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Work Commitment, Intrinsic Motivation, and Academic Achievement in Online Adult Learners

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Walden University
2018

Abstract

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in Online Adult Learners

by

Shannon Dianne Pickett

MS, Walden University, 2010

BS, Salem State University, 2007

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

General Educational Psychology, Education Track

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Abstract

Over the past 2 decades, the number of adult learners seeking an online education has dramatically increased, but student retention and degree completion rates for adult students are lower than those of other student populations. Research has shown that adult learners working full time achieve at higher levels than adult learners who are not working full time and that intrinsic motivation is positively correlated with academic achievement. However, whether the relationship between intrinsic motivation and academic achievement is moderated by level of work commitment has not been previously investigated. For this study, in which the composite persistence model served as the foundation, 137 online adult learners were recruited. A sequential multiple regression was used to investigate whether the relationship between intrinsic motivation, as measured by the Motivation Strategies for Learning Questionnaire (MSLQ), and academic achievement, as measured by self-reported grade point average, was moderated by level of work commitment, as measured by self-reported hours of work per week, while statistically controlling for academic competencies, as measured by 4 subscales of the MSLQ. Intrinsic motivation and level of work commitment did not display a statistically significant correlation with academic achievement, and results showed that level of work commitment did not moderate the relationship between intrinsic motivation and academic achievement. The findings indicated the possibility that education is synergistically related to work commitment. Online programs may use the findings from the study to better support online adult learners and create positive social change by offering internships and mentorships locally that help to connect education to work commitment.

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Dedication

To my loving husband, Dan, thank you for your love and support throughout this journey. I would not have made it to the finish line without you by my side. You provided me with the encouragement I needed, made me laugh when I was feeling frustrated, and most importantly, believed in me. To my children, Ella and Aedan, you both are my anchor. I started this journey without the two of you here yet, and I am so thankful to have finished it with both of you by my side. Let this be an example that perseverance does pay off and builds character, and that character builds strength so that you can do anything you put your mind to. You both are my truest joy, and I love you to the moon and back. To my parents, thank you for molding me into the person I am today. I am who I am because of the both of you. You both have always been there to support and encourage me from the very beginning. The seeds that you planted early on in my life are what directed me into this field and gave me the courage to pursue my dreams. Words cannot truly express the love and appreciation I have for the both of you. To my brother Ryan, you are my inspiration for entering into this field and wanting to help others. Being your sister is one of the greatest gifts.

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I would like to sincerely thank Dr. Maxwell Rainforth for his mentorship and support throughout this journey. Without his leadership, this study would not have been possible. He has helped me to develop into the scholar-practitioner that I am today. I would also like to thank my committee member, Dr. Virginia Salzer. Thank you for supporting me throughout this journey and for your feedback throughout the process.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

This quantitative study examined the relationship between level of work commitment and intrinsic motivation in combination with academic achievement of online adult learners. The "traditional" undergraduate student is between the ages of 16 and 24 years and attends a 4-year college full time (Perna, 2010). Students age 25 and older, termed *adult learners*, constitute a substantial and increasing proportion of the population of students enrolled in higher education (Perna, 2010). Among adult learners, online distance education is an attractive educational modality due to the work and life demands that adult learners typically face.

The purpose of this study was to understand whether level of work commitment moderates the relationship between intrinsic motivation and academic achievement among online adult learners. This study addressed a gap in the literature because level of work commitment and intrinsic motivation in combination with academic achievement of online adult learners had not been investigated previously.

This chapter provides an overview of the study, including background information regarding higher dropout rates for online adult learners, a statement of the problem, the purpose of the study, and the study's broader significance. The research questions, theoretical framework, and nature of the study are introduced. Key terms relevant to the study are defined. Underlying assumptions, limitations, delimitations, and scope are delineated.

Background

The number of adult learners in the United States seeking a higher education has dramatically increased in recent years. According to the U.S. Department of Education (2011), the number of adult learners age 25 and older seeking a higher education increased 42% between the years 2000 and 2010. With this significant increase in adult learners, there was an increase in online adult learners as well. During the fall of 2014, 24.9% of graduate students were taking exclusively online courses (U.S. Department of Education, National Center for Education Statistics, 2016). Retention and dropout rates have emerged as concerns for the online adult learner population. In 2008, the national average retention rate for online degree programs was 46% for first-time part-time students, in comparison to 77% for first-time full-time students (Burnsed, 2010). Attrition rates are 6 to 7 times higher in online programs than in face-to-face programs (Patterson & McFadden, 2009).

Adult learners have reported that negative academic experiences, perceived lack of academic skills, lack of purpose and direction, family factors, and financial issues led them to leave higher education and account for why their previous college experience was not successful (Hensely & Kinser, 2001). Adult learners returning to higher education have identified several factors in their decision to return to higher education: a new sense of self-awareness, career, finances, and family (Hensely & Kinser, 2001). These factors may influence the need and desire to go back to school at a later stage in life and are contributing to the rise in the adult learner population (Hensley & Kinser, 2001). In the 2010 National Adult Learners Satisfaction Priorities Report, adult learners

identified education as a requirement for current or future jobs, rating education fourth out of 20 priorities (Noel-Levitz, 2011). Improved financial compensation and lifelong learning skills are among the identified potential benefits of completing a degree in higher education (Safman, 1997). These benefits can serve as motivational factors for completing a graduate degree.

Whatever the reason may be for pursuing a graduate degree, an adult learner's readiness to learn is related to life demands as well (Alegre & Moss, 1999). Life demands can be defined as work, family, or other obligations that an adult learner is committed to in addition to educational goals. If the life demands of adult learners are too high, they can be pulled away from their educational goals and display lower academic achievement levels as a result (Vaccaro & Lovell, 2010). If life demands are at lower levels, adult learners will have more time and ability to focus on individual educational goals. Life responsibilities can be a double-edged sword, in that they serve as motivational factors for completing a graduate degree but can negatively impact progress toward earning a degree, given the time constraints of online adult learners. Individuals' motivation is directly linked to their achievement behaviors (Wigfield & Eccles, 2000). Motivation also influences choice, persistence, and performance (Eccles & Wigfield, 2002). If students have high motivation for learning course material and believe that they will be successful in doing so, they will be more likely to persist and show higher levels of performance such as academic achievement.

It has been a long-term recommendation that undergraduate traditional students work 10 to 15 hours per week at an on-campus job so that the majority of their time and focus can be devoted to schoolwork. However, it is not possible for all students to follow this guideline, unfortunately. Due to the rising costs of higher education, working while attending college may be the only option for some students.

Research has shown higher retention rates for traditional students who follow the guidelines expressed in the previous paragraph, and academic success has been shown to increase when students hold jobs on campus as opposed to off campus (Perna, 2010). In a survey of 1,031 college students, 46% reported working full time while attending college, and 42% of these students said that working resulted in lower grades (King & Bannon, 2002). In another college sample of 103 male students whose hours of work commitment ranged from 0 to 40 hours, with 20% of the sample working over 25 hours per week, the grade point average (GPA) of the students who were working was significantly lower than that of the students who were not working (Paul, 1982). These studies indicate that the level of work commitment of a college student can have a negative impact on academic achievement.

Contradictory to previous research findings that showed that level of work commitment had a negative impact on student academic achievement, Delialioglu, Cakir, Bichelmeyer, Dennis, and Duffy (2010) found that a full-time work commitment could have a positive impact on the academic achievement of college students. Delialioglu et al. concluded that adult learners working full time displayed higher levels of academic achievement than adult learners who were not working, as shown in GPA. Those

students who reported working full time displayed higher GPA values than those students who were not working. Delialioglu et al. were not able to determine an explanation for this finding. Therefore, the new research findings could suggest that the concept of the ideal learner, also known as a *traditional student*, is changing.

The contradictory conclusions of Delialioglu et al. (2010) compared to previous research findings show that there is still much to learn about the online adult learner student population. Specifically, there has been a significant gap in the literature in regard to online adult learners; previous research has not investigated how level of work commitment and intrinsic motivation correlate with the academic success of online adult learners. Further research has been needed to understand whether the results of Delialioglu et al. can be replicated, and to ascertain whether a moderating effect is evident between the level of work commitment and intrinsic motivation, as well as how that relationship is impacting academic success. Moreover, there has been a need for further research to help the online adult learner student population by identifying ways to provide additional support so that academic achievement and retention rates may improve.

Statement of the Problem

Online adult learners are a unique, nontraditional student population with a specific set of characteristics. One of those characteristics is constant juggling of life demands. Life demands represent other priorities that the online adult learner must attend to while participating in a distance education program. Given the difficulties in balancing

life demands, the online adult learner student population also shows higher rates of dropout when compared to other student populations.

Level of work commitment relates to one of the many life demands that online adult learners are juggling. Intrinsic motivation has been shown to have a positive impact on academic achievement and student success (Adelman, 1978). Online adult learners who are intrinsically motivated could use this motivation as a way to rise above the stress and struggle of life demands in order to make progress toward completing their degrees. Research has investigated how level of work commitment impacts student academic achievement and how intrinsic motivation impacts student academic achievement. However, level of work commitment and level of intrinsic motivation have not been investigated together in relation to student academic achievement.

Delialioglu et al. (2010) found that students working full time achieved at higher levels than students who were not working. This finding contradicts a previous body of research that found that traditional students working 10 to 15 hours per week on campus showed higher levels of academic achievement than those students who were working more (Perna, 2010). This contradiction between this study and previous findings might reflect differences in motivation among different populations. Therefore, it was important for research to examine the effects that work commitment and intrinsic motivation have on academic achievement in the same study, as this dissertation did.

Purpose of the Study

The purpose of this quantitative correlational study was to examine the relationship of level of work commitment and intrinsic motivation to academic

achievement of online adult learners, and whether the relationship between intrinsic motivation and academic achievement is moderated by work commitment. The dependent variable was self-reported GPA, and the independent variables were self-reported level of work commitment and intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]). While examining the relationships between the study variables, academic competency levels were used as covariates in the statistical analysis in order to statistically control for their effects.

Research Questions and Hypotheses

RQ1: Is the level of work commitment related to the academic achievement of online adult learners, taking into account intrinsic motivation and academic competencies?

Null hypothesis: Level of work commitment (as measured by self-reported hours of work per week) does not predict the academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for intrinsic motivation and academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

Alternative hypothesis: Level of work commitment (as measured by self-reported hours of work per week) does predict the academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for intrinsic motivation and

academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

RQ2: Is the level of intrinsic motivation related to the academic achievement of online adult learners, taking into account level of work commitment and academic competencies?

Null hypothesis: Level of intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]) does not predict academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for level of work commitment (as measured by self-reported hours of work per week) and academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

Alternative hypothesis: Level of intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ] does predict academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for level of work commitment (as measured by self-reported hours of work per week) and academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

RQ3: Is the relationship between intrinsic motivation and academic achievement moderated by the level of work commitment for online adult learners?

Null hypothesis: Level of work commitment (as measured by self-reported hours of work per week) does not moderate the intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]) and academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

Alternative hypothesis: Level of work commitment (as measured by self-reported hours of work per week) does moderate the intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]) and academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

Theoretical Base

Persistence is the key to academic success in online education (Rovai, 2003). The composite persistence model consists of four factors that contribute to an online learner's ability to persist in or decision to drop out from a distance-education academic program (Rovai, 2003). These factors include student characteristics, student skills, external factors, and internal factors. The composite persistence model and the four factors are discussed in further detail in Chapter 2. However, it is important to note that the composite peristence model was an appropriate fit for this dissertation study because it

takes into account the several life demands and challenges that an online adult learner faces when pursuing an education. The model helps to identify students who will be able to persist in an online education program and those who are at risk for dropping out. The composite persistence model also includes motivation and level work commitment among the four factors that contribute to peristence or dropout, and these were the independent variables for the dissertation study.

Nature of the Study

For this descriptive, cross-sectional study, I had planned to recruit online students in a master's or doctoral program using the Walden University student participant pool. Changes in the data collection plan are mentioned in Chapter 4. Participants were recruited from all degree programs but only included students who had not started the thesis or dissertation phase of their program. To meet the minimum sample size requirements, as determined by G*Power 3.1, a sample of 133 subjects was the target sample to be recruited. Participants were asked to complete the MSLQ subscales (specifically the Intrinsic Goal Orientation, Self-Efficacy for Learning and Performance, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation Subscales). Participants were asked to self-report level of work commitment, GPA, gender, and degree program. The data were collected using the Walden University student participant pool platform. Participants were able to sign up for the study and complete the MSLQ subscales and participant self-report questionnaire using this platform. Once the data were collected, multiple regression was used to analyze the data.

Definition of Terms

Academic achievement: The measure is the GPA of a student, what the student learns, and academic competencies.

Adult learner: For the purpose of this dissertation, an adult learner is defined as a student who is 25 years of age or older in any higher education program (Perna, 2010). As later discussed in Chapter 2, some references refer to adult learners as 24 years of age or older (National Center For Education Statistics, 2015). This is a discrepancy within the literature, but the general consensus is that the term applies to students 25 years of age or older, which is why age 25 was selected.

Extrinsic motivation: A desire to complete a specific behavior that comes from a source outside the individual.

Higher education: Schooling beyond high school level, including associate's, bachelor's, master's, and doctoral programs.

Intrinsic motivation: A desire to complete a specific behavior that comes from within the individual.

Life balance: Balancing and managing the time spent on each individual life demand.

Life demands: Include obligations such as work, family, education, and any other obligations that an individual has made a commitment to that are part of the individual's regular routine.

Social change: The desire to create positive change within society. The change could be implemented on the micro or macro level.

Work commitment: The amount of hours per week that a participant spends on work and work-related responsibilities.

Assumptions

It was assumed that the students who participated in this dissertation were online students enrolled in a master's or doctoral program. I planned to use the Walden University participant pool to collect data for this study. It was assumed that all participants were honest in the data that they provided for the study, and that the data collected were true and factual.

Delimitations and Scope

The scope of the study was focused specifically on online students in a master's or doctoral program who had not started the thesis or dissertation phase of the program. Because only master's and doctoral students were included, students in an associate's or bachelor's program were excluded from the findings. Each participant was 25 years of age or older in order to be categorized as an adult learner. The age of participants varied along the adult learner spectrum, so the sample was not necessarily a concentrated sample of a specific age range of adult learners. Therefore, the findings are not applicable to all populations of adult learners.

Limitations

The potential methodological weakness of the study was a threat to internal validity. It was important to ensure that the relationship between the predictor variables and criterion variables was a direct association and not caused by an uncontrolled factor (Goodwin, 2002). Further, a potential bias that could have influenced the study was the

possibility of desire on my part as the researcher to find results that would support the alternative hypotheses of the research questions. To address these limitations, caution was used when conclusions were drawn. Experienced researchers also reviewed the conclusions of the study to ensure that the results were unbiased and directly associated.

Significance of the Study

This dissertation is a significant study on many levels. First, the dissertation filled an identified gap in literature by attempting to support or contradict the research findings of Delialioglu et al. (2010), which indicated that adult learners working full time achieve at higher levels than adult learners who are not working. The study also investigated contributing factors, such as intrinsic motivation and level of work commitment, to determine whether or not there was a statistically significant relationship between them, and if so, what type or kind of relationship existed and how this affects student academic achievement. These findings also contribute to the body of literature that exists regarding online adult learners and intrinsic motivation.

Second, the dissertation is directly applicable to educators within the field of higher education. If the needs of the student population are changing, it is important for educators to understand these changes in order to provide the best educational experience possible for online adult learners. Because the findings were specific to online students, Walden University was able to learn about the student population directly from the research findings. Based on the findings, online degree programs can identify which groups of students need additional support with balancing their life demands so that they can successfully complete their educational goals.

Finally, the study may have a direct positive social-change impact in identifying areas within the higher education system that require improvement in order to meet the current needs of students. Because the number of online adult learners is increasing at a rapid pace, this student population is significant. Therefore, identifying ways to improve and support this student population is essential. Not only did students benefit directly from the research findings, but the findings also contribute to the literature regarding this student population.

Summary and Transition

Chapter 1 provided an introduction to the research study. First, an introduction to the research topic was given. Statistics provided by the U.S. Department of Education (2011) highlighted the dramatic increase of adult learners entering higher education. Hensley and Kinser (2001) found that a sense of self-awareness, career, finances, and family were factors contributing to the increase in numbers of adult learners. Alegre and Moss (1999) found that an adult learner's readiness to learn was related to life demands such as work and family. Contrary to previous findings, recent research has shown that adult learners working full time displayed higher levels of academic achievement than adult learners who are not working (Delialioglu et al., 2010).

The statement of the problem and purpose of the study were given. I then described a gap in the literature identified by Delialioglu et al. (2010) concerning factors that may lead adult learners working full time to achieve at higher levels than adult learners who are not working full time. Further, I noted Delialioglu et al.'s

recommendation that their research be replicated with adult learners in a master's or doctoral program.

Next, I discussed the nature of the study and presented the research questions. The composite peristence model was introduced as the theoretical framework that guided the dissertation study. Definitions of terms that were relevant to the research study were given, along with assumptions and limitations of the study.

Finally, the signficance of the study was identified. The study's importance to the adult learner student population resides in its contribution toward filling identified gaps in literature, its provision of findings that are applicable to educators within the field of higher education, and its promotion of social change by identifying areas within the higher education system that need improvement in order to meet the needs of adult learners.

Chapter 2 provides a literature review that goes into further detail on the body of literature that currently exists on adult learners, life demands, motivation, work commitment, and achievment. Challenges facing online adults learners are more clearly defined and discussed as the research is presented. Through the literature review, I seek to offer a clearer understanding as to which students are considered online adult learners, what life demands online adult learners face, and what, specfically, is involved in balancing life demands.

Chapter 3 contains a discussion of the research methods and how the study was conducted. In Chapter 4, I discuss the results of the study and how the results were

analyzed. Finally, Chapter 5 contains of a discussion of the results, conclusions of the research, and recommendations for the online adult learner student population.

Chapter 2: Literature Review

Introduction

The purpose of the research study was to understand the effects that work commitment and intrinsic motivation have on the academic achievement of online adult learners. Online adult learners are a unique, nontraditional student population with a specific set of characteristics. One of those characteristics is constant juggling of life demands. Life demands represent other priorities that the online adult learner must attend to while participating in a distance education program. Given the difficulties in balancing life demands, the online adult learner student population also shows higher rates of dropout when compared to other student populations.

