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Motivations and Learning Strategies of West Virginia College Students in Four Four-Year Institutions: A Correlation Study of Academic, Social, and Demographic Variables

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Motivations and Learning Strategies of West Virginia College Students in Four Four-
Year Institutions: A Correlation Study of Academic, Social, and Demographic Variables

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Dissertation submitted to the Faculty of the College of Education and Human Services
at
West Virginia University

in partial fulfillment of the requirements for the degree of

Doctor of Education in
Educational Leadership

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Morgantown, West Virginia
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Key words: Self-regulation, motivation, learning strategies, West Virginia college
students

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ABSTRACT

Motivations and Learning Strategies of West Virginia College Students in Four Four-Year Institutions: A Correlation Study of Academic, Social, and Demographic Variables

Kimberly G. Colebank

Certain assumptions have been made about the relationship between acceptance criteria and student success. However, the assumption that a more successful college student can be determined based on acceptance criteria data was in doubt. The current study administered the *Motivated Strategies for Learning Questionnaire (MSLQ)* created by Pintrich, Smith, Garcia and McKeachie (1991) to analyze the motivations and learning strategies utilized by West Virginia students in an Introduction to Psychology course at four public, four-year institutions. Learning strategies were correlated to academic, social, and demographic variables.

The purpose of the study was to determine if West Virginia college students preferred specific learning strategies in a particular course. Additionally, the study sought to determine if themes arose from academic, social, or demographic variables that may direct educators to better engage students in the classroom.

Results from the study identified that West Virginia college students prefer certain learning strategies in this course and that there are specific demographic variables that affect these preferences. Gender, first-generation college students, lower socioeconomic status, and being from a small hometown all correlated to utilizing specific learning strategies.

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CHAPTER ONE

PURPOSE OF THE STUDY

Over the past several decades, the West Virginia state legislature worked to structurally differentiate institutions of higher education in West Virginia. In 2009, West Virginia Code §18B-2B-1 established the independence of West Virginia Community and Technical Colleges, regardless of previous affiliations with their four year counterparts. Before this differentiation, the two-year and four-year institutions were interconnected, often attempting to operate as a singular unit sharing faculty and blurring the lines between the two-year and the four-year curricula. After clear delineation, the two-year institutions and the four-year institutions have more autonomous existences, each reporting to its own Board of Governors, employing its own president, and defining its own set of acceptance criteria for incoming students. For example, the two-year community and technical institutions accept a broad range of students with varying academic abilities for workforce education programs or cultivate students who have developmental needs while the four-year institutions accept students with commonly identified readiness indicators, like higher grade point averages and higher ACT scores, to propel them straight into collegiate-level curricula (WVHEPC, 2009).

Certain assumptions have been made about the relationship between acceptance criteria and student success. However, the assumption that a more successful college student can be determined based on acceptance criteria data was in doubt. The current study analyzed the motivations and learning strategies utilized by West Virginia students and correlated learning strategies to academic, social, and demographic variables. Participants of the study were enrolled in four West Virginia

institutions of higher education. The four public, four-year institutions selected regionally for this study were: Fairmont State University in central West Virginia, Shepherd University in eastern West Virginia, West Liberty State University in northern West Virginia, and Concord University in southern West Virginia.

As dictated by the survey instrument selected for this study, a common course offered at each of the institutions was selected in which to administer the survey. Because Introduction to Psychology was offered at all four of the selected institutions, and because of the number of students enrolled in multiple sections of the course each semester, this course was selected.

Problem Statement

The problem was that the motivations and learning strategies of West Virginia college students were unclear. Institutions of higher education in West Virginia employ teaching strategies that were designed to motivate and academically engage all college students. However, many of the nationally accepted strategies used to engage students may be outside the cultural and familial experiences of West Virginia students, further alienating them from the academic curricula. The research conducted for the current study provided a greater understanding of the motivations and learning strategies employed by West Virginia college students and correlated employed learning strategies to academic, social, and demographic variables.

The contribution to knowledge and practice of the current study was to provide a clearer picture of the motivations and learning strategies used by West Virginia students enrolled in four four-year institutions. While much was known about college students' motivations and learning strategies on a national level, generalized application of that

knowledge to West Virginia students was tenuous at best. According to the Appalachian Regional Commission, 17.6% of West Virginians live below the poverty level, ranking it among the bottom of states with counties considered in the Appalachian Region, and only 17.9% of West Virginians have earned a bachelor's degree, making it dead last in college completion among the Appalachian states (Appalachian Regional Commission, 2014).

Because of these factors, specific research about West Virginia college students may help to determine if West Virginia college students faced distinctive challenges that were significant enough to require a different, more innovative approach to educational engagement.

Professional Significance of the Study

Beginning with the work of Maslow and his *Theory of Human Motivation* (1943), motivation theory emerged as a physiological and psychological construct by which humans exist. Without basic needs being met, those of “hunger, sex, and thirst” (Maslow, 1943, p. 4), humans cannot engage in higher order motivations, such as “self-actualization” or “desires to know and understand” (Maslow, 1943, pp. 10-12). Regardless of the age of the human, elementary school-aged or college-aged, the basic needs of humans must be met before other motivations are even realized. In higher education, self-actualization and the desire to know and understand are the metaphorical bread and water of educational engagement. Realizing and achieving one's potential to aspire to great levels, as well as studying, researching, questioning, and analyzing can be ascribed to almost every mission statement for institutions of

higher learning across the United States and the institutions selected for this study were no different.

At Concord University, the mission is “to provide quality, liberal arts based education, to foster scholarly activities, and to serve the regional community” (Concord University, 2014). At Fairmont State University, the mission is “to provide opportunities for individuals to achieve their professional and personal goals and discover roles for responsible citizenship that promote the common good” (Fairmont State University, 2014). At Shepherd University, the mission is to be “a diverse community of learners and a gateway to the world of opportunities and ideas. We are the regional center for academic, cultural, and economic opportunity. Our mission of service succeeds because we are dedicated to our core values: learning, engagement, integrity, accessibility, and community” (Shepherd University, 2014). Finally, at West Liberty University, the mission is “to provide our students the opportunity for a high quality undergraduate, graduate and professional education” (West Liberty University, 2014).

According to a 2004 study conducted by Chenoweth and Galliher, West Virginia high school students have direct and indirect sources of influence on their academic development. Additionally, West Virginia has “a fairly unique set of economic and social influences” (Obermiller & Maloney, 2002) that affects the development of individuals. Because the demographics of hometown, familial generation in college, and socioeconomic status were addressed in this study, the work of Chenoweth and Galliher was important.

While it was clear that economic, social, familial, and cultural influences may hinder the college-going rates of the students in West Virginia (Chenoweth & Galliher,

2004; WVHEPC, 2010), it was unclear if these hindrances translate to cognitive motivational scales or to the lack of employment of certain learning strategies.

Chenoweth and Galliher's 2004 study about the factors that influence students in West Virginia to go to college was helpful in building a foundation for the current study, but the population of their study was high school students not the college student population, therefore producing another hole in the research data.

Missing from the research to date was a study identifying the motivations and learning strategies of West Virginia college students who graduated from public or private high schools in West Virginia and attended four West Virginia universities. The current study will inform West Virginia higher education professionals, West Virginia legislative bodies, and the West Virginia Higher Education Policy Commission (WVHEPC) about the motivations and learning strategies of West Virginia college students.

For the higher education professional, it is necessary to know what intrinsic and extrinsic motivations drive West Virginia college students as they employ specific learning strategies. When building programs that enhance the learning experiences of students, higher education professionals need to know how to best connect students with one another and to create a context for using the most effective learning strategies regardless of the content presented. When legislators are making decisions about the funding of higher education programs or initiatives, alignment of these program goals with funding priorities is crucial in making certain that funds are not misallocated to programs lacking significant research to support their worth. Similarly, the West Virginia Higher Education Policy Commission strives to distribute funds and implement policies

so that all institutions may provide best practices for their students. With the findings of the current study, the WVHEPC now has more research available about how students in West Virginia are motivated, as well as what strategies they employ to be successful in the classroom.

Overview of the Method

The current study utilized the *Motivated Strategies for Learning Questionnaire (MSLQ)* created by Pintrich, Smith, Garcia and McKeachie (1991), in addition to an original section created by the researcher (Appendix C) of the current study to identify correlations among learning strategies and academic, social, and demographic variables.

