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Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies

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Walden University
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Abstract

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by

Mae Lynn Spahr

MA, Webster University, 1996

BS, University of New Mexico, 1994

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The purpose of the current study was to learn how gender and learning method affect motivation and learning strategies in psychology, counseling, and social work graduate students. The variables of gender, learning method, motivation, and learning strategies are used by the self-regulation model to learning and the theory of independent learning to measure a student's academic success. Increasing the knowledge of these variables will be of interest to academic institutions and to the field of educational psychology because little is known about their interaction. The study's design was factorial quasi-experimental; it used a cross sectional survey consisting of a 2 x 2 factorial design. Multivariate analyses of covariance (MANCOVA) were used to evaluate the variables. Gender and method of instruction (distance/traditional) served as the independent variables; the dependent variables were comprised of 6 motivation variables and 9 learning variables, as measured by the Motivated Strategies of Learning Questionnaire (MSLQ). Age/ethnicity served as covariates. A sample of 86 psychology, counseling, and social work learners who were in a master's or doctoral program was used. The results showed significant differences in learning strategies and motivation of graduate learner's between gender. Men were significantly higher than women in control belief ($p = .02$) and extrinsic goal orientation ($p = .01$); they were also higher in rehearsal ($p = .03$), peer learning ($p < .01$), and help seeking ($p = .03$). These findings suggest that learning strategies and motivation were not influenced by learning method, but learning strategies and motivation were influenced by gender. These findings could be used to enhance retention and graduation rates as well stimulate future research on the topic.

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Dedication

The completion of my dissertation is dedicated to my husband. Thank you.

Acknowledgments

I would like to acknowledge all those that supported me through all the years it took me to complete my PhD. It was not possible to complete this without the ongoing encouragement and support from my husband and all my friends that understood that I was unavailable to play.

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Chapter 1: Introduction to the Study

Introduction

The present chapter is comprised of a description of the variables that influence the learners in college: motivation, learning strategies, learning method (distance and traditional), gender, age, and ethnicity. In the description of the variables that influence the learners in college, this chapter will provide the basis of what will be researched. The chapter will give a description of the background of the variables being studied, it will give a description of the problem through the problem statement, it will give the background of the study through the nature of the study, it will give a description of the research questions, it will give the purpose of the presenting study, it will provide the conceptual framework, and it will state the significance of the study. In addition operational definitions, delimitations, and limitations will be presented.

Background

Motivation and learning strategies have been studied as predictive factors of academic success (Pintrich, Smith, Garcia, & McKeachie, 1991). Motivation is one of the key factors for a learner to be successful in their learning, and is divided into two types of motivation: intrinsic and extrinsic. Pintrich et al. (1991) used a self-regulation model of learning (SRL) to identify six elements of motivation within these two types: control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. These elements of motivation have shown to be factors that identify academic success, as measured by the learner's end of semester examination scores and positive self-assessment (Wang, Peng, Huang, Hou, & Wang,

2008), and constituted the variables to measure the outcome motivation in the present study.

Learning strategies are the second main predictive factor of a learner to be successful (Pintrich et al., 1991). They are tools that graduate learners can use to help them remember things or to do tasks more efficiently, such as note taking, journal writing, and brainstorming. Other examples of learning strategies include reading, researching, writing, peer learning, problem solving, and using technology to facilitate learning (Butler, Phillman, & Smart, 2001). They help learners engage in reading, writing, discussing, and problems solving (Potts, 1994). Implementing learning strategies help the graduate learner foster learning (Cho, 2004) and help involve the learner in the learning process (Grasha, 2002). Learning strategies provide an individually based learning environment that has stable content and homogeneity, which can be assessed through testing and evaluating the learner (Notar, Wilson, Restauri, & Freiry 2002). Pintrich et al. (1991) used the SRL model to identify 9 elements of learning strategies: rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. All these strategies were measured in the present study as part of the outcome learning strategies.

Both motivation and learning strategies are related to academic success. Research reports that when students us motivation and learning strategies they are more successful in the academic setting. Understanding motivation and learning strategies is important for graduate learners because it can give academic administrators information about the variables that contribute to students achieving academic success. A large body of

research generated over the past 30 years has focused on motivation and learning strategies. However, most of this research examines traditional university settings such as small liberal arts colleges, state universities, and, more recently, community colleges. Prior studies have typically focused on undergraduate college education, and have not examined these variables at the graduate level. Because of this, there is a good understanding of motivation and learning strategies among young, traditional college learners who attend brick and mortar institutions (Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008), but there is no research on motivation and learning strategies in distance and traditional graduate school setting (Hegarty, 2011).

Distance education has transformed from correspondence study or single medium distance instruction to web-based instruction. This transformation of education is described in the Theory of Independent Learning (Moore, 1973) and has significantly changed how education is delivered. A 2009 study by the National Center of Education Statistics found that 32% of adults who participated in adult educational activities within the previous 12 months reported that they used some type of distance education. Internet-based teaching in the United States went from 22% of academic institutions in 1995 to 60% in 1997-1998 to 65% of academic institutions in 2008 (NCES, 2008). In 2009, 20.5 million people in the United States of America were pursuing a college degree, 32% of whom pursued their education through distance learning-methods (NCES, 2010).

This increase of students enrolling in the distance learning-method is accompanied by a demographic difference between distance education learners and

traditional brick and mortar institution learners. The typical demographics of distance learners include students who are 30 years' old or older, married, and as whole more ethnically diverse learner populations than those in traditional college settings. Table 1 and Table 2 present detailed demographic information comparing distance learning and traditional institutions' enrollment percentages by age and race.

Table 1

Distribution of U.S. College Students by Age

Ages	Total Enrollment (%)	Distance Learning (%)
16-24	61	14
25-34	21	22
35+	18	64

Note. Adapted from "National Center for Education Statistics," (2009). *Digest of Education Statistics, 2008* (NCES 2009-020), Table 190, and "National Center for Education Statistics, Adult Education Survey of 2005," (2005). National Household Education Surveys Program.

Table 2

U.S. College Student Enrollment by Race

Race	Total Enrollment (%)	Distance Learning (%)
White - Non Hispanic	71	31
Black - Non-Hispanic	12	35
Hispanic	10	30
Asian/Pacific Islander - Non-Hispanic	3	38

Note. Data compiled from "National Center for Education Statistics," (2009). *Digest of Education Statistics, 2008* (NCES 2009-020), Table 190.

The 2009 NCES found that distance learners were looking for their education to be flexible in time, location, and work commitment. Chen, Lambert, and Guidry (2010) reported that employment, childcare, and financial support impacts a student's decision of which type learning method the learner will choose. This aligns with college statements that they offer distance classes based on trying to meet learners' demand for flexible schedules, wanting to provide access to college for learners who would otherwise not have access to college, wanting to make more courses available, and seeking to increase learner enrollment (Parsad & Lewis, 2008).

Statement of the Problem

There are clear differences between universities providing distance education and those providing traditional education. Because of these differences, it is important to examine motivation and learning strategies in distance and traditional education settings of graduate learners. Current research on motivation and learning strategies has focused on primary school, secondary school, traditional university settings and the first four years of college, and has not examined these variables at the graduate level. This makes it difficult to generalize the result of the variables that contribute to the success of graduate learners in the distance and traditional setting. Hegarty (2011) highlighted the absence of research and measurement of learners in graduate school.

Motivation and learning strategies are important determinants of success and therefore worthy of study. Motivation and learning strategies have been identified as

important factors in determining the success of distance learners versus traditional learners (Harlow et al., 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008). Wang et al. (2008) found that distance learners have varied motivations, a diverse array of learning strategies, and motivations and learning strategies that have a direct impact on their end-of-semester examination scores and positive self-assessments. It is important to research whether motivation and learning strategies have the same outcome with distance learning-method graduate students as they do with distance learning-method undergraduates (Pintrich, Smith, Garcia, & McKeachie, 1991; Jacobson & Harris, 2008). There is also no data collected on how instructional methods relate to graduate learner motivations and learning strategies (Hegarty, 2011). The present study fills this gap in the literature by comparing graduate learners in distance education programs from graduate learners in traditional programs.

Furthermore, gender is an important variable to consider when examining these factors in graduate learners. The overall rate of women in college education has been higher than that of men since the 1970s. In 1999 and 2000, women respectively represented 70% and 75% of first-year, full-time enrollees in doctoral and master's psychology programs, as well as 72% and 77% respectively of part-time enrollees in doctoral and master's psychology programs (Pate, 2001). Gender differences have also been found in GPA. Koch (2006) found higher GPA scores among women than among men and that men earned a GPA that is 0.169 lower than women. This study examined gender and instructional methods as factors in motivation and learning strategies in distance learners. In light of documented differences in distance learners' age and ethnic

background compared to traditional learners, this study will control for age and ethnic background.

The Nature of the Study

This study consisted of a quantitative, crosssectional survey consisting of a 2 x 2 factorial design using gender and instructional method as the independent variables. The study's data analysis included a MANCOVA measuring the six dependent outcome variables for motivation: control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. These outcome variables were chosen because they are identified as motivational components for learning measured by the Motivated Strategies of Learning Questionnaire (MSLQ; Pintrich et al., 1991). It also examined nine dependent outcomes for learning strategies: rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking; these have also been identified as learning strategies as measured by the MSLQ. The study design measured motivation and learning strategies with the MSLQ and used age and ethnicity as covariates.

This study used a factorial quasi-experimental design because the comparison group was not selected by random assignment. It was predicted that the two groups would differ with the variables age and ethnicity, so age and ethnicity were used as a covariate to obtain a more precise estimate of the differences between groups. It was predicted that age and ethnicity would differ across these two instructional methods. The study controlled for age in all analyses in order to account for whether or not the distance

learners in the study population were older than traditional education learners. Koch (2006) found that undergraduate learners who were 10 years older than traditional-aged learners earned a grade point average that is 0.14 higher, a finding supported by other researchers (Dille & Mezack, 1991; NCES, 2002). This study also controlled for ethnicity in all analyses in order to account for whether or not the distance learners in the study population were more ethnically diverse than traditional learners. Ethnicity was similarly examined for its relationship with the dependent variables because of an NCES (2009) finding that minorities have higher enrollment in distance learning in the United States.

Research Questions and Hypotheses

This study compared the effect of gender and instructional method on the motivation and learning strategies of the graduate learner in graduate programs. It tested a hypothesis that, after controlling for age, distance instruction method learners differs from traditional instruction method learners on a multivariate profile developed through the MSLQ. It also tested a hypothesis that women differ from men on a multivariate profile developed through the MSLQ.

RQ1: Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the six elements of motivation (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) with age and ethnicity as a covariate if necessary? This research question was designed to be tested via a gender x instructional methods multivariate analysis of covariance. This design tested three hypotheses:

$H_0$1: There are no multivariate differences between men and women on the six motivation elements.

H_a1: There are multivariate differences between men and women on the six motivation elements.

$H_0$2: There are no multivariate differences between traditional and distance education learners on the six motivation elements.

H_a2: There are multivariate differences between traditional and distance education learners on the six motivation elements.

$H_0$3: There is no multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

H_a3: There is a multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

RQ2. Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) with adjustment of age and ethnicity as a covariate? This research question leads to a gender x instructional methods multivariate analysis of covariance. This design tested three hypotheses:

$H_0$1: There are no multivariate differences between men and women on the nine elements of learning strategies.

H_a1: There are multivariate differences between men and women on the nine elements of learning strategies.

$H_0 2$: There are no multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_a 2$: There are multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_0 3$: There are no multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

$H_a 3$: There are multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

The Purpose of the Study

Over 6 million students enrolled in distance education courses in the United States in the 2009 academic year. Enrollment in distance education instruction in the United States is projected to increase across all postsecondary levels, with a projected 18% growth for undergraduate students and 19% for graduate students by 2018 (NCES, 2010). Although the projected enrollment in distance education is growing, the NCES (2012) reported that it has not gathered any statistics on the enrollment of graduate distance education learners. This study was designed to address this research gap by providing important information on the different motivation and learning styles of men and women. It was also designed to collect information on the differences or similarities of motivation and learning strategies of graduate distance education learners in comparison to traditional education learners. It was specifically designed to gathered information about

the differences between men and women learners in distance education and traditional learning at the graduate level. The information gathered about motivation and learning strategies will contribute to the MSLQ research base. It is research with the MSLQ that has impacted teaching by informing instructors on how to best maximize learning strategies and motivation in learners. This has impacted how academic institutions approach distance education learners and how academic institutions can best promote the development of graduate distance learner thinking. This study may suggest ways for academic institutions to direct funding in ways that attempt to decrease dropout rates and help learners in graduate schools be more successful in the classroom through policies and interventions based on the empirical evidence obtained here.

Conceptual Framework

In understanding the variables of gender and learning method and their influence on the motivation and learning strategies this study will be quantitative in nature, specifically it will be factorial quasi-experimental design. It will have a total of two independent variables, gender and method of instruction, and 15 dependent variables, six motivation variables and nine learning strategies variables and use age and ethnicity as covariates. To understand these variables the conceptual frameworks is based on two theories. These two theories are: the theory of independent learning and the self-regulation to learning model. Theory of independent learning looks learning method, specifically distance learning at how learning can take place if the teacher and student are physically separated (Moore, 1973) and the self-regulation to learning model looks at motivation and learning strategies as predictive factors of academic success and their

difference variables of gender, age, and ethnicity (Pintrich et al., 1991). These two models provide the conceptual framework of this proposed study and will be summarized below and elaborated in chapter 2.

Moore (1973) introduced the theory of independent learning. He believed that teaching and learning can take place if the teacher and learner are physically separated. The theory consists of two parts: individualization and dialogue. Individualization is the process by which an individual learner controls the pace of instruction. Dialogue is a process which occurs between the teacher and learner. The individualization of the learner controling the pace of instuction and the dialogue of the teacher and the learner through the one or multiple means distance types of instruction allows for the learner needs or demands to be met in their education endeavors. Through individualization and dialogue learning occurs through the help of one or more of the distance instruction method.

The theory of independent learning provides the foundation for the distance instruction method. It conceptualizes the distance instruction method into three types: (a) correspondence study or a single medium distance instruction method; (b) multimedia distance instruction method; and (c) electronic information technology such as telecommunications, computer conferencing networks, and audio and video conferencing. Independent learning theory reflects the shift in instructional methods that opened education to everyone (U.S. Congress, Office of Technology Assessment, 1989). The theory of independent learning suggested that learners determine their level of autonomy and implement their own learning style. The learner is able to provide for a

meaningful learning experience through dialogue with teachers, the structure of the instructional method, and the degree of self-directedness of the learner that influenced the learner's success and access to education. This is all done can take place if the teacher and learner are physically separated and utilizing one or more distance instruction methods (Moore, 1973).

Figure 1. Theory of Independent Study

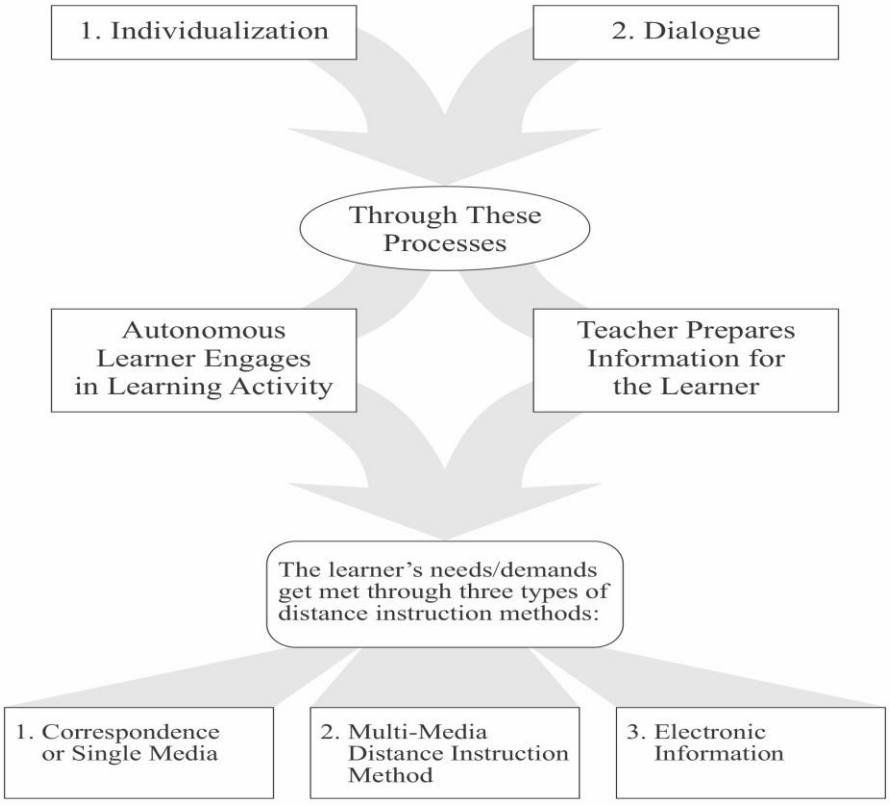

Figure 1. Theory of independent study looks at distance learning. Moore believed that learning can take place if the teacher and student are physically separated. He described three types of instruction. Moore stated that teaching and learning can take place if the teacher and learner are physically separated and when the teaching and learning takes place physically separated it has two parts to learning: Individualization and dialogue. Moore, M. (1973). Towards a theory of independent learning and teaching. Journal of Higher Education 44: 661-679.

Paul R. Pintrich (2000) revolutionized educational psychology through self-regulation learning (SRL). The SRL model conceptualized learning as a cognitive process influenced by "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment" (p. 453); he looked at learners' motivation and cognitive process. In looking at the learners in post-secondary education he gained understanding of how a learner thinks, of what motivates a learner to learn, and what cognitive skills the learner needs to be motivated (Pintrich, 2004). Pintrich looked at the motivation and cognitive process of learners. He developed an instrument to evaluate motivation and learning strategies. This instrument is called the Motivated Strategies of Learning Questionnaire (MSLQ). With the development of the MSLQ it allowed researchers to evaluate motivation and learning strategies in a quantitative way, using a 7-point Likert Scale. The MSLQ allowed educational psychology to look at factors of motivation and learning strategies that best promote the development of learners' thinking in college.

Pintrich (2004) examined the development of learners' thinking in the college classroom. Two main questions arose from Pintrich's research; the first, how can educators describe or characterize learners' thinking, or more generally, what develops over the course of a college education in terms of learner thinking and what are the factors that influence the psychological development of the learner. The other important question is an educational one and involves issues of how educators can best promote the development of learners' thinking in college. It is this last question that is most closely related to the goals of the

present study. In answering the question how educators can best promote the development of learners' thinking in college it will give us the two primary variables that have been used in measuring academic success: motivation and learning strategies. This information about learners will give graduate institutions an understanding of the two factors that contribute to the graduate learners' academic success.

Figure 2. Self Regulation Model to Learning

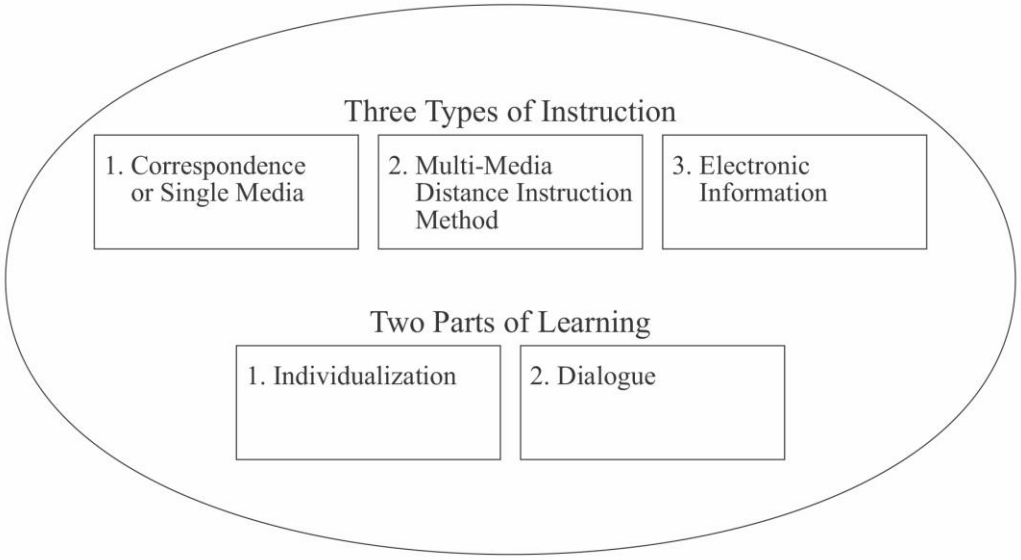

Figure 2. In 1991, Garcia and Pintrich introduced the Self Regulation Model to Learning (SRL). The SRL model examined the cognitive process of motivation and learning strategies and examined the development of students' thinking in the college classroom. This model allowed for quantitative research to be conducted. Pintrich, P., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. Maehr,. & P. Pintrich, Advances in Motivation and Achievement: Goals and Self-Regulatory Processes, vol.7. Greenwich, CT: JAI Press.

With a good understanding of motivation and learning strategies of learners through the SRL model, the theory of independent learning provides the overall constructs of learning

at a distance. Utilizing the constructs of motivation, learning strategies, learning at a distance, this research in this proposed study will provide an understanding of motivation and learning strategies of graduate learners in distance or traditional learning methods.

Operational Definitions

Age. The chronological measurement of a person life by year.

Adult. Anyone over the age of 18. In the context of this study, the term refers to anyone pursuing education other than a Graduate Education Degree (GED).

Control of learning beliefs. One of the defined outcome dependent variables of a motivation as defined by Pintrich et al.'s (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined control of learning beliefs as the learner's belief they can have a positive outcome on their academic success. Control of learning beliefs will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a Multivariate Analysis of Co-Variance (MANCOVA).

Critical thinking. One of the defined outcome dependent variables of a motivation as defined by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MLSQ is on the Self-Regulation Model to Learning. Pintrich et al defined critical thinking is when the learner applies information learned to a situation or solves a problem with information learned. Critical thinking will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale.

Distance instruction method. Ninety percent of the learning is conveyed by the instructor over the Internet using some type of educational software where the learner

submits work over the Internet. This learning includes speaking directly over the telephone to the professor, and it can include regional meetings, as well as email communications. A method of learning that is delivered by web-based or Internet-based technologies (Ludlow, 1994).

Effort regulation. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined effort regulation is the learner's ability to stay focused on their goal through managing the environment and utilize learning strategies to have academic success. Effort regulation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Elaboration. One of the defined outcome dependent variables of learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined elaboration is when the learner paraphrases, summarizes, creates analogy, and generates notes to build long-term connections to information learned. Elaboration will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Ethnicity. This study ethnicity will be defined in five different ethnic backgrounds: White, non-Hispanic, Black, non-Hispanic, Hispanic, Asian/Pacific Islander-non-Hispanic, or Other non-Hispanic. A survey will ask the learner to choose

between five different of ethnic background. Ethnicity is measured as a covariant in this study.

Extrinsic goal orientation. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined extrinsic goal orientation is the reason why the learner is engaged in the learning activity. This reason for learning could be for grades, rewards, performance, or competition. Extrinsic goal orientation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Gender. This present study is defines gender by male or female. A survey will solicit the learner gender.

Graduate learner. A person currently enrolled in a traditional instruction method or a distance instruction method graduate program. This information will be determined solicited through a survey.

Help seeking. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined help seeking is when a learner seeks out help from other learners and the instructor to master material. Help seeking will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Intrinsic goal orientation. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of

the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined intrinsic goal orientation is what the learner thinks why they are learning. Intrinsic goal orientation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Learning strategies. Processes and techniques that help learners in graduate schools attain knowledge. These techniques utilize cognitive and meta-cognitive strategies to learn (Duncan & McKeachie, 2005). They are "behaviors and thoughts that learners in graduate schools engage in during learning and are intended to influence the learners in graduate school's encoding process" (Weinstein & Mayer, 1986, p.315). Pintrich et al. (1991) used the SRL model to identify 9 elements of learning strategies: rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. These 9 learning strategies will be used to define *learning strategies*.