Work commitment is one of the many life demands that online adult learners are juggling. Intrinsic motivation has been shown to have a positive impact on academic achievement and student success. An online adult learner who is intrinsically motivated could use this motivation as a way to rise above the stress and struggle of life demands in order to make progress toward completing a degree. Research has investigated how level of work commitment impacts student academic achievement and how intrinsic motivation impacts student academic achievement. However, level of work commitment and level of intrinsic motivation have not been investigated together in relation to student academic achievement.

Delialioglu et al. (2010) found that students working full time achieved at higher levels than students who were not working. This finding contradicted previous research that found that students who were not working achieved at higher levels than students

who were working full time (Delialioglu et al., 2010). Potentially, this contradiction in previous findings might reflect differences in motivation among different populations. Therefore, it has been important for research to examine the effects that work commitment and intrinsic motivation have on academic achievement in the same study, as this dissertation did.

In this chapter, I first consider retention and degree completion as issues for online adult learners. The composite persistence model is used as a framework to understand factors contributing to student retention and dropout. The work and family conflicts that online adult learners face, along with the associated stress that these conflicts can bring, are discussed. Motivational factors for adult learners are presented. Finally, a research table showing relevant research related to the gap in the literature is presented, followed by a chapter summary and conclusion.

Strategy for Searching the Literature

When completing the research for this literature review, I used the Walden University Library to search multiple databases. These databases included Academic Search Complete, ERIC, Google Scholar, ProQuest Central, PsycARTICLES, and PsycINFO. Several key words were used in the search of these databases in order to identify appropriate relevant research. The key words included *online adult learner*, *adult learner*, *motivation*, *intrinsic motivation*, *work family conflict*, *family*, *stress*, *distance education*, *persistence*, *learning*, and *achievement*. The literature reviewed ranged in years from the 1970s to the present day. A variety of sources were reviewed, including current peer-reviewed literature.

Retention and Degree Completion of Online Adult Learners

One of the reasons that online education was created was to grant access to education to an underserved student population (Duplin-Bryant, 2004). A primary goal of introducing online education was to facilitate access to education for individuals who would not be able to attend a brick-and-mortar institution. This would make higher education available to those who were previously unable to pursue their academic goals.

Since the availability of online degree programs has made education more accessible, the number of adult learners using online learning has rapidly grown in the last two decades (Park & Choi, 2009). In 2013, the number of students enrolled in an online college course from a programed located within the United States was 6.7 million, which was approximately one third of all college students that year (Community College Research Center, 2013). This represented a 29% increase since 2010.

However, as this new delivery platform for education developed, course completion and student retention emerged as issues. Online distance education has low course completion and program retention rates among online learners (Duplin-Bryant, 2004). The Community College Research Center (2013) evaluated online course outcomes for two large community colleges, one in a southern state and one in a western state. The results showed that failure and withdrawal rates were significantly higher for online courses when compared to face-to-face courses, with 32% of online students and 19% of face-to-face students failing or withdrawing in the southern state and 18% of online students and 10% of face-to-face students failing or dropping out in the western state (Community College Research Center, 2013). Patterson and McFadden (2009)

reported that attrition rates are 6 to 7 times higher in online programs than in face-to-face programs.

In 2008, the national average retention rates for first-time students in online degree programs were 46% for those attending part time and 77% for those attending full time (Burnsed, 2010). Because fewer than 1% of students in online degree programs report being full-time students, these statistics imply that the majority of enrollees in online programs drop out (Burnsed, 2010). The high dropout rates in online learning are a concern for higher education institutions and organizations (Park & Choi, 2009).

Among the factors contributing to online retention and degree completion, GPA and the ability to transfer credits have been found to have a positive impact on student completion (Boston et al., 2011). Boston et al. (2011) reported that the higher the GPA of the student and the more transfer credits that were accepted, the more likely the student was to stay and complete a program. GPA was also identified as a predictor of retention and completion.

The service quality provided by an online institution has a direct impact on student retention and completion (Kilburn et al., 2014). In particular, the areas of service that are identified as significant factors for retention and completion are continuous system availability, perceived value added, continuous loyalty enhancement, and guarded privacy. In a study by Kilburn et al. (2014), students who identified that they were happy with service quality and these four factors showed higher levels of retention and completion than students who identified as being dissatisfied.

Faculty personality and ability to mentor and coach students within an online learning environment also have an impact on degree completion (Shaw et al., 2016). As reported by Shaw et al. (2016), students showed a higher level of retention and degree completion when the faculty member was engaged with the student and fulfilling the role of mentor and coach. An instructor's ability to be flexible while meeting student needs, adaptability to different teaching modalities, and willingness to engage with new technologies also positively influenced retention and completion for online students.

The Composite Persistence Model as a Theoretical Framework for Understanding Persistence in Academic Programs

Due to growing dropout rates in online education, understanding student persistence and factors contributing to dropout is essential. Student persistence is a complex issue, given the numerous internal and external factors that impact students' success in distance education (Rovai, 2003). If students at risk of dropping out are identified, the institution may step in and offer assistance to them. Rovai (2003) proposed the competence persistence model to help identify students who are at risk of not being able to persist. On a larger scale, the competence persistence model can also aid institutions in developing additional supports for the online student population.

The composite persistence model consists of four factors that contribute to an online learner's ability to persist in, or decision to drop out from, a distance-education academic program (Rovai, 2003). The four factors are student characteristics, student skills, external factors, and internal factors. *Student characteristics* refer to age, ethnicity, gender, intellectual development, academic performance, and academic

preparation (Rovai, 2003). These are characteristics that the online learner brings to the classroom. The online learner also brings in a set of skills prior to the beginning of the class, identified in the model as *student skills*. These skills include computer literacy, information literacy, time management, reading and writing, and computer-based interaction. These skills have been identified as skills that an online learner needs to be successful in a distance education program. The stronger the student's skills, the more likely the student is to be successful and able to persist in the program.

The *external factors* of the composite persistence model are finances, hours of employment, family responsibilities, outside encouragement, opportunity to transfer, and life crisis (Rovai, 2003). These outside factors can lead to stress and can have a negative impact on student persistence if not handled in a positive manner by the online learner. The list of external factors highlights the multiple roles that an online learner faces and underscores how the online learner is considered a part-time learner due to having to fulfill other life requirements such as work and family responsibilities. The amount of time that external factors consume is an overlying external factor for the online student and is the most common factor linked to stress when compared among students. Rovai (2003) argued that external factors should not be viewed alone in regard to persistence, in that they must be seen in relation to the internal factors.

Rovai (2003) included among the *internal factors* academic integration, social integration, goal commitment, institutional commitment, learning community, study habits, advising, absenteeism, course availability, program fit, current GPA, utility, stress, satisfaction, and commitment. Rovai also included a section for student needs, such as

clarity of program, self-esteem, interpersonal relationships, access to services, and identification with school.

The objective of the research study was to better understand the academic achievement of online adult learners by examining the impacts that intrinsic motivation and work commitments have on academic achievement. In light of this objective, the competence persistence model was an appropriate fit because it took into account the several life demands and challenges that an online adult learner faces when pursuing an education. Moreover, the model helps in identifying persistence and the ability to achieve among this unique student population. Age, gender, level of work commitment, and motivation fall within the four factors that Rovai (2003) identified as having an impact on student persistence.

Potential Reasons for Persistence Versus Dropout Among Online Adult Learners

Among the factors contributing to online retention and degree completion, GPA and ability to transfer credits were found to have a positive impact on student completion (Boston et al., 2011). The higher the GPA of the student and the more transfer credits that were accepted by the online degree program, the more likely the student was to stay and complete the program. GPA was also identified as a predictor of retention and completion. However, to understand why there are higher dropout rates among adult learners versus traditional students, it is important to consider the differences between the two populations of students.

Characteristics That Distinguish Adult Learners From Traditional Students

Adult learners participate in degree programs that are largely built on a system designed for traditional students (Pusser et al, 2007). Adult learners constitute a student population that differs greatly from the traditional student population. The adult learner population is a diverse group with different demographics, social backgrounds, locations, goals, and levels of preparation before entering a degree program (Pusser et al., 2007). An adult-aged student is defined as someone who is 24 years of age or older (National Center for Education Statistics, 2015) in contradistinction to traditional-aged students undergoing higher education, who are typically between the ages of 18 to 23 years. However, some refer to adult-aged students as those who are 25 years of age or older (Perna, 2010). For the purpose of this dissertation study, adult learners were defined as those 25 years of age or older. Given the age bracket, traditional students typically have continued onto tertiary education after graduating from high school.

Whereas a traditional student is most likely taking a full course load, an adult learner is more likely to be taking a part-time course load and to need flexibility with the course schedule, which online courses provide. According to the U.S. Department of Education, two-thirds of working undergraduate students age 24 or older reported that work was their primary activity and that their academic attendance was part time during the 1999-2000 school year (Berker, Horn, & Carroll, 2003).

Because adult learners are in an older age bracket, there are additional responsibilities that members of this student population may have that traditional students may not, such as work and family responsibilities. Whereas traditional students are

completing education in order to enter desired careers, adult learners may be seeking to advance in their current careers or change careers while balancing their current work and family responsibilities with educational commitments. Consequently, an adult learner may face challenges with time management that a traditional student may not be facing. Finding the time to complete the tasks and responsibilities required for family, work, community, and education can be a challenge for adult learners (Whiteman, 2002). In juggling these responsibilities, adult learners may face challenges that traditional students do not. Difficulty in maintaining balance can be a trigger for increased stress, which can lead to difficulty with life balance and the issue of work-family conflict. These factors may explain why adult learners are at higher risk for not being able to complete degree programs when these programs are designed to meet the needs of traditional learners and not those of adult learners. Of the two-thirds of undergraduate students who were working during the academic year 1999-2000, 62% had not completed their degree or certification 6 years later (Berker et al., 2003).

According to O'Toole and Essex (2012), the needs of the adult learner population are not being met because best educational practices for this student population are not being used. For example, O'Toole and Essex identified how the best educational practices for child and adult student populations have not been distinguished, arguing that using the same learning strategies for both groups is not ideal due to the differences in learning between children and adults. Adult learners need educators to tailor teaching strategies that are more in line with the adult learner population.

O'Toole and Essex (2012) acknowledged how the mission for learning is different for adult learners. Adult learners have specific information that they are prepared to learn, as well as certain limitations that may impact their experience in learning that information. Adult learners are also able to detect when learning objectives are not clear or are not being met. This can cause frustration and disengagement for adult learners. Therefore, adult learners need educators to remain focused on the agreed-upon objectives of a course so that they can be assured that they are making the most out of their time investment in their education.

Steps are being taken to address the need for flexibility among adult learners in both brick-and-mortar and online institutions. Public universities are addressing the perceived barriers of time and finances, as identified by prospective adult students, by offering online degree programs and hybrid degree programs (Gast, 2013). Online education provides flexibility to the adult student due to the degree being completed online. Adult students do not need to travel to a campus and are able to complete course work at times that are more convenient to them. Hybrid degree programs incorporate online education with attendance at a brick-and-mortar institution. The majority of the work may be completed online, and the adult student may only need to travel to campus a limited amount of times. Offerings may include evening and weekend courses in order to meet adult students' need for flexibility. However, even with these improvements, adult learners continue to need further assistance in helping to maintain balance.

Among the factors contributing to online retention and degree completion, GPA and ability to transfer credits have a positive impact on student completion (Boston et al.,

2011). The higher the GPA of the student and the more transfer credits that are accepted by the online institution, the more likely that the student is to stay and complete the program (Boston et al., 2011). GPA has also been identified as a predictor of retention and completion (Boston et al., 2011).

The service quality provided by the online institution has a direct impact on student retention and completion (Kilburn et al., 2014). In particular, the areas of service that are identified as significant factors on retention and completions are continuous system availability, perceived value added, continuous loyalty enhancement, and guarded privacy. Students who indicated that they were happy with service quality and these four factors showed higher levels of retention and completion than those students who identified as being dissatisfied.

Faculty personality and ability to mentor and coach students within an online learning environment also had an impact on degree completion (Shaw et al., 2016). Students showed higher levels of retention and degree completion when faculty members were engaged with the students and fulfilling the role of mentor and coach. The ability of the instructor to be flexible while meeting student needs, being adaptable to utilizing different teaching modalities, and willingness to engage with new technologies also positively influenced retention and completion of online students.

Challenges Faced by Online Learners

Online adult learners face similar challenges when completing their educational goals when compared to adult learners who are attending brick and mortar institutions, but also have unique challenges that are specific to the online adult learner population.

First, the use of the internet can pose as a challenge for some adult learners who are not familiar with technology (Condelli et al., 2010). The degree in which the online adult learner utilizes the internet depends on the individual educational program. For example, a student may be solely interacting with professors and classmates via an e-learning online system, or it could be a combination of utilizing an e-learning classroom with face-to-face interaction as well. Second, the loss of the face-to-face interaction can be a challenge. Online adult learners are not physically in a classroom to process questions and concerns with professors and peers. Some online adult learners may find this isolating and find that they are not able to connect with others. Communicating via email in an online classroom eliminates body language and tone, which could lead to miscommunications.

Condelli et al. (2010) made several suggestions on how to improve the learning experience of online adult learners. First, building persistence of the students to help ensure that they stay engaged in their education is crucial. If the student is lacking in persistence, then the student is more likely to become disengaged in their educational program.

Second, identifying long-term learning objectives and identifying ways to hold the student accountable to those objectives will help to improve the educational experience of the online adult learner (Condelli et al., 2010). Having clear objectives helps the student to see the purpose of the material and how it applies to their educational program. By holding students accountable to those objectives, instructors are helping to

ensure that the students are making progress towards the objectives and their overall educational goals.

Third, help online adult learners become aware of the resources technology can provide (Condelli et al., 2010). The fact that an adult is enrolled in an online education program does not imply that their knowledge of technology is extensive. Having a deeper understanding of the technology available will help the adult learner to succeed in an online learning environment. This learning curve can prove to be challenging to this student population, and assistance from the institution has proven to be helpful.

The online learning environment brings flexibility in scheduling and learner control (DeBourgh, 1998). In a typical online program, students have an end of week deadline, for example by midnight of day seven (Sunday). Using this example, the online adult learner has a week to complete the required assignments at times that are most convenient for the online adult learner. Being able to participate in the classroom from a remote location also helps to provide time flexibility. This means the students can complete their schoolwork from home or work if needed. This is not an option for students attending a brick and mortar institution.

Academic self-confidence, psychological perception, sense of community in the classroom, and intrinsic motivation have proven to be key factors in adult online education (Groleau, 2004). The online adult learners must believe in themselves that they can complete their educational goals. Without this sense of confidence, completing educational goals could be difficult because the student does not fully believe those goals can be reached. The student may avoid doing schoolwork because of a lack of

confidence, and in a sense contributing to a self-fulfilling prophecy. If the online adult learner has a higher level of academic self-confidence, the student is more likely to be successful.

It is important that online adult learners have an understanding of the increased demands that will be placed on them so that they can be aware of, and better prepared to deal with stressors as they arise throughout the academic program (Groleau, 2004). Students may have misguided perceptions as to what the increased demands are, so it is also important to clarify whether or not the perceptions are accurate so that the student does not have a jaded view of the increased demands.

Having a sense of community helps the student to remember that they are part of a group, which can help to increase student confidence knowing that they are not in the educational process alone (Groleau, 2004). With being part of a group, students can help each other to reach their educational goals. Students provide each other with support regarding the increased demands that an online education brings for the adult learner.

In order to start a secondary education program, the adult learner must be motivated from within in order to successfully reach their identified education goals. Extrinsic motivation may also be a factor, but intrinsic motivation has been shown to have greater impact on academic success (Groleau, 2004). In order to help the online adult learner succeed, identifying those motivations would be helpful. The topic of motivation will be discussed in detail later in this chapter.

Ashton and Elliot (2007) gathered qualitative data from 64 students taking courses in early childhood teacher education courses. The researchers investigated the

priorities that the students had to juggle in their lives (study, work, family, cultural activities). The student's perception of flexibility and blended approaches of learning were also an important area of research. The researchers also spoke with center directors and employers to see how much support could be given to students while taking courses. The findings supported that students performed well with a combination of face-to-face, online, and collaboration with peers (Ashton & Elliot, 2007).

Several challenges facing the online adult learner population have been identified. Educators of online adult learners not using best practices was identified as a concern for online adult learner population; such as using the same teaching strategies for adults as they do for children and having unclear learning objectives. Having unclear learning objectives can lead to a lack of persistence and accountability for the online adult learner. Furthermore, online adult learners may not be aware of the full extent of the resources that are available online and through other forms of technology. Lacking in confidence, sense of community, and intrinsic motivation were also identified as challenges online adult learners face. Experiencing time management issues due to the balance of work, family, and school responsibilities were also identified as challenges. Stress was also shown to increase among online adult learners due to the increased life demands and work-family conflict.

Online Adult Learners and Life Demands

As mentioned in the previous sections, online adult learners are juggling responsibilities other than just their educational goals. Family, community, and work are some possible areas that could be demanding time of the adult learner in addition to the

time that is needed in order to pursue educational goals. Any role that an online adult learner has can be considered a life demand if it requires time and attention of the online adult learner.

The word demand is not meant to give a negative connotation to the identified area of life, but to illustrate that it is an obligation that the online adult learner must fulfill. An online adult learner who is trying to juggle these life demands may experience issues with time management and stress if effective strategies for managing those demands are not identified. The two most common areas of life demands that individuals struggle with are work and family, hence the development of the work-family conflict. The work-family conflict will be discussed in detail in the following section of the chapter.

The needs of the online adult learner make this student population unique (Whiteman, 2002). The ability to be part of a distance education program for online adult learners could be viewed as a second chance. Due to the life demands of personal, work, and family, an adult learner may not be able to pursue a traditional education because of the limitations the life demands bring. Due to the number of limitations, the online adult learner can have a decreased sense of confidence when starting a distance education program. Therefore, the academic institution needs to support the student by addressing the needs that the limitations bring in order to provide confidence to the student. Having flexibility for the student and online supports readily available helps the student to feel that confidence (Whiteman, 2002). This includes making all the resources available to traditional students available digitally for online adult learners.

Adult women pursuing a higher education are identified as a vulnerable group due to role conflict (Home, 1998). Among 443 women participants, lower income and perceived intensity of life demands were strong predictors of role conflict. Role conflict is a concern because it can lead to increased stress, which can then lead to dropout.