The population for the current study consisted of 648 students from four four-year institutions of higher education in West Virginia. Purposive sampling was used to identify West Virginia institutions that represent four regional locales of the state. The criteria for the selection of students who participated in the study were as follows:

1. Graduates of West Virginia public or private high schools.
2. Students who were enrolled in an Introduction to Psychology course during the Spring 2011 semester at one of the four institutions.
3. Students who were willing to participate in the study without compensation for their participation.

The data collection occurred on each of the campuses between April 1 and May 10, 2011, with the data immediately available to the researcher. Only completed surveys of students that met the above criteria were included in the current study's data.

Research Questions

Below were the research questions for the current study. More description of each of the scales and variables can be found in Chapter Three.

RQ1. What was the degree of learning motivation for West Virginia college students by these scales?

- a. Intrinsic Goal Orientation
- b. Extrinsic Goal Orientation
- c. Task Value
- d. Control of Learning Beliefs
- e. Self-Efficacy for Learning and Performance

RQ2. What was the degree of application of learning strategies for West Virginia college students by these scales?

- a. Rehearsal
- b. Elaboration
- c. Organization
- d. Critical Thinking
- e. Time and Study Environment
- f. Effort Regulation

RQ3. Was there a relationship between selected learning strategies scale scores and these selected academic variables?

- a. High school grade point average
- b. PROMISE scholarship receipt upon entry to college
- c. Honors program status upon entry to college

- d. Probationary admissions status upon entry to college

RQ4. Was there a relationship between selected learning strategies scale scores and these selected social variables?

- a. Membership in clubs/organizations while in college
- b. Leadership position in clubs/organizations while in college
- c. Involvement in study abroad opportunities while in college
- d. Involvement in service learning or volunteer opportunities while in college

RQ5. Was there a relationship between selected learning strategies scale scores and these selected demographic variables?

- a. Gender
- b. Hometown Size
- c. First-Generation College Student
- d. Socioeconomic Status

Delimitations of the Study

The researcher of the current study provided insight into the motivations and learning strategies of West Virginia college students in an Introduction to Psychology course. Participants were students who graduated from public or private high schools in West Virginia. The researcher explored specific academic, social, and demographic variables to identify correlations between variables, such as socioeconomic level and the application of elaboration. The researcher did not provide correlations that can be generalized to another subgroup of students outside of West Virginia, unless those students also have the distinctive challenges identified in this research study, such as

first-generation status, hailing from hometowns under 25,000 residents, or having familial incomes less than \$50,000.

Organization of the Study

The remainder of the study is organized into four chapters, a reference list, and appendices. Chapter Two contains a literature review of related studies that identify motivational factors and learning strategies of college students, as well as research specific to West Virginia students. Chapter Three contains the method of the study, with an in-depth presentation of the instrument used, the procedures followed, and the description of the sample selected for the study. An analysis of the data and a discussion of the findings are presented in Chapter Four. Chapter Five contains the summary, conclusions, and recommendations for future research.

CHAPTER TWO REVIEW OF LITERATURE

This chapter presents a chronology of the current body of knowledge about motivation and learning strategies, as well as research specific to West Virginia students.

Maslow's Theory of Human Motivation

In order to study the motivation of college students, one must begin with Maslow's Theory of Human Motivation. Maslow's basic needs include primary, instinctive survival needs, such as physiological items like food and water, to more advanced intellectual needs, such as esteem and self-actualization (Maslow, 1943, p. 18). While there is little doubt that college students must have their most human basic needs met, it was the intellectual needs that were the primary focus of this portion of the literature review.

Esteem

Maslow's human motivation of *esteem*, the need to be respected by others, is a deep-rooted basic need that propels human beings to achieve. Maslow stated that "satisfaction of the self-esteem need leads to feelings of self-confidence, worth, strength, capability and adequacy of being useful and necessary in the world" (Maslow, 1943, p.10). The first glimpse into the broader world occurs during the early years of the collegiate experience. Introductory or survey courses regarding history, sociology, psychology, or human diversity provide multiple viewpoints of the world and its cultures. For many college students, the freshman year may be the first time that they are exposed to multiple perspectives and multiple interpretations of these perspectives. Through the basic human motivation of esteem, students may yearn to achieve a

greater level of understanding, knowledge, and applicability of the concepts learned in the survey courses. In order to engage at Maslow's higher levels of motivation, repeated discourse with academic content serves to help students focus more on their intellectual needs.

As the content in most elementary and high school curricula dictates, students are more focused on rote memorization practices of early education in order to receive a passing grade on an exam than focusing on engaging in a discourse for higher level thinking skills to be used, like exploring why laws are made or how scientific methods are established. Not until the introductory courses of college may many students realize that they are not only encouraged to question why or how, but they are also expected to do so regularly.

Self-actualization

Maslow defined the need for *self-actualization* in human beings. First used by Kurt Goldstein in 1939, the term literally means to actualize the potential of self, but for Maslow and by today's current standard, it means "to become everything that one is capable of becoming" (Maslow, 1943, p. 10). Self-actualization may be difficult for students because of the narrow perspective that had been presented to them before their college careers. However, pursuing higher education allows West Virginia students to achieve self-actualization by engaging in academic discourse.

Desire to Know and Understand

Before Maslow (1943) began examining the *desires to know and understand*, human cognitive capabilities were only beginning to be researched. He stated that the "motivation role of curiosity, learning, philosophizing, experimenting... are, at best, no

more than partial answers” (Maslow, 1943, pp. 11- 12). While Maslow’s Theory of Human Motivation provided a foundational framework on which to build, his work alone cannot answer all questions about human motivation and, thereby, the motivation of college students.

Literature on Self-Regulation

Self-regulation has been defined as “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 in the environment” (Pintrich, 2000, p. 453). Students set goals based upon intrinsic and extrinsic factors that drive their performance. By exploring the motivations of students, causal relationships may be identified that provide insight as to why students perform in the classroom.

Throughout the past two decades, research has been conducted about the intrinsic and extrinsic motivations of college students. Vallerand, Pelletier, Blais, Briere, Senecal and Vallieres (1993) conducted a study utilizing an English translated version of an original French survey instrument “Echelle de Motivation en Education” (EME) (Vallerand, et al., 1993, p. 159). Renamed the *Academic Motivation Scale* (AMS), this survey instrument was comprised of seven subscales that assessed three motivation types: intrinsic motivation, extrinsic motivation, and amotivation (See Figure 1). The results of their study indicated that there was no significant difference between the French and English surveys, which provided “support for the concurrent and construct validity of the AMS” (Vallerand, et al., 1993, p. 160).

Figure 1.

Correlations Among the Seven Subscales of the AMS and with Motivational Variables

	AMS Subscales*							Nicholls		
	1	2	3	4	5	6	7	Intrinsic Interest** Gottfried	Work Avoidance	Task Orient- ation
Amotivation (1)	(.86)	-.16	-.22	-.36	-.43	-.41	-.22	-.46	.26	-.39
External Regulation (2)		(.76)	.29	.48	.16	.27	.07	-.01	.03	.01
Introjected Regulation (3)			(.81)	.44	.34	.59	.40	.21	-.03	.28
Identified Regulation (4)				(.60)	.47	.42	.31	.17	-.08	.28
Intrinsic Motivation- to Know (5)					(.79)	.58	.59	.67	-.15	.50
Intrinsic Motivation- Accomplishment (6)						(.78)	.62	.53	-.07	.47
Intrinsic Motivation- Stimulation (7)							(.81)	.39	-.19	.31

Note.—scores on the diagonal are the internal consistency (Cronbach alpha) values.

* Correlations among the AMS subscales of .11 and above are significant, $p < .05$

** Correlations between the AMS and other scales of .21 and higher are significant, $p < .05$

Vallerand et al. identified positive and negative motivational consequence of students. They discovered that when students had the opportunity to choose their type of term paper, they were more intrinsically motivated to perform well. Conversely, when students were given an assignment or failed an exam, their loss of intrinsic motivation manifested in extrinsic or even amotivational behavior (Vallerand, et al., 1993, p. 162).

Foundational for the current study were these discoveries from Vallerand, et al.: (1) Perceived Competence: Students who believed that they knew or understood material, content, and expectations of courses or events demonstrated higher intrinsic motivation to perform well; (2) Classroom Climate: Students who operated in autonomous climates and were encouraged to self-initiate demonstrated higher intrinsic motivation to perform well; and, (3) Optimism: Students who were exposed early to optimistic orientations or had early positive expectations set for them demonstrated higher intrinsic motivation to perform well. Vallerand, et al. (1993) substantiated that extrinsic and intrinsic motivations were affected by the interactions and expectations of faculty members with the students in undergraduate courses.

