, Assistant Director
Bachelor of Applied Arts and Sciences (BAAS) Program
College of Humanities and Social Sciences
Midwestern State University, BW Hall, Rm 115
3410 Taft Blvd., Wichita Falls, TX 76308
(940) 397-4721 (voice); (940) 397-4918 (fax)
delores.jackson@mwsu.edu;

REFERENCES

- Allen, I. E., & Seaman, J. (2013). *Changing course: Ten years of tracking online education in the United States*. Retrieved from <http://www.onlinelearningsurvey.com/reports/changingcourse.pdf>
- Andrews, D., Nonecke, B., Preece, J. (2003). Electronic survey methodology: A case study in reaching hard-to-include internet users. *International Journal of Human-Computer Interaction, 16*(2).
- Artino, A. R., & McCoach, D. B. (2008). Development and initial validation of the online learning value and self-efficacy scale. *Educational Computing Research, 38*(3), 279-303.
- Aslanian, C. B., & Clinefelter, D. L. (2012). *Online college students 2012: Comprehensive data on demands and preferences*. Louisville, KY: The Learning House, Inc.
- Astin, A. (1997). How "good" is your institution's retention rate? *Research in Higher Education, 38*(6), 647-658.
- Astin, A. W. (1998). The changing American college student: Thirty-year trends, 1966-1996. *Review of Higher Education, 21*(2), 115-135.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307-337). Greenwich, CT: Information Age.
- Bartlett, J. E., Kotrik, J.W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning Performance, 19*(1), 43-50.
- Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485-540.
- Bound, J., & Turner, S. (2002). Going to war and going to college: Did World War II and the GI Bill increase educational attainment for returning veterans? *Journal of Labor Economics, 20*(4), 784-815. DOI: 10.1086/342012
- Brady-Amoon, P., & Fuentes, J. N. (2011). Self-efficacy, self-rated abilities, adjustment, and academic performance. *Journal of Counseling and Development, 89*, 431-438.
- Brown, S. (2002). Strategies that contribute to nontraditional/adult student development and persistence. *PAACE Journal of Lifelong Learning, 11*, 67-76.

- Cabrera, A. F., Nora, A., & Castaneda, M. B. (1993). College persistence: Structural equations modeling test of an integrated model of student retention. *Journal of Higher Education*, 64(2), 123-139.
- Capps, R. (2012). Supporting adult-students' persistence in community colleges. *Change: The Magazine of Higher Learning*, 44(2), 38-44.
- Carey, K. (2012, September 3). Into the future with MOOCs. *Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Into-the-Future-With-MOOCs/134080/>
- Casey, D. M. (2008). Journey to legitimacy: The historical development of distance education through technology. *TechTrends*, 52(2), 45-51.
- Chau, P. (2010). Online higher education commodity. *Journal of Computing in Higher Education* 22, 177-191.
- Choy, S. (2002). *Findings from the condition of education 2002: Nontraditional undergraduates*. (NCES 2002-012). U. S. Department of Education, National Center for Education Statistics. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002012>
- Cochran, J. D., Campbell, S. M., Baker, H. M., Leeds, E. M. (2014). The role of student characteristics in predicting retention in online courses. *Research in Higher Education*, 55, 27-44
- Chyung, Y. (2001). Improve the motivational appeal of online instruction for adult learners: What's in it for me? *American Journal of Distance Education*, 15(3) 36-49.
- Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Deutsch, N. L. & Schmertz, B. (2011). "Starting from ground zero:" Constraints and experiences of adult women returning to college. *Review of Higher Education* 34(3), 477-504.
- Diekhoff, G. M. (1996). *Basic statistics for the social and behavioral sciences*. Upper Saddle River, NJ: Prentice Hall.
- Donaldson, J. F., & Townsend, B. K. (2007). Higher educational journal's discourse about adult undergraduate students. *Journal of Higher Education*, 78(1), 27-50.
- Dongbin, K., & Rury, J. L. (2007). The changing profile of college access: The Truman Commission and enrollment patterns in the postwar era. *History of Education Quarterly*, 47(3), 302-327.