Metacognitive self-regulation. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined metacognitive self-regulation is the planning, monitoring, and regulation of information. The planning, monitoring, and regulation of information allows for the learner to organize and comprehend the material with ease. Metacognitive self-regulation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Motivation. Reflected in choice of courses of action, and in the intensity and persistence of effort, and can be based on external and internal beliefs and values that a person may choose to act or not act on (Pintrich, 1991). Pintrich et al., (1991) used the SRL to identify six elements of motivation: control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. In this study these six elements of motivation will constitute the variables to measure the outcome *motivation.*

Organization. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined organization is clustering, outlining and selecting information in a systematic way to help the learner make constructive connections of information. Organization will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Pedagogy. The art and science of instructional methods and learning (Knowles, Holton, & Swanson, 1998).

Peer learning. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined peer learning is collaborating with other learners to achieve academic success. Peer learning will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Rehearsal. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined rehearsal is defined as reciting information so that the information can be encode and integrated into a learner's knowledge. Rehearsal will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Self-efficacy for learning and performance. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al stated there are two components of self-efficacy: How the learner expects to succeed and one self-appraises of one's ability to do the task successfully. Self-efficacy for learning and performance will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Social Science Learners. A person's who studies the behavior of others in relationship to society. This includes economics, history, psychology, social work, counseling, and sociology (Economic and Social Research Council, 2014) but for the purpose of this study it will include psychology, social work, and counseling graduate students in distance and traditional learning methods.

Task value. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined task value is the learner's "evaluation of how interesting, how important, and how useful that task is (Pintrich et al.,

1991, p.11)." Task value will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Test anxiety. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined test anxiety has two components: cognitive and emotional. The cognitive component is how much the learner worries about one's performance and the emotional is the affective and physiological arousal of anxiety. Text anxiety is the negative expectations of one's academic performance. Test anxiety will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Time and study environment. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined time and study environment is a learner's ability to schedule, plan and manage one's study time. Time and study environment will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Traditional instruction method. Face to face graduate classes that are attended regularly at brick and mortar universities to have information and other experiences conveyed by a professor or instructor. This method does not include classes where the information is conveyed by the Internet, nor is the information conveyed by experiencing education outside of the classroom (Ludlow, 1994).

Undergraduate learner. A person currently enrolled in traditional instruction or distance instruction in social science undergraduate program (NHES, 2001). This information will be determined solicited through a survey.

Assumptions

There several assumptions of this study. The first is this study will utilize the Motivated Strategies of Learning Questionnaire (Pintrich et al., 1991) to assess motivation and learning strategies. The MSLQ is considered a reliable and valid assessment tool. The second assumption is the psychometric properties will be similar for both the distance instruction method and traditional instruction method learners in graduate schools. The third assumption is that the assessments proposed for this study will elicit truthfulness and the participants will answer the surveys honestly in the participants of this study.

The forth assumptions is that this study will adhere to test administration, scoring, and ethics guidelines. The final assumption is that the difficulties of classroom material between distance and traditional programs are similar.

Limitations

The limitation of the study is that it is quasi-experimental. The quasi-experimental design lacks random assignment of subjects and threatens internal validity. The second limitation is the learners will come from three different graduate programs: Webster University and New Mexico Highland University, both a traditional land based school and the other sample will come from Walden University, a distance learning institution. Even though Webster University and New Mexico Highlands University is a brick and

mortar school, it targets a non-traditional learner base. The third limitation is the participants will be volunteers. These volunteers may not representative all graduate learners. The forth limitation is the participants of the study will be only representative of these three schools and the particular year the study was conducted and may not represent any other student graduate population. This makes it difficult and limits the results. Thus, the results may not be generalized to other learners enrolled in graduate programs. The fifth limitations of this study are that the sample of graduate learners will be drawn from only three schools. This suggests that the populations from which the samples are drawn may be quite different. The sixth limitation is the responses will be self-reported. The last limitation of the study is the sample will come exclusively from social science programs.

Delimitations

The delimitations of the study are that those learners outside of social science graduate programs will not be included in the sample. The quasi-experimental design lacks random assignment of subjects and threatens internal validity because the results of this study may not be generalized to another other traditional land based school or distance learning institutions other than Webster University, New Mexico Highland University, and Walden University. The learners that are participating in the study many not represent the average the traditional and distance learners because they are participating for the novelty of the study. The learners will be selected from two specific learning methods schools. The learners will be chosen from social science program. The study will be control for age and ethnicity. The dependent variables with be measured through a common assessment that has been shown to valid and reliable. The MSLQ

calculated internal consistency estimates of reliability (Cronbach's alpha) and "zero-order correlations between the different motivational and cognitive scales" (Pintrich, Smith, García, & McKeachie, 1993, p. 806). The majority of the Cronbach's alphas for the individual subscales (9 out of 15) were fairly robust (i.e., they were greater than .70, with the largest one, self-efficacy for learning and performance, being .93). The Cronbach's alphas for the remainder of the subscales fell below .70 with the lowest one (help seeking), coming in at .52 whereby the validity data is limited. With the help seeking scale is low in validity it will not be used and factored in analyses but data will be collected. As researchers (Duncan & McKeachie, 2005; Pilotte & Gable, 1990; Wright & Masters, 1982) have all reported that the MSLQ was an efficient, practical, and ecologically valid measure of learners' motivation and learning strategies. The generalization of the study is limited because the results may not be generalized to other programs or other learner populations in graduate or undergraduate schools.

Significance of the Study

The significance of this study are that the information gathered from this study will assist in understanding gender and instructional methods to the six elements of motivation and the nine elements of learning strategies. Learning more about gender and learners in each setting will contribute to the MSLQ research base. This information gathered will in turn impacted how academic institutions approach their learners and how academic institutions can best promote the development of learner thinking. This study may suggest ways for academic institutions to direct funding that attempts to decrease dropout rates and help learners of different age and ethnic background in graduate

schools to be more successful in the classroom, through policies and interventions based on the empirical evidence obtained here.

This information may have implications for positive social change, as it will give educators the understanding of the motivation and learning strategies of distance and traditional method graduate learners. Understanding the differences or similarities between motivation and learning strategies of graduate learning in different instructional methods across age and ethnicity will impact how academic institutions understand the characteristics and demographics of their learners and to approach their learners and to best promote the development of learner thinking.

Summary

Chapter 1 described of the variables that influence the learners in college: motivation, learning strategies, learning method (distance and traditional), gender, age, and ethnicity. In the description of the variables that influence the learners in college chapter 1 provides the basis of what will be researched in this proposed study. The chapter give a description of the background of motivation, learning strategies, learning method (distance and traditional), gender, age, and ethnicity. Chapter 1 went over the background of the problem through the problem statement, it give the background of the study through the nature of the study, it give a description of the research questions, it give the purpose of the presenting study, it provided the conceptual framework, and it state the significance of the study. In addition, described operational definitions, delimitations, and limitations of the study. This information is presented to back-up the reason why research on Gender, Instructional Method, and Graduate Social Science Students' Motivation and

Learning Strategies is important. This research will fill this gap in the literature by comparing graduate learners in distance education programs from graduate learners in traditional programs.

Chapter 1 introduces the shift of instructional methods, the differences in women and men in college, why women have higher graduation rates, GPAs, and higher enrollments in graduate schools than men. It outlines the problem and stated the hypotheses, reviewing the theories of independent learning and self-regulation learning model. Chapter 1 discusses the purpose of the quantitative study. Chapter 2 is the literature review. Chapter 2 will review the background of the study; discussing the predictive factors of academic success, discussing gender, age, and ethnicity of distance learners, discussing distance education, discussing the growth of distance education, and discussing the origin of distance education.

Chapter 2: Literature Review

Introduction

The present chapter discusses previous research on gender, instructional method, and graduate social science students' motivation and learning strategies. It specifically describes a gap in the literature on the motivations and learning strategies of graduate learners in distance education programs compared to graduate learners in traditional programs. It also discusses research that shows motivation and learning strategies are predictive factors of academic success, and literature on motivation and learning strategies. This chapter also includes a discussion of the two models of learning for college students used in the study framework: the self-regulation learning model (SRL) and the students' approach to learning model (SAL). It describes the six components of motivation and nine learning strategies, and compares distance and traditional learners across the variables of motivation, learning strategies, gender, age, and ethnicity. It further discusses distance education, the growth of distance education, and independent learning theory. It reviews relevant theory and empirical evidence that supports this research study on Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies

Search Strategy

The literature search focused primarily on scholarly research from the past 10 years. The search was conducted using the Walden University Library EBSCO database, which included Academic Search Premier, CINAHL Plus with Full Text, ERIC, Professional Development Collection, PsycARTICLES, PsycINFO, SocINDEX with Full

Text, Teacher Reference Center, Communication and Mass Media, Mental Measurements Yearbook, MAS Ultra-School Edition, National Center of Education Statistics, Primary Search, CINAHL Select, and Library, and Information Science and Technology Abstracts. These databases were used as the primary search locations for researching the topics of this dissertation. Other resources such as Proquest were used to search for dissertations with related topics. The key words searched was both singularly and in combination that: *age, active learning, undergraduate learners, distance or distant learning, educational statistics, graduate learners, gender, independent learning theory, motivation, learning strategies, rating success, MSLQ, self-regulation learning,* and *traditional learning*.

Background

20.5 million adults are pursuing a college degree in the United States; 6 million of these adults are enrolled in college distance education courses (NCES, 2010). Students attending 2-year community colleges had a 12% graduation rate, students attending 4-year public state colleges had approximately a 33% graduation rate, and students at 4-year private colleges had a 56% graduation rate (NCES, 2008). The graduation rate of learners in a distance learning classroom is 10 to 20% less than those in a traditional classroom (Tyler-Smith, 2006). The graduation rates of white and non-white students who start a college degree is 62%, while the graduation rate for non-white students is 42%. Women are more persistent and complete degrees at higher rates than men (Atan, Sulaima, Rahmanzr, & Idrus, 2002) while it was found that women represented 70% and 75% of first-year, full-time enrollees in doctoral and master's psychology programs

respectively, as well as 72% and 77% of part-time enrollees in doctoral and master's psychology programs respectively (Pate, 2001). Gender differences have also been found in GPA. Koch (2006), found higher GPA scores among women than among men. Koch (2006) found men earn a GPA that is 0.169 lower than women. Graduation rates were not found for age of students and for graduate students.

Two predictive variables have been identified that promote academic success: motivation and learning strategies (Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008). Other variables that influence learning are learning method (traditional or distance; Clayton, et al., 2010; Jacobson & Harris, 2008; Niemi, Nevgi, & Virtanen, 2003; Wang et al., 2008), gender (Marrs & Sigler, 2011; Pintrich & de Groot, 1990; Patrick, Ryan, & Pintrich,1999; Yukselturk & Bulut, 2009), age (Chen et al., 2010; Harris & Gibson, 2006; NCES, 2009), and ethnicity (Chen et al., 2010). The variables of motivation, learning strategies, learning method, gender, age, and ethnicity is important because these variables assist in understanding what makes a learner successful in distance and traditional graduate schools. Of the 20.5 million adults pursuing a college degree in the United States in 2010, only half are predicted to eventually complete their college degree (NCES, 2008, 2010), The findings from this research will determine how gender and instructional method interact with motivation and learning strategies of the graduate learner. The information gathered from this study will assist in understanding gender and instructional methods to the six elements of motivation and the nine elements of learning strategies. This will enable academic institutions to direct funding to areas that attempt to decrease dropout

rates and help learners of different genders, learning strategies, ages and ethnic backgrounds in graduate schools to be more successful in the classroom, through promoting the most effective skills and strategies.

Predictive Factors of Academic Success as Defined by the Self-Regulation Learning Model

This section examines two theoretical models designed to explain how college students learn: the self-regulation learning model (SRL) and the students' approach to learning model (SAL). It explains these models and identifies how each has influenced the understanding of the cognitive process of learners in college. It also discusses the cognitive processes of learning in college and identifies the self-regulation learning model as the preferred model to understand the college learner. Thus, understanding the cognitive process of learners in college may lead academic institutions to facilitate learning for their students by promoting motivational and learning strategies techniques.

Pintrich and Garcia (1991) introduced the SRL model. This model examines the cognitive process of motivation and learning strategies in the development of students' thinking in the college classroom and has four assumptions. The first assumption is that "students are active participants in their learning process" (p. 387). The second assumption is, "learners can potentially monitor, control, and regulate certain aspects of their own cognition, motivation, and behavior as well as some features of their environments" (p. 387). The third assumption is that students can set goals and adapt and regulate their cognition, motivation, and behavior. The final assumption is, students are

not just the sum of their cultural, demographic, or personality characteristics, but the individual can self-regulate cognition, motivation, and behavior.

Pintrich and Garcia (1991) proposed four phases to learning: reflective goal setting, monitoring, control and regulation, and reaction and reflection. Reflective goal setting takes place when a student plans and begins to actively participate in the learning activity. Monitoring takes place when a student observes their own behavior, cognition, motivation, and effect and features of their environment, and then adjusts their cognition, motivation, and behavior to meet goals. Control and regulation happen when a student starts actively changing behavior to meet goals. This is done through comparing against a standard. If that standard is not met, a student will either assess results and then continue or change their cognition, motivation, and behavior. Reaction and reflection occur when a student actually implements self-regulating behaviors. Implementing self-regulation behaviors takes place when the student changes learning strategies to meet academic goals. These four phases of learning are conceptualized by Pintrich and Garcia to operate in all major domains of human behavior, cognition, motivation, affect, and behavior (see Figure 1).

The SRL model strength is it examines the two theoretical constructs of learning, motivation and learning strategies, which have been linked to academic success (Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008). By examining motivation and learning strategies constructs, SRL model provides specific components that have been linked to academic success. These components, motivation and learning strategies, can be measured

quantitatively. The quantitative research process of the SRL model uses an assessment tool to measure the theoretical constructs, motivation and learning strategies. The SRL model uses a specific assessment tool that examines the cognitive processes involved in motivation and learning strategies: the Motivated Strategies of Learning Questionnaire (MSLQ: Pintrich et al., 1991). The MSLQ gathers information about six components of motivation and nine learning strategies. Utilizing the SRL model Pintrich gained an understanding of how a college student thinks, what motivates a student, and what cognitive skills the student needs for academic success (Pintrich, 2004). The quantitative research method of the SRL allowed for the collection and analyses of data through a questionnaire to be numerically quantified and generalized to college students' population.

By using the quantitative research method, the SRL model found there are two predictive factors of academic success: motivation and learning strategies (Pintrich, Smith, Garcia, & McKeachie, 1991). The SRL model examined the cognitive processes of motivation and learning strategies of college students through using the MSLQ to quantify the cognitive processes of motivation and learning strategies of college students. The MLSQ used a 7-point Likert Scale to measure motivation and learning strategies used. The SRL model conceptualized and quantified learning as a cognitive process. Garcia and Pintrich (1991) stated that cognitive processes are influenced by "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and

constrained by their goals and the contextual features of the environment" (Pintrich, 2000, p. 453).

The second model in understanding the learning in college students was developed in 1976. Marton and Saljo developed the SAL model. The SAL model was one of the first models that looked at the learning process of college students. The SAL model examined college students' learning, studying, and motivation in the university setting. The SAL model initially divided learning into two types: deep and surface learning. Deep and surface learning occurs when a student could put meaning to the information learned (i.e., deep learning) or just do rote memorization of information (i.e., surface learning). Later, Entwistle and Ramsden (1983) and Biggs (1987) added two more learning types, which are strategic and achieving. Strategic learning is described as a student's intention to achieve success in the classroom through exerting effort and being organized. While achieving is similar to surface learning, the focus is on the outcome of the learning, for example getting a good grade. Adding the strategic and achieving learning types to the SAL model provided the more extensive understanding that if students work hard, they can achieve their academic goals.

Figure 3. Student's Approach to Learning

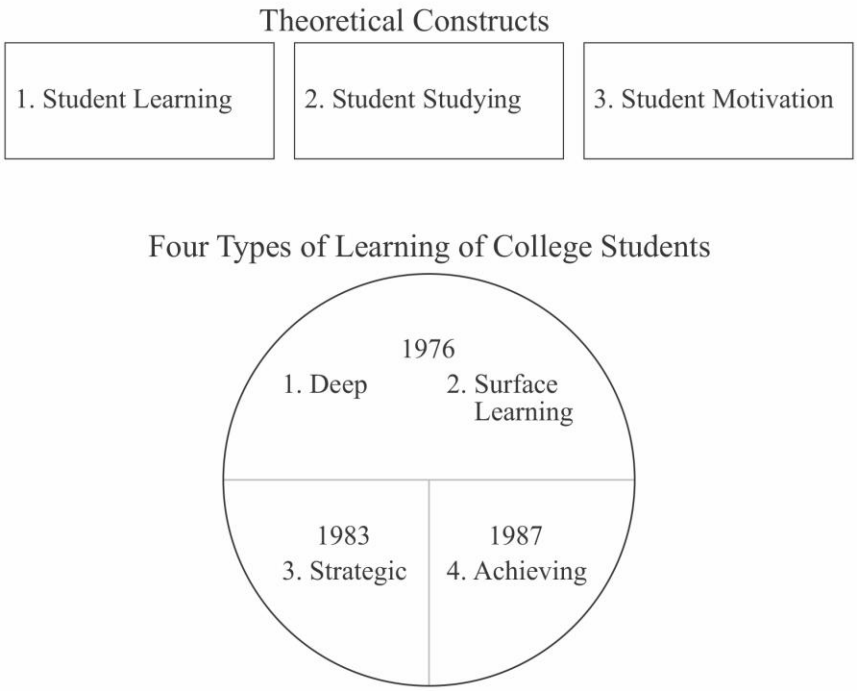

Figure 3. The SAL model was one of the first models that looked at the learning process of college students. It examined college students' learning, studying, and motivation in the university setting. The SAL model initially divided learning into two types: deep and surface learning. Marton, F., & Saljo, R. (1976). On qualitative differences in learning, outcome and process. British Journal of Educational Psychology, 46, 4-11.

The SAL model uses a qualitative research method (Heikkilä & Lonka, 2006) the SAL model used observation then interviews students specific questions to develop the theoretical constructs. In utilizing observation the SAL model used qualitative research method to take data and implements it into theoretical constructs. The theoretical constructs of the SAL model are students' learning, studying, and motivation. To examine the theoretical constructs the SAL model starts with interviewing students and then makes assumptions and develops the theoretical constructs. These theoretical constructs

are why does a college student learn, why does a college student study, and why is the college student motivated. In the SAL model, the interview lead to the theoretical constructs of what factors of learning, studying, and motivation influence the student's success. The qualitative method looks at the big picture of learning, which is very important, because it gives context to learning. This is different than the SRL model because that model does not take context of learning into consideration. Instead the SRL model looks specifically at what motivates a student and what learning strategies a student has by assessing for those factors.

The component of learning success that the SAL model failed to look at was learning strategies, which today is a known component to a student's success (Jacobson & Harris 2008; Harlow, Burkholder, & Morrow, 2002; Paulsen & Gentry, 1995; Garcia & Pintrich, 1991; Wang et al., 2008). The SAL model only examined the student's learning, studying, and motivation, thus it was unable to quantify the student's means to success (Marton & Saljo, 1976). Although the SAL model is argued to be a good model to understand learning, Pintrich (2004) describes the SAL model as lacking quantifiable evidence of the context of cognition, motivation, and behaviors of the students. With the lack of quantitative data the SAL model was not able to name and quantify the characteristics that determined academic success. Pintrich went on to say the SAL model was too general to give any information about the learner. While the SAL model does not have quantifiable evidence, the SRL model did. The SRL model uses theoretical constructs and gained an understanding about motivation and learning strategies, as well as about the components of motivation and learning strategies that lead to academic

success (Heikkilä & Lonka, 2006). The SRL model looked at two of the predictive factors of academic success: motivation and learning strategies (Pintrich et al., 1991). The SRL model uses assessment tool, the MSLQ, that look at the cognitive process of motivation and learning strategies, giving academic institutions information about the characteristics of the student that leads to academic success. This information can be used to affect how academic institutions approach their students and how academic institutions can best promote the development of students' thinking. The SRL model has allowed for positive social change for academic institutions because it has given them information about factors that contribute to the success of their students. With so many adults pursuing some form of college degree, understanding the factors that influence a student is important. Academic institutions can direct funding to attempt to decrease dropout rates, as well as help students of different ages and ethnic backgrounds in college to be more successful in the classroom through teaching skills and strategies to college learners. The SRL shifted how educational psychology understood the cognitive process of students.

Motivation Defined Through the Self-Regulation Learning Model

This section will review the three facets of motivation as understood through the self-regulation model. The SRL model states there are three facets of motivation: First, learners are motivated in different ways. Second, motivation is not a stable trait. A learner's motivation can change with context or situation. Finally, motivation is not just influenced by the individual's culture, demographics, personality characteristics, or context of the classroom, but also by the learner's active regulation of motivation,

thinking, and behavior (Linnenbrink & Pintrich, 2002). Motivation is considered an important factor for a learner to be successful in the classroom (Galusha, 1997). Motivation is linked to a learner's cognitive engagement and academic performance (Pintrich & Schunk, 2002). Distance learning programs have a low completion rate compared to traditional programs (Visser, Plomp, Amirault, & Kuiper, 2002). Motivation can help educators promote the assimilation of both information and behavioral regulations for learners (Deci & Ryan, 2000b). Motivation is described as an academic enabler (Linnenbrink, & Pintrich, 2002). With motivation, learning activities are done for the sake of learning and learning activities are a means to an educational goal. Utilizing the SRL's three facets of motivation Pintrich et al. (1991) broke down motivation into the six components.

Six components of motivation. Pintrich et al. (1991) understood motivation through the self-regulation learning model. The SRL model states that motivation has three facets. Within these three facets of motivation Pintrich et al. defined motivation into six components: intrinsic goal orientation, extrinsic goal orientation, task value, control beliefs, self-efficacy for learning and performance, and test anxiety. The six components of motivation are measured through a questionnaire, the MSLQ. The MSLQ is based on self-report questions that are based on 7-point Likert Scale, ranging from 1 (not at all true of me) to 7 (very true of me).

The first two components of motivation are intrinsic and extrinsic goal orientation. These two components are value components of motivation. They complement each other because they look at why learners participate in a task, "Why am

I doing this?" Pintrich et al. defined intrinsic goal orientation as the general goals or orientation to the course as a whole. Pintrich et al. wrote that intrinsic goal orientation is the learner's internal perception for the reason they are taking the class or taking on a task. Thus, having a high intrinsic goal orientation towards a task indicates the learner's class participation is important to the learner for learning sake. It does not mean that participation is merely a means to a good grade or being able to continue to the next class. An example of intrinsic goal orientation would be the following statement: "When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade" (Pintrich et al., 1991, p. 9). By contrast extrinsic goal orientation is what a learner perceives the participation in a task or a class will bring, such as grade, reward, performance, evaluation by others and completion of the class. With extrinsic goal orientation the learner's motivation focuses on completing the task in class in order to get a good grade. An example would be the following statement: "I want to do well in this class because it is important to show my ability to my family, friends, employer, or others" (Pintrich et al., 1991, p. 10). The next motivational component is task value. Task value is also a value component of motivation, but unlike intrinsic and extrinsic goal orientation, task value is a learner's evaluation of how interesting, how important, and how useful the task is. An example of task value is represented in the following statement: "Understanding the subject matter of this course is very important to me" (Pintrich et al., 1991, p. 11).

The fourth motivation component is control of learning belief. Control of learning belief is an expectancy component of motivation. It is the belief that the learners' effort is

worthwhile. If the learner believes in him or herself, then the effort to learn will result in a positive outcome. The learner should be more likely to study more strategically and effectively. Therefore, the learner will feel in control over academic performance and get desired changes. An example would be the following statement: “It is my own fault if I don’t learn the material in this course” (Pintrich et al., 1991, p. 12). The next component of motivation is self-efficacy for learning and performance. Self-efficacy for learning and performance is an expectancy component of motivation. Within this expectancy component of motivation there are two aspects: Self-efficacy and performance. Self-efficacy is the self-appraisal and judgment of one’s ability to accomplish a task as well as one’s confidence in one’s skill to perform the task. An example of self-efficacy is for one to state, “I believe I will receive an excellent grade in this class” (Pintrich et al., p. 13). The performance aspect is specifically related to performance expectation of a specific task. The last component of motivation is test anxiety. Test anxiety is an affective component of motivation. It is the negative relationship to expectancies and academic performance. Test anxiety has two components: cognitive component and emotional component. The cognitive component or worry component is the learner’s negative thoughts that disrupt performance, while the emotional component is the affective and psychological arousal aspects of anxiety. An example would be, “I have an uneasy, upset feeling when I take an exam” (Pintrich et al., 1991, p. 15.). These six components of motivation have been found to actively influence the motivation, thinking, and behavior of learners for a positive learning outcome (Adcroft, 2010, Lynch, 2006; Pintrich & de Groot 1990; Vanderstoep, Pintrich, & Fagerlin, 1996; Yumusak, Sungur, & Cakiroglu,

2007) and make-up motivation part of the SRL model. These motivational components of the SRL can be assessed using the MSLQ motivational scales.