Further connecting intrinsic and extrinsic motivations of college students and learning strategies, Kuh (1993) conducted a study that identified the taxonomy of outcomes reported by seniors at several institutions of higher education in the United States. The taxonomy included specific items, such as self-awareness, autonomy and self-directedness, reflective thought, social and practical competence, as well as areas of knowledge acquisition, academic skills, and application of knowledge (Kuh, 1993, p. 285). Kuh's work was very important to the current study because of the way in which

students identified their own personal growth and intellectual development over a higher education experience.

Through Kuh's study, students expressed in their own language how feelings of inadequacy manifested inside and outside the classroom and how inadequacy affected their motivation and achievement. While Kuh's work had four primary conclusions about student learning and personal development, only three of those conclusions were applicable to the current study. The findings were: (1) Knowledge Acquisition and Academic Skills: Students associated intellectual development with the classroom as the primary place of learning; (2) Student Background: Student background characteristics were largely unrelated to learning and personal development; and, (3) Institutional Type: Students at smaller colleges with liberal arts missions identified higher rates of development than their peers at larger institutions. One finding from Kuh's work that the current researcher also measured was identifying if gender plays a significant role in the learning strategies employed by college students. Female students identified their collegiate climates as "less empowering" (Kuh, 1993, p. 301).

A subsequent study conducted by Kuh (1995) provided further evidence of student motivation. Kuh's work identified other experiences in college students' lives that contributed to persistence and graduation. "Participation in extracurricular activities, living in a campus residence, and conversations with faculty and peers" related to positive student motivation (Kuh, 1995, p. 124). Campus activities, such as volunteerism, student government, and on-campus employment may connect to students' motivations (Kuh, 1995, p. 124). He identified that when students recognized

that the “real world” was a laboratory for applying theory, students experienced the most measureable skills development (Kuh, 1995, p. 146).

While it may be easier for students to become active in extracurricular activities on a smaller campus, Kuh pointed out the importance for students at large institutions to become engaged in “educationally purposeful out-of-class activities” in order to experience similar growth and development as their smaller college peers (Kuh, 1995, p. 147). Finally, Kuh identified factors that had negative influences on student persistence; one of these was having an off-campus job. Kuh pointed out that the location of the job may not be as important as the work being done because students who identified and related their employment to their academic program or career path found motivation in their jobs (Kuh, 1995, p. 148).

Another significant body of research regarding the motivation of college students was conducted by Tinto (1997) on themes to assist in the persistence of college going students. Tinto stated that “participation in a first-year learning community” helped students to develop stronger peer networks with whom to bond (Tinto, 1997, p. 609). Because most of the first year of college was preoccupied with “meeting people and making friends,” the collegiate experiences designed to make them interact with peers were critical in helping them “manage the many struggles they faced in getting to and participating in class” (Tinto, 1997, p. 610). More than just a friendship circle, these learning communities bridged the competing worlds of social and academic issues, making students more connected and more capable of solving social and academic issues as they arose.

In this same study, Tinto focused specifically on the relationships between the “educational activity structure of the classroom, student involvement, and the quality of student effort” (Tinto, 1997, p. 615). Substantial data regarding the level of involvement of the student translating to the amount of involvement in his or her own learning, as well as investment of time and energy were presented. Tinto argued that “students put more effort” into educational activity and persist to graduate when they experience enhanced learning environments.

Buehl and Alexander (2005) examined the assertion that epistemological beliefs interface with students’ motivation and task performance. Their research concluded that students “who believed more in isolation and certainty of knowledge, as well as authority as the source of knowledge, had lower levels of motivation and task performance” (Buehl & Alexander, 2005, p. 722).

Van Etten and Pressley (2008) examined factors that affected motivation of students. While the population of their study was college seniors, the findings were very relevant to the current study. They found that a student’s social class affected motivation. They discovered that students from lower socioeconomic backgrounds often experienced positive and negative influences. A more positive influence may be that the student can better himself or herself by completing a college degree and thereby “get out of this place” to help himself or herself achieve higher results (Van Etten & Pressley, 2008, p. 817). Conversely, if students from lower socioeconomic backgrounds were sent the message that they had already “surpassed everyone’s expectations,” then there may be no need to complete the degree (Van Etten & Pressley, 2008, p. 817). Additionally, students from middle class backgrounds were

regularly presented with the message that they were “expected to get a college degree” in order to succeed (Van Etten & Pressley, 2008, p. 817). Finally, students from upper class socioeconomic backgrounds were less motivated to complete their degrees because they may already have a job awaiting them after graduation. Despite having a job awaiting them, these students still believed that they must complete the degree in order to be “perceived as able” by their families and others, regardless of their desire to complete (Van Etten & Pressley, 2008, p. 817).

Other significant findings from the Van Etten study related to the course setting in which students were most motivated. Van Etten determined that students in larger classes in which there was less “personal responsibility” were less academically motivated (Van Etten & Pressley, 2008, p. 818). Additionally, group work in a course was much more motivating if the students “select themselves into groups compared to when instructors assign group members” (Van Etten & Pressley, 2008, p. 818). Finally, like Vallerand et al. discovered, Van Etten and Pressley demonstrated evidence that when students were given their choice of assignments, as well as when the assignment connected to a real situation, students were more motivated.

Another key finding in the Van Etten and Pressley study was the relationship between motivation and social factors. Students indicated that internships and volunteer experiences enhanced motivation because it directly connected to course material. Students also indicated, however, that these social factors could reduce motivation if students perceive the activities as taking “time available for formal academic work” (Van Etten & Pressley, 2008, p. 819). This finding underscores the importance of connecting the outside class learning experiences with the inside class

learning outcomes in order to demonstrate the connected academic and social values of the experiences. Likewise, students believe that honor societies and fraternities/sororities can be positive motivators if the acceptance into these organizations did not “require a lot of time” or were too demanding of the participants (Van Etten & Pressley, 2008, p. 819).

As Wolters (2011) articulates, students who lack interest in their coursework, willingness to work hard, and enthusiasm for the course content will not do well, regardless of their academic skills (Zimmerman & Shunk, 2011, p. 298). For academic learning to occur, students must employ learning strategies (Donker et al., 2013, p.2).

Literature Related to Learning Strategies

Learning strategies have been defined as “processes (or sequences of processes) that, when matched to the requirements of tasks, facilitate performance” (Pressley, et al., 1989, p. 303). Students employ a variety of learning strategies for class assignments based on the type of task they are to perform (Donker et al., 2013, p. 3). Prior knowledge and experience about a topic dictates how engaged students are willing to become with the material. For this study, rehearsal, elaboration, organization, critical thinking, time and study environment, and effort regulation were the learning strategies explored.

Rehearsal is a cognitive strategy using material in a “verbatim manner” (Donker, et al., 2013, p. 3). For the most part, this strategy aimed at the literal reproduction of the material presented without much thought being given to why or how the knowledge can be applied or incorporated into other coursework (Caverly, et al., 2000, p. 108). An example of rehearsal is memorizing vocabulary words for recall on a quiz.

Metcalfe and Kornell (2005) introduce a rehearsal model in which learners rehearse material based upon how well they know course material. As students determine what is known the most, they tend to stop reviewing this material and only focus on less known material. Students then choose to study that material from the easiest content to the most difficult (Metcalfe & Kornell, 2005, p. 464).

Like rehearsal, elaboration is a cognitive strategy, but elaboration does require students to make connection between what is already known and what has been introduced (Donker, 2013, p. 3). Students commit the material to their long-term memories, thereby becoming more actively involved in the learning process than when using basic rehearsal. For example, summarizing or paraphrasing an argument was elaborating on more complex information in a collegiate classroom. Students who were disengaged from the curriculum would indeed have a difficult time employing this type of learning strategy.

For college students to use organization as a learning strategy, they must be active learners who are engaged with the curriculum. Organization strategies require students to group, categorize, or graph course material to make meaning of the material (Donker, 2013, p. 3). Diagramming cause-effect or compare-contrast using graphic organizers requires students to assemble course material and categorize it to make meaning (Nist & Holschuh, 2000, p. 88). Likewise, constructing concept mapping into hierarchies or linear relationships demands the process of information at a deeper level (Nist & Holschuh, 2000, p. 89).