- Drouin, M., & Vartanian, L. R. (2010). Students' feelings of and desire for sense of community in face-to-face and online courses. *Quarterly Review of Distance Education, 11*(3), 147-159.
- Dumais, S. A., Rizzuto, T. E., Cleary, J., Dowden, L. (2013). Stressors and supports for adult online learners: Comparing first-and continuing-generation college students. *American Journal of Distance Education, 27*(100), 100-110.
- Eom, S. B., & Wen, H. J., Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: An empirical investigation *Decision Sciences Journal of Innovative Education, 4*(2), 215-235.
- Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London: Sage
- Giancola, J. K., Munz, D. C., & Trares, S. (2008). First-versus continuing-generation adult students on college perceptions: Are differences actually because of demographic variance? *Adult Education Quarterly, 58*(3), 214-238.
- Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment, 14*(1), 92-15.
- Guidos, M., & Dooris, M. J. (2008). Correlates of adult learner degree completion in a research university. *Journal of Continuing Higher Education, 56*(2), 45-51.
- Guiffrida, D. A. (2006). Toward a cultural advancement of Tinto's theory. *Review of Higher Education, 29*(4), 451-472.
- Hardin, C. (2008). Adult students in higher education: A portrait of transitions. *New Directions for Higher Education, 144*, 49-57.
- Hodges, C. B. (2008). Self-efficacy in the context of online learning environments: A review of the literature and directions for research. *Performance Improvement Quarterly, 20*(3-4), 7-25. doi: 10.1002/piq.20001
- Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *The Internet and Higher Education, (10)*4, 245-260.
- Holmberg, B. (1995). The evolution of the character and practice of distance education. *Open Learning, 47-54*. Retrieved from <http://www.c3l.uni-oldenburg.de/cde/found/holmbg95.htm>
- Hoyt, J. E., & Allred, E. (2008). Educational and employment outcomes of a degree completion program. *Journal of Continuing Higher Education, 56*(2), 26-33.

- Inkelas, K. K., Daver, Z. E., Vogt, K. E., & Leonard, J. B. (2007). Living learning programs and first-generation college students' academic and social transition. *Research in Higher Education, 48*(4), 403-434. DOI: 10.1007/s11162-006-9031-6
- Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first generation college students in the United States. *Journal of Higher Education, 77*(5), 861-885.
- Kasworm, C. E. (2003). Setting the stage: Adults in higher education. *New Directions for Student Services, 102*, 3-10.
- Kline, P. (2000). *The handbook of psychological testing* (2nd ed.). London: Routledge.
- Knofczynski, G. T., & Mundfrom, D. (2008). Sample sizes when using multiple linear regression for prediction. *Educational and Psychological Measurement, 68*(3), 431-442
- Knowles, M. (1984). A theory of adult learning: Andragogy. In *The adult learner: A neglected species* (4th ed., Chapter 3). Retrieved from http://www.umsl.edu/~henschkej/the_adult_learner_4th_edition.htm
- Kortesoja, S. L. (2009). Post-secondary choices of nontraditional-age students: Non-Credit courses or a credential program? *The Review of Higher Education 33*(1), 37-65.
- Krathwohl, D. R. (2009). *Methods of educational and social science research: The logic of methods* (3rd ed.). Long Grove, IL: Waveland Press.
- Lohfink, M. M., & Paulsen, M. B. (2005). Comparing the determinants of persistence for first-generation and continuing-generation students. *Journal of College Student Development, 46*(4), 409-428.
- Loss, C. P. (2005). "The most wonderful thing happened to me in the army": Psychology, citizenship, and American higher education in World War II. *Journal of American History, 92*(3), 864-891.
- Lundberg, C. A., McIntire, D.D., & Creasman, C. T. (2008). Sources of social support and self-efficacy for adult students. *Journal of College Counseling, 11*, 58-72.
- Mackeracher, D. (2004) *Making sense of adult learning* (2nd ed.). Toronto, Canada: University of Toronto Press.
- Mallon, M. (2013). MOOCs. *Public Services Quarterly, 9*, 46-53.
- McGivney, V. (2004). Understanding persistence in adult learning. *Open Learning, 19*(1), 33-46.