A research study utilizing a mixed methods approach gathered data from 21 adult learners enrolled in an education doctorate program (Riddle, 2000). Using questionnaires and interviews, the research included categories of decision to enter, admissions progress, socialization and acclimation, and balance of work, family, and student roles (Riddle, 2000). Some themes that emerged from decision to enter were fulfillment and meeting professional goals. Given that these students fell within an older demographic of adult learners, work and family demands were common elements that contributed to the balance of responsibilities that the students face. Being able to balance work, family, and educational demands was one of the top concerns when students were applying to the program. Based on responses, none of the students were successful in balancing these life demands all of the time and found it to be a challenge.

Work and Family Conflict

Due to having multiple responsibilities to juggle, an online adult learner is likely to experience the work-family conflict on some level. The work-family conflict refers to the struggle that one has in maintaining their different identified life demands. Life demands are linked to the roles that one has to fulfill. Some examples of roles are spouse, parent, employee, neighbor, and student. In order for one to fulfill all of these roles, time and attention must be given to each. However, there is only a finite amount of

time in the day for one to give. When responsibilities and demands are too high among the identified roles, one can experience work-family conflict. Individuals with a high core-self evaluation may seek challenging positions at work and within the family, which can lead to burnout and overload due to the multiple roles that one individual is trying to fulfill (Boyar & Mosley, 2006). Burnout can lead to higher levels of stress.

Among the many factors that can be used to predict work interference with family, and family interference with work; gender and marital status were found to be poor predictors of the work-family conflict (Byron, 2005). However, males tended to show a slightly higher work interference with family than females, and females tended to have a slightly higher family interference with work (Bryon, 2005). This shows that both male and female online adult learners can be impacted by the work-family conflict.

An individual fulfills several different roles in life, and the value that the individual places on each role contributes to the work-family conflict (Carlson & Kacmar, 2000). If an individual values spending time with family at a higher level than spending time at work, and is in a situation where spending more time at work is required, work-family conflict can occur (Carlson & Kacmar, 2000). The same holds true if an individual values work higher than family, and is required to spend more time fulfilling family roles. The higher the level of work-family conflict, the more noticeable decrease in life and work satisfaction there seems to be. The dissatisfaction begins when an individual begins to struggle with fulfilling the roles of one domain due to the interference of the other. Over time, this can lead to burnout.

The work-family conflict has a psychological and physical impact on the individual (Carlson & Perrewe, 1999). The work-family conflict can cause a negative mood, which spills into the other domains. For example, one is unhappy with their work domain and brings that negative mood home when interacting with their family. However, a positive spillover effect is less likely to happen (Carlson & Perrewe, 1999).

The spillover effect is connected to identity theory and the work-family conflict (Darrat, Amyx, & Bennet, 2010). Identity theory is connected to work-family conflict because identity theory recognizes the multiple roles that an individual has in his or her life, such as work and family roles. Conflict arises when the spillover effect is taking place. The spillover effect refers to the work interference with family, or family interference with work. When spillover is taking place, the individual makes their most valuable role take precedence. The individual then protects it from the interference of the other roles. The spillover effect can create increased conflict because the individual may leave the other role if needed in order to protect the prioritized role. For example, if work role demands were spilling over into family role demands and the family role was the prioritized role, then the individual could possibly leave their work role in order to protect the family role (i.e., quitting the current work role to find a job where the work role would not have as high of a spillover effect, or taking a leave of absence).

Not only does the spillover effect impact the life demands of work and family, but it can also occur with other life demands as well. When adult learners add the life demands of student, there will be times when the demands of that role may pull the adult learner away from work or spending time with family. By adding the role of student, the

adult learner adds an additional layer of complexity to the work-family conflict and spillover effect.

There are various variables that contribute to the work-family conflict. The four specific work variables are job involvement, job stress, work support, and work hours (Ford, Heinen, & Langkamer, 2007). The four family variables are family conflict, family stress, family support, and family hour. The family specific variables lead to family conflicting with work and negatively impacting job satisfaction. The work specific variables show the same negative impact, but with the family.

There are multiple roles that adult learners face while pursuing a higher education, such as work and family (Fairchild, 2003). The multiple role demands of the adult learner serve as a possible threat to their success as a student. There are three different types of role strain that can occur: conflict, overload, and contagion (Fairchild, 2003). Role conflict occurs when two roles need attention simultaneously and have incompatible demands. Role overload occurs when there is an insufficient amount of time to meet all the demands of the multiple roles. Finally, role contagion occurs when there is a preoccupation with one role while performing another role. The increase in roles, demands, and time conflicts can be a trigger for high levels of stress, anxiety, and depression among adult learners, especially female students (Carney-Crompton & Tan, 2002).

In summary, it is clear from the research that the work-family conflict exists for individuals due to the life demands of work and family. Displaying higher levels of work-family conflict can lead to an increase in stress and strain for the individual.

Having a deeper understanding of the work-family conflict that an online adult learner could be facing, even before starting an academic program, is important in order to help the online adult learner to achieve identified educational goals.

Work and School Conflict

Another form of conflict that can occur with work is the work-school conflict. The work-school conflict occurs when work requires time away from academic goals and activities, and creates a strain on school performance (Markel & Frone, 1998). Part of the work-school conflict is viewing the resources of time, personal energy, and attention as finite (Butler, 2007). When another role, such as work, is taking away these resources from school performance, the student may experience increased work-school conflict. However, not every aspect of employment is negative for school performance. Depending on whether the job characteristics are positive or negative, work-school facilitation or work-school conflict may occur. Work-school facilitation is when a positive characteristic of the job positively impacts school performance. For example, a student might be in a leadership role at work that aids in learning the material of a management course at school due to the course material being directly applicable. Among a sample of 253 employed undergraduate students enrolled as full-time students, job characteristics and the relationship to academic performance were investigated (Butler, 2007). Results from the study showed that jobs that were congruent with college studies and provided a level of control to the students created positive work-school facilitation and indirectly led to increased academic performance. The job characteristics of increased work hours and job demands increased work-school conflict, and the job

characteristic of enrichment was not significant in lowering work-school conflict. Job resources and job control did lower work-school conflict. Results also showed that work-school conflict and work-school facilitation are two different constructs. Therefore, reducing work-school conflict would not necessarily increase work-school facilitation and could be due to inter-role conflict.

Life Stress and Learning Process

The competing demands of work and family roles, in addition to the demands of participating in an educational program, may trigger stress and fatigue for the adult learner. When an adult learner is experiencing stress and fatigue, it is important to understand the impact this may have on the learning process.

Fatigue and perceived stress have been examined among students. Results show that fatigue and perceived stress had a significant negative impact on the learning and cognitive performance of students (Palmer et al., 2014). Similar findings were found among a group of 144 male students (Gadzella, Masten, & Zascavage, 2009). Perceived stress levels were classified as mild, moderate, and severe using the *Student-life Stress Inventory*. Students who reported lower stress scores showed higher scores on the *Inventory of Learning Processes*, which indicates an increased ability to process information and retain factors than those students who reported high levels of perceived stress.

Brain performance decreases significantly when faced with the stress of processing overload (Lupien et al., 2007). If the brain is trying to take on too much at one time, information will be lost or the learning will be delayed. If adult learners are

experiencing increased stress due to overload of their life demands, then their ability to learn and process information in their academic program will decrease.

Kemp (2002) investigated the relationship between persistence, life events, external commitments, and resiliency among undergraduates in distance education. A life event is considered a time of transition for the student. For example, an adolescent detaching from their parents and entering college is a life event that brings on a period of transition for the student. A period of transition tends to bring along associated stress. How one handles the stress of the transition is referred to as resiliency (Kemp, 2002). Internal and external factors for an online student serve as predictors as to whether or not the student will drop out of the distance education program.

In Kemp's (2002) research, six external commitments were identified: family, personal, home, work, community, and financial. Out of the six external commitments, work was the only commitment that was significant among the two subject groups of completion and non-completion. This finding supported previous research in that work commitments are highly significant as a predictor of persistence for distance education students.

Stress has been identified as a factor that is a result of the work-family conflict (Carlson & Perrewe, 1999). Having social support has shown to help reduce stress. For example, if someone has a positive relationship with coworkers and is able to process concerns about the work environment at work, the work interference on family could decrease due to the individual not needing to process the stress at home with family members. Coping methods were also identified as a way to reduce the stress that is

associated with the work-family conflict. As the work-family conflict decreases, so does the stress that one experiences.

The impact stress and strain have on family and work role expectations were examined among a sample of 200 Michigan teachers (Cooke & Rousseau, 1984). Role theory was used to predict that multiple roles held by an individual lead to stress and strain. Social support was also examined to see how having social support could help to reduce stress and strain. Instead of using the term demands, Cooke and Rousseau (1984) used the term expectations. The results of the study supported previous research in that having increased expectations led to strain. Increased work role expectations led to work overload and inter-role conflict. Family role expectations led to strain as well through the interaction with work-role expectations. This also contributed to the inter-role conflict that is directly linked to strain, and negative physical signs of strain (Cooke & Rousseau, 1984). However, family role-expectations seem to reduce the overall level of physical strain, which also supported the hypothesis that having social support helps to reduce stress and strain.

Brundage and MacKeracher (1980) identified nine characteristics of adult learners: physiological characteristics, self-concept, emotions, stress and anxiety, past experience, time, motivation, paradox, learning styles and abilities, and developmental states and transitions. These characteristics of the adult learner have an impact on the learning process.

Work Commitment and Academic Achievement and Adult Learners

Competing demands of work and family faced by many adult learners have an impact on adult learner academic achievement. The following two research studies have concluded that the level of work commitment is negatively related to student academic achievement (King & Bannon, 2002; Paul, 1982). Both studies showed that the more hours a student worked, the lower the GPA of the student. The following will discuss both studies in detail.

King and Bannon (2002) collected data from 1,031 surveys that were sent to college students across the United States. The survey was sent to approximately 50,000 undergraduates as part of the National Postsecondary Student Aid Survey conducted by the Department of Education's National Center for Education Statistics for the academic year 1999-2000. From that group of participants, 46% of students reported that they worked 25 hours or more per week, and 42% of that group reported that working had a negative impact on their academic achievement and had lower grades as a result. For students who reported working less than 25 hours per week, 17% of the sample had a GPA of 3.5 or higher. Unfortunately, the majority of students who reported working over 25 hours per week, 63% of the sample, reported that attending college would not be an option unless they were working. Due to the high levels of work commitment, students also reported having to limit class schedule and class choice in order to accommodate their work schedule. King and Bannon also argued that students working over 25 hours per week and attending class are occupied 60 to 80 hours a week, and do not have the

opportunity to learn outside the classroom and participate in other activities that are part of the college experience.

Paul (1982) found that there is a statistically significant association between outside employment and student academic achievement. The more hours that a student reported working outside the classroom directly took away from the time devoted to studying, which resulted in a lower GPA. These results were obtained from a sample of 103 male, Caucasian students. All participants were either in their sophomore or junior year, and were between the ages of 19-21. All participants were business administration majors, taking 15-16 credits. The participants varied in GPA from 2.5 to 3.0, hours of work commitment zero to 40, and attitude towards their job as either positive or negative. Out of the 103 sample size, 25% of the participants had no outside employment, while another 20% worked 25 or more hours per week. Data were collected as part of a macroeconomic principles class from the fall of 1976 to the fall of 1979. Student academic achievement was measured based on four test grades given throughout the semester, all using a 100 point scale. Regression analysis was used, and the regression coefficient was negative and statistically significant at .05, with an R^2 of .0704 for the independent variable of hours worked with the dependent variable of student academic achievement. When adding a second independent variable of GPA, the R^2 was .1989.

Delialioglu et al. (2010) found that among a sample of 2,442online adult learners, those who reported working full-time achieved 4.52% higher than their peers who reported that they were not working. This finding is contradictory to previous research in which the opposite has occurred (King & Bannon, 2002, Paul, 1982). The gap in

literature that this presents and the work of Delialioglu et al. will be discussed in detail later in the chapter.

Online Adult Learners and Motivational Factors

As mentioned in the previous sections, an increase in intrinsic motivation for an online adult learner has a direct impact on student success (Groleau, 2004). In order to understand what motivates an online adult learner, the locus of motivation needs to be identified. The locus of one's motivation refers to the center of the motivation, or the root cause, and whether or not the motivation is intrinsically or extrinsically based (Forgeard & Mecklenburg, 2013). Intrinsic motivation focuses on the process and inherent rewards from completing that process, while extrinsic motivation is focused on the outcomes of the process. When these definitions are applied to the online adult learner, an online adult learner who is intrinsically motivated is focused on the educational process and the reward of completing educational goals. An online adult learner who is extrinsically motivated is focused on the outcomes of completing a degree in secondary education, which could be a change in career or promotion in current career once the educational program is completed.

Motivation is a two-dimensional framework (Forgeard & Mecklenburg, 2013). Not only is there the locus of motivation, which is either intrinsic or extrinsic, but also the beneficiaries that are associated with the locus of motivation. The beneficiaries comprise of two subcategories, self-oriented and other-oriented. These two subcategories form four motivation groups: intrinsic-self, extrinsic-self, intrinsic-others, and extrinsic-others. The intrinsic-self is focused on growth, the extrinsic-self is focused on gain, the intrinsic-

others is focused on guidance, and extrinsic-others is focused on giving (Forgeard & Mecklenburg, 2013).

Motivation is linked to the desire to fulfill an identified need of an individual (Dörner & Güss, 2013). It can be argued that online adult learners are highly motivated because the need that triggered the online adult learner to enroll in the specified education program is significant in order for the student to add the complexity of completing an educational program to the list of life demands.

Online adult learners have concerns about being seen as competent in front of other online adult learners and faculty, even those who identify as being unmotivated in regards to their educational goals (De Castella, Bryne, & Covington, 2013). It is sometimes the fear of failure that causes the student to become detached from their educational goals and avoid making progress towards them. Whether online adult learners are motivated to being in secondary education or not, both groups of students do not want to fail. The motivated online adult learners display higher levels of motivation, display resilience, and have a desire and enthusiasm to learn (De Castella, Bryne, & Covington, 2013). The unmotivated online adult learners display higher levels of self-doubt and fear.

Intrinsic motivation is connected to a drive from within because the task at hand is challenging to the individual and rewarding (Bruno, 2013). Using this argument, one has a sense of satisfaction when working on the task at hand. Bruno (2013) proposed a model of motivation that took into account economics. The model identified how

additional factors were present when being motivated to increase finances, such as pleasure performing the task, prestige, friendship, respect, social preferences.

Distance learners tend to have an extended period of learning due to having other life commitments, such as work and family (Ng, 2015). The extended period of learning refers to an extended program time for completing the selected academic program of the student. Ng (2015) acknowledges that the distance learner is motivated, but proposed that the motivation of the student be examined throughout the course. The goal, profiles, and patterns of learning and achievement were examined for distance learning students at three points throughout a course: the beginning (orientation), the middle (in relation to completing an assignment), and the end (in relation to preparation for finals). It was found that having multiple goals for the course had no impact on course academic achievement (Ng, 2015). However, the students who were identified as motivated and goal oriented were less likely to drop out of a distance education course due to the love of learning and being able to maintain motivation throughout all three check points of the course in order to persist and obtain their identified goals.

Motivation had a significant impact on student success among 500 university students taking an intermediate French course (Hurd, 2006). Participants reported that it was more difficult to maintain motivation in a distance education course than in the classroom. Participants who reported being highly motivated, and were able to maintain that motivation throughout the course, displayed higher levels of success in the course. Feedback from the tutor and a personal responsibility towards their learning also had a positive impact on student success.

Adult learners rarely enroll in distance education without having a reason (Roy, 1997). The reason for the enrollment of the adult learner is usually very clear and specific. Distance learning is not for every student, and those adult learners who enroll in distance education tend to be highly motivated and task-oriented.

Online Adult Learners and Persistence

Persistence is necessary for the adult learner in order to succeed in degree achievement (Capps, 2010). Degree achievement has a positive impact on financial earnings and quality of life, but online adult learners have lower persistence rates due to outside life demands. The adult learner must constantly maintain a balancing act. The outside priorities of work, family, models and mentors, and religion can either help or hinder the persistence of the online adult learner (Capps, 2010).

Achievement and persistence have a direct impact on each other (Prokop, 2008). Among a group of undergraduate philosophy students taking an online course, students who were identified as having lower levels of persistence had lower levels of achievement when compared to students who were identified as having higher levels of persistence. Whether the course was a program requirement or not also impacted achievement. Students showed higher levels of achievement if it was a required course. Having previous experience with the internet and online courses showed to have a positive impact on achievement as well.

The adult learner faces a variety of barriers that have a negative impact on persistence and degree completion (Griffith, 2011). However, it is how the adult learner processes the barrier that determines if they will complete their degree program or fails to

graduate. Utilizing coping strategies can have either a strong or weak impact on the perceived persistence barrier, depending on what the barrier is. Internal barriers have shown to affect the adult learner more than external barriers (Griffith, 2011).

In a qualitative case study of nine adult learners attending community college, intention and resilience were the strongest factors in persistence (Armantrout, 2011). Cultural values impacted the adult learner's attitude towards learning, and that having a family member or mentor available was important for making connections in the learning process. Moffatt (2010) also conducted a qualitative research study exploring factors essential to success and persistence toward educational goals with a sample of 45 adult undergraduate students. The identified essential factors included support, personal motivation and determination, paying for college, and success in learning. If the essential factors were being met, then the adult student was more likely able to persist towards degree completion.

Online adult learners in a corporate setting are learners with a strong locus of internal control and showed higher levels of motivation and persistence than those online adult learners who displayed lower levels of internal locus of control (Martinez, 2003). Internal locus of control refers to an individual feeling as though they are in control of the situation, versus situations being controlled by external events in their lives. The online adult learners who showed higher levels of motivation and persistence also displayed lower levels of attrition as well.

Bernard et al. (2003) identified four dimensions that are helpful in determining an online adult learner's persistence. First, were having online skills, such as experience

with the internet and communication via email and discussion formats. Second, was self-management of learning and learning initiative, including time-management and personal organization. Third, beliefs about online learning and the efficacy of the learning platform and whether or not it is viewed as an effective format for learning. Finally, was the degree of interaction between the instructor and other students.

Empirical Literature Related to the Gap in the Literature

The following research table shows research studies investigating adult learners as the population and academic achievement as the dependent variable. Based upon that criteria and a series of thorough searches of the relevant literature, the table includes all studies that have investigated online adult learner as the study population, academic achievement as a dependent variable, and level of work commitment or motivation as independent variables. Studies of online adult learners participating in a hybrid courses were included as well.