Unlike the strategies of rehearsal, elaboration, and organization that were utilized as educational tools for centuries, the discussion of critical thinking as a learning

strategy was first introduced in the 1960s and 1970s. Published in 1974, Fels' work introduced the idea that "universities are rarely surpassed and seldom equaled at transmitting knowledge, but they are readily equaled and often surpassed at developing skills" in students (Fels, 1974, p. 403). He first introduced this notion that students must be able to think critically and make meaning on their own to fully engage in the subject matter being presented. As he wrote about his students' learning in his economics course, he postulated that theory and practice were just as important, maybe even more important, than the economic policies that they were being asked to memorize (Fels, 1974, p. 404).

His argument was that students may memorize the policies to which they were introduced for short-term application over the course of the semester, but without further investigation or application to the broader context of society, these policies were memorized in isolation and not applicable to anything. Rather, Fels believed, case studies and problem-solving should be a significant part of the course curriculum to encourage students to think critically and engage with the material. Since 1974, scores of educators have adapted their instructional strategies to spur critical thinking, like

Pedagogical methods arose throughout the 1980s and 1990s that sought to increase the critical and creative thinking skills of college students. Most innovative of these may have been the introduction of problem-based learning (PBL) (Hung, et al., 2008, p. 486). Originally introduced by medical educators in the 1950s, PBL's popularity spread throughout higher education and into K-12 classrooms over the past several decades.

The premise of PBL was to engage students in the solving of real-world problems that are ill-constructed and ill-defined (Hung et al., 2008, p. 488). Researchers of problem-based learning in higher education report PBL increases retention of content, but does not increase recall of specific information as rehearsal would, and problem-based learning prepares students for the workforce (Hung, et al., 2008, pp. 491-492.).

In addition to cognitive strategies, management strategies are part of the learning strategies scales on the *Motivated Strategies for Learning Questionnaire*. Defined as the contextual features that influence learning (Pintrich, et al., 1991), management strategies include effort regulation and time and study environment.

After extensive research of college students' study habits, Kuh provided best practices for creating institutional study environments that fostered engaged learning. In 2005, Kuh identified six key elements that help students to be successful completers. Included in this list were adapting environments in which students could naturally gather with faculty and peers, creating learning environments for commuter students, and equally sharing responsibility for the learning of material with students. Kuh's research revealed the more personal interaction students had with the subject matter, and the more time students spent studying, the greater the students' overall study effort.

Closest to the current study's definition of effort regulation, Zimmerman (2002), noted expert in the field of self-regulation, identified three phases of self-regulation or effort regulation: (1) Forethought, (2) Performance, and (3) Self-Reflection. In each of these phases, students had specific goals or tasks that were completed in order to practice effort regulation. In the Forethought Phase, students must have a goal in mind for their definition of success. Determining if the goal was to know the material for the

exam, to internalize the material for future use, or to be able to apply this material to another course was relative to the amount of effort needed. For example, if the goal was simply to memorize the material for the upcoming examination, the student would approach the Performance Phase differently than a student whose goal was to apply this material to a future course or context. In the Performance Phase, elaboration techniques of imagery or paraphrasing, self-examination, and experimentation were used. Tasks for remembering the material were depended upon the amount of time or the level of engagement that the student anticipated using the material. The Self-Reflection Phase required the student to determine when sufficient mastery had been achieved. For example, if the material could be recalled for the purpose intended, mastery was achieved. Again, the level of engagement with the material was a pre-determining factor for how much study time was enough.

Related Literature of West Virginia Students

In order to understand why certain learning strategies were employed by West Virginia college students, it was first necessary to present the distinctive characteristics with which many West Virginia college students identified. Bronfenbrenner (1975) researched the development of children because of their environmental surroundings and found "that variation in income plays a critical role...in different segments of American society" (Bronfenbrenner, 1975, p. 458). Acknowledging that economic disparity was often the root of alienation from the rest of society was a huge first step in proposing research that focused on factors of employment opportunities, socioeconomic circumstances, and geographical barriers.

Due to the industrial changes of the West Virginia economy, manufacturing and mining jobs that once provided stability and financial resources for families have declined (U.S. Department of Labor, 2014). Because of Bronfenbrenner's exploration of economic disparity, the current researcher elected to include socioeconomic status as a demographic variable to identify any potential correlation to specific motivation or learning strategy utilization. Bronfenbrenner's research led to the work of A. J. DeYoung, specifically focusing on West Virginia students.

DeYoung (1995) conducted an observer-participant study aimed at identifying the roles of the rural West Virginia school. He identified that students in West Virginia were alienated from and ignorant of certain cultural norms as opposed to children on other parts of the country. He specifically focused on Braxton County for his test case. DeYoung's study opened with the acknowledgement that Braxton County was, as Gjeltten defined in a 1982 report, both "isolated" and "depressed" (Gjeltten, 1982, pp. 3-4). According to Gjeltten, a rural area that was "far removed from the transportation and commerce centers of the nation" was isolated, and an area in which the economy was "underdeveloped and outmigration is high" was depressed. Because Braxton County, like many other counties in West Virginia, experienced high outmigration and underdevelopment, it is probably that many students from West Virginia were going to college from isolated and economically depressed environments. Because of the "mining-based, persistently impoverished, and/or retirement-income-dependent" economy of West Virginia, the isolationism and depression of the people inhibited students from "participation in the national culture" (DeYoung, 1995, p. 172).

DeYoung's study also outlined the relationships among natural resources, people, and small communities that permeated West Virginia culture. The skepticism of West Virginians was underscored further by their resistance to "social engineering" programs of the 20th century, like the establishment of the communities of Arthurdale and Eleanor, West Virginia, from the Roosevelt Administration in the 1930's (National New Deal Preservation Association, 2014). Programs that attempted to change the culture of the area, or placed blame for the "regional underdevelopment" on the religious, familial, and community-founded culture were rejected (DeYoung, 1995, p. 173).

According to DeYoung, the cultural norm of West Virginia in the 1950s was for many students not to be educated beyond the eighth grade. Only within the last sixty years has West Virginia's collective cultural expectation changed to expect students to graduate from high school. Another important point of DeYoung's work was that the public school in rural West Virginia often assumed the role of meeting the basic needs of students. Remembering the work of Maslow, it was only when students were fed, clothed, and secure that they learned. The public schools in rural West Virginia served as a place to receive warm, well-balanced meals; a place to receive winter clothes; and a place to hold organizational meetings, such as Boy and Girl Scout troops. With the public school serving so many purposes in West Virginia small towns, instructional time was often compromised to satisfy the more basic needs of students.

Building upon the work of DeYoung, researchers Chenoweth and Galliher (2004) proposed a cohesive list of factors that influenced West Virginia high school students to aspire to higher education. Their study presented the direct and indirect sources of

influence on student aspirations to go to college. Foundational in their study were the concepts of “localism,” “historicism,” and “familism” (Chenoweth & Galliher, 2004, p. 4). Localism was defined as the commitment to place, in this case to the hills of West Virginia. Despite the economic limitations in the area, people continued to live, work, and raise families in these areas. Historicism was the sense of devotion to a region or family, as well as one’s place in it. Familism and historicism were often inextricable because of the interrelatedness of place and home. It was often common for people in West Virginia to refer to their “homeplace,” or the place at which they were born, reared, or both. This colloquial term underscored the relationship between the land and the family (Chenoweth & Galliher, 2004, p. 5).

Because of economic limitations, West Virginia students have limited perspectives about employment options and educational attainment options (Chenoweth & Galliher, 2004, p. 8). These limited perspectives were barriers to going to college as they manifested in reasons not to attend college. Chenoweth & Galliher found that the top three reasons why the participants of the study elected not to attend college were, in order: (1) lack of financial resources, (2) lack of information regarding college, and (3) don’t like school (Chenoweth & Galliher, 2004, p. 10).

Underscoring findings of Chenoweth and Galliher, Venezia and Jaeger (2013) identified that students in high-poverty regions have low graduation rates and familial expectations (Venezia & Jaeger, 2013, p. 120). In high-poverty states like West Virginia, college-going rates hover around 28% as compared to the national college-going rate of 41% (Appalachian Regional Commission, 2014).

For the students who were planning on attending college, Chenoweth and Galliher (2004) found certain characteristics. Students who engaged in a college preparatory curriculum and had high levels of comfort in the school setting were more likely to want to attend college. Additionally, West Virginia students who were college-bound shared similar criteria with the general population of high school students across the country: higher grade point averages, higher achievement/standardized test scores, and higher preparedness overall.