Motivation differences between distance and traditional learners. Research has found there are differences across the six components of motivation between distance and traditional learners. Wang et al. (2008) showed motivation could directly predict positive learning outcomes. They assessed 135 distance learners and found if learners are motivated for any reason in the distance instruction method, the motivation can have a positive impact on learning results. Wang et al. found that motivation has a direct impact on the learner's scores and results as measured by the learner's end of semester examination scores and their self-assessment.

Jacobson and Harris (2008) assessed 806 students. Two hundred and seventy-five (69%) were traditional students ranging in age from 18 to 22, and 121 (30 %) were non-traditional students age 23 or older. Of the 806 student, 38.9% were male students and 60.1% were female students. Caucasians represented 62% of the students, Black students represented 30%, and Hispanics, Asians, and other racial groups represented 8%. Jacobson and Harris found significant differences in motivational factors of internal goal orientation and task value as measured by the MSLQ of learners attending non-traditional method classrooms as compared to those attending a traditional college campus.

In the traditional learning classroom, research by Clayton, Blumberg, and Auld, (2010) found learners in a traditional educational setting were motivated by different factors than distance learners. They found that learners who preferred traditional environments showed a mastery goal orientation and greater willingness to apply effort

while learning. Learners who preferred less traditional environments showed more self-efficacy and stated they could manage online classrooms. Jacobson and Harris (2008) found significant differences in extrinsic goal orientation as measured by the MSLQ of learners in a traditional college campus.

In another study that looked at undergraduate distance learners found only one of the subscales of the MSLQ was significantly related to the students' marks: The learners who produced higher scores on self-efficacy for learning tended to obtain higher grades then than those who produced lower scores (Richardson, 2007). Gök (2011) researched undergraduates' traditional learners utilizing the MLSQ to measure motivational and the relationship between the academic performance. Findings indicated that the motivational constructs of intrinsic goal orientation was (r=0.42), extrinsic goal orientation was (r=0.36), task value was (r=0.49), control of learning beliefs was (r=0.41), and self-efficacy for learning and performance was (r=0.48), were all positively and significantly related to academic performance of the students. But test anxiety was (r=0.01) was not significantly related to academic performance. The results provide evidence for the importance of considering both motivational components in the lecture in an effort to enhance the academic performance of traditional university students.

One hundred twenty students in two undergraduate introductory educational psychology classes some learners in distance method class and some in a traditional method class were assessed using the MLSQ. Findings did not suggest that classroom pedagogy was better than the other in terms of student achievement. Students'

motivation, understanding, and ability to apply course concepts were equal in both sections, regardless of type of pedagogy (Edens, 2008).

Motivational differences between male and female distance and traditional learners. Differences between male and female distance and traditional learners were found across the six components of motivation. A study by Lynch (2010) found women and men enrolled in a college physics class had different motivational traits. Lynch found there were no significant differences in the women and men's academic outcome. Women had marginally significant higher extrinsic goal orientation, higher test anxiety, and a lower self-efficacy and task value. One study found gender differences in self-efficacy. Boys under 18 rated themselves more efficacious than girls, and boys felt less test anxious than girls (Pintrich & de Groot, 1990). Pintrich (2000) examined gender as a variable and found interactions between gender and the goal-orientation variables; Pintrich found one significant difference in gender which was performance goal interaction (on positive affect). Significant gender differences were reported on several constructs of motivation. Patrick, Ryan, and Pintrich (1999) found that men reported greater extrinsic orientation and self-efficacy than women, but it was found that women reported significantly higher levels of cognitive strategy-use than men. Yukselturk and Bulut (2009) found that women and men's motivational beliefs differ in distance learning. Specifically they found that women's self-efficacy and task value was higher, but did not account for women's significant higher achievement in distance education. When they looked specifically at the women's test anxiety as measured by the MSLQ they found that it had a significant contribution to variance in achievement ($p>0.05$).

Edens (2008) found that specific student characteristics, such as gender, self-regulation, and goal orientation, play a role in the effectiveness of distance and traditional learners achievement. Gender and goal orientation also interacted significantly on the Exam $F(1,110) = 7.45$, $p = .001$, with males having an extrinsic (performance) goal orientation significantly outperforming intrinsic goal oriented males, and extrinsic goal oriented females. Gender and self-regulation also interacted significantly, $F(1, 110) = 7.9$, $p=.006$, surprisingly, with males with low self-regulation outperforming males with high self-regulation Findings from this study strongly support previous research that found that pedagogy influence students' participatory behavior and active engagement in learning.

Learning Strategies Defined Through the Self-Regulation Learning Model

This section will review the leaning strategies as defined through the self-regulation learning model. The SRL model looked at the cognitive process of learning strategies of college students. Learning strategies are tools that graduate learners can use to help them remember things better or to do tasks more efficiently (Butler, Phillman, & Smart, 2001). Learning strategies are derived from motivational drive. Motivational drive is the dynamic use of planning and organizing learning strategies (Garner, 2009). Learning strategies are activities that help learners engage in reading, writing, discussing, and solving problems. Learning strategies foster critical thinking and have been found to be successful in fostering the learning process (Cho, 2004). Learning strategies help learners embrace an environment that allows them to get involved in their learning process (Grasha, 2002). Pintrich et al. (1991) defined nine learning strategies through the

SRL model. These nine learning strategies can be assessed and can help improve learning outcomes (Al-Ansari, 2005; Vanderstoep, Pintrich, & Fagerlin, 1996; Zusho, Pintrick, & Goppola, 2003). The nine learning strategies gave insight into what cognitive skills the student needs to have academic success (Pintrich, 2004).

Nine learning strategies. Pintrich et al. (1991) defined nine learning strategies through the SRL model: rehearsal, elaboration, organization, critical thinking, metacognitve self-regulation, time and study environment, effort regulation, peer learning, and help seeking. The nine components of learning strategies are measured through a questionnaire, the MSLQ. The MSLQ is based on self-report questions that is based on 7-point Likert Scale, ranging from 1 (not at all true of me) to 7 (very true of me).

The nine learning strategies are divided into two categories: cognitive and metacognitive strategies and resource management strategies. The nine learning strategies are divided in to five cognitive and metacognitive learning strategies and four resource management learning strategies. The first of the cognitive and metacognitive learning strategies is rehearsal. Rehearsal activates the working memory to recite and name items form a list to be learned. Rehearsal is best used for the simple task and engages the working memory to acquire new information. It helps with attention and encoding process. An example of rehearsal would be in the following statement, "I make lists of important terms for this course and memorize the list" (Pintrich et al., 1991, p. 19). Elaboration is the second cognitive and metacognitive learning strategy. Elaboration is creating meaning of the information and storing information into long-term memory. This

learning strategy helps learners integrate and connect new information with prior information learned. An elaboration strategy is paraphrasing, summarizing, and note taking. An example of elaboration would be, "I try to apply ideas from course reading in other class activities such as lecture and discussion" (Pintrich et al., 1991, p. 20). The third cognitive and metacognitive strategy is organization. Organization is creating a construct to make connections between information to be learned. This learning strategy is an active form of learning which the learner uses to organize information learned. An example of organization strategies is clustering and outlining. A learner may say, "When I study for this course, I go over my class notes and make an outline of important concepts" (Pintrich et al., 1991, p. 21). The fourth cognitive and metacognitive strategy is critical thinking. Critical thinking is applying previous knowledge to a new situation to solve a problem, make a decision, and evaluate information. An example of critical thinking would be, "Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives" (Pintrich et al., 1991, p. 22). The last cognitive and metacognitive learning strategy is metacognitive self-regulation. Metacognitive self-regulation has three elements: planning, monitoring, and regulating one's activities to learn. Learners can plan activities to support learning, monitor the material, and integrate material learned; then learners can regulate cognitive activities to improve their performance. This learning strategy allows learners to control and self-regulate what is learned. An example would be, "When I study for this class, I set goals for myself in order to direct my activities in each study period" (Pintrich et al., 1991, p. 23).

The first of the four resource management strategies is time and study environment. Time and study environment is the learner's ability to manage and regulate his or her time and study environment. Learners are involved in scheduling, planning, and managing learning activities. An example of time and study learning strategy would be, "I make sure I keep up with the weekly readings and assignments for this course" (Pintrich et al., 1991, p. 25). The second resource management strategy is effort regulation. Effort regulation is self-management of one's study goals and relates learning strategies to be academically successful. This learning strategy helps learners to continue using learning strategies. An example would be, "Even when course materials are dull and uninteresting, I manage to keep working until I finish" (Pintrich et al., 1991, p. 27). The third resource management strategy is peer learning. Peer learning is collaborating with peers to have a positive outcome of learning objectives. Collaborative effort helps learners clarify material and reach insight that may not have been reached by the learner on his or her own. An example of peer learning would be, "When studying for this course, I often set aside time to discuss the course material with a group of students from the class" (Pintrich et al., 1991, p. 28). The final resource management learning strategy is help seeking. Help seeking is managing support from others, including peers and teachers. An example of help seeking is requesting peer help, peer tutoring, and communication with teachers. An example would be, "When I can't understand the material in this course, I ask another student in this class for help" (Pintrich et al., 1991, p. 29). These nine learning strategies were developed out of Weinstein and Mayer's (1986) general cognitive model of learning and information processes. Research shows

that these nine learning strategies improve learning outcomes (Al-Ansari, 2005; Vanderstoep, Pintrich, & Fagerlin, 1996; Zusho, Pintrick, & Goppola, 2003) and make-up the learning strategies that the SRL model assesses through the MSLQ.

Learning strategies differences between distance and traditional learners. Differences between distance and traditional learners were found across the nine learning strategies. Wang et al., (2008) found that learning strategies have a direct impact on distance learners' results. In the distance learning classroom, three of the nine subscales for learning strategies have been reported to have significant differences between learners attending traditional colleges and those attending distance learning colleges. The distance learning students scored significantly higher than the traditional learners on the subscales of elaboration, critical thinking, and metacognitive self-regulation (Jacobson & Harris, 2008). Jacobson and Harris reported that nontraditional students scored higher on all learning strategies scales than the traditional campus students on all subscales except help seeking, where traditional college campus students scored significantly higher. Wang et al. found that learning strategies play a role in the positive outcomes of the distance learner. Other research found that learners in distance learning and traditional learning needed more learning strategies to get the most out of the learning activity (Niemi, Nevgi, & Virtanen, 2003; Wang et al., 2008). Clayton et al. (2010) found that learners in a traditional setting put in more effort into learning through utilizing more learning strategies as measured by the MSLQ.

Kilic-Cakmak, E. (2010) measured undergraduate distance learners' learning strategies utilizing the MSLQ. The researcher found that learners throughout their

educational process used learning strategies and the learning strategies directly affect the learners' success. Kilic-Cakmak deducted that distance learners' used of metacognitive strategies to help in the planning, organizing and self-evaluation of information construction process to help the learners self regulated.

Gök (2011) researched undergraduates' traditional learners utilizing the MLSQ to measure motivational and the relationship between the academic performance. With the respect to the learning strategies concerning the relationship between the academic performance and use of learning strategies of students, the findings indicated that the learning strategy constructs rehearsal was (r=0.33), elaboration was (r=0.43), organization was (r=0.40), critical thinking was (r=0.47), meta-cognitive self-regulation was (r=0.40), time and study environment was (r=0.42), effort regulation was (r=0.44), peer learning was (r=0.35), help seeking was (r=0.32). The results indicated that the nine subscales were positively related to academic performance. Help seeking, although significantly related, achieved the lowest correlation with academic performance in the group. The results provide evidence for the importance of considering both learning strategies enhance the academic performance of traditional university students.

Learning strategies differences between male and female distance and traditional learners. Learning strategies differences have been found between men and women. Women use higher levels of cognitive strategy than men (Patrick et al., 1999). In one study women learners scored moderately higher than men on help-seeking strategies (Virtanen & Nevgi, 2010). Marrs and Sigler (2012) found that women score significantly higher in learning strategies. Ahmad, Jelas, and Ali, (2010) found there was significant

difference between female and male students in the subjects of Malay, English, Mathematics and Science test scores. The mean score of female students is higher than male students. Results of the study found that learning strategies contributes more to student's academic achievement. In general, a positive and significant correlation was found between the use of learning strategies and the level of academic performance. Simsek and Balaban, (2010) stated that the more learning strategies used, the higher the student performance was. High-achieving students used more learning strategies than low-achieving students, both in frequency and variety. Simsek and Balaban found that female students employed more learning strategies than male students. While other research found that female students reported using higher learning strategy. More specifically, female learners showed greater use of the five learning strategy categories: memory, compensation, cognitive, metacognitive and peer learning categories (Kayaoglu, 2012).

Sizoo, Malhotra and Bearson (2003), suggesting that female students in distance education programs benefitted more from the use varied learning strategies. It may be due to the fact that female students generally represented a higher percentage within high-achieving groups in all fields of study so they both used more strategies and therefore outperformed male students. Other research found there were no differences in learning strategies between women and men as measured by the MSLQ (Bidjeran, 2005; Yukselturk & Bulut, 2009).

Gender, Age, and Ethnicity Differences Between Distances and Traditional Learners

There are differences across the variables of gender, age, and ethnicity of distance and traditional learners. This section will look at these three variables and report the difference of these three variables between distance and traditional learners.

Gender. There have been differences in college enrollment between women and men. The major shift happened between 1970 and 2009 when the enrollment of women in college increased (NCES, 2009). Women went from being the minority to the majority of the U.S. undergraduate population (Freeman, 2004). Women are the growing and dominant student population in postsecondary education and they are also earning more degrees than men. Of the freshmen who enrolled in a traditional college or university for the first time in 1995-96 seeking a bachelor's degree, 66% of the women and 59% of the men earned the degree. Between 1987 and 1997, the number of men enrolled in college rose seven percent, while the number of women enrolled increased by 17 percent. In traditional educational methods women represented 70 to 75% of first-year, full-time enrollees in doctoral and master's psychology programs, respectively, and 72% and 77% of part-time enrollees in doctoral and master's psychology programs, respectively (Pate, 2001).

Atan et al. (2002) proposed that distance education has played a key role in reducing the gap in enrollment between the genders. In a survey of 103 women, respondents stated they were likely to enroll and prefer distance learning class (Harris & Gibson, 2006). Fifty-seven percent of distance education learners and traditional learners

are women (NCES, 2009). Atan et al. stated that distance learning helped to increase the technological confidence and experience of women. Freeman reported that women have greater success than men in attaining postsecondary education. Women are more persistent and complete degrees at higher rates than men. Research by Marrs and Sigler (2011) found that women do significantly better in learning and study strategies. Women scored significantly higher than men did on deep approach, achieving approach, motivation, self-testing, use of study aids, and time management as measured by Shortened Study Process Questionnaire (SSPQ) and the Learning and Study Strategies Inventory (LASSI). Because of these differences in enrollment and successful completion rate (Freeman 2004), gender will be examined in the proposed study. There is no research on the differences between women and men in the distance learning-method of graduate learners.

Age. There is a difference in the ages of students in a distance learning setting, compared to the ages of students in the traditional classroom. Older students are more likely to choose distance learning (Harris & Gibson, 2006) because it allows for flexibility around employment (NCES, 2009), child care, financial support, and for learners who would otherwise not have access (Chen et al., 2010) see Table 1. Because of these differences, age will be controlled in the proposed study.

Ethnicity. Distance learning-method ethnic minorities out number their traditional counterparts. Research by Chen et al. (2010) found that students of racial and ethnic minorities are more likely to take online courses. Chen et al. found racial and ethnic minorities choose online courses because the online classes offer flexibility. The

factors that racial and ethnic minorities listed as impacting their decision to choose distance learning were employment, child care, and financial support. See Table 2. Because of these differences, ethnicity (Caucasian versus not) will be controlled in the proposed study.

Distance Education Method

While there is a good understanding of motivation and learning strategies of young, traditional college learners who attend traditional method institutions (Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008), little is known about how motivation and learning strategies influence graduate distance and traditional learners' academic success and how the variables of gender, age and ethnicity influence academic success. This section will report the growth of distance education, give the origin of distance learning, and give the understanding of how theory of independent learning describes the relevance of distance education today. Finally this section will give information how technology has influenced distance education.

Growth of Distance Education

Distance learning is a method of learning that is delivered by web-based or Internet-based technologies (Ludlow, 1994). The use of distance education has increased significantly. A survey by the NCES (1999) found that growth in Internet-based teaching went from 22% of institutions in 1995 to 60% in 1997-1998, and to 65% of institutions in 2008 (NCES, 2008). The enrollment in distance learning programs is projected to increase across all postsecondary levels at a rate of 18% for undergraduate students and

19% for graduate students by 2014 (NCES, 2009). In 2009, 20.5 million adults were pursuing a college degree (NCES, 2010) and of those 32% were pursuing their education through distance learning-method (NCES, 2009).

Understanding Origin of Distance Learning

In 1973 Moore introduced the theory of independent learning. The theory of independent learning looks at the distance learning as relevant from of education. The theory of independent learning states that successful teaching and learning can take place even if the teacher and learners are physically separated. Moore observed the trend of learning and theorized that learning does not decrease if the teacher and learner are physical separated.

Moore's stated in his theory of independent learning that there are two parts to learning independently: individualization and dialogue. Individualization is the process where an individual learner controls the pace of instruction and where interactive dialogue occurs between the teacher and the learner. The theory of independent learning set the foundation for distance learning and conceptualized distance learning into three phases, which Moore and Kearsley (1996) later labeled *generations*. See Figure 1.

The first generation of distance education started before the 1970s, and was in the form of a correspondence study or single medium distance education. This generation used printed materials and study guides sent by mail from lecturers/tutors at correspondence institutions. Learners were given assignments, such as essays, letters, or a reading lists with a set of questions, which correspondence tutors marked. After the 1970s, the second generation of distance education was developed. This generation of

distance learning involved learners in a multimedia distance instruction method education. The second generation used a range of one-way media such as print, television, radio broadcasting, cassettes, and at times used two-way communication with correspondence tutors or face-to-face tutorials.

The second generation of distance education was not successful, because it was not was not promoted. Before 1987 the United States had fewer than 10 states promoting distance education. In 1987 the number of states stated to promote distance education and the number of states offering distance education grew to 33. By 1989, all states were involved in distance education programs. In 1989 the evolution of distance education was supported by a report prepared for Congress by the Office of Technology Assessment called *Linking for Learning* (U.S. Congress, Office of Technology Assessment, 1989). The *Linking for Learning* report gave an overview of distance education programs, the role of teachers, and reports of local, state and federal projects. This report highlighted how technology was being used in schools.

The third generation of distance education learners emerged in the 1990s, with the use of electronic information technology such as telecommunications, computer conferencing networks, audio conferencing, and video conferencing. The third generation of distance learning is the learning method used today. Education is delivered through electronic information technology and utilizes web-based and Internet technologies. The 1990s saw a rapid rise in the number of institutions wanting to offer network-based, flexible learning through traditional programs. As educational institutions looked at the potential market and growth of distance education programs while using a commercial

portal, a conceptual battle began between the for-profit and nonprofit providers. In 1998, an Education Commission was reauthorized by the Higher Education Act under Title VIII, to commission a study of how the Internet can be used in education—from prekindergarten to job retraining. The Commission's report, titled *The Power of the Internet for Learning* (2000) urged the new administration and the 107th Congress to make E-learning a centerpiece of the nation's education policy. The Commission report stated:

> "The Internet is perhaps the most transformative technology in history, reshaping business, media, entertainment, and society in astonishing ways. But for all its power, it is just now being tapped to transform education . . . There is no going back. The traditional classroom has been transformed" (Web-Based Education Commission, 2000, p. 1).

Throughout the generations of distance education, technology has influenced the instructional modes of education. Instead of getting an education in a traditional environment, distance education learners today get their education via computer mediated communication, distance multimedia and interactive options (Distance Learning Task Force Report, 1999). In a distance education environment, learners and educational material are linked together, where learners interact with the teacher, other learners, and the educational material in typically asynchronous situations. The independent learning theory describes the shift of how education is delivered and gives the foundation to distance education.

Technology in the Classroom

The infiltration of technology into the delivery of education has changed the landscape for higher education by making education more accessible (Abrami, 2001). The use of technology helps reach learners who do not live near a land-based university, or would have difficulty attending a traditional instruction method university. These learners can utilize technology to access education (Notar et al., 2002).

Technology has also changed the pedagogy of the classroom (AACSB, 1999, p.3). Pedagogy is defined by the National Board for Professional Teaching Standards (2007) defines pedagogy as follows:

> "Content pedagogy refers to the pedagogical (teaching) skills teachers use to impart the specialized knowledge/content of their subject area(s). Effective teachers display a wide range of skills and abilities that lead to creating a learning environment where all students feel comfortable and are sure that they can succeed both academically and personally. This complex combination of skills and abilities is integrated in the professional teaching standards that also include essential knowledge, dispositions, and commitments that allow educators to practice at a high level (National Board Professional Teaching Standards, 2007, p. 11).

The pedagogy of the classroom influences the success of learners. Harlow et al. (2002) found engaged pedagogy will reduce anxiety and increase self-efficacy. Harlow et al. reported that learning enhancement activities promote and engage pedagogy. Through enhanced activities learners will engage in the learning process. This research showed engaged pedagogy can positively influence the attitude, skill, and performance of learners.

There are many ways in which technology has changed the pedagogy of the classroom. In the distance and traditional learning environments, learners interact with the teacher, other learners, and their educational materials. The utilization of technology through the Internet, DVDs, movies, and other learning materials allows for the learning environment to be more active. Technology allows both the distance environment and the traditional environment to be an active learning experience for learners. The interaction of learners with the teacher, with other learners, and with their educational material allows for the educational goals to be met in the classroom environment. The interaction enables learners to acquire and retain knowledge and to gain the ability to use the information to solve problems utilizing critical thinking skills (Notar et al., 2002). Critical thinking skills result in a process of analysis of learning needs and goals of the learner and the development of a delivery system to meet those needs and goals of the learner. The delivery system that meets the needs and goals for learners includes development of instructional materials and activities, as well as testing and evaluation of all instruction and graduate learners' activities. Instructional strategies promote motivation and learning strategies for the learner, and they can engage the learners actively with the learning process. Learners learn to reflect on and use existing structures of knowledge to guide and further their learning. Learners also discover how to interact in the classroom or within communities of learning where knowledge and information are shared (De Miranda, 2004). These shifts in the pedagogy promote positively influence the attitude, skill, and performance of learners (Harlow et al., 2002).

In the last 20 years, there has been a technological shift in how learners access and receive educational material (Tyre, 2002). Technology changed the delivery of information in the classroom. Technologies complement established educational practices and/or introduce entirely new ways of learning. Technology engages learners in new ways. Teachers report that technology in the classroom increases proficiency with technology, increases motivation and positive attitudes toward school, increases cooperation and collaboration in the classroom, increases self-esteem in school, increases self-directedness in school, increases opportunities to learn at learners' own pace in school, and increases organization in school (Tyre, 2002).

Technology changes how information is delivered (Tyre, 2002). "Technologies have fostered large-scale cultural change and disruptions" (Sontroem, 2006, p.149). The shift in the delivery of education creates a learner-centered and collaborative environment that supports learners in their learning environment (Huang, 2002). Technology has lowered many of the barriers that exist in the traditional classroom. The proper use of technology can increase the interaction between learners and teacher, learners and learners, and learners and educational material. The increased interaction results in learners being more engaged and active in the learning process (Notar et al., 2002). Graduate learners can engage in learning strategies that are most effective for them.