- Metz, G. W. (2005). Challenges and changes to Tinto's persistence theory: A historical review *Journal of College Student Retention*, 6(2), 191-207.
- Meyers, L. S., Gamst, G., and Guarino, A. J. (2014) *Applied multivariate research*. Los Angeles: Sage.
- Moore, M. G. (2003). The handbook of distance education. *American Journal of Distance Education*, 7(2), 73-75.
- Moore, M. G. (2008). Where is the historical research? *American Journal of Distance Education*, 22(2), 67-71.
- Morris, L. V., Wu, S. S., Finnegan, C. L. (2005). Predicting retention in online general education courses. *American Journal of Distance Education*, 19(1), 23-36.
- Muller, T. (2008). Persistence of women in online degree-completion programs. *International Review of Research in Open and Distance Learning*, 9(2), 1-18.
- National Center for Education Statistics [NCES]. (n.d.). *Integrated Post-secondary Education Data System: Glossary*. Retrieved from <http://nces.ed.gov/ipeds/glossary/?charindex=D>
- National Center for Education Statistics [NCES]. (2005). *First-generation college students in post-secondary education, 2005* (NCES 2005 -171). Retrieved from <http://nces.ed.gov/pubs2005/2005171.pdf>
- National Center for Education Statistics [NCES]. (2012). *Digest of education statistics, 2011* (NCES 2012-001, [Chapter 3](#)). Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=98>
- Nunnally, J. (1994). *Psychometric theory*. New York: McGraw Hill.
- Park, J., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Journal of Educational Technology & Society*, 12(4), 207-217.
- Pascarella, E. T., & Terenzini, P. T. (1997). Studying college students in the 21st century: Meeting new challenges. *Review of Higher Education*, 21(2), 151-165.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students*. San Francisco, CA: Jossey-Bass.
- Peterson, R. A., & Kim, Y. (2013). On the relationship between coefficient alpha and composite reliability. *Journal of Applied Psychology*, 98(1), 194-198. doi:10.1037/a0030767

- Radford, A., & Weko, T. (2011). *Stats in brief, learning at a distance: Undergraduate enrollment in distance education courses*. (NCES 2012-154). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2012154>
- Ramos-Sanchez, L., & Nichols, L. (2007). Self-Efficacy of first-generation and non-first generation college students: The relationship with academic performance and college adjustment. *Journal of College Counseling, 10*(1), 6-13.
- Reason, R., & Terenzini, P. T. (2006). First things first: Developing academic competence in the first year of college. *Research in Higher Education, 47*(2), 149-175.
- Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *Internet and Higher Education, 6*, 1-16.
- Sax, L. J., Gilmartin, S. K., & Bryant, A. N. (2003). Assessing response rates and nonresponse bias in web and paper surveys. *Research in Higher Education, 44*(4), 409-432.
- Schlosser, L. A., & Simonson, M. (2009). *Distance education: Definition and glossary of terms* (3rd ed.). Charlotte, NC: Information Age.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychology, 26*, 207-231.
- Seay, S. (2006). Strategies for success: Improving the academic performance of low-income adult and first-generation students in online education courses. *Journal of Continuing Higher Education, 54*(3), 22-35.
- Simonson, M., Schlosser, C., & Orellana, A. (2011). Distance education research: A review of the literature. *Journal of Computing in Higher Education, 23*, 124-142.
doi 10.1007/s12528-011-9045-8
- Singh, A., Taneja, A., Mangalaraj, G. (2009). Creating online surveys: Some wisdom from the trenches tutorial. *Transactions on Professional Communication, 52*(2), 197-212.
- Soper, Daniel. (2014a). *Statistics calculators, version 3.0: A-prior sample size for student t-tests*. Retrieved from <http://www.danielsoper.com/statcalc3/calc.aspx?id=47>
- Soper, Daniel. (2014b). *Statistics calculators, version 3.0: A-prior sample size calculator for multiple regression*. Retrieved from <http://www.danielsoper.com/statcalc3/calc.aspx?id=1>

- Spitzer, T. M. (2000). Predictors of college success: A comparison of traditional and nontraditional age students. *NASPA Journal*, 38, (1), 82-98.
- Stapleton, C. (1997). *Basic concepts and procedures of confirmatory factor analysis*. Retrieved From <http://ericae.net/ft/tamu/Cfa.htm>
- Stella, A., & Gnanam, A. (2004). Quality assurance in distance education: The challenges to be addressed. *Higher Education*, 47(2), 143-160.
- Tabachnick, B. G. and Fidell, L. S. (1996). *Using multivariate statistics*. New York: HarperCollins.
- Tallent-Runnels, M., Thomas, J., Lan, W., Cooper, S., Ahern, T., Shaw, S., & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research*, 76(1), 93-135.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago.
- Tinto, V. (2006). Limits of theory and practice in student attrition. *Journal of Higher Education*, 53(6), 687-700.
- Tinto, V. (2007). Research and practice of student retention: What next? *Journal of College Student Retention*, 8(1), 1-19
- Vuong, M., Brown-Welty, S., & Tracz, S. (2010). The effects of self-efficacy on academic success of first-generation college sophomore students. *Journal of College Student Development*, 51(1), 50-64.
- Wighting, M. J., Liu, J., & Rovai, A. (2008). Distinguishing sense of community and motivation characteristics between online and traditional college students. *Quarterly Review of Distance Education*, 9(3), 285-295.
- Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, 46(6), 677-7-6. doi:10.1007/s11162-0044139z