With graduation rates of West Virginia college students at 24.7% in four years and 47.4% in six years (Chronicle of Higher Education, 2010), compared to national graduation rates of 31.3% in four years and 56% in six years, it was clear that many West Virginia students were not completing college (Appalachian Regional Commission, 2014). Perhaps a closer look into the motivations and learning strategies of West Virginia students would provide answers as to why West Virginia college students were disconnected from higher education course material.

Literature Related to First-Generation College Students in West Virginia

In 2010, the West Virginia Higher Education Policy Commission (WVHEPC) conducted a survey of first-generation students in West Virginia. This report found that first-generation students reported being less prepared for college-level coursework, earned lower grades in high school, scored lower on the ACT, and took fewer math courses in high school. Additionally, while 90 percent of non first-generation students planned to attend college, just over 73 percent of first-generation students said they would enroll in college after high school. Moreover, more than 53 percent of non first-generation students reported that they first considered attending college in elementary

school, 26 percent of their first-generation peers considered attending college while in elementary school. Financially, first-generation students were more likely to report plans to rely on loans, federal grants, institutional scholarships, state need-based aid and work-study. Non first-generation students were more likely to cite parents/relatives as a source for funding college than first-generation students (WVHEPC, 2014).

Findings from the WVHEPC report substantiated previous findings from a national study of first-generation students that not only do first-generation college students confront all the anxieties, dislocations, and difficulties of any college student, but also their experiences often involve substantial cultural as well as social and academic transitions (Pascarella, et al., 2004, p. 250). While both of these studies indicate causes of and reasons for the overall lack of preparation of first-generation college students, neither report focused on the learning strategies employed by this population in a college classroom.

Summary of Previous Research and Relationship to Current Study

The existing research demonstrated that basic needs must be met in order for students to develop into self-actualizing beings (Maslow, 1943). For the general college-going population, there were identified factors that contributed to the success or failure rates of completion. However, for West Virginia college students, there were distinctive challenges (Chenoweth & Galliher, 2004).

While all college students experience difficulties, the deep-seated, culturally isolated West Virginia college student must overcome not only the challenges of obtaining the resources necessary to financially attend college, but also the familial,

historically-rooted barriers that prevented him or her from being able to engage with collegiate material.

CHAPTER THREE METHOD

Chapter Three is comprised of seven sections: research method, design of the study, participants of the study, instrumentation, data collection, data analysis, and research questions and hypotheses. The researcher explored motivations and learning strategies of West Virginia college students and the correlations among academic, social, and demographic variables.

Research Method

In determining a survey instruments for the current study, the researcher explored the *Learning and Study Strategies Inventory* (LASSI) as a possible tool. Similar to the *Motivated Strategies for Learning Questionnaire* (MSLQ), the LASSI was a self-reporting instrument that identified some behavioral and intrinsic student motivations and applications of specific study skills. Because the MSLQ was in the public domain, had no cost associated with using it, and was adaptable for use by other researchers, the current researcher selected the MSLQ instead of the LASSI.

The original MSLQ assessment was comprised of two components: a motivation section and a learning strategies section. The original MSLQ instrument had nine categories of learning strategies. For the current study, six specific learning strategies were measured: rehearsal, elaboration, organization, critical thinking, time and study environment, and effort regulation. The current study used the 1991 version of the *Motivated Strategies for Learning Questionnaire* developed by Pintrich, Smith, Garcia, and McKeachie. The instrument was a self-reporting survey tool designed to “assess college students’ motivational orientations and their use of different learning strategies for a college course” (Pintrich, 1991, p. 3). For the purpose of the current study, the

researcher utilized 57 items from the original survey instrument: 26 items from the original motivation section of the questionnaire (see Appendix C, Section A), and utilized 31 of the learning strategies section (see Appendix C, Section B) to focus only on data collection for the following scales: rehearsal, elaboration, organization, critical thinking, time and study environment, and effort regulation. These particular items were used to focus the current research on the items that were identified as potentially problematic for West Virginia college students, based on the research presented throughout the review of literature. Additionally, the survey included a section of 12 questions inquiring about academic, social, and demographic variables (see Appendix C, Section C) to determine if relationships existed among these variables and the students' learning strategies employed in a course.

Design of the Study

Question one was designed to identify students' motivations for performance in the course. Within this domain, categories were: (a) Intrinsic Goal Orientation, (b) Extrinsic Goal Orientation, (c) Task Value, (d) Control of Learning Beliefs, and (e) Self-Efficacy for Learning and Performance.

Question two was designed to identify the application of six learning strategies in the course. Within this domain, categories were: (a) Rehearsal, (b) Elaboration, (c) Organization, (d) Critical Thinking, (e) Time and Study Environment, and (f) Effort Regulation.

Question three was designed to identify correlations between the learning strategies utilized by West Virginia college students in the course and four academic variables: (a) high school grade point average, (b) PROMISE scholarship qualification,

(c) honors program enrollment, or (d) probationary status. For this study, each of the academic variables in question three was posed in a dichotomous, yes or no, question. For variable (a), students were asked to select if they had a high school grade point average above a 3.1 or between a 2.0 to 3.0. The researcher did not limit the students' selection to between a 3.1 to 4.0 because some West Virginia high schools have weighted courses, like dual-credit or Advanced Placement (AP) courses, that could propel them over a 4.0 grade point average (West Virginia State Code, 2014). For variable (b), students were asked select whether or not they received the PROMISE scholarship upon entry to college. Administered by the West Virginia Higher Education Policy Commission, the PROMISE scholarship is a merit-based scholarship program valued at \$4,750 per year for four semesters at a public or private institution in West Virginia. PROMISE is awarded to students who achieve a 22 on the ACT with no less than a 20 in each content area, or a 1020 on the SAT with no less than a 480 in math and a 490 in critical reasoning (College Foundation of West Virginia, 2014). While the PROMISE scholar may be identified in high school, the award is not received until college matriculation. For variable (c), students were asked students to identify if they were admitted to college in the honors program. Honors criteria at each of the four institutions were different. At Concord University, a high school grade point average of 3.5 and an ACT composite score of 26 or an SAT composite score of 1170 were required for admission. At Fairmont State University, a minimum high school grade point average was not listed on their website, but an ACT composite score of 26 or an SAT composite score of 1180 was required for admission. At Shepherd University, a high school grade point average of 3.6 and an ACT composite of 28 or an SAT

composite of 1200 were required for admission. Finally, at West Liberty University, a high school grade point average of 3.5 and an ACT composite of 27 or an SAT composite of 1220 were required for admission into the Honors College.

Question four was designed to identify correlations between learning strategies and four social variables. The social variables in this study were: (a) membership in clubs or organizations, (b) leadership position held in clubs or organizations, (c) participation in study abroad opportunities, and (d) participation in service learning or volunteer opportunities. For this question, the researcher added the term volunteerism because not all students may understand the academic delineation between service learning courses, those with academic reflection and coursework connected to specific course activities, and volunteer placements, those in which students simply perform a task for a predetermined number of hours (Campus Compact, 2014).

Finally, question five represented the original component of the current study designed to identify correlations between demographic variables and learning strategies. The demographic variables were: (a) gender, (b) hometown population, (c) first-generation college status, and (d) socioeconomic level.

For academic variables, students were asked to select (a) if their high school grade point average was a 2.0-3.0, or (b) if their high school grade point average was a 3.1 or above. Students were asked to select (a) if they were PROMISE scholarship recipients, or (b) if they were not. Students were asked to select (a) if they were admitted into the university honors program upon enrollment, or (b) if they were not. Students were asked to select (a) if they were accepted to college under probationary status, or (b) if they were not.

For the social variables, students were asked to select (a) if they were members in clubs or organizations, or (b) if they were not. Students were asked to select (a) if they held leadership positions in clubs or organizations, or (b) if they did not. Students were asked to select (a) if they were involved in study abroad opportunities, or (b) if they were not. Students were asked to select (a) if they had participated in service learning courses or volunteer opportunities, or (b) if they had not.

For the demographic variables, students were asked to select (a) if they were male, or (b) if they were female. Students were asked to select (a) if their hometown population was less than 25,000, or (b) if it was greater than 25,000. Students were asked to select (a) if they were first-generation college students, or (b) if they were not. Finally, students were asked to select (a) if their family income was less than \$50,000, or (b) if it was more than \$50,000.