Both distance and traditional classrooms can utilize technology. How are distance education environments and traditional classrooms different? In the traditional classroom learners may have limited contact with the instructor, other learners, and educational material. Learners do not have to go to class or engage with the instructor, other learners,

and educational materials. The traditional classroom can use technology, but in most traditional classrooms the teacher lectures on material while learners listen. Technology can help learners develop new learning strategies that allow learners to interact with the teacher, other learners, and materials. The distance classroom learners do have to engage with the instructor, other learners, and educational materials through technology because that is how the information is delivered. The technology with which education is delivered allows the educational institution to share assignments, access articles and information on the web to supplement course texts, provide hands-on interactive activities on the Internet, such as e-mail, group work pages, group appointments, individual appointments, web research/distance instruction library resources, presentations, web site assignments, discussion boards, and virtual classrooms (Gray, 2001; Notar et al., 2002).

Technology (i.e., computers and the Internet) enables learners to become active participants in their education. Technology provides the setting for active engagement of learners in education that can be supported by the instructor. The instructor can help learners to find learning strategies that will increase success in the classroom. Learners can actively participate in the class, by utilizing technology. Through technology, learners can engage the classroom environment and be supported. Setting up the classroom for learners to implement individual learning strategies promotes learners to be engaged in the learning process. Technology actively engages learners and breaks down the obstacles that learners have, such as lack of motivation, lack of support, physical distance instruction in school, access to educational materials, lack of self-efficacy and

lack of learning strategies for the graduate learner (Bonwell & Eison, 1991). Other obstacles can include cost, feedback, teacher contact, services, alienation, isolation, lack of experience, and training (Galusha, 2008). Technology allows learners to overcome the obstacles that are associated with learning. Technology actively engages learners and breaks down the obstacles that learners have to education. Research by Chen et al., (2010) found that learners who were web based or were enrolled in a hybrid classroom engage in learning tools and technologies more frequently than learners who only took face-to-face courses. Chen et al. found a positive relationship between web-based learning technology use and student engagement, and desirable learning outcomes. The students utilizing the web and Internet technologies in their learning tend to score higher in the traditional student engagement measures (e.g. level of academic challenge, active and collaborative learning, student-faculty interaction, and supportive campus environment). The students that utilize web and Internet technologies are more likely to make use of deep approaches of learning like higher order thinking, reflective learning, and integrative learning in their study, and they reported higher gains in general education, practical competence, and personal and social development. These results indicate that Internet and web-based learning technologies continue to have a positive impact on student learning and engagement. Chen et al. study found that there is a positive correlation between the use of technology and engagement, learning approaches, and self-reported learning outcomes.

In spite of all its promise, technology is just a tool to be used by educational institutions to improve learning. Russell (1999) examined 355 students comparing

distance to traditional education and found that there were no significant differences between distance and traditional motivation and learning strategies. Russell found instead that factors such as learners' characteristics, motivation, and learning strategies influenced the success of learners. Russell reviewed correspondence courses, instructional videotapes, interactive video, on-campus satellite and in-person courses. He compared test scores, grades, or performance measures unique to the study, as well as learner satisfaction. Forty of the 355 studies included computer-based instruction. Russell concluded, "There is nothing inherent in the technology that elicits improvements in learning, although the process of redesigning a course to adapt the content to the technology can improve the course and improve the outcomes" (p. 13). Technology then, is "merely a means of delivering instruction, a delivery truck, so to speak, which does not influence achievement" (p. 14). Russell concluded, "No matter how it is produced, how it is delivered, whether or not it is interactive, low-tech or high-tech, learners learn equally well" (p. 14).

More recent work by Shelley, Swartz, and Cole (2007), found no statistically significant differences between the online and traditional instructional/learning formats. They found that learner satisfaction with the course overall and with the instructor was slightly higher in the traditional classroom format than with the online format, and learner satisfaction with the course structure was slightly higher in the online format as opposed to the traditional format. The mean scores for student learning in the online courses were slightly higher than for those in the traditional classes.

The distance education environment is improving through the application of modern technologies. The platforms for creating online classrooms allow for interactions among learners and instructors, and for all sorts of learning tools (Rogerson-Revell, 2007). As technology has improved, the goal of distance education has shifted from making it as effective as traditional education, to giving the best experience to learners (Thoms, Garrett, Soffer, & Ryan, 2008). The implementation of software allows learners to say what they want to say, listen to what they want to listen to and increase their understanding both of themselves and of their fellow community members. The implemented software designed to promote free expression of identity and ideas by and between individuals have shown to enhance graduate enhanced learning, social interaction and supportive academic community. Thoms et al., (2008) examined 260 graduate students, 82% of which reported that the implementation of software promoted learning, social interaction, and academic community. They further stated that the software provided an excellent medium for social interaction. Thoms et al. also found that learners who took online courses were more likely to use web or Internet technologies to enhance their learning and communication with faculty and other learners.

Although there are mixed results about the impact that technology has on the learner, it is important to understand that technology has influenced how education is delivered. Technology has made education more accessible to those who are constrained by schedule, distance, and finances. Technology is serving as a means to access education

and thus learners are demanding flexible schedules, wanting access to college, and wanting their education to be more affordable.

Summary

Motivation and learning strategies are predictive factors of academic success (Pintrich, Smith, Garcia, & McKeachie, 1991). This chapter reviewed the literature on motivation and learning strategies. It looked at the two models of learning for college students: Self-regulation learning model (SRL) and the students' approach to learning model (SAL). This chapter provided evidence that determined that the SRL model is a better model to understand the predictive factors of academic success. The SRL model gives understanding of learning of the college students. The SRL model gives the foundation to understand the theoretical constructs, motivation and learning strategies, of this proposed study.

Knowing the foundation of learning in college students allows for this proposed study to fill in the gap in literature by comparing graduate learners in distance education programs from graduate learners in traditional programs across independent variables of motivation and learning strategies hence will expand the knowledge base of educational psychology of how Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies. Knowing the factors that influence success in the classroom is important. With more adults pursuing their education, education providers are turning to technology to increase the flexibility and accessibility of their programs (NCES, 2001) and help graduate learners be successful in the classroom.

Chapter 2 described the 15 dependent variables, six components of motivation and nine learning strategies, of this proposed study. Chapter 2 went on to compare distance and traditional learners across the variables motivation, learning strategies, gender, age, and ethnicity. The chapter discussed distance education, the growth of distance education, and independent learning theory. This chapter reviewed the relevant theory and empirical evidence for the presented research.

In this chapter, I reviewed the literature in the areas of components of motivation and learning strategies, and then it compared distance and traditional learners across the variables motivation, learning strategies, gender, age, and ethnicity. The chapter discussed distance education, the growth of distance education, and independent learning theory. This chapter reviewed relevant theory and empirical evidence for the presented research. In Chapter 3, I present the methods of the study, including a description of the tools to use in this study, description of the proposed population, design, and analysis.

Chapter 3: Research Methods

This study was designed to determine how gender and learning method affect motivation and learning strategies in the graduate learner. There are significant documented differences in how educational materials are delivered between distance and traditional instructional methods at universities. This suggests that it is important to examine motivation and learning strategies that have been shown to influence academic outcomes (Pintrich et al., 1991). This study specifically examined the differences of motivation and learning strategies between graduate social science and psychology students that choose distance and traditional instructional methods for their learning. It compared motivation and learning strategies of graduate social science and psychology students across gender and instructional method. This study was specifically designed to fill a gap in the literature by comparing graduate learners in distance education programs from graduate learners in traditional programs in the United States.

In this chapter, the methodology of the proposed research will be presented. A research design will be presented and justified. The setting, sample, and procedure will be outlined. A description of the demographics and instrumentation will be given. The hypotheses and research questions will be stated. The strategies for the ethical protection of participants will be outlined and the quantitative data analysis will be described.

The Purpose of the Study

In the 2009 academic school year, over 6 million students enrolled in distance education courses. It is projected that enrollment in distance education instruction will increase across all postsecondary levels, with a projected 18% growth for undergraduate

students and 19% for graduate students (NCES, 2010). Although the projected enrollment in distance education is growing, the National Center Educational Statistics (NCES; 2012) reported that they have not gathered any statistics on the enrollment of graduate distance education learners. The proposed study will provide important information on motivation and learning styles of men and women. This research will provide information on the differences or similarities of motivation and learning strategies of graduate distance education learners in comparison to traditional education learners. More information will be gathered about the men and women learners in the graduate distance and traditional learning method. The information gathered about motivation and learning strategies will contribute to the MSLQ research base. It is research with the MSLQ that has impacted teaching by informing instructors on how to best maximize learning strategies and motivation in learners. This has impacted how academic institutions approach distance education learners and how academic institutions can best promote the development of graduate distance learner thinking. This study may suggest ways for academic institutions to direct funding in ways that attempt to decrease dropout rates and help learners in graduate schools be more successful in the classroom through policies and interventions based on the empirical evidence obtained here.

Research Design and Approach

This research design chosen for this research was a factorial quasi-experimental design. This used a Multivariate Analysis of Co-Variance (MANCOVA), with a total of two independent variables, gender (male/ female) and method of instruction (distance/traditional), and 15 dependent variables, six motivation variables; control belief,

self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety which are identified as motivational components for learning by measured by the Motivated Strategies of Learning Questionnaire (MSLQ) (Pintrich et al., 1991), and nine learning strategies variables; rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking which are indentified as learning strategies for learning as measured by the MSLQ. Motivation and learning strategies were measured with the MSLQ.

This study was factorial because it was analyzed with a 2 (Gender) x 2 (Method of Instruction) factorial analysis. It was quasi-experimental because it used a comparison group of graduate learners who were enrolled in distance and traditional instruction, which was not the result of random assignment. It was predicted that the two samples will differ with respect to age, so age was used as a covariate. The correlation between ethnicity (non-minority or minority) and the independent variables was examined to determine if ethnicity should be used as a covariate along with age.

A quasi-experimental design was chosen because the sample was not randomly selected. Even though the sample was not randomly selected, the data was collected and analyzed in hopes to, as suggested by Dimsdale and Kutner (2004), find a relationship between the independent variables of gender, male and female, and method of instruction, distance and traditional graduate learners, and the dependent variables of the six motivational constructs and the nine learning strategies constructs. The quasi-experimental design allowed for the research to be feasible despite its compromised

internal validity, as suggested by Prater (1983). The design also increased the external validity (Henrichsen, Smith, & Baker, 1997). Quasi-experimental design is preferred in educational research because it makes research in the academic setting plausible and realistic (Slavin, 2003; NCES, 1998, 2002).

Setting and Sample

Sample. The sample of 180 participants was sorted into 2 groups with 2 levels, leading to a 2 x 2 factorial design. The sample was composed of psychology, counseling, and social work learners that were enrolled in a master's or doctoral program. Since there was not a previous effect size to guide this sample determination, a .3 to .5 moderate effect size was used as suggested by Cohen (1977), using a power of .80 and an alpha = .05. The statistical power in this context was the probability that the null hypotheses would be rejected with the conventional power = .80 when the null hypothesis is not true in the population. Thus, there was a .80 probability of making the correct decision and finding statistical significance when it should be found. The assumption of a smaller effect size would result in a significantly larger sample and so the present study will be a sample of 180 divided into a 2 x 2 factorial design of 45 in each group (Cohen, 1977, pp. 273–315).

Procedure. Permission for this research was sought from the IRB of Walden University. Letter of community support were gathered from New Mexico Highland University and Webster University that participated in the study. Each university received instructions that directed the learners to access the forms and questionnaires at the university's participant pool website using surveymonkey.com. These questionnaires

were posted through the university's participant pool website. The survey tool was available through surveymonkey.com. Once the study participants accessed surveymonkey.com they were given access to the informed consent information (see Appendix F); this included brief background information on the study, the procedures of participation, a discussion of confidentiality, the volunteer nature of the study, and ethical concerns. After the learner agreed to the terms of the consent, they were able to proceed with the survey.

The survey was anonymous. Surveymonkey.com has been used in many past studies. For example, McCoy, Carr, Marks, and Mbarike (2004) found that utilizing electronic surveys such as surveymonkey.com resulted in no difference in participants' response rate, or in the content of the responses to the questionnaire between web-based and paper and pencil assessments.

The participants were asked to fill out a demographic questionnaire and the MSLQ. The MSLQ's 11 questionnaire items assessed participants' demographic information, including their gender, age, level of education (graduate or undergraduate), instructional method, and ethnic background. Completing the questionnaires was projected to take approximately 30 minutes (Pintrich et al., 1991). After the learners have taken the questionnaire there was a debriefing statement at the end.

Instrumentation

Demographics. A demographics questionnaire (see Appendix G) assessed basic information regarding participants' gender, method of instruction, age, ethnic background, and level of education (graduate or undergraduate). The demographic

information of gender was collected to compare with the dependent variables of the six motivation constructs and the nine learning strategies constructs. The demographic information of age and ethnicity was measured and controlled for.

MSLQ. The Motivated Strategies of Learning Questionnaire (Pintrich et al., 1991) assessed participants' motivations and learning strategies. This questionnaire consists of 81 items grouped into 15 scales (see Appendix G). The MSLQ questions are situation-specific and are answered on a 7-point Likert Scale, ranging from 1 (not at all true of me) to 7 (very true of me). It was formally developed in 1986 (Pintrich et al., 1991) and consists of 15 MSLQ subscales that were empirically derived on the basis of factor analyses (see Appendix H). I purchased a license to use this questionnaire and obtained permission from the publisher to use it.

Pintrich et al. (1991) detailed two constructs, motivation and learning strategies, each divided into subscales. The motivation construct has subcategories examining expectancy, value, and affect. Expectancy is divided into two subscales of control beliefs and self-efficacy of learning and performance. Control of beliefs refers to the learners' beliefs that their efforts to learn will result in positive outcomes. Self-efficacy for learning and performance measures two aspects of expectancy of success. The first expectancy refers to performance expectations, and relates specifically to task performance, whereas self-efficacy is the self-appraisal of one's ability to master a task. Self-efficacy for learning and performance subscales includes judgments of one's ability to accomplish a task as well as one's confidence in one's skill to perform the task.

The value construct has three subscales: intrinsic goal orientation, extrinsic goal orientation, and task value. Intrinsic goal orientation refers to the learners' perception of why they are engaged in the learning task. Extrinsic goal orientation refers to how learners perceive their participation in a task. This perception of the learners' participation in a task can be evaluated by grades, rewards, performance, and evaluation by others or competition. Task value is how the learners evaluate the interest, importance or the usefulness of the task. The affect construct has one subscale, test anxiety. Test anxiety refers to the negative expectancies of academic performance.

In the second construct of learning strategies, Pintrich et al. (1991) divided learning into cognitive/metacognitive and resource management. Cognitive and Metacognitive has five subscales: rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation. Rehearsal is a strategy of reciting or naming items from a list to be learned. Elaboration is the strategy which helps the learner store information long-term. This strategy includes paraphrasing, summarizing, creating analogies, and generalized note taking. Organization is the strategy that helps the learner select appropriate information. Organization strategy connects the information to be learned. An example of organization would be outlining. Critical thinking is the strategy which the learner applies previous information to a new situation in order to solve problems, reach decisions, or make critical evaluations. Metacognitive self-regulation is the strategy which the learner plans, monitors, and regulates his or her awareness, knowledge, and control of cognition. Resource management-time and study environment is the strategy which the learner schedules, plans and manages study time. Effort

regulation is the strategy in which the learner manages their effort and attention to the task. Peer learning is collaboration with one's peers to have a positive effect on achievement. Help seeking is when the learner manages to be supported by others: peers and instructors.

The authors calculated internal consistency estimates of reliability (Cronbach's alpha) and "zero-order correlations between the different motivational and cognitive scales" (Pintrich, Smith, García, & McKeachie, 1993, p. 806). The majority of the Cronbach's alphas for the individual subscales (9 out of 15) were fairly robust (i.e., they were greater than .70, with the largest one, self-efficacy for learning and performance, being .93). The Cronbach's alphas for the remainder of the subscales fell below .70 with the lowest one (help seeking), coming in at .52 whereby the validity data is limited. With the help seeking scale is low in validity it will not be used and factored in analyses but data will be collected. As researchers (Duncan & McKeachie, 2005; Pilotte & Gable, 1990; Wright & Masters, 1982) have all reported that the MSLQ was an efficient, practical, and ecologically valid measure of learners' motivation and learning strategies.

Research Questions and Hypotheses

This study will compare the effect of gender and instructional method (traditional instruction method versus distance instruction method) on the motivation and learning strategies of the graduate learner in graduate programs. It is hypothesized that while controlling for age, distance instruction method learners will differ from traditional instruction method learners on a multivariate profile developed through the MSLQ and women will differ from men on a multivariate profile developed through the MSLQ.

RQ1: Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the six elements of motivation (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) with age and ethnicity as a covariate if necessary? This research question was designed to be tested via a gender x instructional methods multivariate analysis of covariance. This design tested three hypotheses:

$H_0$1: There are no multivariate differences between men and women on the six motivation elements.

H_a1: There are multivariate differences between men and women on the six motivation elements.

$H_0$2: There are no multivariate differences between traditional and distance education learners on the six motivation elements.

H_a2: There are multivariate differences between traditional and distance education learners on the six motivation elements.

$H_0$3: There is no multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

H_a3: There is a multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

RQ2. Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the nine elements of learning strategies

(rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) with adjustment of age and ethnicity as a covariate? This research question leads to a gender x instructional methods multivariate analysis of covariance. This design tested three hypotheses:

$H_0$1: There are no multivariate differences between men and women on the nine elements of learning strategies.

H_a1: There are multivariate differences between men and women on the nine elements of learning strategies.

$H_0$2: There are no multivariate differences between traditional and distance learners on the nine elements of learning strategies.

H_a2: There are multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_0$3: There are no multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

H_a3: There are multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

Operational Definitions

Age. The chronological measurement of a person life by year.

Adult. Anyone over the age of 18. In the context of this study, the term refers to anyone pursuing education other than a Graduate Education Degree (GED).

Control of learning beliefs. One of the defined outcome dependent variables of a motivation as defined by Pintrich et al.'s (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined control of learning beliefs as the learner's belief they can have a positive outcome on their academic success. Control of learning beliefs will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a Multivariate Analysis of Co-Variance (MANCOVA).

Critical thinking. One of the defined outcome dependent variables of a motivation as defined by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MLSQ is on the Self-Regulation Model to Learning. Pintrich et al defined critical thinking is when the learner applies information learned to a situation or solves a problem with information learned. Critical thinking will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale.

Distance instruction method. Ninety percent of the learning is conveyed by the instructor over the Internet using some type of educational software where the learner submits work over the Internet. This learning includes speaking directly over the telephone to the professor, and it can include regional meetings, as well as email communications. A method of learning that is delivered by web-based or Internet-based technologies (Ludlow, 1994).

Effort regulation. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined effort

regulation is the learner's ability to stay focused on their goal through managing the environment and utilize learning strategies to have academic success. Effort regulation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Elaboration. One of the defined outcome dependent variables of learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined elaboration is when the learner paraphrases, summarizes, creates analogy, and generates notes to build long-term connections to information learned. Elaboration will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Ethnicity. This study ethnicity will be defined in five different ethnic backgrounds: White, non-Hispanic, Black, non-Hispanic, Hispanic, Asian/Pacific Islander-non-Hispanic, or Other non-Hispanic. A survey will ask the learner to choose between five different of ethnic background. Ethnicity is measured as a covariant in this study.

Extrinsic goal orientation. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined extrinsic goal orientation is the reason why the learner is engaged in the learning activity. This reason for learning could be for grades, rewards, performance, or competition. Extrinsic

goal orientation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Gender. This present study is defines gender by male or female. A survey will solicit the learner gender.

Graduate learner. A person currently enrolled in a traditional instruction method or a distance instruction method graduate program. This information will be determined solicited through a survey.

Help seeking. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined help seeking is when a learner seeks out help from other learners and the instructor to master material. Help seeking will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Intrinsic goal orientation. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined intrinsic goal orientation is what the learner thinks why they are learning. Intrinsic goal orientation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Learning strategies. Processes and techniques that help learners in graduate schools attain knowledge. These techniques utilize cognitive and meta-cognitive strategies to learn (Duncan & McKeachie, 2005). They are “behaviors and thoughts that

learners in graduate schools engage in during learning and are intended to influence the learners in graduate school's encoding process" (Weinstein & Mayer, 1986, p.315). Pintrich et al. (1991) used the SRL model to identify 9 elements of learning strategies: rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. These 9 learning strategies will be used to define *learning strategies*.

Metacognitive self-regulation. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined metacognitive self-regulation is the planning, monitoring, and regulation of information. The planning, monitoring, and regulation of information allows for the learner to organize and comprehend the material with ease. Metacognitive self-regulation will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Motivation. Reflected in choice of courses of action, and in the intensity and persistence of effort, and can be based on external and internal beliefs and values that a person may choose to act or not act on (Pintrich, 1991). Pintrich et al., (1991) used the SRL to identify six elements of motivation: control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. In this study these six elements of motivation will constitute the variables to measure the outcome *motivation.*

Organization. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined organization is clustering, outlining and selecting information in a systematic way to help the learner make constructive connections of information. Organization will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Pedagogy. The art and science of instructional methods and learning (Knowles, Holton, & Swanson, 1998).

Peer learning. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined peer learning is collaborating with other learners to achieve academic success. Peer learning will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Rehearsal. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined rehearsal is defined as reciting information so that the information can be encode and integrated into a learner's knowledge. Rehearsal will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Self-efficacy for learning and performance. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al stated there are two components of self-efficacy: How the learner expects to succeed and one self-appraises of one's ability to do the task successfully. Self-efficacy for learning and performance will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Social Science Learners. A person's who studies the behavior of others in relationship to society. This includes economics, history, psychology, social work, counseling, and sociology (Economic and Social Research Council, 2014) but for the purpose of this study it will include psychology, social work, and counseling graduate students in distance and traditional learning methods.

Task value. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined task value is the learner's "evaluation of how interesting, how important, and how useful that task is (Pintrich et al., 1991, p.11)." Task value will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Test anxiety. One of the defined outcome dependent variables of a motivation as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined test anxiety has two components: cognitive and emotional. The cognitive component is how much the learner

worries about one's performance and the emotional is the affective and physiological arousal of anxiety. Text anxiety is the negative expectations of one's academic performance. Test anxiety will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Time and study environment. One of the defined outcome dependent variables of a learning strategy as measured by Pintrich et al (1991) questionnaire, the MSLQ. The basis of the MSLQ is on the Self-Regulation Model to Learning. Pintrich et al defined time and study environment is a learner's ability to schedule, plan and manage one's study time. Time and study environment will be measured in this study by questions in the MSLQ which is based on a 7-point Likert Scale and will be analysis with a MANCOVA.

Traditional instruction method. Face to face graduate classes that are attended regularly at brick and mortar universities to have information and other experiences conveyed by a professor or instructor. This method does not include classes where the information is conveyed by the Internet, nor is the information conveyed by experiencing education outside of the classroom (Ludlow, 1994).

Undergraduate learner. A person currently enrolled in traditional instruction or distance instruction in social science undergraduate program (NHES, 2001). This information will be determined solicited through a survey.

Data Analyses

A MANCOVA will be ran to see if there are any significant differences in the independent and dependent variables. Then for each hypothesis an ANOVA will be ran if

a significance difference is found. Then a post hocs analysis will be ran of the subgroups if demeaned necessary. MANCOVA will be used to factor out the co-variants, because this is a multivariate problem and this analysis will compare simultaneous profiles of dependent variables with respect to the 2 x 2 design. Interpretation of results will follow standard practices of examining the multivariate result and, if warranted, examining the contributing univariate results (such as ANOVA results for each individual DV). The MSLQ will be scored and interpreted utilizing the outline given by the author of the questionnaire. The demographic information will be gathered and input into Statistical Package for Social Sciences's (SPSS), latest version, which will be used for data analysis.

Research Question Analysis 1

In order to analyze how male and female graduate learners differ on six elements of motivation as measured by the MSLQ (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety, under different instruction methods (traditional vs. distance), I will use a 2 (Instruction Method: Distance, Traditional) x 2 (Gender: Female, Male) MANCOVA, using the 6 learning motivation variables. Age and ethnicity will be used as covariates to account for differences in age and ethnicity of the learners if these are found when examining the demographic data. Wilks lambda, a multivariate test of significance, will indicate if there is a significant difference between the profiles. If there is statistical significance, one-way ANOVAs will be used to compare the groups on each of the variables.