The table shows that only three studies met the criteria: one quantitative study, one qualitative study, and one mix-methods study. This highlights how little research on the education of online adult learners there is, in particular the interaction between work commitment, motivation, and academic achievement. Specifically, there has not been research that has examined online adult learners using academic achievement as the dependent variable, and level of work commitment or motivation as independent variables.

Table 1

Academic Achievement in Relation to Motivation and/or Work Commitment

Author(s)/Year of publication	Research approach/ Research design	Study population/ Sample size	Independent variable(s)/Study groups	Dependent variable(s)
Delialioglu, Cakir, Bichelmeyer, Dennis, & Duffy, 2010	Quantitative, multilevel analysis using hierarchical linear modeling (HLM)	Training program "nondegree" and "certified" online adult learner students. Sample size of $N = 2,442$ students (all over age 18)	Work status, degree orientation, motivation, age, gender, and computer technical ability at the beginning of the program	Academic achievement
Nitsch, 2005	Mixed methods	Persister and nonpersister students in a postprofessional Doctor of Physical Therapy program, online adult learners. Sample size $N = 74$ students	Stress (including motivation behind dealing with identified stressors), coping strategies, social support	Academic achievement
Rousseau, 2012	Qualitative, phenomenological	Female adult online learners who were working full time, raising a family, and completing a master's or doctoral program. Sample $N = 14$ students	Lived experiences	

Discussion of Research Table

The criteria for the above research table were that the research studies needed to include academic achievement as the dependent variable, level of work commitment or motivation as the independent variable, and online adult learners as the study population. The online adult learner criterion includes online adult learners who are participating in a hybrid course. The purpose for using these criteria for the independent and dependent variables is to show that there is a minimal amount of research studies meeting these criteria, with only three published studies to date. The table shows all studies that met the criteria, after thorough searches of relevant literature were conducted. Since there are only three studies to date that meet these criteria, the study was justifiable given that there was a gap in the literature. The table includes one quantitative study, one qualitative study, and one mix-methods study, again highlighting how little research is available regarding these variables and their connection to the education of online adult learners.

Delialioglu et al. (2010) conducted a quantitative study investigating the factors impacting the academic achievement of online adult learners in a technology certificate program on computer networks in a hybrid-learning environment. The curriculum for the technology course was delivered online, but students completed lab exercises in a laboratory with computer networking equipment. Among a student population of 65,000 students, a total of 2,442 students participated in the study, all over the age 18. All participants were part of the Cisco Certified Network Associate Technology Training Program, and were either non-degree or certificate students. Among the 2,442 participants, 51% were employed full-time, 83% were 25 years of age or older, and 79%

took the course through a community college. Data for this study were collected between August 2004 and May 2005. One of the research questions that the researchers asked was: What factors are impacting the academic achievement of adult learners in a technology certificate program on computer networks? The independent variables that the researchers investigated were work status, degree orientation, motivation, age, gender, and technical ability at the beginning of the program. The researchers were interested to see how the identified independent variables impacted adult learner academic achievement. Based on surveys completed by the students, researchers found that gender, age, work status, degree status, motivation, and technical ability all had an impact on adult learner academic achievement.

According to Delialioglu et al. (2010), adult learners who reported having a full-time job showed 4.52 percentage points higher on the course achievement score than participants who reported that they were not working. The researchers identified how this finding was contrary to previous research (King & Bannon, 2002, Paul, 1982), and that further research was needed in order to understand the interaction of level of work commitment on adult learner academic achievement. Delialioglu et al. found that gender, age, work status, degree orientation, motivation and technical ability all had an impact on learner academic achievement. Adult learners who reported having a full-time job showed higher scores on the final exam than adult learners who reported that they did not have a full-time job. However, understanding why this occurred was not explained by the researchers. One possible hypothesis presented by Delialioglu et al. was that if a student had a full-time job where the skills were directly applicable, this could have aided

in the learning process and increased motivation for completing the course. Therefore, it is unknown whether this new research finding would be replicated among other education programs. Also, the Cisco Certified Network Associate Technology Training Program is a hybrid-training program, a mix between classroom and online settings. The participants were not solely online adult learners.

Nitsch (2005) investigated the stressors, coping strategies and use of social support among physical therapists in a post-professional Doctor of Physical Therapy Program. The research question that was asked was: What are the stressors, coping strategies, and use of social support of physical therapists in a post-professional Doctor of Physical Therapy Program? This was a mixed methods study with 74 participants, 55% male and 45% female. Participants were either identified as persisters or non-persisters. Those who were identified as persisters were students who were able to make forward progress towards their educational goals while facing identified stressors, whereas non-persisters were students who did not make progress towards their education goals while under stress, for example taking a leave of absence. Each participant completed the Coping Inventory for Stressful Situations and interviews with the researcher. During the interviews, the motivation behind why the participant was dealing with the identified stressors was discussed. Students reported receiving motivation from their social support system. The idea that persisters display higher levels of self-motivation was presented, but was not measured. From the interviews, persisters and non-persisters presented a theme of personal motivation for continuing with the degree program. Students reported using self-motivation as a way of reminding themselves as to why they were getting the

degree and using it for personal motivation to get through the identified stressors, and turning stress into a motivator. The theme of goal setting being linked to motivation was also a theme that emerged for persisters and non-persisters. Persisters were able to use academic goals as a motivator to seek help when needed and to overcome obstacles successfully. Results showed no difference in the type of coping strategy and social support used by persisters and non-persisters. However, the perceived effectiveness, intensity of reported stressors, and satisfaction from social support was significantly different between the two groups. The qualitative results showed that goal commitment, seeking personal satisfaction, and prioritizing responsibilities as ways to overcome stressors. These identified coping strategies reportedly reduced the overall stress of the student so that the student could achieve and complete the program.

Nitsch (2005) identified coping strategies that were helpful in reducing the overall stress of online adult learners. Motivation was discussed when identifying what motivated the student to deal with the identified stressors, but was not measured using any quantitative data. Work commitment was discussed as a potential stressor and one of the multiple roles that the student may have, but no quantitative data were collected on how many of the participants were working, and if so, how many hours per week the participants were working. Academic achievement of the participants was discussed, but no quantitative data on overall GPA or program completion rates were provided.

Rousseau (2012) completed qualitative research regarding the lived experiences of female online adult learners pursuing a graduate degree. The main research question that was asked was: What are the lived experiences of female adult learners pursuing

graduate degrees online? Interviews were completed with a sample of 14 participants. Participants had to be working full-time, raising a family, and pursuing a masters or doctorate graduate degree. When conducting qualitative research, the researcher examines for common themes to emerge from the interviews of the participants. Rousseau identified eight different themes that emerged from the interviews; flexibility and convenience of online learning, time management/commitment, commitment to family, support, completion (which included the motivation and achievement of the online adult learner for completing the degree), feeling overwhelmed/guilty, emotional coping, and self-discipline. Time management was identified to be an essential component to student success, as well as the commitment to the program and degree completion. Participants reported feeling motivated to complete the program in order to gain job advancement. Motivation, and commitment, to complete the degree program was high among the participants because gaining a return on the financial, mental, and physical investment involved in the progress was identified as important. Each student had individual reasons motivating them to complete the program, and a raise in earning potential was one of those reasons. Participants identified how completing the program would lead to a raise or promotion at work. Completion was also connected to the participant's' need to achieve, and also to complete a personal goal.

Rousseau (2012) provided some valuable findings for understanding the lived experiences of female online adult learners. Emerging themes from the lived experiences of female online adult learners were identified and discussed. Since this was a qualitative study, the academic achievement of the participants and motivation was not measured

using a quantitative measure. This study also included only females. Having quantitative data on these variables would be helpful in order to further understand the online adult learner population.

In conclusion, the studies in the research table illustrate how little research has been conducted with the following criteria: student academic achievement as the dependent variable, and either level of work commitment or motivation as the independent variable with an online adult learner student population. There are only three known studies to date that meet these criteria. Furthermore, no known studies have investigated the level of work commitment and motivation as the independent variables, and academic achievement as the dependent variable with an online adult learner study population. Therefore, examining the independent variables of work commitment and motivation together, and the impact these variables have on the academic achievement of online adult learners was justifiable. The study also tested for potential moderating effects of work commitment on the relationship between motivation and academic achievement, which were not something previous research studies have examined (see Chapter 3). This filled an identified gap in literature, as illustrated in the research table, and positively contributed to the body of research regarding online adult learners.

Summary and Conclusion

There has been research conducted on adult learners, even specifically online adult learners. Several studies have been completed that examine different factors of motivation among adult learners. Further studies have also studied academic of online adult learners. However, there has not been research that has examined academic

achievement as the dependent variable, and both level of work commitment and intrinsic motivation as the independent variables with an online adult learner sample. Furthermore, there have been no known studies that have investigated academic achievement as the dependent variable, along with work commitment and motivation as the independent variables among an online adult learner population. The dissertation study investigated a moderating variable that will be discussed in detail in Chapter 3.

Recent research has found that adult learners working full-time achieved at higher levels than adult learners who were not working. According to Delialioglu et al. (2010), this finding contradicts previous research findings because the opposite had occurred in the past. Therefore, examining motivation and work commitment of online adult learners was justifiable in order to see if there was an interaction between motivation and work commitment and how these variables influence the academic achievement of online adult learners. As the research table showed, the dissertation study fulfilled an identified gap in the research literature. Hence, there was a need for further research to address the identified gaps in the literature identified by Delialioglu et al. The results from the study were used to help answer the questions raised by Delialioglu et al. and contributed to the literature regarding online adult learners.

The research study also contributed to social change by helping educators to further understand the challenges that online adult learners face while completing their educational goals. Having an understanding of how motivation and work commitment impact the academic achievement of the online adult learner population would help to identify online adult learners who would be able to persist in an online education or who

may be at risk of dropping out. By being better able to identify those students who may be at risk for dropping out, educators would have the opportunity to work with those students and provide additional support if needed. This would help to improve student retention rates and continue to validate online education as a valid platform for learning.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to investigate the relationships that level of work commitment and intrinsic motivation have with the academic achievement of online adult learners. Thus, the research questions for the study were as follows:

1. Is the level of work commitment related to the academic achievement of online adult learners, taking into account intrinsic motivation and academic competencies?
2. Is the level of intrinsic motivation related to the academic achievement of online adult learners, taking into account level of work commitment and academic competencies?
3. Is the relationship between intrinsic motivation and academic achievement moderated by the level of work commitment for online adult learners?

In this chapter, I provide a review of the research design for the study. The model for the research design, sample, and instruments are discussed in detail. The chapter concludes with a summary.

Research Design and Rationale

The research design used for the study was a quantitative correlational design. The quantitative correlational research design was appropriate for this study because it was able to determine whether or not there was a statistically significant relationship between the dependent variable (self-reported academic achievement of online adult learners) and the independent variables (level of work commitment and intrinsic

motivation). Data regarding level of work commitment (hours of work per week) and academic achievement (GPA) were self-reported by the participants on a demographic questionnaire. Data on intrinsic motivation were collected using the Motivated Strategies for Learning Questionnaire (MSLQ). Academic competencies were also assessed using the MSLQ and were used to statistically control for academic competencies by including them as covariates in a multiple regression analysis of the relationship between work commitment and intrinsic motivation with self-reported academic achievement. For the purpose of this study, five subscales of the MSLQ were used: Intrinsic Goal Orientation, Self-Efficacy, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation. The MSLQ was appropriate for this dissertation study because it had been shown to be a valid and reliable measure for students' motivational orientations and use of different learning strategies, and past research had shown correlation of all five subscales with GPA at or above .25 (Pintrich et al., 1991).

In regard to time and resource constraints, the time that it would take to complete the study was unknown because I did not know how quickly participants would be recruited for the study through the Walden University Participant Pool. My hope was that the study's applicability to a majority of Walden University students would aid in the recruitment process.

Methodology

Population

In 2013, the number of students enrolled in an online college course from a program within the United States was 6.7 million, which was approximately one third of

all college students that year (Community College Research Center, 2013). It is unknown how many students out of the 6.7 million were identified as online adult learners, but the number of adult learners age 25 or older seeking a higher education increased 276% between the years 1970 and 2010 (U.S. Department of Education, 2011).

Sampling Method

A convenience sample for this dissertation study was recruited from among online students who were enrolled in either a master's or a doctoral program but had not yet started their capstone or dissertation. The participants were from multiple disciplines and included both male and female students over the age of 25. The target sample size was 133 participants. The sample size was determined using G*Power version 3.1.

I decided to use the Walden University Participant Pool in order to draw from the online student population. The Walden University Participant Pool is an online resource for faculty and students of Walden University to post research studies and recruit participants. Once the study had been approved and posted to the Walden University Participant Pool, participants were able to participate at their leisure. Walden University students who were enrolled in the Participant Pool received an email on recent studies that had been added to the pool. This email served as a way to promote the study and create awareness regarding the research.

Specifically recruiting master's and doctoral participants aided in creating a sample of online adult learners who were returning to school to advance a current career or make a transition. By excluding students in bachelor's programs, I sought to ensure that the participants in the study would be seasoned students of higher education, given

that a bachelor's degree is an admissions requirement for masters and doctoral programs. Only participants who were 25 years of age or older were eligible for inclusion in the study, which was in accordance with the standard definition of adult learners as students age 25 or older (Pintrich et al., 1991). Further limiting the sample to participants who had not started the capstone or dissertation process aided me in determining how the independent variables were impacting the dependent variable more accurately, in that participating students were still receiving letter grades as opposed to the *satisfactory* or *unsatisfactory* grades that are used in the capstone and dissertation process. The dependent variable of GPA was self-reported by the participants. Having participants report their GPAs while they were still receiving letter grades assisted in more accurate reporting of GPA.

Sample Size

A power analysis was used to determine the proposed sample size for this dissertation study. G*Power version 3.1 was used to compute the required sample size given an alpha, power, and effect size. The sample size calculation was based on multiple regression analysis to test the effect of each predictor variable in a regression model with six independent variables, with a significance level of .05 and a desirable level of statistical power of 80%. In the context of multiple regression, statistical power is the probability of rejecting the null hypothesis of no relationship between the dependent variable and independent variables (Keith, 2006). In a multiple regression analysis, the statistical significance of a predictor variable depends on the change in R squared, or the percentage of variance in the dependent variable explained by the independent variables

in the regression model that is attributable to the predictor variable whose effect is being examined, as well as the proportion of variance accounted for by the other predictors in the regression model (Keith, 2006). To quantify the incremental effect of adding a predictor variable in a regression model with five other independent variables, I assumed that the additional predictor variable would account for approximately an additional 6% of the total variance in academic achievement (i.e., change in *R* squared statistic =.06). This assumption was derived from the correlation of 0.25 between intrinsic motivation and GPA found by Pintrich et al. (1993), which implies that intrinsic motivation accounted for 6.25% of the variance in GPA in a previous study (Pintrich et al., 1993), as 0.25 squared equals 0.0625. Because it was unknown how each of the independent variables would correlate with each other and with the dependent variable, to be conservative, I assumed that the proportion of variance that would be accounted for by other predictors in the regression model was zero. Based upon these inputs to G*Power¸ the required sample size for the dissertation study was calculated to be 133 participants.

Instrumentation

Motivated Strategies for Learning Questionnaire

The Motivated Strategies for Learning Questionnaire (MSLQ) is a 62-item self-report instrument with 15 subscales that measures motivation and learning strategies used by students (Pintrich et al., 1991). Participants respond using a 7-point Likert scale to describe how true each statement is for them, with responses ranging from 1 (*not at all true for me*) through 7 (*very true for me*).

The MSLQ was appropriate for this dissertation study because it had been shown to be a valid and reliable measure of students' motivational orientations and use of different learning strategies. Five subscales of the MSLQ were used: Intrinsic Goal Orientation, Self-Efficacy, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation. The Intrinsic Goal Orientation scale was used to measure the intrinsic motivation of the participants. The remaining four subscales, Self-Efficacy, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation, were used to measure the academic competency of the participants. Previous research has indicated that correlations of all five subscales with GPA are above .25 (Pintrich et al., 1993).

In order to measure the intrinsic motivation of the participants, the Intrinsic Goal Orientation subscale was used. The Intrinsic Goal Orientation subscale consists of four items that measure the degree to which the student believes that the educational task is challenging, and whether or not participation of the educational task is based solely on the specific task being the focus of motivation or participating in the task as a means to an end. For example, one item reads, "The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible." The Cronbach's alpha coefficient for the Intrinsic Goal Orientation subscale is reported to be .74, and the correlation with course grades is reported to be 0.25 (Pintrich et al., 1993). Cronbach's alpha coefficient, based on the data collected, is also addressed in Chapter 4.

The Self-Efficacy for Learning and Performance subscale consists of eight items that measure expectancy for success in mastering the task and one's ability to accomplish

the task. An example item is "I'm certain I can master the skills being taught in this course." The Cronbach's alpha coefficient for the Self-Efficacy for Learning and Performance scale is reported to be .93, and the correlation with course grades is reported to be 0.41 (Pintrich et al., 1991). Cronbach's alpha coefficient, based on the data collected, is also included in Chapter 4.

The Metacognitive Self-Regulation scale consists of 12 items that measure planning, monitoring, and regulating of task information in order to increase comprehension. An example item is "I ask myself questions to make sure I understand the material I have been studying in this class." The Cronbach's alpha coefficient for the Self-Regulation scale is reported to be .79, with a correlation with course grades of .30 (Pintrich et al., 1991). Cronbach's alpha coefficients, based on the data collected, are also included in Chapter 4.

The Time and Study Environment subscale consists of eight items that measure time management skills and selection of study environment. An example item is "I make good use of my study time for this course." The Cronbach's alpha coefficient for the time and study environment subscale is reported to be .76, with a correlation with course grades of .28 (Pintrich et al., 1991). Cronbach's alpha coefficient, based on the data collected, is also included in Chapter 4.

The Effort Regulation subscale consists of four items that measure the ability of the student to remain focused when facing distractions. An example item is "I work hard to do well in this class even if I don't like what we are doing." The Cronbach's alpha coefficient for the Effort Regulation subscale is reported to be .69, with a correlation with

course grades of .32 (Pintrich et al., 1991). Cronbach's alpha coefficient, based on the data collected, is also included in Chapter 4.

The testing manual can be found through the Walden University library by using the ERIC database. Permission to use the MSLQ is not needed as long as it is used for valid research purposes and is properly cited (University of Michigan, 2017).

Demographic Survey

In order to gather information about each participant in the study, a demographic survey was included as part of the data gathering phase. Questions in the demographic survey addressed personal information such as age, gender, degree program, GPA, and level of work commitment. Information regarding age, gender, and degree program provided further insight relevant to the study's research questions and the relationship between variables.