Participants of the Study

Like Pintrich's original study (1991), which surveyed 1,000 students and led to the development of the *Motivated Strategies for Learning Questionnaire*, the researcher aimed for 1,000 participants, administering the survey to 648 surveys that met all of the participation criteria. These students were enrolled in four public four-year institutions with the following commonalities: similar ACT/SAT scores for incoming freshmen, high school grade point average admission criteria, enrollment data (see Table 1), and degrees offered. The four institutions selected were: (a) Fairmont State University in central West Virginia; (b) Shepherd University in eastern West Virginia, (c) West Liberty State University in northern West Virginia, and (d) Concord University in southern West Virginia. Only Shepherd University has slightly higher admissions criteria than the other

three schools due to its recent (2009) accreditation with the Council of Public Liberal Arts Colleges (COPLAC, 2014).

Each of the four schools selected have long histories as higher education institutions in West Virginia. Concord University, founded in 1872, located in Athens, Mercer County, West Virginia, has a student enrollment of 2,795 (Concord University, 2014). Fairmont State University, founded in 1865, located in Fairmont, Marion County, West Virginia, has a student enrollment of 4600 (Fairmont State University, 2014). Shepherd University, founded in 1872, located in Shepherdstown, Jefferson County, West Virginia, has a student enrollment of 4400 (Shepherd University, 2014). West Liberty University, founded in 1837, located in West Liberty, Ohio County, West Virginia, has a student enrollment of 2800 in 2012 (West Liberty University, 2014). All four of the universities are accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools.

Table 1

Comparison of Selected Universities

<u>Institution</u>	<u>ACT/SAT scores</u>	<u>High School grade point average</u>
Concord University	ACT 18 SAT 870	2.0
Fairmont State University	ACT 18* SAT 870	2.0
Shepherd University	ACT 19* SAT 910	2.0
West Liberty University	ACT 18 SAT 870	2.0

Note. *At both Fairmont State University and Shepherd University, an incoming freshman with a 3.0 or above high school grade point average may have the ACT/SAT score requirement waived. Information retrieved from the following websites: www.concord.edu, www.fairmontstate.edu, www.shepherd.edu, www.westliberty.edu

In addition to the institutional similarities for admissions, degrees offered were explored. The four universities offered the following fourteen common degrees: Biology, Business Administration, Chemistry, Criminal Justice/Sociology, Communications, Elementary Education, English Literature, Exercise Science, History, Mathematics, Political Science, Psychology, and Secondary Education.

The selected course, Introduction to Psychology, was chosen after a review of all course schedules for the 2011 Spring Term at each of the four institutions. Once all common majors and courses were identified, the current researcher determined that this particular course had the greatest number of students enrolled and the greatest number of sections offered of all common courses at the institutions. The criteria for the selection of students were:

1. Students were graduates of public or private high schools in West Virginia.
2. Students were enrolled in an Introduction to Psychology course during the Spring 2011 semester at the selected institutions.
3. Students were willing to participate in the study without compensation for their participation.

While students were not asked to identify race or ethnicity on the demographic variables, the researcher observed a predominantly white population of participants at the four institutions. Ages of the students were as follows: 336 participants were 18 years of age, 120 participants were 19 years of age, 68 participants were 20 years of age, and 124 participants were over 21 years of age.

Instrumentation

One questionnaire was administered to the students in their classroom or in their student union, depending on the institutional protocols for research. All answers were self-reported. The adapted MSLQ had a Likert rating scale for each question in Sections A (Motivation) and Section B (Learning Strategies). Respondents selected 1 if the item was “not at all true of me” and selected 7 if the item was “very true of me” (Pintrich, 1991, p. 41). For responses that were other than 1 or 7, respondents selected 2 through 6 depending on how untrue or true the statement was for the respondent. The additional academic, social, and demographic variables questionnaire was comprised of 12 questions with each question requiring students to select (a) or (b) as an answer.

The original and subsequent MSLQ instruments were tested for factor validity by scale using two confirmatory analyses. The first was for the motivation items and the second for the learning strategy items as constructed by the original author (Pintrich, 1991, p. 79). The analyses of the scales through confirmatory factor method required the original researchers to state which indicators fell onto which latent variables.

For each of the scales, assumptions were made about indicators of a specific construct. The 31 motivation items were tested for fit under six latent factors: intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy, and test anxiety (Pintrich, 1991, p. 79). The original 50 learning strategy items were tested for fit under nine latent factors: rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment management, effort regulation, peer learning, and help seeking.

The MSLQ has Lambda-ksi values of .8 or higher on most of the items in each domain which “indicate well-defined latent constructs” (Pintrich, et al., 1991, p. 79). Additionally, goodness of fit had been determined for each of the items through a chi-square to degrees of freedom ratio, demonstrating that the relationship between the observed and reproduced correlations was statistically valid.

To analyze the data, it was important to identify the questions that represented each of the motivation or learning strategies. In Table 2, the current researcher identified the number of the question with its appropriate scale.

Table 2

Items within Each Scale

Scales for Motivation	Item Numbers
Intrinsic Goal Orientation	1, 13, 18, 20
Extrinsic Goal Orientation	3, 9, 11, 25
Task Value	5, 8, 14, 19, 22, 23
Control of Learning Beliefs	2, 7, 15, 21
Self-Efficacy for Learning & Performance	4, 6, 10, 12, 16, 17, 24, 26
Scales for Learning Strategies	Item Numbers
Rehearsal	31, 34, 41, 52
Elaboration	40, 43, 45, 48, 49, 57
Organization	27, 32, 37, 44
Critical Thinking	30, 35, 38, 47, 51
Time & Study Environment	28, 33, 46, 50, 53, 55, 56
Effort Regulation	29, 36, 42, 54

Note: Items for each scale had been converted to the corresponding item for the adapted MSLQ, which had 57 total items.

Data Collection

After approval was given by West Virginia University's Institutional Review Board, the pilot study took place using students enrolled in an Introduction to Psychology course at West Virginia University at Parkersburg through an online survey tool. The pilot institution was not part of the general study. Changes did not need to be made based on the pilot study. Students who participated in the study remained anonymous as the data were aggregated as a whole.

For the administration of the study, the current researcher worked closely with professors who taught Introduction to Psychology at Fairmont State University and West Liberty University. At Shepherd University and Concord University, the school's IRB protocol required collection of data in a common building on campus and not in the classroom. The researcher handed out the survey letter and asked the potential respondents the three criteria for participation. The questionnaire took between 20-30 minutes to complete. All data collected remained in the possession of the researcher. The collection of the data occurred over a four-week period.

The current researcher aimed at obtaining a 40% return rate from participants to ensure validity. During the four-week period, the researcher achieved a 64% return rate due to being on campus for the questionnaire collection. To keep the students anonymous for the study, the current researcher did not collect student emails or record student information.

Data Analysis

The responses obtained from the student participants were entered into an SPSS (Statistical Package for Social Sciences) data file. The researcher analyzed the data

using descriptive statistics methods for Research Questions 1 and 2, and correlation methods for Research Questions 3, 4, and 5.

Research question one asked: What was the degree of Learning Motivation for West Virginia college students by these scales? Scales were as follows: (a) Intrinsic Goal Orientation, (b) Extrinsic Goal Orientation, (c) Task Value, (d) Control Beliefs about Learning, and (e) Self-Efficacy for Learning & Performance. Research question two asked: What was the degree of application of Learning Strategies for West Virginia college students by these scales? Scales were as follows: (a) Rehearsal, (b) Elaboration, (c) Organization, (d) Critical Thinking, (e) Time and Study Environment, (f) Effort Regulation. For these questions, there were: 4 items that addressed Intrinsic Goal Orientation, 3 items that addressed Extrinsic Goal Orientation, 6 items that addressed Task Value, 4 items that addressed Control Beliefs about Learning and 8 items that addressed Self-Efficacy for Learning & Performance. The current researcher calculated means and standard deviations for each of these scales. Using the means and standard deviations, the researcher identified preferences for this population.

Research questions three to five addressed specific academic, social, and demographic variables that correlated to the selected learning strategies. Point-biserial correlation method was used for these relationships because the MSLQ Learning Strategies (Section B) were measured using a Likert Scale from 1-7, while the Academic, Social, and Demographic Variables (Section C) were measured using a dichotomous scale. Point-biserial correlation allowed relationships to be measured between “two variables in situations where one variable is measured on a ratio scale, but the second variable has only two different values” (Gravetter & Wallnau, 2004, p.