Research Question Analysis 2

In order to analyze how male and female learners differ on 9 elements of learning strategies as measured by the MSLQ (rehearsal elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning and help seeking, under different instruction methods (traditional vs. distance), I will use a 2 (Instruction Method: Distance, Traditional) x 2 (Gender: Female, Male) MANCOVA, using the 9 learning strategies as dependent variables. Age and ethnicity will be used as covariates to account for differences in age and ethnicity of the learners if they are found when examining the demographic variables. Wilks lambda, a multivariate test of significance, will indicate if there is a significant difference between the profiles. If there is statistical significance, one-way ANOVAs will be used to compare the groups on each of the variables.

Threats to Validity

Assumptions

There several assumptions of this study. The first is this study will utilize the Motivated Strategies of Learning Questionnaire (MSLQ; Pintrich et al., 1991) to assess motivation and learning strategies. The MSLQ is considered a reliable and valid assessment tool. The second assumption is the psychometric properties will be similar for both the distance instruction method and traditional instruction method learners in graduate schools. The third assumption is that the assessments proposed for this study will elicit truthfulness and the participants will answer the surveys honestly in the participants of this study.

The forth assumptions is that this study will adhere to test administration, scoring, and ethics guidelines. The final assumption is that the difficulties of classroom material between distance and traditional programs are similar.

Limitations

The limitation of the study is that it is quasi-experimental. The quasi-experimental design lacks random assignment of subjects and threatens internal validity. The second limitation is the learners will come from three different graduate programs: Webster University and New Mexico Highland University, both a traditional land based school and the other sample will come from Walden University, a distance learning institution. Even though Webster University and New Mexico Highland University is a brick and mortar school, it targets a non-traditional learner base. The third limitation is the participants will be volunteers. These volunteers may not representative all graduate learners. The forth limitation is the participants of the study will be only representative of these two schools and the particular year the study was conducted and may not represent any other student graduate population. This makes it difficult and limits the results. Thus, the results may not be generalized to other learners enrolled in graduate programs. The fifth limitations of this study are that the sample of graduate learners will be drawn from only two schools. This suggests that the populations from which the samples are drawn may be quite different. The last limitation of the study is the sample will come exclusively from social science programs.

Delimitations

The delimitations of the study are that those learners outside of social science graduate programs will not be included in the sample. The quasi-experimental design lacks random assignment of subjects and threatens internal validity because the results of this study may not be generalized to another other traditional land based school or distance learning institutions other than Webster University, New Mexico Highland University, and Walden University. The learners that are participating in the study many not represent the average the traditional and distance learners because they are participating for the novelty of the study. The learners will be selected from two specific learning methods schools. The learners will be chosen from social science program. The study will be control for age and ethnicity. The dependent variables with be measured through a common assessment that has been shown to valid and reliable. The MSLQ calculated internal consistency estimates of reliability (Cronbach's alpha) and "zero-order correlations between the different motivational and cognitive scales" (Pintrich, Smith, García, & McKeachie, 1993, p. 806). The majority of the Cronbach's alphas for the individual subscales (9 out of 15) were fairly robust (i.e., they were greater than .70, with the largest one, self-efficacy for learning and performance, being .93). The Cronbach's alphas for the remainder of the subscales fell below .70 with the lowest one (help seeking), coming in at .52 whereby the validity data is limited. With the help seeking scale is low in validity it will not be used and factored in analyses but data will be collected. As researchers (Duncan & McKeachie, 2005; Pilotte & Gable, 1990; Wright & Masters, 1982) have all reported that the MSLQ was an efficient, practical, and

ecologically valid measure of learners' motivation and learning strategies. The generalization of the study is limited because the results may not be generalized to other programs or other learner populations in graduate or undergraduate schools.

Ethical Considerations

The informed consent form will be the first page that is shown in the online survey. Learners will not be able to move from that page unless they "agree" with the consent statement. The informed consent form assures participants of confidentiality and the voluntary nature of the study. All participants will be notified they are free to withdraw from the study at any time during the process without consequence. The consent also informs participants of the risks and benefits of participating in the study. The only apparent risk to the study is that individuals that experience test anxiety may be uncomfortable in discussing those issues. The benefits include the opportunity to participate in a research study and to be able to consider their own study habits and approach to learning. The informed consent (Appendix E) states that all records will remain confidential and that only the researcher will have access to the information. All data will be kept password protected on a flash drive for 7 years.

Summary

This study is a factorial quasi-experimental design, it will use cross sectional survey consisting of a 2 x 2 factorial design that will factor in gender and instructional method as the independent variables with a MANCOVA with 15 dependent outcome and two covariates. This study will examine the impact of gender and instructional method, on the motivation and learning strategies of graduate learners. The findings from this

research will determine how gender and instructional method interact with motivation and learning strategies of the graduate learner. The information gathered from this study will assist in understanding gender and instructional methods to the six elements of motivation and the nine elements of learning strategies. Learning more about gender and learners in each setting will contribute to the MSLQ research base. The information gathered will in turn impact how academic institutions approach their learners and how academic institutions can best promote the development of learner thinking. This study may suggest ways for academic institutions to direct funding to decrease dropout rates and help learners of different ages and ethnic backgrounds in graduate schools to be more successful in the classroom, through policies and interventions based on the empirical evidence obtained here.

This information may have implications for positive social change, as it will give educators the understanding of the motivation and learning strategies of distance and traditional method graduate learners. It will provide an understanding of the differences of women and men, and the motivation and learning strategies of distance and traditional method graduate learners. Understanding the differences or similarities between motivation and learning strategies of graduate learning in different instructional methods across age and ethnicity will impact how academic institutions understand the characteristics and demographics of their learners and to approach their learners, as well as how to best promote the development of learner thinking.

Learning how gender and instructional method influence education will contribute to the existing literature and will enhance social change initiatives by allowing

institutions to better meet the needs of their learners and promote success by generating information that could be used to enhance teaching techniques and enhance future research on this topic.

Chapter 4: Results

Introduction

The present chapter is comprised of the results found in the research, *Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies.* This chapter discusses the data analysis procedures, reviews the research questions, and describes the demographics of the study sample. It also presents a description of the reliability analyses conducted on the survey questions. It also describes the data analysis and testing for parametric assumptions including normality, homogeneity of variance, homogeneity of variance-covariance matrices, and multicollinearity. Finally, it presents the answers to the primary research questions.

Data Analysis Procedure

Inferential statistics were used to draw conclusions from the sample test data that was gathered over five months. The Statistical Package for the Social Sciences (SPSS) was used to code and tabulate scores collected from the survey and provide summarized values where applicable including the mean, central tendency, variance, and standard deviation. Demographic statistics of participants of the study were provided including count and percent statistics. Multivariate analyses of covariance (MANCOVA) were used to evaluate the two research questions. The primary research questions for this study were:

RQ1. Is there a difference between male and female learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the six elements of motivation (control

belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) with age and ethnicity as a covariate if necessary?

RQ2. Is there a difference between male and female learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) with adjustment of age and ethnicity as a covariate?

Table 3 summarizes the variable and statistical test used in the research questions.

Table 3

Summary of Variables and Statistical Tests Used to Evaluate Research Questions 1-3

Research Question	Dependent Variable	Independent Variable	Covariate	Test
1	Elements of Motivation[1]	Gender and Instruction Method	Ethnicity	MANCOVA
2	Elements of Learning Strategies[2]	Gender and Instruction Method	Ethnicity	MANCOVA

[1] Elements of motivation = control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety

[2] Elements of Learning strategies = rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help

Prior to analyzing the two research questions, data cleaning and data screening were undertaken to ensure the variables of interest met appropriate statistical assumptions. The analytic strategy used first evaluated the variables for univariate and multivariate outliers, normality, homogeneity of variance, homogeneity of variance-covariance matrices, and multicollinearity. Once these preliminary operations were

completed, MANCOVA analyses were run to determine if any significant relationships existed between the variables of interest.

Demographics

Data was collected from a total sample of 102 psychology, counseling, and social work learners enrolled in master's or doctoral programs. Of the 102 participants that responded to the survey, 3 did not respond to all survey questions, 7 stated they were not enrolled in a graduate program, and 6 stated they had a mixed method of instruction. These 16 participants were removed from all analyses due to incomplete data sets or not meeting the eligibility criteria. Thus, a valid sample of 86 participants was evaluated in the study (n = 86). Specifically, 71% of the participants' were female (n = 61) and the remaining 29% were male (n = 25). Additionally, 61% of the participants' method of instruction was distance learning (n = 52) and the remaining 39% were traditional learners (n = 34). Table 4 shows a cross tabulation of participants' gender and method of instruction.

Table 4

Cross Tabulation of Participants' Gender and Method of Instruction

	Gender		
Instructional Method	Male	Female	Total
Distance learner	11	41	52
Traditional learner	14	20	34
Total	25	61	86

The majority of participants were white (n = 71, 82.6%), 16% were black (n = 14), and one participant was American Indian (n = 1, 1.2%). Additionally, 63% of the participants stated that they were not of Hispanic origins (n = 54) and the remaining 37%

stated they did have Hispanic origins (n = 32). Displayed in Table 5 are frequency and percent statistics of participants' ethnicities and Hispanic origins.

Table 5

Frequency and Percent Statistics of Participants' Ethnicity and Hispanic Origin

Demographic	Frequency	Percent
Ethnicity		
Black	14	16.3
White	71	82.6
American Indian	1	1.2
Total	86	100.0
Hispanic Origin		
Yes	32	37.2
No	54	62.8
Total	86	100.0

Reliability Analysis

A reliability analysis was run to determine if the dependent variable constructs (motivation and learning strategies) were sufficiently reliable. The variable constructs were measured by 81 items on the Motivated Strategies of Learning Questionnaire (MSLQ). This instrument was specifically designed to test motivation, and consists of six elements: control belief (4 items), self-efficacy for learning and performance (8 items), intrinsic goal orientation (4 items), extrinsic goal orientation (4 items), task value (6 items), and test anxiety (5 items). Learning strategies were assessed using nine elements: rehearsal (4 items), elaboration (6 items), organization (4 items), critical thinking (5 items), metacognitive self-regulation (12 items), time and study environment (8 items), effort regulation (4 items), peer learning (3 items), and help seeking (4 items).

Reliability analysis allows one to study the properties of measurement scales and

the items that compose the scales (Tabachnick & Fidell, 2007). Cronbach's alpha reliability analysis procedure calculates a reliability coefficient that ranges between 0 and 1. This reliability coefficient is based on the average inter-item correlation. Scale reliability is assumed if the coefficient is ≥.60. Results from the tests showed that the dependent variable constructs were sufficiently reliable; these results are summarized in Table 6, which also displays the variable, sample size (n), number of items in the contrruct, and Cronbach's alpha (denoted by *r*). The assumption of reliability was not violated and the variable constructs were used as the dependent variables for research questions 1 and 2. Table 6 is the reliability analyses of the 6 motivation and the 9 learning strategies.

Table 6

Summary of Reliability Analyses for the Dependent Variables

Variable	*n*	# of Items	*R*
Motivation			
Control Belief	86	4	.66
Self-efficacy	86	8	.95
Intrinsic Goal Orientation	86	4	.75
Extrinsic Goal Orientation	86	4	.66
Task Value	86	6	.91
Test Anxiety	86	5	.88
Learning Strategies			
Rehearsal	86	4	.89
Elaboration	86	6	.76
Organization	86	4	.81
Critical Thinking	86	5	.88
Metacognitive Self-regulation	86	12	.82
Time and Study Environment	86	8	.83
Effort Regulation	86	4	.75
Peer Learning	86	3	.87
Help Seeking	86	4	.84

Analyses of Research Questions 1 and 2

Research questions 1 and 2 were evaluated using multivariate analyses of covariance (MANCOVA) to determine if any significant differences in the six elements of motivation and nine elements of learning strategies existed between learners' gender and instructional method, after controlling for ethnicity. The dependent variables were six elements of motivation: control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. These six elements were specifically measured by 4 items, 8 items, 4 items, 4 items, 6 items, and 5 items respectively via the MSLQ study instrument's Part A: Motivation. Response parameters were measured on a 7-point scale where 1 = *not at all true of me* and 7 = *very true of me*. Composite scores were calculated by averaging case scores across the items for each variable and the composite scores were used as the dependent variables to evaluate research question 1. That is, higher scores indicated higher levels of motivation.

The dependent variables for research question 2 were nine elements of learning strategies including rehearsal (4 items), elaboration (6 items), organization (4 items), critical thinking (5 items), metacognitive self-regulation (12 items), time and study environment (8 items), effort regulation (4 items), peer learning (3 items), and help seeking (4 items). Composite scores were calculated for each of the nine elements by averaging case scores across each of the constructs' items and were used as the dependent variables to evaluate research question 2. That is, higher scores indicated stronger levels of learning strategies.

The independent variables for research questions 1 and 2 were participants' gender (male, female) and method of instruction (distance, traditional). The covariate for research questions 1 and 2 was participants' ethnicity. For the MANCOVA models, due to low sample sizes participants were grouped into two categories including Hispanic and non-Hispanic.

Data Cleaning

Before the research questions were evaluated, the data were screened for missing data, univariate outliers, and multivariate outliers. Missing data were investigated using frequency counts and three cases were found within the distributions and were removed from the analyses. That is, these three cases responded to less than 40% (max of 32 items answered) on the *Motivated Strategies of Learning Questionnaire*. More specifically, case # 3446646782 did not answer any of the MSLQ items; case # 3541968753 only answered questions 1-25 on the MLSQ; and case # 3471138323 only answered questions 1-32 on the MLSQ. The data were screened for univariate outliers by transforming raw scores to z-scores and comparing z-scores to a critical value of +/- 3.29, $p < .001$ (Tabachnick & Fidell, 2007). Z-scores that exceed this critical value are more than three standard deviations away from the mean and thus represent outliers. The distributions were evaluated and no cases with univariate outliers were found within the dependent variables.

Multivariate outliers were evaluated using Mahalanobis distance. Mahalanobis distances were computed for each variable and these scores were compared to a critical value from the chi square distribution table. Mahalanobis distance for six and nine

independent variables indicates critical values of 22.46 and 27.88, respectively. Results indicated that no cases within the distributions were found to exceed these values. Thus, for research questions 1 and 2, 86 valid data points were received and 86 were evaluated by the MANCOVA models (n = 86). Displayed in Appendix F, Tables 14-17 are descriptive statistics of the elements of motivation and elements of learning strategies by gender and methods of instruction.

Test of Normality

Before research questions 1 and 2 were analyzed, basic parametric assumptions were evaluated. That is, for the dependent variables (elements of motivation and elements of learning strategies), assumptions of normality, homogeneity of variance, homogeneity of variance-covariance matrices, and multicollinearity were tested. To test if the distributions were significantly skewed, the skew coefficients were divided by the skew standard error, resulting in a z-skew coefficient. This technique was recommended by Tabachnick and Fidell (2007). Specifically, *z*-skew coefficients exceeding the critical range of -3.29 to +3.29 may indicate non-normality ($p < .001$). Kurtosis was also evaluated using the same method. Thus, based on the evaluation of the z-skew and z-kurtosis coefficients, several distributions exceeded the critical value—see Appendix F, Tables 14-38 for skewness and kurtosis statistics of the dependent variables. Although several of the distributions were significantly skewed/kurtotic, according to the central limit theorem, sample sizes of 30 or more approximates the mean of the population (Durrett, 2004). With this in mind, Tabachnick and Fidell (2007) posit that when a sample size exceeds 100, statistical tests that use the general linear model, such as

regression and analysis of variance (ANOVA), are robust against violations of normality. Even though the sample size was slightly less than 100 (n = 86), the distributions were conditionally assumed to be normally distributed and used to evaluate research questions 1 and 2.

Homogeneity of Variance

Levene's Test of Equality of Error Variance was run to determine if the error variance of the six elements of motivation (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) and nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) were equal across levels of the independent variables (gender and method of instruction). Results indicated that the two of the elements of motivation (self-efficacy $p < .01$ and task value $p = .01$) and two of the elements of learning strategies (organization $p = .02$ and critical thinking $p = .02$) did not meet the assumption of homogeneity of variance. Although these results suggest the variances were not equally distributed across levels of the independent variables, no actions were taken and the violation of the assumption of homogeneity of variance was considered a limitation of the study. Displayed in Appendix F Tables 14- 38 are details of the Levene's tests conducted for research questions 1 and 2 in Table 7.

Tables 7

Summary of Levene's Tests of Error Variances for Research Questions 1 and 2

Dependent Variable	F	df1	df2	Sig.
Motivation				
Control Belief	1.62	3	82	.19
Self-efficacy*	4.96	3	82	< .01
Intrinsic Goal Orientation	2.55	3	82	.06
Extrinsic Goal Orientation	1.76	3	82	.16
Task Value*	4.22	3	82	.01
Test Anxiety	2.48	3	82	.07
Learning Strategies				
Rehearsal	1.75	3	82	.16
Elaboration	0.42	3	82	.74
Organization*	3.63	3	82	.02
Critical Thinking*	3.72	3	82	.02
Metacognitive Self-regulation	0.68	3	82	.57
Time and Study Environment	1.54	3	82	.21
Effort Regulation	1.39	3	82	.25
Peer Learning	0.45	3	82	.72
Help Seeking	0.31	3	82	.82

*Distributions were found to be significant $p < .05$

Homogeneity of Variance-Covariance Matrices

To examine the assumption of homogeneity of variance-covariance matrices Box's M Test of Equality of Covariance Matrices was conducted. The test was run to determine if the distributions of the six elements of motivation (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) and nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) were equal across the levels of the independent variables (gender and method of instruction). The critical value determining violation of the assumption is *sig.* < .001. Results from the test

showed that the distributions were not equal across dependent variables (six elements of motivation $p < .001$ and nine elements of learning strategies $p < .001$). These results suggest that the dependent variables were not equally distributed and that they violated the assumption of homogeneity of variance-covariance matrices. Displayed in Table 8 is a summary of the Box's M tests conducted for research questions 1 and 2. Since the distributions violated the assumptions of homogeneity of variance and homogeneity of variance-covariance matrices, individual analyses of covariance (ANCOVA) were conducted to affirm the results of the MANCOVA analyses of research questions 1 and 2. Table 8 is the summary of the Box M test of equality of research question 1 and 2.

Table 8

Summary of Box's M Tests of Equality for Research Questions 1 and 2

Research Question	Dependent Variable	Box's M	F	df1	df2	Sig. (*p*)
1	Elements of Motivation	142.07	1.84	63.00	4894.79	< .001
2	Elements of Learning Strategies	297.62	1.58	135.00	4626.35	< .001

Multicollinearity

The assumption of multicollinearity was tested by calculating correlations between dependent variables (six elements of motivation and nine elements of learning strategies) using collinearity statistics (Tolerance and Variance Inflation Factor). Correlations between dependent variables did not exceed .90—see Tables 16 and 17 in Appendix F. Additionally, tolerance was calculated using the formula $T = 1 - R^2$ and variance inflation factor (VIF) was the inverse of Tolerance (1 divided by T). Commonly used cut-off points for determining the presence of multicollinearity are $T < .10$ and VIF

> 10. Results indicated that tolerance and VIF coefficients did not exceed the critical values. Therefore, the presence of multicollinearity was not assumed.

Results of Research Question 1

$H_0$1: There are no multivariate differences between men and women on the six motivation elements.

H_a1: There are multivariate differences between men and women on the six motivation elements.

$H_0$2: There are no multivariate differences between traditional and distance education learners on the six motivation elements.

H_a2: There are multivariate differences between traditional and distance education learners on the six motivation elements.

$H_0$3: There is no multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

H_a3: There is a multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

Using SPSS 22, multivariate analysis of covariance (MANCOVA) was conducted to determine if any significant differences in six elements of motivation (control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) existed between participants' gender and method of instruction, after controlling for ethnicity (Hispanic, non-Hispanic). Results indicated that there were no significant multivariate differences between gender (*Wilks' Lambda* = 0.85, *sig.* = .06) or instructional method (*Wilks' Lambda* = 0.95, *sig.* = .66) on a model

containing six elements of motivation, after controlling for ethnicity. Furthermore, there was no significant multivariate interaction between gender and instruction method (*Wilks' Lambda* = 0.91, *sig.* = .32). Thus, null hypotheses 1-3 for research question 1 were retained. A model summary of the MANCOVA analysis is displayed in Table 9 including *Wilks' Lambda*, *F* coefficient, degrees of freedom (*hypothesis df* and *error df*), significance value (*sig.*), effect size (*partial eta-squared*), and observed power. Table 9 is the summary of the MANCOVA analysis for research question 1.

Table 9

Model Summary of MANCOVA Analysis for Research Question 1

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig. (*p*)	Partial Eta Squared	Observed Power
Intercept	0.11	107.41	6	76	< .01	.90	1.00
Hispanic Origin	0.65	6.93	6	76	< .01	.35	1.00
Gender	0.85	2.18	6	76	.06	.15	0.74
Instructional Method	0.95	0.69	6	76	.66	.05	0.26
Interaction	0.91	1.20	6	76	.32	.09	0.44

Dependent variables = control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety
Interaction = gender * method of instruction

The individual between-subjects effects were evaluated to determine if any dependent variables were significantly different across gender (male, female) and method of instruction (distance learner, traditional learner). Although no multivariate differences in elements of motivation were found within the MANCOVA analysis, two elements of motivation were found to be significantly different between male and female participants (control belief $p = .02$ and extrinsic goal orientation $p = .01$). That is, male participants had significantly higher control belief scores ($M = 5.89$, $SD = 0.85$) and extrinsic goal orientation scores ($M = 5.62$, $SD = 1.00$) as compared to females (control belief $M = 5.27$,

SD = 1.03 and extrinsic goal orientation *M* = 4.98, *SD* = 1.17). However, there were no additional significant differences in elements of motivation between participants' gender, method of instruction, and the interaction between independent variables (gender * method of instruction). Similar results were found in the additional ANCOVA models—see Appendix F, Tables 24-29. A model summary of the tests of between-subjects effects is displayed in Table 10 including type III sum of squares, degrees of freedom (*df*), mean square, F coefficient (*F*), significance value (*sig.*), effect size (*partial eta-squared*), and observed power. Table 10 is the model summary of tests of between-subject effects for research question 1.

Table 10

Model Summary of Tests of Between-subjects Effects for Research Question 1

Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Gender						
Control Belief	4.49	1	4.49	5.42	.02	.06
Self-efficacy	0.63	1	0.63	0.87	.36	.01
Intrinsic Goal Orientation	0.16	1	0.16	0.19	.66	< .01
Extrinsic Goal Orientation	7.93	1	7.93	6.32	.01	.07
Task Value	0.89	1	0.89	1.04	.31	.01
Test Anxiety	1.18	1	1.18	0.55	.46	.01
Method of Instruction						
Control Belief	0.59	1	0.59	0.71	.40	.01
Self-efficacy	0.28	1	0.28	0.38	.54	.01
Intrinsic Goal Orientation	0.01	1	0.01	0.01	.94	< .001
Extrinsic Goal Orientation	1.43	1	1.43	1.14	.29	.01
Task Value	0.02	1	0.02	0.02	.90	< .001
Test Anxiety	0.28	1	0.28	0.13	.72	< .01
Interaction						
Control Belief	0.10	1	0.10	0.12	.73	< .01
Self-efficacy	0.93	1	0.93	1.28	.26	.02
Intrinsic Goal Orientation	0.24	1	0.24	0.30	.59	< .01
Extrinsic Goal Orientation	2.15	1	2.15	1.71	.19	.02
Task Value	0.74	1	0.74	0.87	.35	.01
Test Anxiety	3.28	1	3.28	1.52	.22	.02

Independent variable = gender * method of instruction

Results of Research Question 2

$H_0$1: There are no multivariate differences between men and women on the nine elements of learning strategies.

H_a1: There are multivariate differences between men and women on the nine elements of learning strategies.

$H_0$2: There are no multivariate differences between traditional and distance learners on the nine elements of learning strategies.

H_a2: There are multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_0 3$: There are no multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

$H_a 3$: There are multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

Multivariate analysis of covariance (MANCOVA) was conducted to determine if any significant differences in nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) existed between participants' gender and method of instruction, after controlling for ethnicity (Hispanic, non-Hispanic). Results indicated that there was a significant multivariate difference between gender on a model containing nine elements of learning strategies **(***Wilks' Lambda* = 0.76, *sig.* = .01), after controlling for ethnicity. However, there was no significant multivariate difference between methods of instruction on a model containing nine dependent variables (*Wilks' Lambda* = 0.94, *sig.* = .83), after controlling for ethnicity. Furthermore, there was no significant multivariate interaction between gender and instruction method (*Wilks' Lambda* = 0.88, *sig.* = .38). Thus, null hypothesis 1 for research question 2 was rejected in favor of the alternative hypothesis, and null hypotheses 2 and 3 were retained. A model summary of the MANCOVA analysis for research question 2 is displayed in Table 11. Table 11 is the summary of the MANCOVA analysis for research question 2.