Data Collection

For this study, I used the Walden University Participant Pool. In order for a study to be posted on the Participant Pool, an application must be presented by the researcher, and the proposed instruments must be provided. Once the application had been approved by the Participant Pool and the IRB, the study was posted on the Participant Pool website.

Walden University students who are interested in participating in research that is being conducted at Walden University may register to be part of the Walden University Participant Pool. Once registered with the website, an individual receives an assigned participant number. This helps to ensure that identifying information is never given to the researcher. Once registered on the site, registered participants also receive email

notifications periodically to inform them of available studies to complete. The email serves as a way to keep registered participants informed and aids in recruitment for researchers.

When a registered participant elected to participate in this particular study via the Walden University Participant Pool, the participant was brought to an informed consent page to review before proceeding to the study. Participants needed to provide acknowledgement and acceptance of the informed consent before being given access to the study. Once given access, participants were asked to provide demographic information such as age, gender, and degree program. Participants were also asked to self-report their current GPA and level of work commitment. Participants were also asked to complete the MSLQ subscales. Five subscales of the MSLQ were used to measure intrinsic motivation and academic competencies: Intrinsic Goal Orientation, Self-Efficacy, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation.

After completing the demographic survey and the MSLQ, a participant had completed the study. No sort of debriefing was necessary, and the participant was brought to a page thanking the participant for completing the study. There were no follow-ups required for participation in this study. Participants had no further obligations to complete once reaching the end of the study. Upon completion, the data were sent to the researcher and were void of any identifying information on the participant.

Data Analysis Plan

This correlational study examined the potential relationship between the level of work commitment, intrinsic motivation, and academic competencies associated with the academic achievement of online adult learners. I used Statistical Package for the Social Sciences (SPSS) 24.0 Graduate Pack statistical software as a means to perform the statistical analyses of all study variables. An alpha level of 0.05 was applied to all tests of statistical hypotheses.

Characteristics of the study sample were presented using descriptive statistics for the demographic variables, as well as the independent and dependent variables of the study. For each of the categorical variables (gender and degree program), summary statistics were reported in terms of percentages and frequency counts for each level of the variable. Means and standard deviations were reported for the continuous variables (intrinsic motivation: one score from the Intrinsic Goal Orientation subscale from the MSLQ, academic competencies: four scores from the Self-Efficacy, Metacognitive Self-Regulation, Time and Study Environment Management, and Effort Regulation Subscales from the MSLQ, self-reported GPA, self-reported hours per week of work commitment, and age). A correlation matrix was reported to show the degree of relationship among the continuous variables.

Multiple regression analysis was the statistical technique that was used to address the research questions for this study. In this study, level of work commitment, intrinsic motivation, and academic competencies were examined as potential predictors of academic achievement as measured by the self-reported GPA of the participant. Multiple

regression analysis is appropriate for an examination of the relationship between two sets of variables, independent variables (also known as *predictor variables*, which or may not be distributed continuously) and one dependent variable (also known as the *criterion variable*, which must be distributed continuously), as was the case for the present study (Aiken & West, 1991). One of the advantages of multiple regression is that it permits evaluation of the relative contribution of each predictor variable, along with the influence of the other predictor variables (Aiken & West, 1991). When the effects of intrinsic motivation and level of work commitment on self-reported GPA were evaluated, I statistically controlled for effects of academic competencies by including them as covariate variables in the regression model. The regression model was constructed in two steps, using a sequential (i.e., hierarchical) regression approach (Keith, 2006). In the first step, four MSLQ scales that measure academic competencies (Self-Efficacy, Metacognitive Self-Regulation, Time and Student Environment Management, and Effort Regulation) were entered as independent variables in the multiple regression model. In the second step, work commitment and intrinsic motivation were entered in the regression model in order to test the study hypotheses regarding their effects.

The change in R- at the second step and the associated *F* statistic will be reported as indicators of the incremental fit of the regression model being examined (Keith, 2006).The significance levels for the *F* statistic was examined, which indicated the joint significance of the predictor variables entered at the second step (work commitment and intrinsic motivation), after controlling for the variables entered at the first step (Keith, 2006). The square of semipartial correlation coefficients were reported and interpreted as

the amount of variance in GPA that is uniquely associated with each of the predictor variables (Tacq, 1997).

For the first research question, the multiple regression analysis was used to test the null hypothesis that the level of work commitment (as measured by self-reported hours of work per week) does not predict academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for intrinsic motivation and academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]). The null hypothesis would have been rejected if the *p*-value for level of work commitment is less than .05 in the regression analysis results. The sign and magnitude of the regression coefficient for level of work commitment was used to estimate the increase or decrease in self-reported GPA for each additional hour worked, assuming that other predictor variables (intrinsic motivation and academic competencies) were held constant.

For the second research question, the multiple regression analysis was used to test the null hypothesis that the intrinsic motivation does not predict academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for level of work commitment and academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]). The null hypothesis would have been rejected if the *p*-value for intrinsic motivation is <.05 in the regression analysis results. The sign and magnitude of the regression coefficient for intrinsic motivation was used to estimate the increase or decrease in self-reported GPA associated with a one point

increase in intrinsic motivation scores, assuming that other predictor variables (level of work commitment and academic competencies) were held constant.

Moderator Hypothesis

Null Hypothesis

For the third research question, the null hypothesis that was tested is that level of work commitment (as measured by self-reported hours of work per week) does not moderate the intrinsic motivation (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]) and academic achievement (as measured by self-reported GPA) of online adult learners while statistically controlling for academic competencies (as measured by the Motivation Strategies for Learning Questionnaire [MSLQ]).

This research question was examined using moderated multiple regression. This analysis investigated whether the relationship between intrinsic motivation and academic achievement is moderated by hours of works per week based on whether the moderated regression results indicate that there is a significant interaction between hours of work and intrinsic motivation. An interaction term will be created for the moderating hypothesis by multiplying the moderator variable (self-reported hours of work per week) by the other independent variable (intrinsic motivation MSLQ score) (Aiken & West, 1991). The analysis was performed in two steps. First, a regression model was constructed and included the level of work commitment variable, intrinsic motivation variable, as well as a constant term. Second, the moderator hypothesis was examined by adding the interaction term between level of work commitment and intrinsic motivation into the regression model (Keith, 2006). If the interaction term was statistically

significant, then it would have indicated that the strength and/or direction of the relationship between intrinsic motivation and academic achievement will vary, depending on the hours of work per week.

Data Assumptions

The majority of statistical tests rely upon certain assumptions regarding the data (Osborn & Waters, 2002). When using multiple regression, there are four main assumptions underlying the statistical analysis that must be examined in regard to the study dataset (Osborn & Waters, 2002). First, is the assumption of linearity. This means that the relationship between the dependent and independent variables is approximately linear in nature. Second, is the assumption of homoscedasticity. This means that the variance of errors is evenly distributed across all levels of the independent variable. If the opposite occurs, called heteroscedasticity, the results can be distorted and weaken the results of the regression. Homoscedasticity can be verified by reviewing a scatter plot of the data. Third, is the assumption of lack of multicollinearity, meaning that correlations among the independent variables do not approach 1.0. Finally, is the assumption of normality. This means that the variables have a normal distribution. If this does not occur and the distribution is skewed, it can distort the relationship between the independent and dependent variables.

For the purpose of this study, these assumptions were examined on the dependent and independent variables upon data collection. The data were examined for significant outliers, and if detected, were deleted. Any data point that was more than 3.0 standard deviations from the mean were considered an outlier (Aiken & West, 1991). For all

variables, the maximum and minimum values were inspected to check that no extreme data values exceed plausible limits. The data were also screened for influential observations to ensure that the slope of the regression line was not tilted and that the estimates for the regression coefficients were not distorted. Therefore, Cook's distance was used in order to identify influential observations. Cases that were influential observations were deleted from the analysis. Scatter plots were also examined to ensure that the plots did not show, a nonlinear relationship exists. Histograms were also reviewed for each variable in order to ensure normality and absence of strong skewness. From the output of the regression analysis, multicollinearity among the predictor variables were reviewed using the variance inflation factors. Among each individual predictor variable, any variance inflation factor greater than 10 was reviewed further (Mertler & Vannatta, 2010). If multicollinearity was detected, it would have determined if a variable will be deleted or combined with another variable. If there was missing data, the cases were deleted or the mean values were used, since all independent variables were on quantitative scales (Mertler & Vannatta, 2010). If it was revealed that the assumptions of normality, linearity, or homoscedasticity were not satisfied by the study data, an acceptable form of data transformation would have been applied. This could have included a power, logarithmic, or square root transformation (Mertler & Vannatta, 2010).

Threats to Validity

There were some possible threats of validity to consider for the dissertation study. First, if a correlation was determined from the data, it would not be able to infer a cause for the correlation. Further research would have been needed to determine cause if a

significant correlation did exist. Second, the response rate could be a possible threat to validity. It was unknown how quickly the 133 responses would be able to be obtained. Third, there could be a potential biased of the participants being more pro-social and this could be related to the intrinsic motivation of the individual. This would also include the motivation of the participant for completing the study to begin with. For example, are they intrinsically motivated to complete the study in order to add to the body of research of online adult learners, or are they being externally motivated to complete the survey (i.e. extra credit). Finally, the possibility that the sample was not representative would be a possible threat to validity. For example, the level of work commitment in the data sample could be heavily weighed to online adult learners working full-time.

Ethical Considerations

The Walden University IRB approved the research study, and the IRB application process was completed before any participants were recruited for the research study. The research study followed the guidelines set forth by the IRB. Data collection for the research study did not begin until permission had been granted by the IRB.

Before participants could access the research questionnaires in the participant pool, all participants completed a consent form. Once consent was given, participants were then able to complete the study. The researcher maintained a copy of the consent.

Data collected for the research study were anonymous and confidential. The Participant Pool gave participants an assigned number, and their name will never be given to the researcher. The researcher and dissertation committee members were the

only ones to access the data. Data will be kept on the researcher's password protected laptop, and will be kept for the five years that Walden University requires.

One area that could be a potential conflict of interest is that the researcher is currently an online adult learner and meets the criteria for participation in the study, with the exception that the researcher has started the dissertation process. In order to ensure that this potential conflict does not negatively impact the research, the dissertation committee will review all the data and conclusions from the study.

Summary

In Chapter 3, the methodology for the dissertation study has been discussed in detail. The basis for the study centered on the research of Delialioglu et al. (2010) and whether findings from this study will support their findings or not regarding the level of work commitment and academic achievement (see Chapter 2). The study consisted of 133 participants, who were recruited using the Walden University Participant Pool. Once consent was obtained, participants completed the five subscales of the MSLQ in order to measure intrinsic motivation and academic competencies, and participants also completed a demographic survey (age, gender, degree program, level of work commitment, and current GPA). The data were analyzed using multiple regression in order to determine if a moderating effect was taking place and how this influences the academic achievement of online adult learners.

Chapter 4: Results

Introduction

The purpose of this study was to examine the relationship of level of work commitment and intrinsic motivation to the academic achievement of online adult learners, and whether the relationship between intrinsic motivation and academic achievement is moderated by work commitment. There were three research questions for this study:

1. Is the level of work commitment related to the academic achievement of online adult learners, taking into account intrinsic motivation and academic competencies?
2. Is the level of intrinsic motivation related to the academic achievement of online adult learners, taking into account level of work commitment and academic competencies?
3. Is the relationship between intrinsic motivation and academic achievement moderated by the level of work commitment for online adult learners?

Sample Characteristics

Data were collected over a 5-month period using the Walden University Participant Pool and Centiment to recruit participants after receiving approval from the Walden University IRB (#10-23-17-0066722). The use of Centiment, which is an online recruitment tool for researchers, was a change in recruitment procedure due to the lack of participants obtained using the Walden University Participant Pool. When I observed

that the number of responses from the participant pool only averaged one to two per month, I discussed other recruitment strategies with my committee.

Centiment was chosen as an additional form of recruitment because it is a research recruitment agency with a research database of registered prospective participants for researchers. Once my committee had approved a change to the recruitment procedure to include the recruitment services provided by Centiment, I filed a change in recruitment procedure with the IRB and received approval. Centiment recruited participants on a pro rata basis according to the number of participants recruited. Survey respondents were not remunerated for their participation in the study. Registered participants with Centiment received emails and social media notifications once the study had been posted. The emails and social media notifications sent by Centiment aided in the recruitment process. In order to gain access to the online questionnaire for the study, participants used an online survey tool called Typeform.

The online questionnaire was completed by 137 online adult learners, seven of whom were from the Walden University Participant Pool and 130 of whom were from Centiment, who were currently enrolled in a master's or doctoral program at a university or college within the United States but had not started the capstone or dissertation phase of their program. Participants were recruited worldwide from October 23, 2017, until March 21, 2018; hence, the target sample of 133 was achieved.

There were no missing values in the study dataset. The data were screened based upon examination of outliers from the regression model used in the analysis for the first hypothesis. The a priori criteria outlined in Chapter 3 were used to identify and eliminate

outliers that exceeded a standardized residual of 3.0 or a Cook's distance greater than 1.0. A linear multiple regression analysis was conducted using 137 participants and did not reveal any outliers, and 137 participants were retained to test the three research questions.

In the sample of 137 online adult learners, 98 were female and 39 were male. The age of the participants ranged from 26 years to 51 years, with the average age of the sample being 31 years. Participants represented a wide variety of programs, with education (23.4% of the sample) and business (20.4% of the sample) being the most frequently reported programs. Participants' reports of the duration of their enrollment in their current program of study ranged from 1 to 8 years, with the average enrollment being 2.59 years. The majority of participants were from a semester-based program (70.8% of the sample) as opposed to a quarter-based program (29.2% of the sample). When asked how satisfied they were with their online education, 3.6% of participants were very dissatisfied, 5.8% were somewhat dissatisfied, 11.7% were neutral, 43.8% were somewhat satisfied, and 35.1% were very satisfied. Percentages and frequencies for the demographic characteristics are presented in Table 2.

Table 2

Demographic Characteristics of Study Participants

Variable	Response category	Percent (frequency)
Gender	Male	28.5% (39)
	Female	71.5% (98)
Age	25 to 35	94.9% (30)
	36 to 45	3.6% (5)
	46 to 55	1.5% (2)
Degree program	Education	23.3% (32)
	Business	21.1% (29)
	Engineering	8.1% (11)
	Nursing	8.1% (11)
	Computer science	5.8% (8)
	Other	33.6% (46)
Years enrolled	1 year	22.1% (30)
	2 years	42.4% (58)
	3 years	14.6% (20)
	4 years	10.2% (4)
	5 years	3.5% (5)
	6 years	3.5% (5)
	7 years	1.5% (2)
	8 years	2.2% (3)
Quarter or semester based	Quarter	29.2% (40)
	Semester	70.8% (97)
How satisfied with your education	Very satisfied	35.1% (48)
	Somewhat satisfied	43.8% (60)
	Neutral	11.7% (16)
	Somewhat dissatisfied	5.8% (8)
	Very dissatisfied	3.6% (5)

Note. Data are shown as percentages, with frequencies in parentheses.

Intrinsic motivation was measured by the Intrinsic Goal Orientation subscale of the MSLQ according to scoring instructions developed by the authors of the instrument (Pintrich et al., 1991). The Intrinsic Goal Orientation subscales consisted of four items and were measured using a 7-point Likert scale. The range of possible scores was 1 to 7. The scores obtained from the participants ranged from 2.25 to 7 (M = 5.33, SD = .91; see Table 3). The data were only slightly skewed and leptokurtic. The skewness and kurtosis values for each variable can be found in Table 3. The histogram sufficiently resembled normality. Histograms for independent and dependent variables can be found in Appendix B.

Level of work commitment was measured by self-reported hours per week. The participants' hours per week ranged from 1 to 60 (M = 30.89, SD = 14.02; see Table 3). The data displayed only slight skewness and were only slightly platykurtic. The histogram for the work commitment variable sufficiently resembled normality.

Academic competencies were measured by four subscales of the MSLQ—Self-Efficacy for Learning and Performance subscale, Metacognitive Self-Regulation subscale, Time and Study Environment Management subscale, and Effort Regulation subscale—according to scoring instructions developed by the authors of the instrument (Pintrich et al., 1993). The combined subscales consisted of 32 items and were measured using a 7-point Likert scale. For seven of the items, reverse scoring was used. The range of possible scores was 1 to 7. The Self-Efficacy for Learning and Performance subscale consisted of eight items. The scores obtained from participants ranged from 4.13 to 7 (M = 5.86, SD = 0.73; see Table 3). The Metacognitive Self-Regulation subscale consisted

of 12 items, with two items that used reversed scoring. The scores obtained from participants ranged from 2.58 to 6.75 (M = 4.96, SD = 0.73). The Time and Study Environment subscale consisted of eight items, three of which used reverse scoring. The scores obtained from participants ranged from 2.5 to 7 (M = 5.25, SD = 0.97). The Effort Regulation subscale consisted of four items, two of which used reverse scoring. The scores obtained from participants ranged from 3.25 to 7 (M = 5.4, SD = 1.05). All of the data for the academic competencies variables were only slightly skewed, and each variable had a histogram that sufficiently resembled normality. The Self-Efficacy for Learning and Performance subscale, Time and Study Environment subscale, and Effort Regulation subscale data all were only slightly platykurtic. The data for the Metacognitive Self-Regulation subscale were only slightly leptokurtic.

Academic achievement was measured by self-reported GPA. The participants ranged from 1.5 to 4.0 (M = 3.55, SD = .34; see Table 3). After a square root transformation was applied, the data displayed only slight skewness (-0.73) and were only slightly leptokurtic (1.18). The histogram for the academic achievement variable sufficiently resembled a normal distribution.

Table 3

Descriptive Statistics for Intrinsic Motivation, Work Commitment, Academic Competencies, and Academic Achievement

	Mean	*SD*	Skewness	Kurtosis
Intrinsic Motivation (1-7)	5.33	0.91	-0.33	0.2
Work Commitment (1-60)	30.89	14.02	-0.63	-0.51
Self-Efficacy for Learning and Performance (1-7)	5.86	0.73	-0.27	-0.74
Metacognitive Self-Regulation (1-7)	4.96	0.73	-0.28	0.52
Time and Study Environment (1-7)	5.25	0.97	-0.05	-0.72
Effort Regulation (1-7)	5.4	1.05	-0.16	-0.91
Academic achievement (0.0-4.0)	3.68	0.44	-3.08	11.2
Academic achievement (square root transformation; 0.0-4.0)	3.55	0.34	-0.73	1.18

Note. $n = 137$. The potential range of the measurement scale for each variable is shown in the parentheses.