549.) Research question three sought to identify a relationship between selected learning strategies scale scores and these selected academic variables: (a) High school grade point average, (b) PROMISE scholarship upon entry to college, (c) Honors program admission upon entry to college, and (d) Probationary admissions status. Research question four sought to identify a relationship between selected learning strategies scale scores and these selected social variables: (a) Membership in clubs/organizations, (b) Leadership position in clubs/organizations, (c) Involvement in study abroad opportunities, and (d) Involvement in service learning courses or volunteer opportunities. Research question five sought to identify a relationship between selected learning strategies scale scores and these selected demographic variables: (a) Gender, (b) Hometown size, (c) First-generation college student status, and (d) Socioeconomic status.

Research Questions and Hypotheses

The research hypotheses for this study related to each of the five questions follows:

RQ1. What was the degree of learning motivation for West Virginia college students by these scales?

- a. Intrinsic Goal Orientation
- b. Extrinsic Goal Orientation
- c. Task Value
- d. Control of Learning Beliefs
- e. Self-Efficacy for Learning and Performance

H_0 : For participants, there were no statistically significant differences among the degrees of learning motivations and their extrinsic and intrinsic goal orientations, task values, control of learning beliefs, or self-efficacy for learning and performance.

H_1 : For participants, there were statistically significant differences among the degrees of learning motivations and their extrinsic and intrinsic goal orientations, task values, control of learning beliefs, or self-efficacy for learning and performance.

RQ2. What was the degree of application of learning strategies for West Virginia college students by these scales?

- a. Rehearsal
- b. Elaboration
- c. Organization
- d. Critical Thinking
- e. Time and Study Environment
- g. Effort Regulation

H_0 : For participants, there were no statistically significant differences among the application of selected learning strategies.

H_1 : For participants, there were statistically significant differences among the selected learning strategies.

RQ3. Was there a relationship between selected learning strategies scale scores and these selected academic variables?

- a. High school grade point average
- b. PROMISE scholarship recipient upon entry to college

- c. Honors program status upon entry to college
- d. Probationary admissions status upon entry to college

H_0 : For participants, there were no statistically significant differences between identified academic variables and the learning strategies employed.

H_1 : For participants, there were statistically significant differences between identified academic variables and the learning strategies employed.

RQ4. Was there a relationship between selected learning strategies scale scores and these selected social variables?

- a. Membership in clubs/organizations
- b. Leadership position in clubs/organizations
- c. Involvement in study abroad opportunities
- d. Involvement in service learning courses or volunteer opportunities

H_0 : For participants, there were no statistically significant differences between identified social variables and the learning strategies employed.

H_1 : For participants, there were statistically significant differences between identified social variables and the learning strategies employed.

RQ5. Was there a relationship between selected learning strategies scale scores and these selected demographic variables?

- a. Gender
- b. Hometown Size
- c. First-Generation College Student
- d. Socioeconomic Status

H_0 : For participants, there were no statistically significant differences between identified demographic variables and the learning strategies employed.

H_1 : For participants, there were statistically significant differences between identified demographic variables and the learning strategies employed.

By identifying the academic, social, and demographic variables of West Virginia college students' experiences and correlating them with applied learning strategies, the researcher will identify tendencies of this population of students.

CHAPTER FOUR RESULTS

As stated in Chapter 1, this researcher studied the motivations and learning strategies of West Virginia college students attending four four-year institutions in the state of West Virginia. This chapter presents the results of the five research questions posed in Chapter 1 and Chapter 3.

The population for this study was 648 college students who attended West Liberty State University, Fairmont State University, Shepherd University, or Concord University during the Spring 2011 semester. All of the participants were enrolled in an Introduction to Psychology course on their respective campuses. Participants had to meet all three of the following criteria to participate: Graduated from public or private high schools in West Virginia, enrolled in an Introduction to Psychology course during the Spring 2011 semester, and willing to participate in the study without compensation for their participation.

RQ 1. What was the degree of learning motivation for West Virginia college students by the scales of Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control of Learning Beliefs, and Self-Efficacy for Learning and Performance?

Each of these five scales was analyzed in the following sections.

Intrinsic Goal Orientation

Questions from the MSLQ that measured the intrinsic motivations of students were as follows:

- #1 In a class like this, I prefer course material that really challenges me so I can learn new things.
- #13 In a class like this, I prefer course material that arouses my curiosity, even if it is

- difficult to learn.
- #18 The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.
- #20 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.

These four questions were designed to assess the degree to which students were intrinsically motivated to perform in this course. Students rated their preferences for challenges in learning new things, arousal of curiosity, understanding content, and choice of course assignments.

To determine intrinsic goal orientations, the researcher computed means and standard deviations for each of the four questions. As may be noted in Table 3, students rated a slight preference for material that aroused their curiosity over challenges in learning new things, understanding content, and having a choice of course assignments.

Table 3

Summary of Means and Standard Deviation Scores for Intrinsic Motivations of WV College Students

Measure of Intrinsic Motivations	#1	#13	#18	#20
<i>M</i>	4.58	5.82	5.35	4.20
<i>SD</i>	1.37	1.36	1.42	1.60

The researcher computed an analysis of variance for Intrinsic Motivations and yielded $F=168$, $df=3$, $p<.01$, statistical significance.

Extrinsic Goal Orientation

Questions from the MSLQ that measured the extrinsic motivations of students were as follows:

- #3 I think I will be able to use what I learn in this course in other courses.
- #9 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.
- #11 If I can, I want to get better grades in this class than most of the other students.
- #25 I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

These four questions were designed to assess the degree to which students were extrinsically motivated to perform in this course. Students rated the importance of using the course material in another course, improving grade point average, making a better grade than the other students, and showing ability to others.

To determine the highest external motivator, the researcher computed means and standard deviations. As may be noted in Table 4, students rated improving their grade point average as the most important extrinsic motivation in this course over being able to use the course material in another course, making a better grade than other students, or showing ability to others.

Table 4

Summary of Means and Standard Deviation Scores for Extrinsic Motivations of WV College Students

Measure of Extrinsic Motivations	#3	#9	#11	#25
<i>M</i>	5.05	6.08	5.89	5.68
<i>SD</i>	1.57	1.27	1.29	1.55

The researcher computed an analysis of variance for Extrinsic Motivations and yielded $F=63$, $df=3$, $p<.01$, statistical significance.

Task Value

Questions from the MSLQ that measured the task value of students were as follows:

- #5 I'm certain I can understand the most difficult material presented in the readings for this course.
- #8 It is important for me to learn the course material in this class.
- #14 I am very interested in the content area of this course.

- #19 I think the course material in this class is useful for me to learn.
 #22 I like the subject matter of this course.
 #23 Understanding the subject matter of this course is very important to me.

These six questions were designed to assess the most important task value of the students in this course. Students rated the task values of understanding the most difficult material presented in the course, the importance of learning the course material, their interest in course material, usefulness of the course material, liking the subject matter taught, and understanding the subject matter.

To determine the task value that was rated highest for this population of students, the researcher computed means and standard deviations for each of the six questions. As may be noted in Table 5, students indicated that it was important to learn the course material more than being able to understand the most difficult material, being interested in the material, finding usefulness of the course material, liking the material taught, or understanding the material.

Table 5

Summary of Means and Standard Deviation Scores for Task Values of WV College Students

Measure of Task Values	#5	#8	#14	#19	#22	#23
<i>M</i>	4.67	5.77	5.16	5.32	5.24	5.16
<i>SD</i>	1.36	1.29	1.51	1.45	1.57	1.38

The researcher computed an analysis of variance for Task Values and yielded $F=39$, $df=5$, $p<.01$, statistical significance.

Control of Learning Beliefs

Questions from the MSLQ that measured the control of learning beliefs of students were as follows:

- #2 If I study in appropriate ways, then I will be able to learn the material in this course.
- #7 It is my own fault if I don't learn the material in this course.
- #15 If I try hard enough, then I will understand the course material.
- #21 If I don't understand the course material, it is because I didn't try hard enough.

These four questions were designed to assess the degree to which students believe they control their own learning in this course. Students rated their belief that they could learn material if they studied appropriately, were at fault if they didn't learn the material, could understand the material if they tried hard enough, and if trying hard made them understand the course material.

To determine the degree of control of learning beliefs in this course, the researcher calculated means and standard deviations for each of the four questions. As may be noted in Table 6, students believed that they had the most control over studying in appropriate ways so they would be able to learn the course material. Students believed that they could control this over being at fault for not learning material, understanding the material if they tried hard enough, and trying hard would make them understand the material.