Table 11

Model Summary of MANCOVA Analysis for Research Question 2

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	0.15	45.38	9.00	73.00	< .01	.85
Hispanic Origin	0.58	5.82	9.00	73.00	< .01	.42
Gender	0.76	2.58	9.00	73.00	.01	.24
Instructional Method	0.94	0.56	9.00	73.00	.83	.07
Interaction	0.88	1.10	9.00	73.00	.38	.12

Dependent variables = rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking
Interaction = gender * method of instruction

The individual between-subjects effects were evaluated to determine if any dependent variables were significantly different across gender (male, female) and method of instruction (distance learner, traditional learner). For gender, significant differences were found between male and female participants on three elements of learning strategies including rehearsal ($p = .03$), peer learning ($p < .01$), and help seeking ($p = .03$). That is, male participants had significantly higher rehearsal scores ($M = 5.45$, $SD = 1.58$), peer learning scores ($M = 5.12$, $SD = 1.38$), and help seeking scores ($M = 5.01$, $SD = 1.52$) as compared to females (rehearsal $M = 4.74$, $SD = 1.69$, peer learning $M = 3.95$, $SD = 1.94$, and help seeking $M = 4.29$, $SD = 1.70$). However, there were no other significant differences in elements of learning strategies between participants' gender, method of instruction, or the interaction between independent variables (gender * method of instruction). Similar results were found in the additional ANCOVA models—see Appendix F, Tables 30- 38. A model summary of the tests of between-subjects effects is displayed in Table 12. Table 12 is the model summary of tests between subjects effect for research question 2.

Table 12

Model Summary of Tests of Between-subjects Effects for Research Question 2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Gender						
Rehearsal	10.48	1	10.48	4.84	.03	.06
Elaboration	0.01	1	0.01	0.01	.92	< .001
Organization	0.65	1	0.65	0.37	.54	.01
Critical Thinking	7.44	1	7.44	3.61	.06	.04
Metacognitive Self-regulation	0.38	1	0.38	0.44	.51	.01
Time and Study Environment	0.04	1	0.04	0.05	.83	< .01
Effort Regulation	2.09	1	2.09	2.26	.14	.03
Peer Learning	25.14	1	25.14	10.90	< .01	.12
Help Seeking	8.67	1	8.67	4.86	.03	.06
Method of Instruction						
Rehearsal	2.22	1	2.22	1.03	.31	.01
Elaboration	0.10	1	0.10	0.12	.74	< .01
Organization	1.18	1	1.18	0.67	.42	.01
Critical Thinking	1.10	1	1.10	0.54	.47	.01
Metacognitive Self-regulation	0.04	1	0.04	0.05	.83	< .01
Time and Study Environment	0.26	1	0.26	0.29	.59	< .01
Effort Regulation	0.15	1	0.15	0.16	.69	< .01
Peer Learning	1.79	1	1.79	0.77	.38	.01
Help Seeking	4.95	1	4.95	2.78	.10	.03
Interaction						
Rehearsal	3.22	1	3.22	1.49	.23	.02
Elaboration	0.06	1	0.06	0.07	.79	< .01
Organization	0.10	1	0.10	0.06	.81	< .01
Critical Thinking	1.05	1	1.05	0.51	.48	.01
Metacognitive Self-regulation	0.00	1	0.00	0.00	.97	< .001
Time and Study Environment	1.57	1	1.57	1.75	.19	.02
Effort Regulation	1.68	1	1.68	1.81	.18	.02
Peer Learning	0.25	1	0.25	0.11	.74	< .01
Help Seeking	0.16	1	0.16	0.09	.77	< .01

Summary

Motivation and learning strategies are predictive factors of academic success (Pintrich, Smith, Garcia, & McKeachie, 1991). Knowing the variables that influence learners' in the social science graduate programs will expand the knowledge base of

educational psychology. This study showed that there were significant differences in the variables studied that influenced the social science graduate learner.

Data was collected from a total of 102 psychology, counseling, and social work learners that are in a master's or doctoral program. Out of the 102 that responded, a valid sample of 86 learners was used. Specifically, 71% of the participants' were female (n = 61) and the remaining 29% were male (n = 25). Additionally, 61% of the participants' method of instruction was distance learning (n = 52) and the remaining 39% were traditional learners (n = 34).

This chapter reviewed the data analysis procedures and reviewed the research questions. This chapter described the demographics of the population who participated in the study. This chapter reviewed the reliability of the variable constructs. This chapter also presented how data was analyzed including tests of parametric assumptions (normality, the homogenous of variance and co-variance matrices, and the mulitcollinearity). Finally, this chapter stated the results of question one and two of the study.

Results from this study showed that there were no significant multivariate differences between gender and instruction method on the six elements of motivation after controlling for ethnicity, so the null hypotheses were accepted on question 1-3. Although, there were no significant multivariate differences in the elements of motivation, there were individual significant differences found in two of the six elements of motivation (control belief p = .02 and extrinsic goal orientation p = .01) between male and female participants. That is, male participants had significantly higher scores on

control belief and extrinsic goal orientation than females. It was also found that there were significant multivariate differences across gender on nine learning strategies but no multivariate difference between method of instruction on nine learning strategies. Specifically, males were significantly higher in rehearsal, peer learning, and help seeking. However, no significant differences in learning strategies were found between method of instruction or the interaction between independent variables (gender and method of instruction). See table 13 for a summary of results for research questions 1 and 2.

Table 13

Summary of Results for Hypotheses 1.1 - 1.3 and 2.1 - 2.3

Hypotheses	Dependent Variable	Independent Variable	Covariate	Test	Sig. (*p*)
1.1	Elements of Motivation[1]	Gender	Ethnicity	MANCOVA	.06
1.2	Elements of Motivation	Instruction Method	Ethnicity	MANCOVA	.66
1.3	Elements of Motivation	Gender and Instruction Method	Ethnicity	MANCOVA	.32
2.1	Elements of Learning Strategies[2]	Gender	Ethnicity	MANCOVA	.01
2.2	Elements of Learning Strategies	Instruction Method	Ethnicity	MANCOVA	.83
2.3	Elements of Learning Strategies	Gender and Instruction Method	Ethnicity	MANCOVA	.38

[1] Elements of motivation = control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety

[2] Elements of Learning strategies = rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help

In chapter 5, I will summarize the findings of the study, *Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies* by going over the results of research question 1 and research question 2. The chapter will also go over the conclusions and implications of the research to the field of education psychology. After the conclusions and implications are discussed, recommendations for

further research and recommendations for practice will be made. The chapter will conclude with limitations and a summary of the study.

Chapter 5: Summary, Conclusions, and Recommendations

Introduction

This study was designed to identify antecedents that influence learners' motivation and learning strategies in graduate school. These antecedents are learning method (distance or traditional), gender (male or female), and ethnicity (non-Hispanic or Hispanic). This chapter contains a summary of findings for the primary research questions, followed by a discussion of its conclusions and implications. It also contains recommendations for further research and a discussion of the study findings' implications for positive social change. The chapter concludes with a discussion of its limitations and a final summary.

The National Center of Educational Statistic (2010) reported that 20.5 million adults are pursuing a college degree and at best 50% are completing their degree (U.S. Department of Education, 2008). It is unknown why so many college students do not complete their degree, but factors such as motivation and learning strategies have been found to predict academic success in college (Pintrich, Smith, Garcia, & McKeachie, 1991). Previous research has also explored the roles of motivation and learning strategies among young, traditional college learners who attend brick and mortar institutions (Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Paulsen & Gentry, 1995; Pintrich, 1991; Wang et al., 2008). However, little is known about motivation and learning strategies in distance education and traditional graduate school settings (Hegarty, 2011). This study adds to the research base of motivation and learning strategies in distance and traditional graduate school.

Previous research has indicated that learning method (distance and traditional), gender, age, and ethnicity are important variables in understanding what makes a learner successful in graduate school. Twenty-two percent of students took distance learning class post baccalaureate, but only nine percent took distance learning exclusively post baccalaureate in the 2007/2008 academic school year (NCES, 2011). The graduation rate of learners in a distance learning classroom is noted to be 10% to 20% less than those in a traditional classroom (Tyler-Smith, 2006). At the traditional universities examined in this study, Webster University had a graduation rate for graduate counseling students, Spring 2014 of 94% (R. Wright, personal communication, January 16, 2015) and New Mexico Highlands had a graduation rate for graduate social work student, Summer/Fall 2014 of 53% (M. Salas, personal communication, January 15, 2015). Walden University graduation rates for graduate social science students for the academic year 2012/2103 were on average of 73% (Walden University, 2015), which is right in the center of the traditional universities studied. The graduation rate of white students who start a college degree is 62%, while the graduation rate for non-white students is 42%. The graduation rate of white and non-white student was 50% at New Mexico Highland University and at Webster University completion rate of white and non-white students was almost 100%. No data was found for Walden University on graduation rate of white and not white students. Women are more persistent and complete degrees at higher rates than men (Atan, Sulaima, Rahmanzr & Idrus, 2002). Pate (2001) reported that women represented 70% and 75% of first-year, full-time enrollees in doctoral and master's psychology programs respectively, as well as 72% and 77% of part-time enrollees in doctoral and

master's psychology programs respectively. In the traditional universities that were studied, Webster University enrollment of women in graduate social science programs on Fall 2014 semester was 89%, at New Mexico Highland University enrollment of women in graduate social science programs on Fall 2014 semester was 86% respectively. In the online university studied, women represented 77% of the graduate population (Walden University, 2015). Gender differences have also been found in GPA. Koch (2006) found higher GPA scores among women than among men, with men's GPAs on average being 0.169 lower than women's. This information was not gathered for the participating universities for this study.

Summary of Findings

Data was collected from a valid sample of 86 psychology, counseling, and social work learners that were in a master's or doctoral program. Specifically, 71% of the participants' were female (n = 61) and the remaining 29% were male (n = 25). Additionally, 61% of the participants' method of instruction was distance learning (n = 52) and the remaining 39% were traditional learners (n = 34). Data was entered into the Statistical Package for the Social Sciences (SPSS), version 22.0, and subsequently tested using multivariate analyses of covariance (MANCOVA) to evaluate the research questions. The results of the two research questions are summarized below. The research questions were:

RQ1. Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the six elements of motivation (control

belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety) with age and ethnicity as a covariate if necessary?

RQ2. Is there a difference between men and women learners (gender main effects) and traditional and distance learners (instructional main effects) and an interaction of gender by instructional methods on the nine elements of learning strategies (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking) with adjustment of age and ethnicity as a covariate?

Results of Research Question 1

$H_0$1: There are no multivariate differences between men and women on the six motivation elements.

H_a1: There are multivariate differences between men and women on the six motivation elements.

$H_0$2: There are no multivariate differences between traditional and distance learners on the six motivation elements.

H_a2: There are multivariate differences between traditional and distance learners on the six motivation elements.

$H_0$3: There is no multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

H_a3: There is a multivariate interaction between gender and instructional method on the six motivation elements, controlling for age and ethnicity.

I used SPSS 22 to conduct a MANCOVA analysis to determine if any statistically significant differences in elements of motivation between participants' gender and method of instruction. The six elements of motivation tracked by the study were control belief, self-efficacy for learning and performance, intrinsic goal orientation, extrinsic goal orientation, task value, and test anxiety. The study also controlled for ethnicity (Hispanic, non-Hispanic). The results of this analysis indicated that there were no significant multivariate differences between gender (p = .06) or instructional method (p = .66) on a model containing six elements of motivation, after controlling for ethnicity. Furthermore, there was no significant multivariate interaction between gender and instruction method (p = .32). Thus, null hypotheses 1-3 for research question 1 were retained.

Although no multivariate differences in elements of motivation were found within the MANCOVA analysis, two elements of motivation were found to be significantly different between male and female participants (control belief p = .02 and extrinsic goal orientation p = .01). Male participants had significantly higher control belief scores (M = 5.89) and extrinsic goal orientation scores (M = 5.62, SD = 1.00) than female participants (control belief M = 5.27 and extrinsic goal orientation M = 4.98). However, there were no additional significant differences in elements of motivation between participants' gender, method of instruction, and the interaction between independent variables (gender * method of instruction).

Results of Research Question 2

$H_0$1: There are no multivariate differences between men and women on the nine elements of learning strategies.

H_a1: There are multivariate differences between men and women on the nine elements of learning strategies.

$H_0 2$: There are no multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_a 2$: There are multivariate differences between traditional and distance learners on the nine elements of learning strategies.

$H_0 3$: There are no multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

$H_a 3$: There are multivariate interactions between gender and instructional method of nine elements on the learning strategies, controlling for age and ethnicity.

Multivariate analysis of covariance (MANCOVA) was conducted to determine if any significant differences in nine elements of learning strategies existed between participants' gender and method of instruction, after controlling for ethnicity (Hispanic, non-Hispanic). The elements of learning strategies examined were rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment, effort regulation, peer learning, and help seeking. The MANCOVA results showed a significant multivariate difference between gender and nine elements of learning strategies ($p = .01$). Statistically significant differences were found between male and female participants on three elements of learning strategies including rehearsal ($p = .03$), peer learning ($p < .01$), and help seeking ($p = .03$). Thus, null hypothesis 1 for research question 2 was rejected in favor of the alternative hypothesis. Male participants had significantly higher rehearsal scores ($M = 5.45$), peer learning scores ($M = 5.12$), and

help seeking scores (M = 5.01) as compared to females (rehearsal M = 4.74, peer learning M = 3.95, SD = 1.94, and help seeking M = 4.29). However, there was no significant multivariate difference between instructional methods on a model containing nine elements of learning strategies (p = .83), after controlling for ethnicity. Additionally, there was no significant multivariate interaction between gender and instruction method (p = .38); as such, null hypotheses 2 and 3 for research question 2 were retained.

Conclusions and Implications

Based on research, a significant relationship was expected between the hypothesized variables of motivation, learning strategies, gender, and learning method. This study showed that there were significant differences in learning strategies and motivation of graduate learners' between gender, which is congruent with previous research of college learners' (Clayton, et al., 2010;Harlow, Burkholder, & Morrow, 2002; Jacobson & Harris 2008; Marrs & Sigler, 2011; Niemi, Nevgi, & Virtanen, 2003; Patrick, Ryan, & Pintrich,1999; Paulsen & Gentry, 1995; Pintrich, 1991; Pintrich & de Groot, 1990; Wang et al., 2008; Yukselturk & Bulut, 2009). This study also showed there were no significant differences in motivation and learning method and no significant difference between learning strategies and learning method. In reviewing the results of this study independent learning theory and self-regulation learning model will provide the conceptual framework of how this study results apply to graduate social sciences students.

In researching the predictive variables that promote academic success, motivation and learning strategies were found to be the primary predictive factors of academic

success. However, most of the research found was focused on primary school, secondary school, traditional university settings and the first four years of college, and does not examine these variables at the graduate level. There was an absence of research on motivation and learning strategies of learners in graduate school (Hegarty, 2011), which provided the impetus to move forward in researching motivation and learning strategies of men and women in distance or traditional learning methods.

This research found there were no significant multivariate differences between gender or instruction method on the six elements of motivation controlling for ethnicity. However, there were significant differences found in two individual elements of motivation (control belief and extrinsic goal orientation) between male and female participants. That is, males were significantly higher in control belief and extrinsic goal orientation than females. While research by Lynch (2010) found that women had a marginally significant extrinsic goal orientation than men, but research by Patrick, Ryan, and Pintrich (1999) and Edens (2008) found that men reported greater extrinsic goal orientation. Research has shown mixed results in the use of elements of motivation between men and women.

In this research it was found that there were significant multivariate differences across gender on nine learning strategies but no multivariate differences were found between methods of instruction on nine learning strategies. Additionally, there was no significant interaction between gender and learning methods on nine elements of learning strategies. It was found that there were significant differences in individual elements of learning strategies (rehearsal, peer learning, and help seeking) between male and female

participants. Males had significantly higher scores on rehearsal, peer learning, and help seeking, which was opposite from research by Virtanen & Nevgi, (2010). Virtanen and Nevgi (2010) found that women learners scored higher than men on help-seeking. When reviewing research by Ahmad, Jelas, and Ali, (2010) Kayaoglu, (2012), Marrs and Sigler (2012) Patrick et al., (1999), Simsek and Balaban, (2010), Sizoo, Malhotra and Bearson (2003), and Virtanen and Nevgi (2010) found that women scored higher in learning strategies than men as measured by the MLSQ, which is opposite of the research presented.

This research provided evidence that men used more elements of motivation and learning strategies than women did and learning method did not influence motivation and learning strategies. These findings were surprising. First it was expected to see the same results that previously research has found, that women in general use more elements of motivation and learning strategies as reported by Ahmad, Jelas, and Ali, (2010) Kayaoglu, (2012), Patrick et al., (1999), Simsek and Balaban, (2010), Sizoo, Malhotra and Bearson (2003), and Virtanen and Nevgi (2010). This flip-flop may be the result of measuring graduate learners in social science programs or the sample size for men may have been too small. In comparing the samples of other studies to this study, the other they had larger sample, the population was more evenly dispersed per gender, they did not testing the graduate social science population, and they mostly non- United States of America universities. Finding for this study could conclude that men in graduate social science programs have higher motivation across the component control belief and

extrinsic goal orientation and men in social science programs have higher learning strategies across rehearsal, peer learning, and help seeking, than women.

The second finding that was surprising was learning method had no influence on motivation or learning strategies because in research by Jacobson and Harris (2008), Clayton, Blumberg, and Auld, (2010), and Richardson, (2007) found that learning method did influence elements of motivation as measured by the MSLQ. Although, research by Edens, (2008) indicated that there was no difference in motivation of undergraduate educational psychology learners both in distance and traditional classrooms. While research on learning strategies by Clayton et al. (2010), Kilic-Cakmak (2010), Jacobson & Harris, (2008), and Wang et al., (2008) found that distance learners use more learning strategies than those using the traditional learning method. This research showed via multivariate analyses that instructional method had no influence on motivation and learning strategies. This outcome could be because of three factors. First, it measured graduate social science learners who are already motivated, have established learning strategies, and have demonstrated success in the learning environment. Second, the limited number of participants in the study may have unknowingly affected results. Finally, the universities that participated in the study (Walden University, Webster University, and New Mexico Highlands University) may target a non-traditional learner base hence skewing results. These three factors may have influenced the research results, but this research has shown there were significant differences in elements of motivation (control belief and extrinsic goal orientation) and learning strategies (rehearsal, peer learning, and help seeking) between male and female students; however, there were no

significant differences in elements of motivation and learning strategies between instructional methods.

This study showed significant differences in learning strategies and some motivation elements of graduate learners' between gender which are indicators of success. In examining the development of learners' thinking in the college classroom Pintrich's (1991) through the SRL model asked three primary questions the first, how can educators describe or characterize learners' thinking, or more generally, what develops over the course of a college education in terms of learner thinking. Second, what are the factors that influence the psychological development of the learner. These two questions have been answered and researched. It has been found that motivation and learning strategies are the primary indicators of academic success (Pintrich, Smith, Garcia, & McKeachie, 1991). But the third question that this research can answer is how educators can best promote the development of learners' thinking in college. It is this last question that is most closely related to the goals of the present study. In answering the question how educators can best promote the development of learners' thinking in college it will give us the two primary variables that have been used in measuring academic success: motivation and learning strategies of graduate social sciences students. Pintrich (2000), SRL model conceptualized learning as a motivation and cognitive process post-secondary education, through Pintrich research, the SRL gave the quantitative characteristics that allowed this research to measure predict factors that indicate success in college students: motivation and learning strategies. The tool that was developed was the MSLQ. The MSLQ helped this study was able to measure motivation and learning strategies of

graduate social science students and contribute the MSLQ research base. This information can be used to affect how academic institutions approach their graduate students in social science and how academic institutions can best promote the development of graduate students' in social sciences thinking. This study can allow for positive social change for academic institutions because it has given them information about factors that contribute to the success of their graduate students in social science. With many people pursuing graduate degree in social sciences, understanding the factors that influence these students is important. Academic institutions can direct funding to attempt to decrease dropout rates, as well as help students of different ages and ethnic backgrounds in graduate school in social sciences be more successful in the classroom through teaching skills and strategies to them.

Since there were no significant differences between motivation and learning method and learning strategies and learning method one could say that Moore (1973) theory of independent learning was correct. Theory of independent learning belief is that teaching and learning can take place if the teacher and learner are physically separated. This research found there were no differences between those student studying in the distance or traditional classroom so learning across motivation and learning strategies are the same with different learning methods.

The conceptual framework of this study was based on theory of independent learning and self-regulation learning model. It was found that learning strategies and motivation was not influence my learning method, hence learning can take place if the teacher and learner are physical separated. Secondly, this study used the quantitative

means to measure characteristics of learning. The SRL model conceptualized the motivation and cognitive process post-secondary education, allowing this study the tools to study graduate social science students.

Recommendations for Further Research

This research will broadening the research base of educational psychology and MSLQ across the variables of graduate learners in the social science, motivation, learning strategy, gender, and learning method. The three recommendations for further research were formulated based on the results of the present study. Specifically, the three recommendations include using a diverse university base, a larger sample size, and use of age as a covariate.

The first recommendation is to poll from a more diverse university base. Even though Walden University, Webster University and New Mexico Highlands University have a student population of graduate social science and psychology students, they all target a non-traditional student base. It is recommended that future research use universities that service a traditional and non-traditional student base. Second recommendation is to use a larger sample size since this study had 102 subjects participate but only 86 subjects were found to be valid. A larger sample size may provide additional power, which could affect results.

The third recommendation is to use age as a covariate. Even though age was intended to be used as a covariate it was left off the survey and so the current research was unable to rule out if age influenced the variables of motivation and learning strategies. The methodology of this study was strong, but in future research, using a

diverse university base, using a larger sample size, and using age as a covariate may in fact make results of future studies stronger.

Additionally, the research base for the study of graduate learners is very small, so it is recommended to look at other factors that influence success with graduate learners. Such factors could include financial status, marital status, stressors, physical health, mental health, and value of higher education. Since the results of this study were different than previous studies, it is recommended to continue this vein of research as well as look at other factors that influence graduate learners.

Implication for Social Change

The significance of this study was based on understanding the affect gender and instructional methods had on the six elements of motivation and the nine elements of learning strategies in graduate learners. Knowing the information that was gathered from this research may influence educational psychology field, academic institutions, and graduate learners be a proponent of social change and contribute the conceptual framework theory independent learning and self-regulation learning model.

This research may lead to social change in educational psychology field because it may impact the current understanding of the variables, such as motivation, learning strategies, gender, and instructional methods of graduate learners in the social sciences. It may impact future research on the aforementioned variables and it may expand the MSLQ research base. Hence, the research provides a greater understanding of the variables and may lead to more research on graduate learners in social sciences. Not only

is it recommended to repeat this research, but it is also recommended to expand upon this research with other graduate learners in other academic fields.

This research may lead to social changes in academic institutions by promoting the development of learner motivation and thinking in graduate social science programs. Understanding the differences or similarities between motivation and learning strategies of graduate learning in different instructional methods may impact how academic institutions understand the characteristics and demographics of their learners. This may impact how academic institutions approach their learners to best promote the student's academic development. This research may impact teaching by informing instructors on how to best maximize learning strategies and motivation in learners. This study may inspire ways for academic institutions to direct funding that attempts to decrease dropout rates, increase graduation rates, and help learners to be more successful in the classroom, through policies and interventions based on the empirical evidence obtained here. In practice, it will give educators the understanding of motivation and learning strategies across gender and learning method of graduate learners in social sciences.

For the graduate learner this research may lead to insight by providing an understanding of the differences between women and men across elements of motivation and learning strategies of distance and traditional method graduate learners in social sciences. The information gathered in this research can influence graduate students to review the motivation and learning strategies. Gathering information on motivation and learning strategies may help them succeed academically in their graduate social science classroom. This study found that there are learning strategies and motivational difference

between women and men but there were no differences between learning strategies and learning method and motivation and learning method. It is recommended that universities spend time on educating their graduate social science learners on the predictive factors of success in the classroom, learning strategies and motivation because this study does not indicate that learning method influences the graduate social science learner. However, more research may go into why there are gender differences in learning strategies and motivation. Since this research revealed some difference in learning strategies and motivation across gender, universities and students may want to learn more about the different types of learning strategies and motivation there are in improve academic success, specially classes that teach learning strategies and motivational techniques for graduate social science students. These classes can specifically designed for the gender of the student.