The Pearson correlation coefficients between the subscales are shown in Table 4. The Cronbach's alpha scores in Table 4 reflect the scores of the original subscales from the MSLQ, but with the current sample for this study. The Cronbach's alpha was .67 for Intrinsic Motivation and ranged from .69 to .85 on the other MSLQ scales. As shown in Table 4, several of the academic competencies scales positively correlated with each other. Work Commitment did not correlate with any of the variables. Intrinsic Motivation positively correlated with Self-Efficacy for Learning and Performance, Metacognitive Self-Regulation, and Time and Study Environment. Academic achievement positively correlated with Self-Efficacy for Learning and Performance, Time and Study Environment, and Effort Regulation.

Table 4

Intercorrelations Between Intrinsic Motivation, Work Commitment, Academic Competencies, and Academic Achievement With Values of Cronbach's Alpha

Variable	1	2	3	4	5	6	7
1. Intrinsic motivation	(0.67)	-0.003	0.340**	0.553**	0.219*	0.152	0.067
2. Work commitment			0.068	-0.015	0.045	0.117	0.053
3. Self-efficacy for learning and performance			(0.85)	0.538**	0.630**	0.589**	0.231**
4. Metacognitive self-regulation				(0.72)	0.518**	0.372**	0.034
5. Time and study environment					(0.79)	0.780**	0.268**
6. Effort regulation						(0.69)	0.343**
7. Academic achievement							

Note. $n = 137$. Values of Cronbach's coefficent alpha are shown in parentheses.
*$p \leq .05$, two tails, **$p \leq .01$, two tails.

Hypothesis Testing

There were three research questions for the study. In order to analyze the data for the three research questions, a sequential multiple regression analysis was used. At the first level of the regression model, the independent variables that formed the academic competencies (time and study management, effort regulation, metacognitive self-regulation, and self-efficacy for learning and performance) were entered into the regression model with academic achievement as the continuous, dependent variable. At the second level, the independent variables of intrinsic motivation and work commitment were added. At the third level, the interaction variable between intrinsic motivation and work commitment was added.

For the analysis using the regression model, a square root transformation, GPA(transformed) = $4 - \sqrt{}$ (4 – GPA), was applied to the academic achievement

variable (Aiken & West, 1991). The square root transformation was applied because the academic achievement variable of GPA was positively skewed. The level of work commitment and intrinsic motivation variables were also centered. Centering the two variables was done so that the results would be more interpretable. Centering is used when interaction terms are included in regression models so that the regression coefficients and regression diagnostics are easier to interpret. This was completed by subtracting the mean of the sample from each variable. If the difference is negative, then this means that the original data value was below the mean. The interaction variable was created by multiplying the moderator variable (level of work commitment) by the other independent variable (intrinsic motivation; Aiken & West, 1991). This was done in order to investigate whether or not the relationship between intrinsic motivation and academic achievement changed based on the level of work commitment.

The regression assumptions were satisfied for the sample transformed data set. Those data showed linearity and homoscedasticity. The data also showed the absence of outliers and normality of residuals. The tolerance values ranged from 0.306 (time and study environment) to 0.975 (level of work commitment). The variance inflation factor (VIF) statistic for each variable did not indicate strong multicollinearity and is shown in Table 5. The mean standardized deleted residual was -0.003, with a range from -3.031 to 2.038 and a standard deviation of 1.012. The mean for Cook's distance was 0.008, with a range from 0.000 to 0.0120 and a standard deviation of 0.15. Scatterplots for each variable, histograms, and Q-Q plots can be found in Appendix B.

The results for the sequential regression models for Steps 1, 2, and 3 are shown in Table 5. The regression results indicated an overall Step 1 model that was statistically significant, $R^2 = .136$, Adjusted $R^2 = .109$; $F(4, 132) = 5.180$, $p < .001$. This result means that the academic competencies (time and study management, effort regulation, metacognitive self-regulation, and self-efficacy for learning and performance) were jointly significant as predictors of academic achievement. Effort regulation was significant as a predictor of academic achievement ($p = .026$), controlling for the other academic competencies (time and study management, metacognitive self-regulation, and self-efficacy for learning and performance). The other academic competencies were not statistically significant in the regression model at Step 1, which means that they did not uniquely account for a significant proportion of the variance in academic achievement.

The first research question was the following: Is the level of work commitment related to the academic achievement of online adult learners, taking into account intrinsic motivation and academic competencies? The null hypothesis stated that the level of work commitment does not predict academic achievement of online adult learners while statistically controlling for intrinsic motivation and academic competencies. The test of the hypothesis was based on the significance of work commitment in the regression model at Step 2 in the sequential regression analysis. The regression model at Step 2 controlled for the effect of intrinsic motivation and academic competencies, as these were included as predictor variables in the model, along with work commitment. Work commitment was not statistically significant as a predictor, $t(132) = .059$, $p = .953$, as shown in Table 5. Thus, the null hypothesis was not rejected; the level of work

commitment does not predict academic achievement of online adult learners while statistically controlling for intrinsic motivation and academic competencies.

The second research question was: Is the level of intrinsic motivation related to the academic achievement of online adult learners, taking into account level of work commitment and academic competencies? The null hypothesis stated the level of intrinsic motivation does not predict academic achievement of online adult learners while statistically controlling for level of work commitment and academic competencies. The test of the hypothesis was based on the significance of intrinsic motivation in the regression model at Step 2 in the sequential regression analysis. The regression model at Step 2 controlled for the effect of work commitment and academic competencies since these were included as predictor variables in the model, along with intrinsic motivation. Intrinsic motivation was not statistically significant as a predictor, $t(130) = .930$, $p = .354$ Thus, the null hypothesis was not rejected; the level of intrinsic motivation does not predict academic achievement of online adult learners while statistically controlling for level of work commitment and academic competencies.

Regression results indicated the proportion of variance in academic achievement explained by the regression model increased from 13.6% at Step 1 ($R^2 = .136$) to 14.1% at Step 2 ($R^2 = .141$), an increase of 0.5% ($\Delta R^2 = .005$). This change in the proportion of the variance explained Step 2 versus Step 1 was not statistically significant, $F(2, 130) = 0.435$, $p = 0.648$. Therefore including work commitment and intrinsic motivation as predictors in the regression model did not significantly enhance the ability of the model to explain variation in in academic achievement.

The third research question was: Is the relationship between intrinsic motivation and academic achievement moderated by the level of work commitment for online adult learners? The null hypothesis stated the level of work commitment does not moderate the intrinsic motivation and academic achievement of online adult learners while statistically controlling for academic competencies. The test of the hypothesis was based on the significance of the interaction between intrinsic motivation and work commitment in the regression model at Step 3 in the sequential regression analysis. The regression model at Step 3 controlled for the effect of work commitment, intrinsic motivation, and academic competencies since these were included as predictor variables in the model, along with the interaction between intrinsic motivation and work commitment. The interaction between intrinsic motivation and work commitment was not statistically significant in the regression model, $t(129) = .184$, $p = .854$.

Thus, the null hypothesis was not rejected; the level of work commitment does not moderate the intrinsic motivation and academic achievement of online adult learners while statistically controlling for academic competencies.

Table 5

Summary of Sequential Multiple Regression Analysis Coefficients for Predictor Variables of Academic Achievement in Online Adult Learners

Model term	*B*	Std. error	Beta	*t*	*p*-value	VIF
Step 1						
Constant	2.997	0.240		12.474	< .001	
Time and study environment	0.017	0.051	0.480	0.335	.738	3.150
Effort regulation	0.098	0.044	0.300	2.251	.026	2.708
Metacognitive self-regulation	-0.076	0.047	-0.162	-1.606	.111	1.549
Self-efficacy for learning and performance	0.052	0.053	0.111	0.984	.327	1.949
Step 2						
Constant	3.125	0.278		11.257	< .001	
Time and study environment	0.021	0.051	0.061	0.419	.676	3.188
Effort regulation	0.099	0.044	0.302	2.243	.027	2.747
Metacognitive self-regulation	-0.100	0.054	-0.213	-1.845	.067	2.013
Self-efficacy for learning	0.046	0.054	0.098	0.853	.395	1.983
Intrinsic motivation	0.035	0.037	0.092	0.930	.354	1.478
Work commitment	0.000	0.002	0.005	0.059	.953	1.023
Step 3						
Constant	3.133	0.282		11.095	< .001	
Time and study environment	0.020	0.052	0.057	0.384	.701	3.266
Effort regulation	0.100	0.044	0.304	2.242	.027	2.763
Metacognitive self-regulation	-0.101	0.054	-0.215	-1.847	.067	2.033
Self-efficacy for learning	0.046	0.054	0.098	0.852	.396	1.984
Intrinsic motivation	0.035	0.037	0.093	0.935	.351	1.482
Work commitment	0.000	0.002	0.006	0.069	.945	1.026
Motivation * work	0.000	0.002	0.016	0.184	.854	1.074

Note. B = unstandardized regression coefficients; Beta = standardized regression coefficients. $n = 137$. Step 1: $R^2 = .136$, $F(4, 132) = 5.180$, $p < .001$. Step 2: $R^2 = .141$, $F(6, 130) = 3.569$, $p = .003$. Step 3: $R^2 = .142$, $F(7, 129) = 3.041$, $p = .005$. Step 2 vs. Step 1: $\Delta R^2 = .005$, $F(2, 130) = 0.435$, $p = 0.648$. Step 3 vs. Step 2: $\Delta R^2 = .001$, $F(1, 129) = 0.034$, $p = .0.854$.

Standardized regression coefficients were analyzed to determine the independent contributions and relative importance of each predictor variable in predicting academic achievement, after controlling for the influence of the other predictor variables. The standardized beta coefficient for work commitment was 0.005, which was close to zero and not statistically significant. This result indicates a very weak relationship between work commitment and academic achievement. The standardized beta coefficient of intrinsic motivation was 0.092. This result indicates intrinsic motivation makes a positive contribution to the model in predicting academic achievement in online adult learners and suggests academic achievement scores of online adult learners became higher when online adult learners exhibited more intrinsic motivation when controlling for the other predictor variables. This means each time the score for intrinsic motivation increases by one standard deviation, it is predicted the score for academic achievement will increase by 0.092 standard deviations. Beta coefficients are standardized regression coefficients and are interpreted in standard deviation units. The standardized beta coefficient obtained indicates a slight relationship between intrinsic motivation and the academic achievement of online adult learners. The standardized beta coefficient for the academic competency of effort regulation was 0.302, and was shown to be a significant predictor of academic achievement in Step 2 of the regression model. This means that each time effort regulation increased by one standard deviation, it is predicted that the score for academic achievement will increase by 0.302 standard deviations.

In order to see if the student characteristics of age and gender impacted online adult learners academic achievement, an additional linear multiple regression analysis

was performed that used the predictor variables of age, gender, the four academic competencies scales (time and study environment, effort regulation, metacognitive self-regulation, self-efficacy for learning and performance), level of work commitment (centered), and intrinsic motivation (centered) with the dependent variable of academic achievement as in the previously reported regression analyses. Age and gender were not significant predictors of academic achievement for online adult learners, $p = 0.962$ for age and $p = 0.161$ for gender.

Summary

A sequential multiple linear regression was used to analyze the three research questions. The results from the regression analysis failed to reject the null hypothesis for each of the three research questions. The first null hypothesis was not rejected because there was not a statistically significant relationship between level of work commitment and academic achievement. The second null hypothesis was not rejected because there was not a statistically significant relationship between level of intrinsic motivation and academic achievement. The third null hypothesis was not rejected because level of work commitment did not statistically significant moderate intrinsic motivation and academic achievement. In Chapter 5, I will provide an interpretation of the findings, recommendations for future research, and discuss the implications for social change and recommendations for actions.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

This chapter presents a summary and discussion of the results, conclusions, and recommendations drawn from this quantitative correlational study. The purpose of this study was to examine whether the level of work commitment moderates the relationship between intrinsic motivation and academic achievement of online adult learners while statistically controlling for academic competencies. Level of work commitment was measured by hours of work per week as self-reported by participants on a demographic survey. Intrinsic motivation was measured using the MSLQ Intrinsic Goal Orientation subscale. Academic achievement was measured by GPA, also as self-reported on a demographic survey. Academic competencies were measured by four of the subscales from the MSLQ: Metacognitive Self-Regulation, Time and Study Environment, Self-Efficacy for Learning and Performance, and Effort Regulation. The analysis was conducted on responses from a sample of 137 online adult learners from varying degree programs and institutions.

In Chapter 5, I summarize the study findings presented in Chapter 4 and discuss interpretations based upon these findings. In the final section of this chapter, the results presented in Chapter 4 are related to the concepts presented in Chapter 1 and the literature review in Chapter 2. The chapter concludes with recommendations for future research and recommendations for social change.

Summary of the Research Findings

Analysis of the gathered data was conducted to examine the research questions and fulfill the purpose of this quantitative correlational research. A sequential multiple linear regression was used as the statistical tool for hypothesis testing. The research questions for this study were as follows:

RQ1: Is the level of work commitment related to the academic achievement of online adult learners, taking into account intrinsic motivation and academic competencies?

RQ2: Is the level of intrinsic motivation related to the academic achievement of online adult learners, taking into account level of work commitment and academic competencies?

RQ3: Is the relationship between intrinsic motivation and academic achievement moderated by the level of work commitment for online adult learners?

For the three research questions, the data gathered were analyzed using a sequential multiple linear regression model to determine the extent of the association of the independent variables of work commitment, intrinsic motivation, and the interaction between intrinsic motivation and level of work commitment to the dependent variable of academic achievement, while statistically controlling for academic competencies. In the regression model, the independent variables of intrinsic motivation and level of work commitment both accounted for less than 1% of the variance in predicting the dependent variable of academic achievement. Level of work commitment and intrinsic motivation were not significantly associated with the academic achievement scores of online adult

learners. The standardized regression coefficient for level of work commitment and intrinsic motivation were 0.006 and 0.093, which shows that the influence of these variables on academic achievement is very small, after the effect of academic competencies is taken into account in the regression analysis. The standardized regression coefficient for the interaction between level of work commitment and intrinsic motivation was also low, with a value of 0.016. The interaction between level of work commitment and intrinsic motivation was not statistically significant.

The two subscales of Self-Efficacy for Learning and Time and Study Environment also each accounted for less than 1% of the variance. The effort regulation subscale had a semipartial correlation of 0.194, with a square of 0.038. Therefore, effort regulation accounts for 3.8% of the variance in the regression model. The standardized regression coefficient for effort regulation was 0.304, suggesting a positive and moderately strong relationship with academic achievement scores. The metacognitive self-regulation subscale had a semipartial correlation of -0.161, with a square of 0.026. Therefore, metacognitive self-regulation accounts for 2.6% of the variance in the regression model. The standardized regression coefficient for metacognitive self-regulation was -0.215, suggesting a negative and moderately strong relationship with academic achievement scores.

Interpretation of Findings

In regard to the first research question, the relationship between online adult learners' academic achievement and their level of work commitment was not significant. For the second research question, there was not a significant relationship between online

adult learners' academic achievement and their level of intrinsic motivation. In regard to the third research question, level of work commitment did not significantly moderate the relationship between intrinsic motivation and academic achievement. Therefore, the findings from the three research questions seem to be inconsistent with the composite persistence model that was used as the theoretical base for this study (Rovai, 2003). The composite persistence model is based on the idea that persistence is the key to academic success in online education. The four areas of the model that are used to predict student success are student characteristics, student skills, external factors, and internal factors (Rovai, 2003). Because the results for the three research questions were not statistically significant, the present study seems somewhat inconsistent with the composite persistence model. This could be due to the current study only measuring some of the external factors, internal factors, student skills, and student characteristics. In regard to the external factor of work commitment, the model states that external factors can lead to increased stress and have a negative impact on student persistence (Rovai, 2003). However, the results of the study showed that the level of work commitment does not moderate the relationship between intrinsic motivation and academic achievement. Therefore, the level of work commitment does not show a positive or negative impact on the intrinsic motivation or academic success of online adult learners. The student characteristics of age and gender were examined, but they were not significant predictors of academic achievement.

However, in regard to the control variables of the four subscales used for the academic competencies, the results do suggest that there is a significant relationship

between the academic competency of effort regulation and academic achievement. This finding indicates that if online adult learners are able to focus their effort and attention on the academic task at hand and maintain study goals, academic achievement tends to increase. This includes not getting distracted and pursuing academic goals even if uninterested in the task at hand. Effort regulation contributes to an increase in the online adult learner's ability to persist and succeed within an online learning environment. However, the regression model only accounted for 7.75% of the variance of the dependent variable of academic achievement that is explained by the independent variables of work commitment, intrinsic motivation, and all four academic competencies. Therefore, this model has a moderately low probability of predicting the achievement of online adult learners. However, the results did provide validation for the MSLQ subscales and academic achievement (GPA). The Self-Efficacy for Learning and Performance subscale accounted for 5.3% of the variance, the Time and Study Environment subscale accounted for 7.2% of the variance, and the Effort Regulation subscale accounted for 11.8% of the variance. These values are in line with previously reported correlations from past research and add validity to the instrument (Pintrich, 1993). The results from the MSLQ subscales are consistent with the composite persistence model in that the results show that internal factors and student skills do have a positive impact on the achievement of online adult learners and their ability to persist in online education.

The findings of the present study contrast with those of Delialioglu et al. (2010), who found that adult learners working full time achieve at higher levels than adult learners who are not working. The present study focused specifically on the independent

variables of level of work commitment in terms of hours per week and intrinsic motivation, whereas Delialioglu et al. focused on level of work commitment in terms of no work commitment part-time work commitment, and full-time work commitment and motivation as a whole (both intrinsic and extrinsic) and not specifically intrinsic motivation. Delialioglu et al. included only learners from a specific certificate program for IT training, whereas this study focused on master's and doctoral students from varying programs. Participants in the study conducted by Delialioglu et al. were already working within the field and completed the course using a hybrid format. I did not collect data from the participants in the present study as to what field their level of work commitment represented; I only sought information on the field in which they were obtaining a degree. Therefore, it cannot be determined whether the education received had a direct impact on work commitment, in that a participant's educational program could have been in a different field from his or her work commitment. If the degree program was in a different field than the work commitment, this could have had an impact on the participant being able to process the material being taught and could also potentially explain why this study did not yield any statistically significant results. If the participant's educational program and work commitment were within the same field, the relationship between intrinsic motivation and work commitment would also impacted and could potentially have statistically significant findings, resulting in outcomes different from those observed in this study. Participants in the Delialioglu et al. study were able to apply themes being taught in the classroom directly to their work commitments outside the classroom. This could have led to an increase in motivation among the participants to

excel academically in the course. Moreover, participants in my study were strictly online adult learners, whereas the participants in the Delialioglu et al. study used a hybrid learning format. Depending on the degree program and field of work commitment, meeting face to face periodically throughout the program could have impacted the academic achievement of the participants in the present study, resulting in outcomes different from those observed in this study. If the participants from this study had the occasional face to face interaction periodically, that could have led to increases in intrinsic motivation and potentially statistically significant findings, resulting in outcomes different from this study that did not find any statistically significant findings.

The present study was able to support some of the common themes that emerged from a previous qualitative study. Rousseau (2012) found that time management was identified as an essential component of student success, along with commitment to the program and degree completion. Time management and self-regulation were components of the academic competencies variable of effort regulation that show to have a significant positive relationship with the academic achievement of online adult learners.

The results of this study regarding academic competencies are consistent with other existing studies that have used the MSLQ. In past research, the four subscales that were used to form the academic competencies variable have shown positive correlations with academic achievement (Pintrich et al., 1993).The findings of this study also support the findings of Bernard and Brauer et al. (2003) indicating that self-management of learning and learning initiative, including time management and personal organization, are helpful in determining an online adult learner's ability to persist in a degree program.

The results from this study fill an identified gap in literature by contradicting the work of Delialioglu et al. (2010), who found that adult learners working full time achieve at higher levels than adult learners who are not working. The results also showed that the contributing factors of intrinsic motivation and level of work commitment are not statistically significant and that the relationship between these two variables does not have a significant impact on the academic achievement of online adult learners.

Implications for Positive Social Change

The results of this study suggest that effort regulation is positively related to academic achievement and the ability to succeed in completing academic goals. With the understanding that distractions can have a negative impact on effort regulation, it is possible to engage in continued use of learning strategies to regulate this (Pintrich et al., 1991). Universities can provide support to students who need assistance in identifying different learning strategies. Additional resources, such as tutoring and mentorship, can help students stay focused and overcome distractions as they arise.

The findings of Delialioglu et al. (2010) suggest that university education can be synergistically related to work experience. However, the present study did not find evidence of such a synergistic relationship. Having the opportunity to connect concepts being taught in the virtual classroom to actual work experience is important for online adult learners. This is another area in which universities could provide additional support to the online adult learner. For example, a robust internship program would not only help online adult learners connect the concepts being taught in the classroom, but also form connections in the local community through which their education could be applied.

These connections could also then serve as networks of mentors for online adult learners and add to their support system.

Recommendations for Further Research

Future studies could involve the examination of the intrinsic motivation and level of work commitment of online adult learners but could focus on specific degree programs. The current study focused on multiple degree programs and did produce statistically significant results. If future research focused on a more specific population, results might differ. In that the current research findings could not support the findings of Delialioglu et al. (2010), further research might involve an attempt to more closely replicate the procedures of that study in order to ascertain whether the findings could be replicated among a sample that more closely resembles the sample of the previous research.

Conclusions

Chapter 5 presented a summary of the previous chapter, a summary of the findings and conclusions, implications of the results, and recommendations for future research. The focus of this study involved providing quantitative evidence regarding a statistically significant relationship between intrinsic motivation and level of work commitment and the impact these variables have on the academic achievement of online adult learners. The results of this quantitative correlational study failed to provide statistically significant findings showing that a significant relationship exists between intrinsic motivation and level of work commitment among online adult learners. Therefore, based on the results of this study, it is concluded that the relationship between

intrinsic motivation and academic achievement of online adult learners is not moderated by the level of work commitment that online adult learners have.

Even though the present study failed to provide statistically significant findings in regard to the study hypotheses, the study did provide evidence that confirms the importance of academic skills, including self-efficacy for learning and performance, time and study environment, and effort regulation, as important predictors of academic achievement. Further, the study showed that these skills are as important in an online context as in university education taught through a traditional classroom structure. Comparison of the study results to previous findings also shed some light on how university education may be more effective when synergistically related to work experience. Having the opportunity to connect concepts being taught in the virtual classroom to work experience could help online adult learners better understand the material and could potentially increase academic achievement. If academic achievement outcomes increase, then the hope is that retention and degree completion would also increase. Ways in which online universities could help in this area were identified. By providing the additional services that were previously mentioned, universities could promote positive changes within the online adult learner student population.

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Appendix A: Demographic Questionnaire

Work Commitment, Intrinsic Motivation, and Academic Achievement in Online Adult Learners

Demographic Questionnaire

Directions: Please complete each question below as part of the "The Life Balance of Online Adult Learners: Understanding the Impact Work Commitment has on Intrinsic Motivation and Achievement Outcomes" study.

1. How many hours per week do you work?_____
2. What is your cumulative grade point average(GPA) in your degree program you enrolled in at Walden University?_____
3. What is your program of study?_____
4. How long have you been enrolled in your program of study?

   _____ Total number of quarters enrolled

   _____ Number of years enrolled
5. Do you identify as male or female?_____
6. What is your current age?_____
7. How satisfied are you with your online education? (*check one box below*)

   ☐ Very dissatisfied
   ☐ Somewhat dissatisfied
   ☐ Neutral
   ☐ Somewhat satisfied
   ☐ Very satisfied

Appendix B: Scatterplots, Histograms, Q-Q Plots

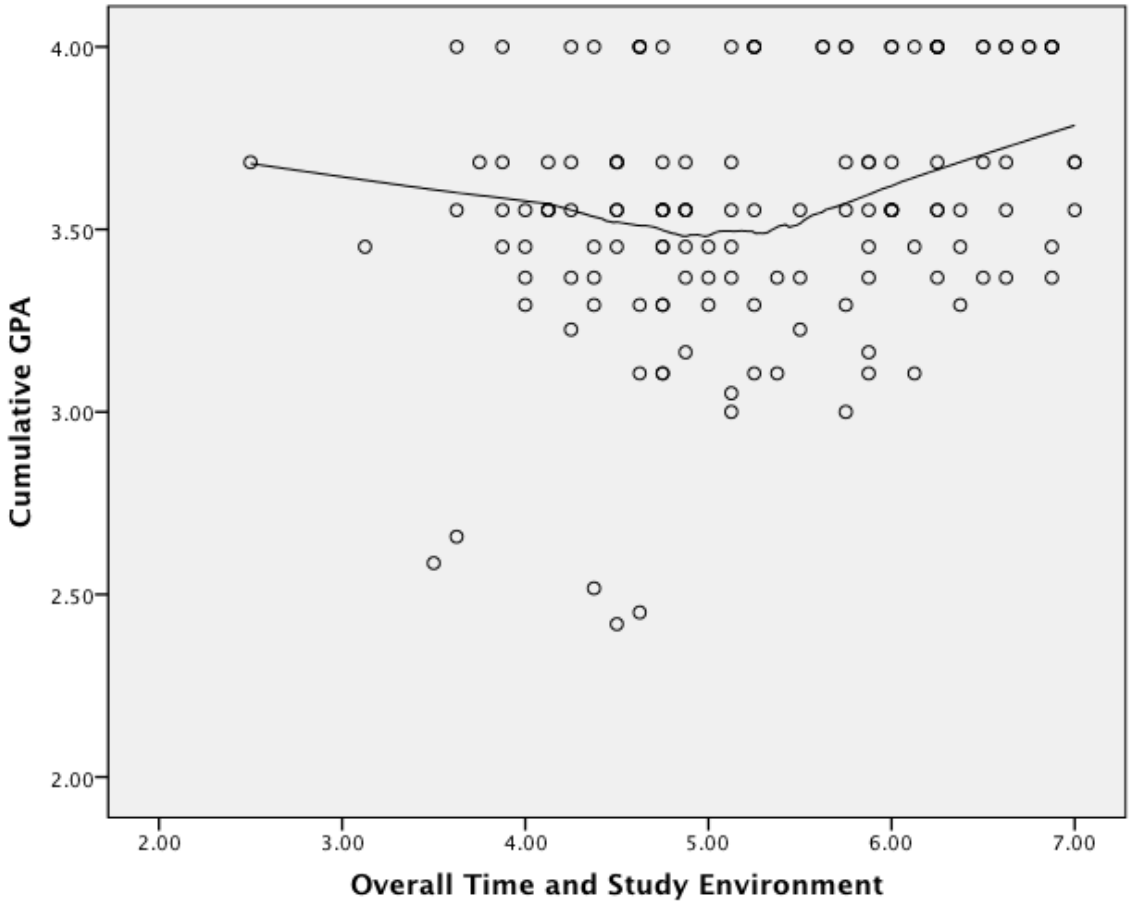

Figure B1. Scatterplot of cumulative GPA vs. overall time and study environment.

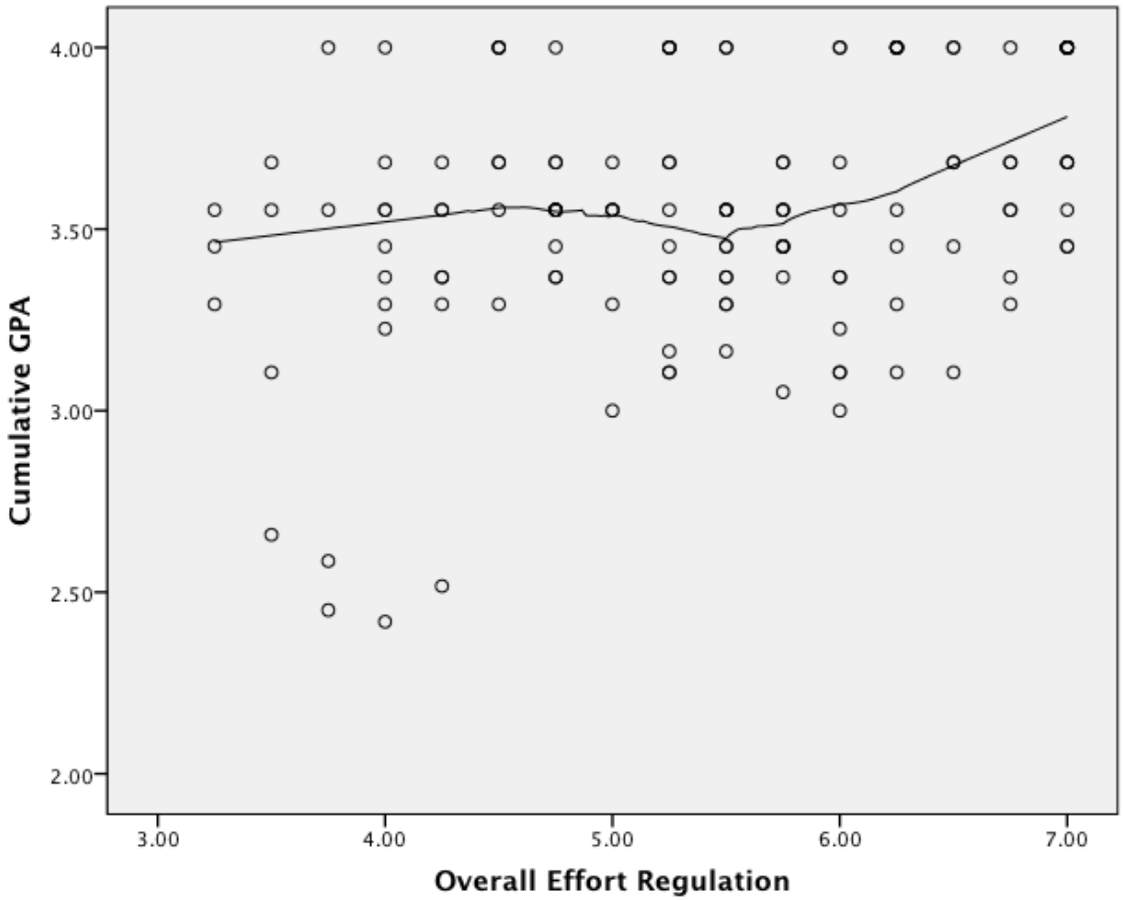

Figure B2. Scatterplot of cumulative GPA vs. overall effort regulation.

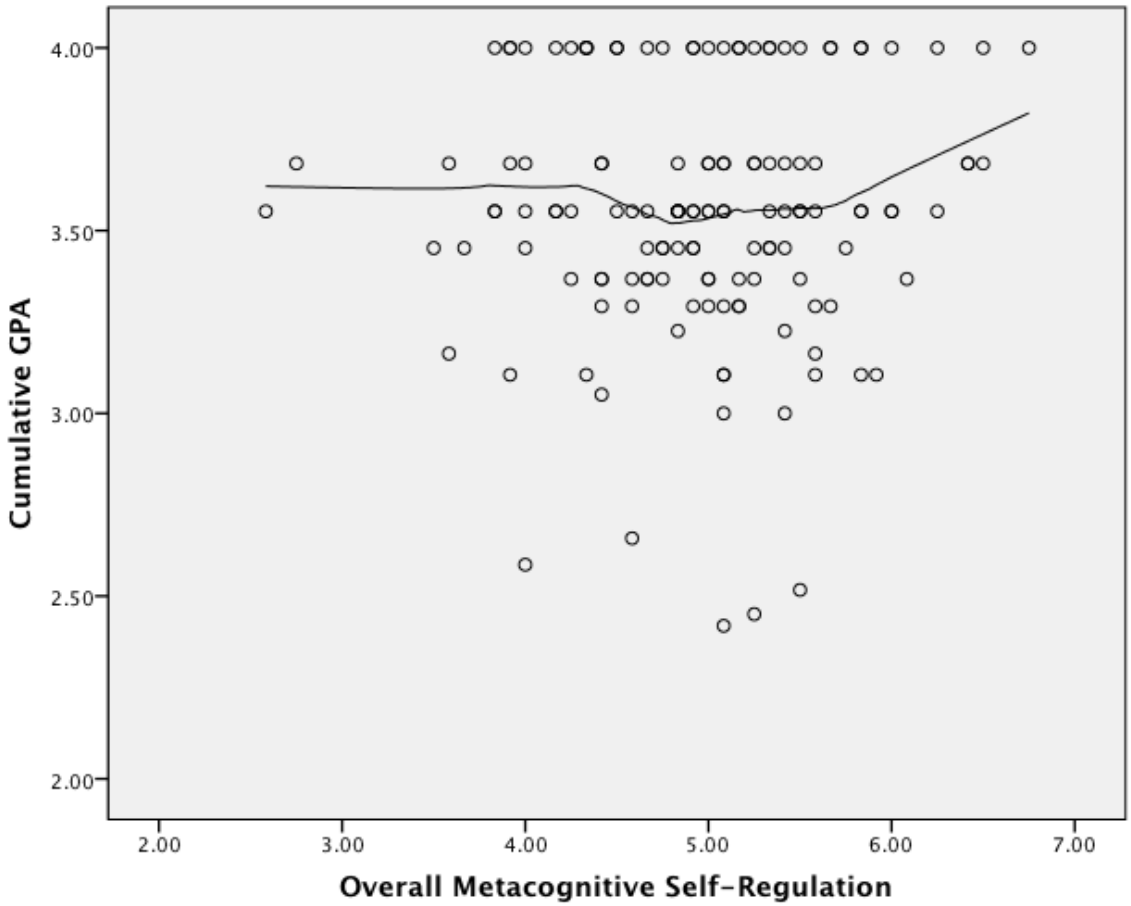

Figure B3. Scatterplot of cumulative GPA vs. overall metacognitive self-regulation.

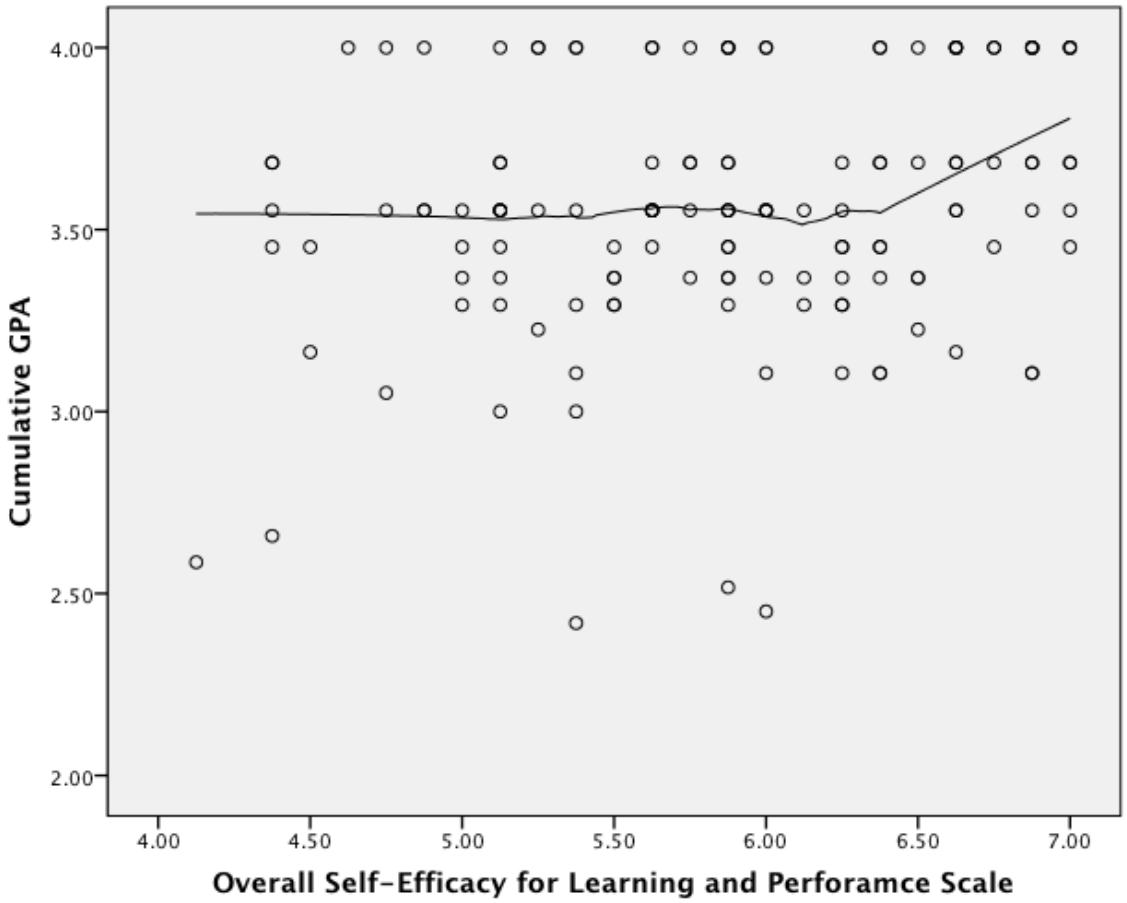

Figure B4. Scatterplot of cumulative GPA vs. overall self-Efficacy for learning and performance.