This research impacts social change across two environments: educational psychology and academic institutions. This research can have positive social change in these environments because it develops the field of educational psychology by giving more information on the characteristics that make a graduate social science learner. This information fills the gap in the literature by comparing graduate learners in distance programs from graduate learners in traditional programs.

Limitations

There are nine limitations to this study. The first limitation of the study is that it is quasi-experimental. The quasi-experimental design lacks random assignment of subjects and threatens internal validity. The second limitation is the learners are from three

different graduate programs: Walden University, Webster University, and New Mexico Highland University. These universities target non-traditional graduate learner, hence the participants' may not be representative of graduate social science learners. The third limitation is the participants are volunteers. Volunteers may not be representative of all graduate learners. The forth limitation is the participants of the study are only representative of these three schools and the particular year that the study is conducted, and may not represent any other student graduate population any other year. The fifth limitation of this study was the sample of graduate learners was drawn from only three schools. This suggests that the populations from which the samples were drawn may be quite different. The sixth limitation of the study was the exclusive nature of the sample, meaning that all participants were drawn from social science programs. This sample may not have been representative of other graduate learners in other fields of study. The seventh limitation is the self-report survey. Self-report surveys can lead to biases. The eighth limitation is there was a small sample size. A larger sample size may have given a more accurate representation of the social science graduate learners. The last limitation was that the study was set up to have age as covariate but age was not gathered on the survey.

Summary

Motivation and learning strategies have been studied as predictive factors of academic success (Pintrich, Smith, Garcia, & McKeachie, 1991). Motivation is one of the key factors for a learner to be successful in their learning. The purpose of the study was to learn how gender and instructional method affect motivation and learning strategies in

the graduate learner. This study was a factorial quasi-experimental design using MANCOVA analyses that factored in gender and instructional method as the independent variables, 15 dependent outcomes (six motivational and nine learning strategies) and one covariate (ethnicity).

This research found that there are gender differences within elements of motivation and learning strategies. Regarding motivation, males had significantly higher control belief and extrinsic goal orientation scores than females. Regarding learning strategies, it was found that males scored significantly higher on rehearsal, peer learning, and help seeking. This research indicates that men in graduate social science programs have higher motivation across the components of control belief and extrinsic goal orientation, and men have higher learning strategies across the elements rehearsal, peer learning, and help seeking. This research has implications for future research and social change. It is recommended to continue researching the variables that influence social science graduate students and expand research to other graduate fields of study, which will allow for the growth of knowledge about the variables of motivation, learning strategies, gender, and learning method. This research contributes to educational psychology, academic institutions, and graduate learners in social science programs.

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Appendix A: Permission to do Research Form

Cooperation from a Community Research Partner

Address of Community Partner

Dear Mae Lynn Spahr,

Based on my review of your research proposal, I give permission for you to conduct the study entitled Gender, Instructional Method, and Graduate Social Science Students' Motivation and Learning Strategies within the Name of Community Partner. As part of this study, I authorize Mae Lynn Spahr to be involved in identifying potential participants and help delivery the survey to our students by giving her or an authorized agent the instructions that will direct the learners to access the forms and questionnaires at the university's participant pool website using surveymonkey.com. The questionnaire will be posted through the university's participant pool website and emailed to friends and colleagues involved with graduate education at both the distance and traditional university settings. The survey tool will be available through surveymonkey.com, it is feasible to contact learners through these various means and solicit their participation. The informed consent will include brief background information on the study, the procedures of participation, a discussion of confidentiality, the volunteer nature of the study, and ethical concerns. After the learner agrees to the terms of the consent, they will proceed with the survey. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: identifying potential participants and help delivery of the survey to our students and allowing Mae Lynn Spahr to provide instructions to the authorized agent to direct learners to access forms and questionnaires and additional reminders to complete forms and questionnaires. We reserve the right to withdraw from the study at any time if our circumstances change. If crisis or critical matters comes up, you contact the researcher directly, Mae Lynn Spahr, mspahr@waldenu.edu, 505-235-7399 or Dr. Marlon Sukal, marlon.sukal@waldenu.edu 805-268-6364

I confirm that I am authorized to approve research in this setting.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,
Community Partner

Appendix B: Email/Letter Solicitation

Hello Friends, colleagues, and everyone else,

My name is ***Mae Lynn Spahr*** and I am doctoral candidate at Walden University working under the supervisions of ***Dr. Marlon Sukal*** in the psychology department at the Walden University. I am contacting you to see if you or anyone you know would be interested in participating in a research study examining graduate students in the traditional and distance classroom and the difference across motivation and learning strategies. I am VERY excited about my research. I believe that it will contribute valuable information to the field of social sciences, e.g. psychology, counseling, or social work. The participants will need to be enrolled in social science in a masters or doctoral program – either in a traditional or online program.

If you or anyone you know is interested in participating in this research please feel free to contact me at or 505-235-7399.Or Marlon Sukal, Ph.D. MBA 818.480.8413; marlon.sukal@waldenu.edu .

Sincerely,

Mae Lynn Spahr
Ph.d Candidate at Walden University

Appendix C: Informed Consent Form

Informed Consent Form

You are invited to participate in a research study about your educational experience. As adult graduate learner in social sciences; counseling, social work, or psychology you have information that is important to understand. Please read this form and ask any questions you may have before participating in this study.

This study is being conducted by: Mae Lynn Spahr a doctoral candidate at Walden University.

Background Information: The purpose of this study is to investigate graduate students, motivation and learning strategies.

Procedures:

1) If you agree to be in this study, you will be asked to complete demographic information and one questionnaire. Completing the demographic information and the questionnaire should take no longer then 30 minutes.

Age: You must be to be at least 18 years old to participate in this study.

Voluntary Nature of the Study: Your participation in this study is strictly voluntary and you may stop participating at any time. Your decision whether or not to participate will not affect your current or future relations with Webster University, New Mexico Highland University, or Walden University. If you initially decide to participate, you are still free to withdraw at any time later without affecting these relationships.

Risks and Benefits of Being in the Study: Although there are no serious immediate risks associated with participating in this study, you may feel self-conscious as you complete the survey. This is a research study only; findings are limited to research-oriented purposes and will not influence your success in the classroom.

The benefit of participating in this study is to contribute to scientific knowledge. Through examination of the motivation and learning strategies this information gathered may be help us learn that would improve future means of understand the adult graduate learner.

Confidentiality: The records of this study will be kept private. In any report of this study that might be published, the researcher will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file; only the researcher and Walden advisor will have access to the records.

Compensation: There is no compensation for participating in this study.

Contacts and Questions: The researcher conducting this study is Mae Lynn Spahr. The researcher's adviser is Dr. Marlon Sukal, Ph.D. MBA. You may contact Mae Lynn Spahr at 505-268-0421 or Dr. Sukal at 818-480-413 if you have any concerns or comments. The Research Participant Advocate at Walden University is Leilani Endicott, you may contact her at 1-800-925-3368, x 3121210 if you have questions about your participation in this study.

Statement of Consent:

By completing the demographic questionnaire and survey, I am agreeing that I have read this document, that I have had a chance to have my questions answered, and that I consent to participate in this study. If you want, you can make a copy of this consent to keep for your records.

Appendix D: Demographic Information

Gender _____Male

_____Female

Are you currently enrolled in a Graduate Social Science Program (counseling, social work, or psychology**?** _____Yes

_____No

Instructional method _____Distance

_____Traditional

_____Mix Method

Race _____Black

_____White

_____American Indian

_____Asian

_____ Native Hawaiian/ or other Pacific Islander

Are you of Hispanic Origin?

_____Yes

_____No

Appendix E: Motivated Strategies of Learning Questionnaires

Motivated Strategies for Learning Questionnaire

Part A. Motivation

The following questions ask about your motivation for and attitudes about this class. **Remember there are no right or wrong answers, just answer as accurately as possible.** Use the scale below to answer your questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If that statement is more or less true of you, find the number between 1 and 7 that best describes you.

1	2	3	4	5	6	7
not at all true of me						very true of me

1.	In a class like this, I prefer course material that really challenges me so I can learn new things.	1	2	3	4	5	6	7
2.	If I study in appropriate ways, then I will be able to learn the material in this course.	1	2	3	4	5	6	7
3.	When I take a test I think about how poorly I am doing compared with other students.	1	2	3	4	5	6	7
4.	I think I will be able to sue what I learn in this course in other courses.	1	2	3	4	5	6	7
5.	I believe I will receive an excellent grade in this class.	1	2	3	4	5	6	7
6.	I'm certain I can understand the most difficult material presented in the readings for this course.	1	2	3	4	5	6	7
7.	Getting a good grade in this class is the most satisfying thing for me right now.	1	2	3	4	5	6	7
8.	When I take a test I think about items on other parts of the test I can't answer.	1	2	3	4	5	6	7

9.	It is my own fault if I don't learn the material in this course.	1	2	3	4	5	6	7
10.	It is important for me to learn the course material in this class.	1	2	3	4	5	6	7
11.	The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.	1	2	3	4	5	6	7
12.	I'm confident I can learn the basic concepts taught in this course.	1	2	3	4	5	6	7
13.	If I can, I want to get better grades in this class than most of the other students.	1	2	3	4	5	6	7
14.	When I take tests I think of the consequences of failing.	1	2	3	4	5	6	7
15.	I'm confident I can understand the most complex material presented by the instructor in this course.	1	2	3	4	5	6	7
16.	In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.	1	2	3	4	5	6	7
17.	I am very interested in the content area of this course.	1	2	3	4	5	6	7
18.	If I try hard enough, then I will understand the course material.	1	2	3	4	5	6	7
19.	I have an uneasy, upset feeling when I take an exam.	1	2	3	4	5	6	7
20.	I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5	6	7
21.	I expect to do well in this class.	1	2	3	4	5	6	7
22.	The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.	1	2	3	4	5	6	7
23.	I think the course material in this class is useful for me to learn.	1	2	3	4	5	6	7

24.	When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.	1	2	3	4	5	6	7
25.	If I don't understand the course material, it is because I didn't try hard enough.	1	2	3	4	5	6	7
26.	I like the subject matter of this course.	1	2	3	4	5	6	7
27.	Understanding the subject matter of this course is very important to me.	1	2	3	4	5	6	7
28.	I feel my heart beating fast when I take an exam.	1	2	3	4	5	6	7
29.	I'm certain I can master the skills being taught in this class.	1	2	3	4	5	6	7
30.	I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.	1	2	3	4	5	6	7
31.	Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.	1	2	3	4	5	6	7

Motivated Strategies for Learning Questionnaire

Part B. Learning Strategies

The following questions ask about your learning strategies and study skills for this class. **Again, there are no right or wrong answers. Answer the questions about how you study in this class as accurately as possible.** Use the same scale to answer the remaining questions. If you think the statement is very true of you, circle 7; if a statement is not at all true of you, circle 1. If that statement is more or less true of you, find the number between 1 and 7 that best describes you.

		1 not at all true of me	2	3	4	5	6	7 very true of me
32.	When I study the readings for this course, I outline the material to help me organize my thoughts.	1	2	3	4	5	6	7
33.	During class time I often miss important points because I'm thinking of other things.	1	2	3	4	5	6	7
34.	When studying for this course, I often try to explain the material to a classmate or friend.	1	2	3	4	5	6	7
35.	I usually study in a place where I can concentrate on my course work.	1	2	3	4	5	6	7
36.	When reading for this course, I make up questions to help focus my reading.	1	2	3	4	5	6	7
37.	I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do.	1	2	3	4	5	6	7
38.	I often find myself questioning things I hear or read in this course to decide if I find them convincing.	1	2	3	4	5	6	7
39.	When I study for this class, I practice saying the material to myself over and over.	1	2	3	4	5	6	7

40.	Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone.	1	2	3	4	5	6	7
41.	When I become confused about something I'm reading for this class, I go back and try to figure it out.	1	2	3	4	5	6	7
42.	When I study for this course, I go through the readings and my class notes and try to find the most important ideas.	1	2	3	4	5	6	7
43.	I make good use of my study time for this course.	1	2	3	4	5	6	7
44.	If course readings are difficult to understand, I change the way I read the material.	1	2	3	4	5	6	7
45.	I try to work with other students from this class to complete the course assignments.	1	2	3	4	5	6	7
46.	When studying for this course, I read my class notes and the course readings over and over again.	1	2	3	4	5	6	7
47.	When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.	1	2	3	4	5	6	7
48.	I work hard to do well in this class even if I don't like what we are doing.	1	2	3	4	5	6	7
49.	I make simple charts, diagrams, or tables to help me organize course material.	1	2	3	4	5	6	7
50.	When studying for this course, I often set aside time to discuss course material with a group of students from the class.	1	2	3	4	5	6	7
51.	I treat the course material as a starting point and try to develop my own ideas about it.	1	2	3	4	5	6	7
52.	I find it hard to stick to a study schedule.	1	2	3	4	5	6	7
53.	When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.	1	2	3	4	5	6	7

54.	Before I study new course material thoroughly, I often skim it to see how it is organized.	1	2	3	4	5	6	7
55.	I ask myself questions to make sure I understand the material I have been studying for this class.	1	2	3	4	5	6	7
56.	I try to change the way I study in order to fit the course requirements and the instructor's teaching style.	1	2	3	4	5	6	7
57.	I often find that I have been reading for this class but don't know what it was all about.	1	2	3	4	5	6	7
58.	I ask the instructor to clarify concepts I don't understand well.	1	2	3	4	5	6	7
59.	I memorize key words to remind me of important concepts in this class.	1	2	3	4	5	6	7
60.	When course work is difficult, I either give up or only study the easy parts.	1	2	3	4	5	6	7
61.	I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for this course.	1	2	3	4	5	6	7
62.	I try to relate to ideas in this subject to those in other courses whenever possible.	1	2	3	4	5	6	7
63.	When I study for this course, I go over my class notes and make an outline of important concepts.	1	2	3	4	5	6	7
64.	When reading for this class, I try to relate the material to what I already know.	1	2	3	4	5	6	7
65.	I have a regular place set aside for studying.	1	2	3	4	5	6	7
66.	I try to play around with ideas of my own related to what I am learning in this course.	1	2	3	4	5	6	7
67.	When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.	1	2	3	4	5	6	7

68.	When I can't understand the material in this course, I ask another student in this class for help.	1	2	3	4	5	6	7
69.	I try to understand the material in this class by making connections between the readings and the concepts from the lectures.	1	2	3	4	5	6	7
70.	I make sure that I keep up with the weekly readings and assignments for this course.	1	2	3	4	5	6	7
71.	Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.	1	2	3	4	5	6	7
72.	I make lists of important items for this course and memorize the lists.	1	2	3	4	5	6	7
73.	I attend this class regularly.	1	2	3	4	5	6	7
74.	Even when course materials are dull and uninteresting, I manage to keep working until I finish.	1	2	3	4	5	6	7
75.	I try to identify students in this class whom I can ask for help if necessary.	1	2	3	4	5	6	7
76.	When studying for this course I try to determine which concepts I don't understand well.	1	2	3	4	5	6	7
77.	I often find that I don't spend very much time on this course because of other activities.	1	2	3	4	5	6	7
78.	When I study for this class, I set goals for myself in order to direct my activities in each study period.	1	2	3	4	5	6	7
79.	If I get confused taking notes in class, I make sure I sort it out afterwards.	1	2	3	4	5	6	7
80.	I rarely find time to review my notes or readings before an exam.	1	2	3	4	5	6	7
81.	I try to apply ideas from course readings in other class activities such as lecture and discussion.	1	2	3	4	5	6	7

Note. From “Motivated Strategies for Learning Questionnaire,”by P. Pintrich, D.A.F Smith, T. Garcia, & W.J. McKeachie, 1991, Ann Arbor, MI: University of Michigan.

Appendix F: Tables

Descriptive Statistics

Table F1

Descriptive Statistics of Six Elements of Motivation by Gender

Variable	*n*	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Male							
Control Belief	25	3.75	7.00	5.89	0.85	-1.04	0.35
Self-efficacy	25	5.38	7.00	6.28	0.48	0.17	-0.92
Intrinsic Goal Orientation	25	4.25	7.00	5.63	0.61	0.02	0.41
Extrinsic Goal Orientation	25	3.00	7.00	5.62	1.00	-0.66	0.52
Task Value	25	5.00	7.00	6.31	0.51	-0.82	1.01
Test Anxiety	25	1.20	6.00	3.72	1.36	0.01	-0.75
Female							
Control Belief	61	3.25	7.00	5.27	1.03	-0.13	-0.87
Self-efficacy	61	3.63	7.00	6.07	0.96	-1.12	0.37
Intrinsic Goal Orientation	61	2.50	7.00	5.48	1.03	-0.68	-0.12
Extrinsic Goal Orientation	61	2.00	7.00	4.98	1.17	-0.53	-0.18
Task Value	61	3.33	7.00	6.02	1.05	-1.09	0.02
Test Anxiety	61	1.00	7.00	4.13	1.77	-0.30	-1.14

Note. total $n = 86$

Table F2

Descriptive Statistics of Six Elements of Motivation by Methods of Instruction

Elements of Motivation	*n*	Min	Max	Mean	*SD*	Skewness	Kurtosis
Distance Learner							
Control Belief	52	3.75	7.00	5.40	1.01	0.01	-1.06
Self-efficacy	52	3.63	7.00	6.15	0.97	-1.28	0.74
Intrinsic Goal Orientation	52	3.75	7.00	5.54	0.88	-0.30	-0.70
Extrinsic Goal Orientation	52	2.00	7.00	5.15	1.26	-0.62	-0.18
Task Value	52	3.67	7.00	6.06	1.00	-1.14	0.09
Test Anxiety	52	1.00	7.00	3.94	1.74	-0.06	-1.31
Traditional Learner							
Control Belief	34	3.25	7.00	5.53	1.04	-0.95	-0.18
Self-efficacy	34	4.13	7.00	6.11	0.64	-1.02	2.20
Intrinsic Goal Orientation	34	2.50	7.00	5.49	1.01	-1.17	1.37
Extrinsic Goal Orientation	34	3.00	7.00	5.18	1.00	-0.45	0.10
Task Value	34	3.33	7.00	6.16	0.82	-1.72	3.72
Test Anxiety	34	1.00	7.00	4.13	1.57	-0.40	-0.44

Note. $N = 86$.

Table F3

Descriptive Statistics of Counselors' Nine Elements of Learning Strategies by Gender

Elements of Learning Strategies	*n*	Min	Max	Mean	*SD*	Skewness	Kurtosis
Male							
Rehearsal	25	1.00	7.00	5.45	1.58	-1.66	2.34
Elaboration	25	3.33	7.00	5.58	0.87	-0.28	0.59
Organization	25	2.00	7.00	5.21	1.20	-0.90	1.75
Critical Thinking	25	2.00	7.00	4.10	1.83	0.78	-1.04
Metacognitive Self-regulation	25	3.08	7.00	5.05	0.98	0.17	-0.28
Time and Study Environment	25	4.38	7.00	5.77	0.78	0.22	-0.97
Effort Regulation	25	4.00	7.00	5.73	0.96	-0.29	-0.90
Peer Learning	25	2.00	7.00	5.12	1.38	-0.78	-0.01
Help Seeking	25	1.50	7.00	5.01	1.52	-1.11	0.71
Female							
Rehearsal	61	1.00	7.00	4.74	1.69	-0.30	-0.77
Elaboration	61	3.33	7.00	5.61	0.97	-0.30	-0.76
Organization	61	1.75	7.00	5.05	1.52	-0.29	-1.00
Critical Thinking	61	1.60	7.00	4.83	1.24	-0.36	0.03
Metacognitive Self-regulation	61	2.92	7.00	4.94	0.99	0.09	-0.71
Time and Study Environment	61	3.75	7.00	5.71	1.00	-0.28	-0.91
Effort Regulation	61	3.75	7.00	6.06	0.95	-0.95	-0.12
Peer Learning	61	1.00	7.00	3.95	1.94	0.31	-1.18
Help Seeking	61	1.00	7.00	4.29	1.70	-0.01	-0.84

Note. $N = 86$.

Table F4

Descriptive Statistics of Counselors' Nine Elements of Learning Strategies by Methods of Instruction

Elements of Learning Strategies	*n*	Min	Max	Mean	*SD*	Skewness	Kurtosis
Distance Learner							
Rehearsal	52	1.00	7.00	4.70	1.82	-0.48	-0.87
Elaboration	52	3.33	7.00	5.54	1.02	-0.27	-0.69
Organization	52	1.75	7.00	4.91	1.57	-0.34	-0.97
Critical Thinking	52	2.20	7.00	4.70	1.43	0.07	-0.91
Metacognitive Self-regulation	52	2.92	7.00	4.90	1.05	0.05	-0.75
Time and Study Environment	52	3.75	7.00	5.73	1.02	-0.34	-0.97
Effort Regulation	52	3.75	7.00	5.99	1.02	-0.80	-0.64
Peer Learning	52	1.00	7.00	3.92	1.94	0.25	-1.25
Help Seeking	52	1.00	7.00	4.09	1.82	0.14	-1.06
Traditional Learner							
Rehearsal	34	2.00	7.00	5.32	1.37	-0.54	-0.40
Elaboration	34	4.00	7.00	5.71	0.80	-0.11	-0.62
Organization	34	3.50	7.00	5.38	1.13	-0.03	-0.85
Critical Thinking	34	1.60	7.00	4.48	1.52	-0.08	-0.90
Metacognitive Self-regulation	34	3.83	7.00	5.09	0.87	0.48	-0.70
Time and Study Environment	34	4.00	7.00	5.72	0.81	0.12	-0.59
Effort Regulation	34	4.00	7.00	5.92	0.89	-0.64	-0.21
Peer Learning	34	1.33	7.00	4.85	1.62	-0.33	-0.91
Help Seeking	34	2.00	7.00	5.12	1.18	-0.65	0.75

Note. $N = 86$.

Skewness and Kurtosis Statistics

Table F5

Skewness and Kurtosis Statistics of Six Elements of Motivation by Gender

Elements of Motivation	Skewness	Skew Std. Error	z-skew	Kurtosis	Kurtosis Std. Error	z-kurtosis
Male						
Control Belief	-1.04	0.46	-2.25	0.35	0.90	0.38
Self-efficacy	0.17	0.46	0.37	-0.92	0.90	-1.02
Intrinsic Goal Orientation	0.02	0.46	0.04	0.41	0.90	0.45
Extrinsic Goal Orientation	-0.66	0.46	-1.42	0.52	0.90	0.58
Task Value	-0.82	0.46	-1.78	1.01	0.90	1.12
Test Anxiety	0.01	0.46	0.02	-0.75	0.90	-0.83
Female						
Control Belief	-0.13	0.31	-0.44	-0.87	0.60	-1.44
Self-efficacy*	-1.12	0.31	-3.65	0.37	0.60	0.60
Intrinsic Goal Orientation	-0.68	0.31	-2.21	-0.12	0.60	-0.20
Extrinsic Goal Orientation	-0.53	0.31	-1.74	-0.18	0.60	-0.30
Task Value*	-1.09	0.31	-3.57	0.02	0.60	0.03
Test Anxiety	-0.30	0.31	-0.99	-1.14	0.60	-1.88

*Distribution is significantly skewed *z-skew* < -3.29; $N = 86$.