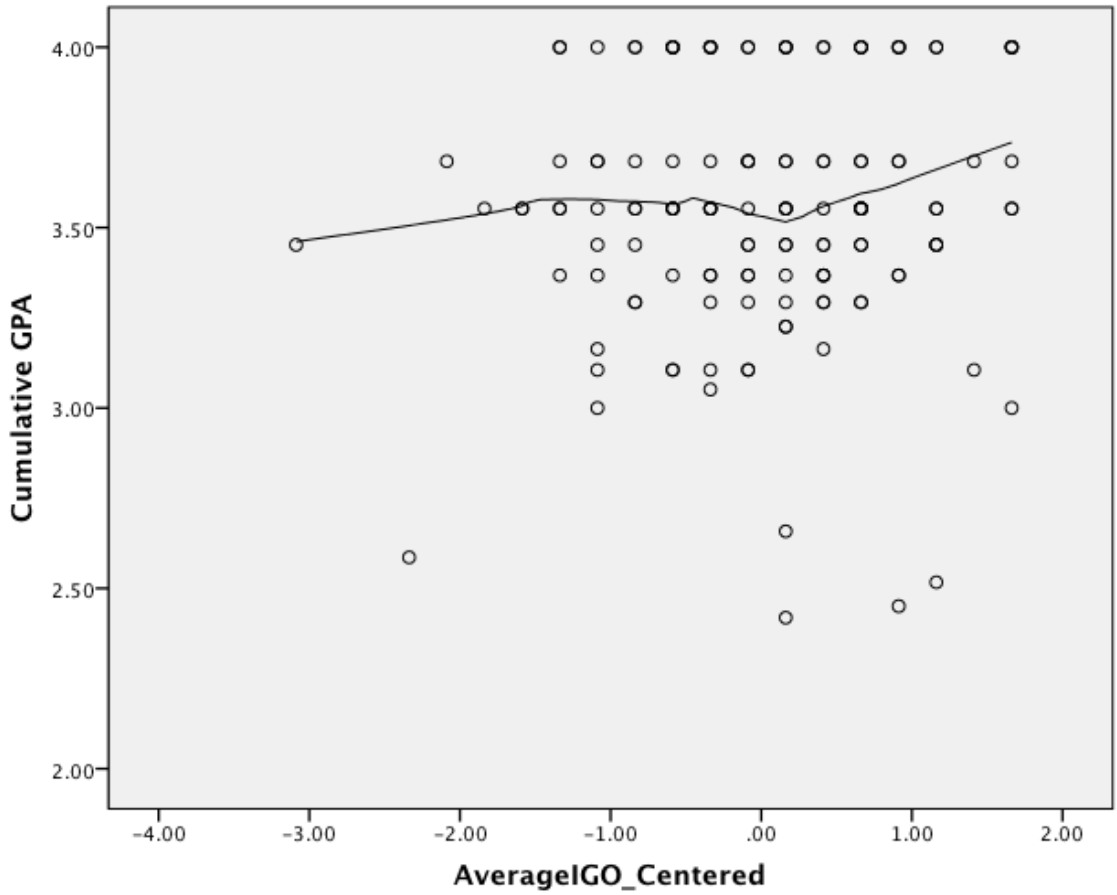

Figure B5. Scatterplot of cumulative GPA vs. intrinsic motivation

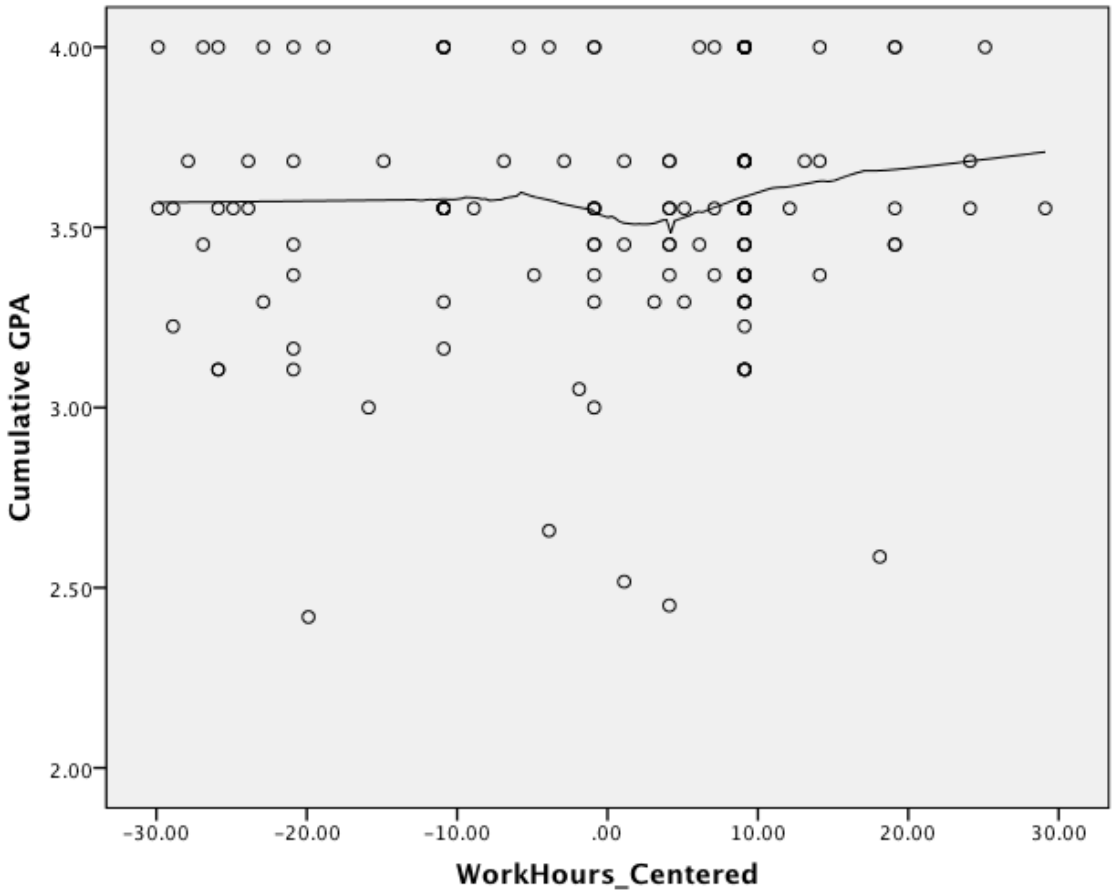

Figure B6. Scatterplot of cumulative GPA vs. work hours.

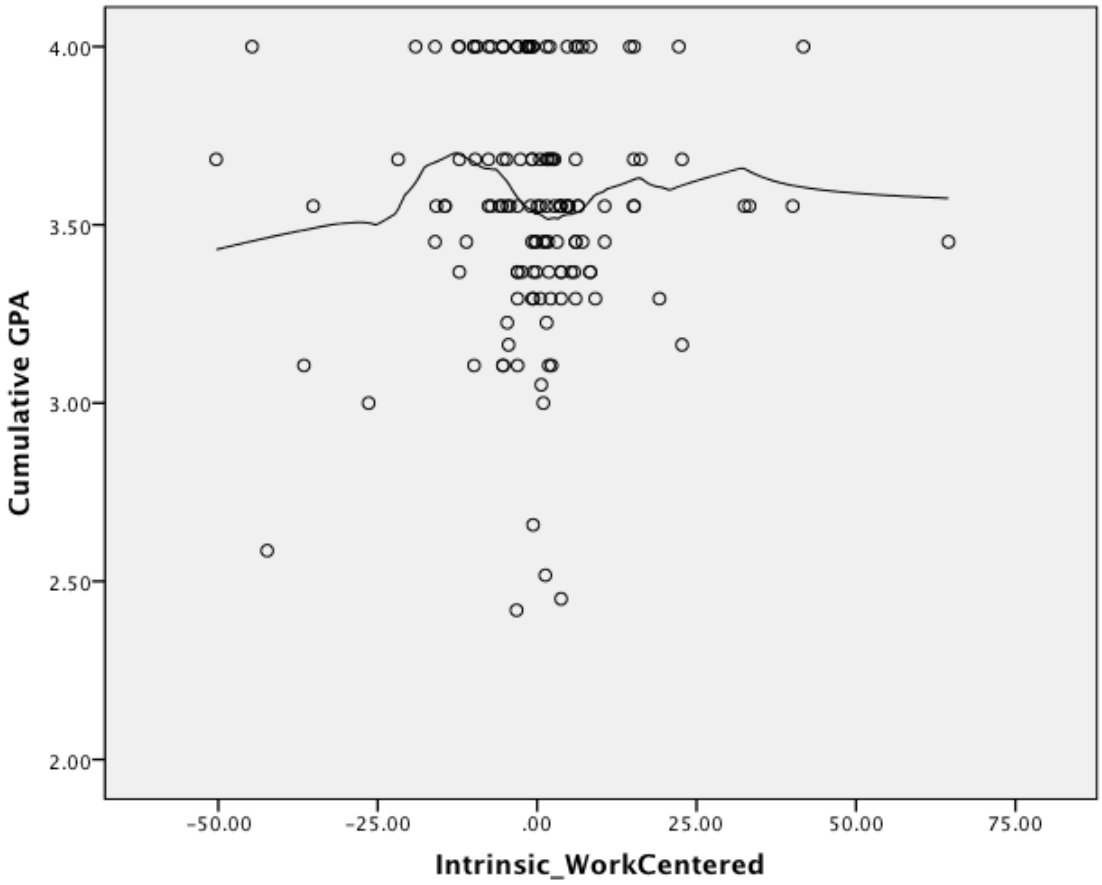

Figure B7. Scatterplot of cumulative GPA vs. moderation variable intrinsic and work.

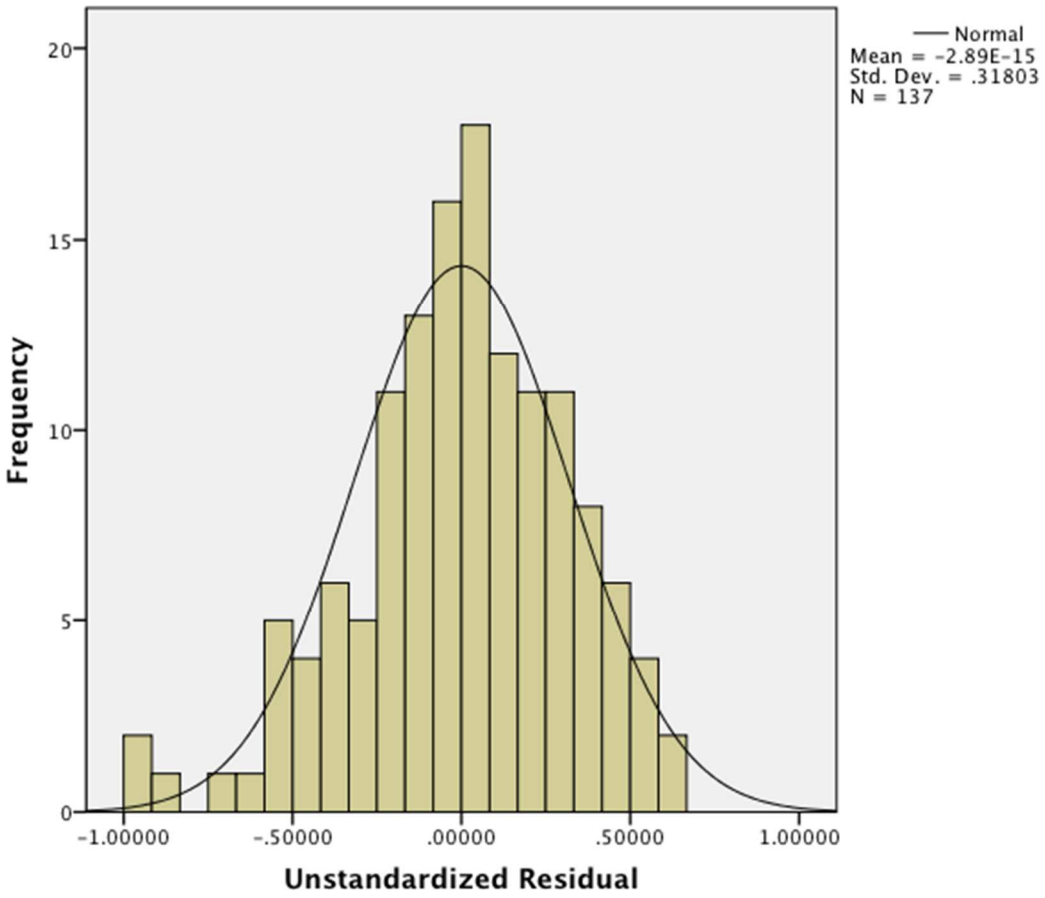

Figure B8. Histogram of unstandardized residual.

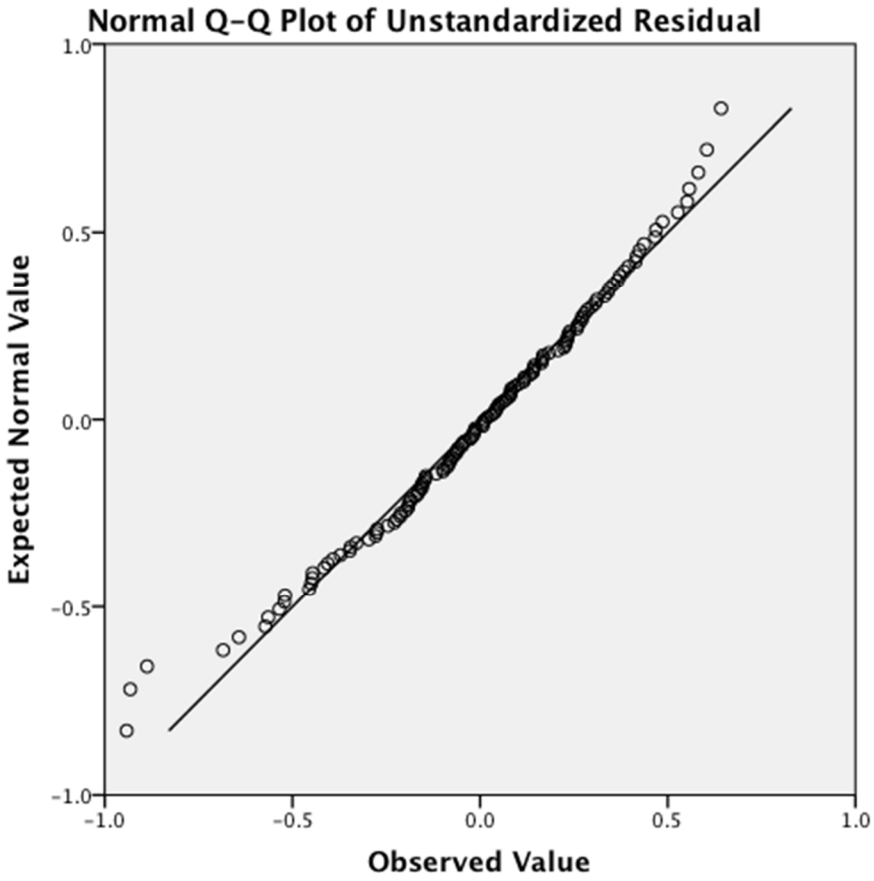

Figure B9. Normal Q-Q plot of unstandardized residual.

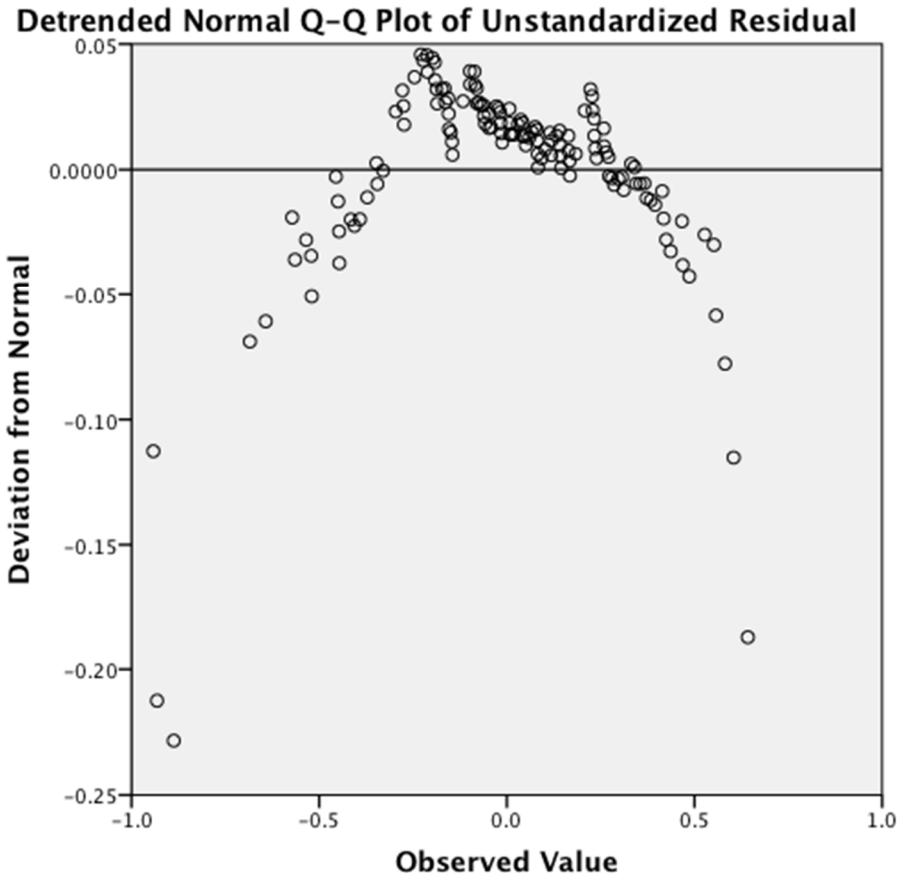

Figure B10. Detrended normal Q-Q plot of unstandardized residual.