Table F6

Skewness and Kurtosis Statistics of Six Elements of Motivation by Methods of Instruction

Elements of Motivation	Skewness	Skew Std. Error	z-skew	Kurtosis	Kurtosis Std. Error	z-kurtosis
Distance Learner						
Control Belief	0.01	0.33	0.02	-1.06	0.65	-1.64
Self-efficacy*	-1.28	0.33	-3.87	0.74	0.65	1.14
Intrinsic Goal Orientation	-0.30	0.33	-0.90	-0.70	0.65	-1.08
Extrinsic Goal Orientation	-0.62	0.33	-1.89	-0.18	0.65	-0.27
Task Value*	-1.14	0.33	-3.45	0.09	0.65	0.14
Test Anxiety	-0.06	0.33	-0.17	-1.31	0.65	-2.01
Traditional Learner						
Control Belief	-0.95	0.40	-2.35	-0.18	0.79	-0.23
Self-efficacy	-1.02	0.40	-2.53	2.20	0.79	2.79
Intrinsic Goal Orientation	-1.17	0.40	-2.91	1.37	0.79	1.74
Extrinsic Goal Orientation	-0.45	0.40	-1.11	0.10	0.79	0.13
Task Value*	-1.72	0.40	-4.28	3.72	0.79	4.73
Test Anxiety	-0.40	0.40	-0.99	-0.44	0.79	-0.56

*Distribution is significantly skewed *z-skew* < -3.29; total $N = 86$

Table F7

Skewness and Kurtosis Statistics of Nine Elements of Learning Strategies by Gender

Elements of Learning Strategies	Skewness	Skew Std. Error	z-skew	Kurtosis	Kurtosis Std. Error	z-kurtosis
Male						
Rehearsal*	-1.66	0.46	-3.57	2.34	0.90	2.60
Elaboration	-0.28	0.46	-0.60	0.59	0.90	0.66
Organization	-0.90	0.46	-1.94	1.75	0.90	1.94
Critical Thinking	0.78	0.46	1.69	-1.04	0.90	-1.15
Metacognitive Self-regulation	0.17	0.46	0.37	-0.28	0.90	-0.31
Time and Study Environment	0.22	0.46	0.47	-0.97	0.90	-1.07
Effort Regulation	-0.29	0.46	-0.63	-0.90	0.90	-1.00
Peer Learning	-0.78	0.46	-1.69	-0.01	0.90	-0.01
Help Seeking	-1.11	0.46	-2.39	0.71	0.90	0.78
Female						
Rehearsal	-0.30	0.31	-0.97	-0.77	0.60	-1.28
Elaboration	-0.30	0.31	-0.99	-0.76	0.60	-1.26
Organization	-0.29	0.31	-0.96	-1.00	0.60	-1.65

Critical Thinking	-0.36	0.31	-1.17	0.03	0.60	0.05
Metacognitive Self-regulation	0.09	0.31	0.28	-0.71	0.60	-1.17
Time and Study Environment	-0.28	0.31	-0.92	-0.91	0.60	-1.51
Effort Regulation	-0.95	0.31	-3.10	-0.12	0.60	-0.20
Peer Learning	0.31	0.31	1.03	-1.18	0.60	-1.95
Help Seeking	-0.01	0.31	-0.02	-0.84	0.60	-1.39

*Distribution is significantly skewed *z-skew* < -3.29; total $N = 86$

Table F8

Skewness and Kurtosis Statistics of Nine Elements of Learning Strategies by Methods of Instruction

Elements of Learning Strategies	Skewness	Skew Std. Error	z-skew	Kurtosis	Kurtosis Std. Error	z-kurtosis
Distance Learner						
Rehearsal	-0.48	0.33	-1.46	-0.87	0.65	-1.34
Elaboration	-0.27	0.33	-0.81	-0.69	0.65	-1.06
Organization	-0.34	0.33	-1.04	-0.97	0.65	-1.50
Critical Thinking	0.07	0.33	0.20	-0.91	0.65	-1.40
Metacognitive Self-regulation	0.05	0.33	0.14	-0.75	0.65	-1.15
Time and Study Environment	-0.34	0.33	-1.02	-0.97	0.65	-1.49
Effort Regulation	-0.80	0.33	-2.41	-0.64	0.65	-0.98
Peer Learning	0.25	0.33	0.75	-1.25	0.65	-1.93
Help Seeking	0.14	0.33	0.42	-1.06	0.65	-1.64
Traditional Learner						
Rehearsal	-0.54	0.40	-1.34	-0.40	0.79	-0.51
Elaboration	-0.11	0.40	-0.28	-0.62	0.79	-0.79
Organization	-0.03	0.40	-0.08	-0.85	0.79	-1.07
Critical Thinking	-0.08	0.40	-0.20	-0.90	0.79	-1.14
Metacognitive Self-regulation	0.48	0.40	1.18	-0.70	0.79	-0.89
Time and Study Environment	0.12	0.40	0.29	-0.59	0.79	-0.75
Effort Regulation	-0.64	0.40	-1.59	-0.21	0.79	-0.27
Peer Learning	-0.33	0.40	-0.83	-0.91	0.79	-1.16
Help Seeking	-0.65	0.40	-1.61	0.75	0.79	0.95

*Distribution is significantly skewed *z-skew* > 3.29; total *N* = 86

Multicollinearity

Table F9

Summary of Test of Multicollinearity for Research Question 1

Dependent Variable	1	2	3	4	5	6
Control Belief (1)	1.00	0.30	0.47	0.15	0.50	-0.20
Self-efficacy (2)		1.00	0.53	-0.06	0.76	-0.20
Intrinsic Goal Orientation (3)			1.00	-0.09	0.71	-0.36
Extrinsic Goal Orientation (4)				1.00	0.00	0.33
Task Value (5)					1.00	-0.19
Test Anxiety (6)						1.00

Table F10

Summary of Test of Multicollinearity for Research Question 2

Elements of Learning Strategies	1	2	3	4	5	6	7	8	9
Rehearsal (1)	1.00	0.51	0.81	0.00	0.64	0.39	0.14	0.74	0.77
Elaboration (2)		1.00	0.55	0.53	0.80	0.54	0.46	0.54	0.45
Organization (3)			1.00	0.23	0.72	0.36	0.21	0.70	0.71
Critical Thinking (4)				1.00	0.53	0.17	0.30	0.09	-0.04
Metacognitive Self-regulation (5)					1.00	0.61	0.50	0.67	0.57
Time and Study Environment (6)						1.00	0.70	0.33	0.32
Effort Regulation (7)							1.00	0.09	0.11
Peer Learning (8)								1.00	0.88
Help Seeking (9)									1.00

ANCOVA Results of Research Question 1

Table F11

Summary of ANCOVA Analysis of Element of Motivation: Control Belief

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	20.86	4	5.21	6.30	< .001	.24	.99
Intercept	114.59	1	114.59	138.37	< .001	.63	1.00
Hispanic Origin	13.17	1	13.17	15.90	< .001	.16	.98
Gender	4.49	1	4.49	5.42	.02	.06	.63
Instructional Method	0.59	1	0.59	0.71	.40	.01	.13
Interaction	0.10	1	0.10	0.12	.73	< .01	.06
Error	67.08	81	0.83				
Total	2645.63	86					
Corrected Total	87.94	85					

Note. Dependent variable = control belief. Interaction = gender and method of instruction.

Table F12

Summary of ANCOVA Analysis of Element of Motivation: Self-efficacy

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	2.30	4	0.58	0.79	.54	.04	.24
Intercept	223.17	1	223.17	306.38	< .001	.79	1.00
Hispanic Origin	0.75	1	0.75	1.04	.31	.01	.17
Gender	0.63	1	0.63	0.87	.36	.01	.15
Instructional Method	0.28	1	0.28	0.38	.54	.01	.09
Interaction	0.93	1	0.93	1.28	.26	.02	.20
Error	59.00	81	0.73				
Total	3296.84	86					
Corrected Total	61.31	85					

Dependent variable = self-efficacy
Interaction = gender and method of instruction

Table F13

Summary of ANCOVA Analysis of Element of Motivation: Intrinsic Goal Orientation

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	7.32	4	1.83	2.25	.07	.10	.64
Intercept	135.87	1	135.87	167.06	< .001	.67	1.00
Hispanic Origin	6.78	1	6.78	8.34	.01	.09	.81
Gender	0.16	1	0.16	0.19	.66	< .01	.07
Instructional Method	0.01	1	0.01	0.01	.94	< .001	.05
Interaction	0.24	1	0.24	0.30	.59	< .01	.08
Error	65.88	81	0.81				
Total	2696.75	86					
Corrected Total	73.20	85					

Dependent variable = intrinsic goal orientation
Interaction = gender and method of instruction

Table F14

Summary of ANCOVA Analysis of Element of Motivation: Extrinsic Goal Orientation

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	12.10	4	3.03	2.41	.06	.11	.67
Intercept	219.03	1	219.03	174.62	< .001	.68	1.00
Hispanic Origin	1.64	1	1.64	1.31	.26	.02	.21
Gender	7.93	1	7.93	6.32	.01	.07	.70
Instructional Method	1.43	1	1.43	1.14	.29	.01	.18
Interaction	2.15	1	2.15	1.71	.19	.02	.25
Error	101.60	81	1.25				
Total	2408.56	86					
Corrected Total	113.70	85					

Dependent variable = extrinsic goal orientation
Interaction = gender and method of instruction

Table F15

Summary of ANCOVA Analysis of Element of Motivation: Task Value

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	4.26	4	1.06	1.25	.30	.06	.37
Intercept	203.30	1	203.30	238.17	< .001	.75	1.00
Hispanic Origin	2.40	1	2.40	2.82	.10	.03	.38
Gender	0.89	1	0.89	1.04	.31	.01	.17
Instructional Method	0.02	1	0.02	0.02	.90	< .001	.05
Interaction	0.74	1	0.74	0.87	.35	.01	.15
Error	69.14	81	0.85				
Total	3276.31	86					
Corrected Total	73.40	85					

Dependent variable = task value
Interaction = gender and method of instruction

Table F16

Summary of ANCOVA Analysis of Element of Motivation: Test Anxiety

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	61.50	4	15.37	7.12	< .001	.26	.99
Intercept	294.73	1	294.73	136.57	< .001	.63	1.00
Hispanic Origin	56.62	1	56.62	26.24	< .001	.25	1.00
Gender	1.18	1	1.18	0.55	.46	.01	.11
Instructional Method	0.28	1	0.28	0.13	.72	< .001	.07
Interaction	3.28	1	3.28	1.52	.22	.02	.23
Error	174.81	81	2.16				
Total	1621.92	86					
Corrected Total	236.30	85					

Dependent variable = test anxiety
Interaction = gender and method of instruction

ANCOVA Results of Research Question 2

Table F17

Summary of ANCOVA Analysis of Element of Learning Strategy: Rehearsal

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	63.70	4	15.93	7.36	< .001	.27	1.00
Intercept	388.42	1	388.42	179.46	< .001	.69	1.00
Hispanic Origin	49.55	1	49.55	22.90	< .001	.22	1.00
Gender	10.48	1	10.48	4.84	.03	.06	.59
Instructional Method	2.22	1	2.22	1.03	.31	.01	.17
Interaction	3.22	1	3.22	1.49	.23	.02	.23
Error	175.32	81	2.16				
Total	2344.25	86					
Corrected Total	239.02	85					

Dependent variable = rehearsal
Interaction = gender and method of instruction

Table F18

Summary of ANCOVA Analysis of Element of Learning Strategy: Elaboration

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	5.10	4	1.27	1.48	.22	.07	.44
Intercept	263.04	1	263.04	305.48	< .001	.79	1.00
Hispanic Origin	4.03	1	4.03	4.67	.03	.06	.57
Gender	0.01	1	0.01	0.01	.92	< .001	.05
Instructional Method	0.10	1	0.10	0.12	.74	< .01	.06
Interaction	0.06	1	0.06	0.07	.79	< .01	.06
Error	69.75	81	0.86				
Total	2774.42	86					
Corrected Total	74.84	85					

Dependent variable = elaboration
Interaction = gender and method of instruction

Table F19

Summary of ANCOVA Analysis of Element of Learning Strategy: Organization

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	30.44	4	7.61	4.32	< .01	.18	.92
Intercept	322.62	1	322.62	183.14	< .001	.69	1.00
Hispanic Origin	25.55	1	25.55	14.50	< .001	.15	.96
Gender	0.65	1	0.65	0.37	.54	.01	.09
Instructional Method	1.18	1	1.18	0.67	.42	.01	.13
Interaction	0.10	1	0.10	0.06	.81	< .01	.06
Error	142.69	81	1.76				
Total	2403.88	86					
Corrected Total	173.13	85					

Dependent variable = organization
Interaction = gender and method of instruction

Table F20

Summary of ANCOVA Analysis of Element of Learning Strategy: Critical Thinking

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	14.76	4	3.69	1.79	.14	.08	.52
Intercept	172.89	1	172.89	83.86	< .001	.51	1.00
Hispanic Origin	3.28	1	3.28	1.59	.21	.02	.24
Gender	7.44	1	7.44	3.61	.06	.04	.47
Instructional Method	1.10	1	1.10	0.54	.47	.01	.11
Interaction	1.05	1	1.05	0.51	.48	.01	.11
Error	166.99	81	2.06				
Total	2012.56	86					
Corrected Total	181.74	85					

Dependent variable = critical thinking
Interaction = gender and method of instruction

Table F21

Summary of ANCOVA Analysis of Element of Learning Strategy: Metacognitive Self-regulation

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	10.10	4	2.53	2.87	.03	.12	.75
Intercept	243.94	1	243.94	276.73	< .001	.77	1.00
Hispanic Origin	8.90	1	8.90	10.10	< .01	.11	.88
Gender	0.38	1	0.38	0.44	.51	.01	.10
Instructional Method	0.04	1	0.04	0.05	.83	< .01	.06
Interaction	< .01	1	< .01	< .01	.97	< .001	.05
Error	71.40	81	0.88				
Total	2208.24	86					
Corrected Total	81.51	85					

Dependent variable = Metacognitive self-regulation
Interaction = gender and method of instruction

Table F22

Summary of ANCOVA Analysis of Element of Learning Strategy: Time and Study Environment

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	1.63	4	0.41	0.46	.77	.02	.15
Intercept	210.02	1	210.02	234.55	< .001	.74	1.00
Hispanic Origin	0.04	1	0.04	0.05	.83	< .01	.06
Gender	0.04	1	0.04	0.05	.83	< .01	.06
Instructional Method	0.26	1	0.26	0.29	.59	< .01	.08
Interaction	1.57	1	1.57	1.75	.19	.02	.26
Error	72.53	81	0.90				
Total	2896.02	86					
Corrected Total	74.16	85					

Dependent variable = time and study environment
Interaction = gender and method of instruction

Table F23

Summary of ANCOVA Analysis of Element of Learning Strategy: Effort Regulation

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	3.83	4	0.96	1.04	.39	.05	.31
Intercept	206.96	1	206.96	223.93	< .001	.73	1.00
Hispanic Origin	0.53	1	0.53	0.57	.45	.01	.12
Gender	2.09	1	2.09	2.26	.14	.03	.32
Instructional Method	0.15	1	0.15	0.16	.69	< .01	.07
Interaction	1.68	1	1.68	1.81	.18	.02	.27
Error	74.86	81	0.92				
Total	3135.81	86					
Corrected Total	78.69	85					

Dependent variable = effort regulation
Interaction = gender and method of instruction

Table F24

Summary of ANCOVA Analysis of Element of Learning Strategy: Peer Learning

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	110.07	4	27.52	11.93	< .001	0.37	1.00
Intercept	390.75	1	390.75	169.38	< .001	0.68	1.00
Hispanic Origin	70.81	1	70.81	30.69	< .001	0.28	1.00
Gender	25.14	1	25.14	10.90	< .01	0.12	0.90
Instructional Method	1.79	1	1.79	0.77	0.38	0.01	0.14
Interaction	0.25	1	0.25	0.11	0.74	< .01	0.06
Error	186.86	81	2.31				
Total	1877.33	86					
Corrected Total	296.93	85					

Dependent variable = peer learning
Interaction = gender and method of instruction

Table F25

Summary of ANCOVA Analysis of Element of Learning Strategy: Help Seeking

Source	Type III Sum of Squares	df	Mean Square	F	Sig. (*p*)	Partial Eta Squared	Observed Power
Corrected Model	92.94	4	23.24	13.03	< .001	.39	1.00
Intercept	386.14	1	386.14	216.45	< .001	.73	1.00
Hispanic Origin	63.43	1	63.43	35.56	< .001	.31	1.00
Gender	8.67	1	8.67	4.86	.03	.06	.59
Instructional Method	4.95	1	4.95	2.78	.10	.03	.38
Interaction	0.16	1	0.16	0.09	.77	< .01	.06
Error	144.50	81	1.78				
Total	1976.69	86					
Corrected Total	237.44	85					

Dependent variable = help seeking
Interaction = gender and method of instruction

Curriculum Vitae

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Address: 324 Adams SE
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Education:

Graduate Studies:

5 /2015	Walden University, Ph.D Doctor of Philosophy in Academic Psychology
5/96	Webster University Master of Arts in Counseling

Undergraduate Studies:

5/94	University of New Mexico Bachelor of Arts in Psychology Minor in Social Welfare
5/92	Trinidad State Junior College Associate of Arts in Psychology and Education

Licenses:

Licensed Mental Health Counselor # 3327

Specialized Training:

5/00	Assessment for Infant Mental Health Assessment for Bonding and Attachment of children 0-3
6/96	Dissociative Disorder Training
9/95	Post Traumatic Stress Disorder Training
8/98	Light and Sound Stimulation--Certified

Clinical Experience:

Lead therapist for Emcore, Albuquerque, NM
Organized and provided individual and group crisis counseling for individuals that have experienced workplace violence.
6/10-Present

Founder of Advanced Brain Health, Albuquerque, NM.
Oversees the operation.
1/10-Present

Co-Director and Counselor at Integrated Counseling Services/ABC Wellness Clinic,Albuquerque, NM.
Oversees the operation. Participates in the consultation of counselors and the counseling of clients.
5/96-Present

Contract Therapist at New Mexico Solutions, Albuquerque, NM.
Provide counseling services and initial psycho-social assessments for children, adolescents, adults in the families and individual outpatient setting and treatment foster care setting.
10/05-1/2009

Counselor for Mind & Associates, Littleton, CO.
Provide counseling for Employee Assistance Program System.
7/05-Present

Counselor for Allen Group, Fort Meyer, FL.
Provide counseling for Employee Assistance Program System.
1/97-Present

Counselor/Consultant for Sandia National Laboratories, Albuquerque, NM.
Provide outplacement career counseling services.
4/98-Present

Consultant for Mind Tech, Albuquerque, NM.
Work with D.A.V.I.D. 1 machine in treating/consulting the treatment of anxiety, depression, learning disabilities, ADD/ADHD, chronic pain, migraines, stress, and trauma.
8/98-Present

Counselor for CourtCare,

Provide Counseling for Employee Assistance Program System
12/00-Present

Counselor for Mazzitt & Sullivan,
Provide counseling for Employee Assistance Program System.
4/00-Present

Counselor for La Madrugada Early Headstart, City of Albuquerque, Albuquerque, NM.
Provide program development, training on early child development assessments, supervision/consultation, counseling, bonding and attachment assessments, psychosocial assessments and strength and needs assessments.
7/00-2008

Intern therapist at Valencia Counseling Services, Moriarty, NM.
Participated in providing intakes, therapy, consultations, crisis intervention, and assessments/evaluations.
2/99-12/99

Intern therapist at the Albuquerque Family and Child Guidance Center, Albuquerque, NM.
Participates in providing pre-intakes, therapy, consultations, crisis intervention, and assessment/evaluations.
9/98-12/98

Intern clinician at the Second Judicial District Court Clinic,Albuquerque, NM.
Provides services such as mediation, therapy, custody evaluation, and competency evaluation to parents who have been court ordered.
3/98-9/98

Intern therapist at the Counseling and Psychotherapy Institute, Albuquerque, NM.
Participated in weekly supervision and counseled a variety of clientele which were court referred.
1/96-5/96

Intern therapist at Agent Orange Family Assistance Program, Albuquerque, NM.
Counseled Vietnam Veterans and their families.
9/95-3/96

Practicum Trainee at New Mexico Highlands University, Las Vegas, NM.
Counseled individual clients.
9/94-12/94

Intern at the Youth Diagnostic Development Center and Girls School of New Mexico, Albuquerque, NM.
Facilitated pro-social skills groups and observed psychological testing.
1/94-5/94

Intern at Parkview Baptist School, Albuquerque, NM.
Developed a behavioral modification model for hard to handle children.
1/94-5/94

Intern at the Bernalillo County Juvenile Detention Center, Albuquerque, NM.
Observed all operations of the juvenile detainment process.
1/94-5/94

Skills:

Trained in mediation, psychotherapy, case management, assessment/evaluation, and light and sound stimulation.

Member Of:

PsiChi Honor Society, Walden University

Membership Appointments:

5/01-2008	Secretary for Dissociative Disorders Referral and Education Services
2/03-2008	Community committee member for TC Pathways

Past Memberships:

National Blue Key Honor Society
Hispanic Honor Society of UNM
Psychology Club Of UNM

Past Membership Appointments:

Program Chair of the Psychology Club of UNM.
Membership Committee of the Hispanic Honor Society of UNM.
Mentor for the Trinidad Hispanic Chamber of Commerce

Honors:

PsyChi Honor Society, Walden University
Graduated with distinction from Webster University
Graduated Cum Laude in General Honors at University of New Mexico
Received an Upper Division Honors Stipend Award General Honor Department
Dean's list at Trinidad State Junior College

Awards:

Lead therapist for Emcore who won the American Red Cross Real Hero's National Awards for *Dealing with Violence in the Workplace.*
Received an Upper Division Honors Stipend Award General

Presentations:

2013

Spahr, M.L. (2013, November). *Reducing ADD/ADHD Symptoms with Lights and Sound.* On air segment for KASA Fox 2. Albuquerque, NM.

2011

Spahr, M.L. (2011, April). *Dealing with Violence in the Workplace.* Video presentation for American Red Cross Real Hero's National Awards Presentation, Albuquerque, NM.

Spahr, M.L. (2011, March). *Dealing with Violence in the Workplace.* Presentation at Emcore Corporation. Albuquerque, NM

Spahr, M.L. (2011, July). *Brain Health.* Presentation at Alzheimer Caregiver Support Group Albuquerque, NM.

Spahr, M.L. (2011, August). *Brain Health.* Presentation at Alvardo Care Group Albuquerque, NM.

Spahr, M.L. (2011, November). *Dealing with Holiday Stress.* Presentation at Alvardo Care Group Albuquerque, NM.

Spahr, M.L. (2007, July). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

Spahr, M.L. (2007, April). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

2006

Spahr, M.L. (2006, April). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

2005

Spahr, M.L. (2005, July). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

Spahr, M.L. (2005, June). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

Spahr, M.L. (2005, June). *Conversation with Dr. Melanie Buenviaje on the Issue of ADHD.* Presentation at KSFR 90.7 Santa Fe Public Radio, Santa Fe, NM.

Spahr, M.L. (2005, April). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

Spahr, M.L. (2005, January). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

2004

Spahr, M.L. (2007, July). *Diversity and Assessing Children Under the Age of 3.* Presentation at Cuidando Los Ninos, Albuquerque, NM.

Spahr, M.L. (2004, January). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

2003

Spahr, M.L. (2003, January). *Diversity and Assessing Children Under the Age of 3.* Presentation at Southwestern College, Santa Fe, NM.

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Spahr, M.L. (2003, June). *Psychopharmacology Treatment of Bipolar Disorder*. Presentation at Walden University, Bloomington, IN.

2002

Spahr, M.L. (2002, March). *Challenges of Identifying and Working with Mental Health Issues* Presentation at City of Albuquerque, Albuquerque, NM.

2001

Spahr, M.L. (2001, October). *Building a Foundation.* Presentation at Dissociative Disorder Resources and Educational Services, Albuquerque, NM.

Spahr, M.L. (2001, May). *Assessment Process.* Presentation at City of Albuquerque, Albuquerque, NM.

Spahr, M.L. (2001, May). *Graduation.* Presentation at Trinidad Hispanic Chamber of Commerce Graduation, Trinidad, CO.

1999

Spahr, M.L. (1999, January). *Light and Sound Stimulation and the Feldenkrais Method.* Presentation at National Association of Social Workers, Albuquerque, NM.

Spahr, M.L. (1999, October). *Niche Marketing* . Presentation at New Mexico Counseling Association, Albuquerque, NM.

1998

Spahr, M.L. (1998, May). *Therapeutic Techniques for Trauma*. Presentation at Walden University, Minneapolis, MN.

Spahr, M.L. (1998, April). *Dynamics of Satanic Cults*. Presentation at Walden University, Minneapolis, MN.

Spahr, M.L. (1998, March). *Quality Checks for Therapeutic Outcomes*. Presentation at Walden University, Minneapolis, MN.

1997

Spahr, M.L. (1998, May). *Therapeutic Techniques for Trauma*. Presentation at Walden University Continuing Education Seminar, Minneapolis, MN.