Table 6

Summary of Means and Standard Deviation Scores for Control of Learning Beliefs of WV College Students

Measure of Control of Learning Beliefs	#2	#7	#15	#21
<i>M</i>	6.01	5.77	5.99	4.64
<i>SD</i>	1.09	1.39	1.12	1.56

The researcher computed an analysis of variance for Control of Learning Beliefs and yielded $F=161$, $df=3$, $p<.01$, statistical significance.

Self-Efficacy

Questions from the MSLQ that measured the self-efficacy of students are as follows:

- #4 I think I will be able to use what I learn in this course in other courses.
- #6 Getting a good grade in this class is the most satisfying thing for me right now.
- #10 I'm confident I can learn the basic concepts taught in this course.
- #12 I'm confident I can understand the most complex material presented by the instructor in this course.
- #16 I'm confident I can do an excellent job on the assignments and tests in this course.
- #17 I expect to do well in this class.
- #24 I'm certain I can master the skills being taught in this class.
- #26 Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.

These eight questions were designed to assess students' beliefs in their own self-efficacy. Students rated if they thought they would be able to use the course material in other courses, if getting a good grade was most satisfying right now, their confidence in learning basic concepts, their confidence in understanding most complex material, their confidence in doing an excellent job, if they were expecting to do well in the course, their certainty of mastering skills, and whether considering the difficulty of the course, they would do well.

To determine the highest self-efficacy value, the researcher calculated means and standard deviations for each of the eight questions. As may be noted in Table 7, students rated that they were confident they could learn the basic concepts over using the material in another course, getting a good grade being most satisfying right now, their confidence in learning basic concepts, understanding most complex material, doing an excellent job, expecting to do well, certainty of mastering skills, and that they would do well when they consider the difficulty of the course.

Table 7

Summary of Means and Standard Deviation Scores for Self-Efficacy of WV College Students

Measure of Self-Efficacy	#4	#6	#10	#12	#16	#17	#24	#26
<i>M</i>	5.03	5.82	6.21	5.10	5.73	5.98	5.44	5.81
<i>SD</i>	1.57	1.29	1.00	1.30	1.16	1.09	1.31	1.08

The researcher computed an analysis of variance for Self-Efficacy and yielded $F=17480441$, $df=7$, $p<.01$, statistical significance.

As posed in Research Question 1, the degree to which students rated their preferences by the scales for intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, and self-efficacy was reported. From the data analyzed for Research Question 1, it was discovered that West Virginia college students preferred course material that aroused their curiosity; wished to improve their grade point averages by taking the course; thought it was important to learn the material in the course; believed that if they studied in appropriate ways, they would be able to learn the course material; and were confident that they could learn the basic concepts taught in the course.

RQ 2. What was the degree of application of learning strategies employed by West Virginia college students by the following scales: Rehearsal, Elaboration, Organization, Critical Thinking, Time and Study Environment, and Effort Regulation?

Each of these six scales was analyzed in the following sections.

Rehearsal

Questions from the MSLQ that measured the learning strategy of rehearsal of students were as follows:

- #31 When I study for this class, I practice saying the material to myself over and over.
- #34 When studying for this course, I read my class notes and the course readings over and over again.
- #41 I memorize key words to remind me of important concepts in this class.
- #52 I make lists of important items for this course and memorize the lists.

These four questions were designed to assess the preferences of students when utilizing rehearsal as a learning strategy in this course. Students rated their preferences for saying the material repeatedly, reading notes and course reading repeatedly, memorizing key words to remember important concepts, and making lists of important items and memorizing the lists.

To determine the preference of rehearsal style yielded by these ratings, the researcher calculated means and standard deviations for each of the four questions. As may be noted in Table 8, students preferred memorizing key words to remember important concepts over repeating the material over and over, reading class notes and course readings over and over, or making lists and memorizing the lists.

Table 8

Summary of Means and Standard Deviation Scores for Rehearsal for WV College Students

Measure of Rehearsal	#31	#34	#41	#52
<i>M</i>	4.39	5.27	5.65	4.18
<i>SD</i>	1.93	1.78	1.58	1.93

The researcher computed an analysis of variance for Rehearsal and yielded $F=97$, $df=3$, $p<.01$, statistical significance.

Elaboration

Questions from the MSLQ that measured the learning strategy of elaboration of students were as follows:

- #40 When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.
- #43 I try to relate ideas in this subject to those in other courses whenever possible.
- #45 When reading for this class, I try to relate the material to what I already know.
- #48 When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.
- #49 I try to understand the material in this class by making connections between the readings and the concepts from the lectures.
- #57 I try to apply ideas from course readings in other class activities such as lecture and discussion.

These six questions were designed to assess the preferences of students when utilizing elaboration as a learning strategy in this course. Students rated their preferences for compiling information from difference sources, relating ideas to those taught in other courses, relating to material already known, writing brief summaries of main ideas, making connections between readings and concepts from lectures, or applying ideas from course reading to other class activities.

To determine the preference of elaboration strategy utilized by students, the researcher calculated means and standard deviations for each of the six questions. As may be noted in Table 9, students preferred trying to relate material to what they already know over compiling information from other sources, relating ideas to those taught in other courses, writing brief summaries of main ideas, connecting material from course readings to course lectures, or applying ideas from course reading to other class activities.

Table 9

Summary of Means and Standard Deviation Scores for Elaboration for WV College Students

Measure of Elaboration	#40	#43	#45	#48	#49	#57
<i>M</i>	4.88	4.45	5.26	3.25	4.91	4.64
<i>SD</i>	1.73	1.80	1.49	1.99	1.58	1.64

The researcher computed an analysis of variance for Elaboration and yielded $F=4731$, $df=5$, $p<.01$, statistical significance.

Organization

Questions from the MSLQ that measured the learning strategy of organization of students were as follows:

- #27 When I study the readings for this course, I outline the material to help me organize my thoughts.
- #32 When I study for this course, I go through the readings and my class notes and try to find the most important ideas.
- #37 I make simple charts, diagrams, or tables to help me organize course material.
- #44 When I study for this course, I go over my class notes and make an outline of important concepts.

These four questions were designed to assess the preferred organization strategy of students in this course. Students rated their preferences for outlining material to organize thoughts, reviewing readings and notes to find the most important ideas, making simple charts, diagrams, or tables to organize material, or outlining important material from class notes.

To determine the preference yielded by these ratings, the researcher calculated means and standard deviations for each of the four questions. As may be noted in Table 10, students preferred reviewing readings and notes to finding the most important

ideas over outlining material; making charts, diagrams, or tables; or outlining class notes to find the most important concepts.

Table 10

Summary of Means and Standard Deviation Scores for Organization for WV College Students

Measure of Organization	#27	#32	#37	#44
<i>M</i>	4.01	5.64	2.54	4.53
<i>SD</i>	1.91	1.49	1.66	2.00

The researcher computed an analysis of variance for Organization and yielded $F=340$, $df=3$, $p<.01$, statistical significance.

Critical Thinking

Questions from the MSLQ that measured the learning strategy of critical thinking of students were as follows:

- #30 I often find myself questioning things I hear or read in this course to decide if I find them convincing.
- #35 When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.
- #38 I treat the course material as a starting point and try to develop my own ideas about it.
- #47 I try to play around with ideas of my own related to what I am learning in this course.
- #51 Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.

These five questions were designed to assess the critical thinking of students.

The students rated how likely or unlikely they were to question things they hear or read in this course; to decide if there is good supporting evidence of a theory, interpretation, or conclusion; to treat the course material as a starting point and develop their own ideas; to play around with their own ideas and relate them to course material; or to think about possible alternatives to assertions or conclusions presented in class.

To determine the critical thinking of students, the researcher calculated means and standard deviations for each of the five questions. As may be noted in Table 11, students tried to decide if there was good supporting evidence of a theory, interpretation, or conclusion over questioning things they heard or read in this course; treating the course material as a starting point and developing their own ideas; playing around with their own ideas and relating them to course material; or thinking about possible alternatives to assertions or conclusions presented in class.

Table 11

Summary of Means and Standard Deviation Scores for Critical Thinking for WV College Students

Measure of Critical Thinking	#30	#35	#38	#47	#51
<i>M</i>	3.85	4.45	3.88	4.21	3.93
<i>SD</i>	1.67	1.53	1.66	1.66	1.53

The researcher computed an analysis of variance for Critical Thinking and yielded $F=16.7$, $df=4$, $p<.01$, statistical significance.

Time and Study Environment

Questions from the MSLQ that measured how students used their time and study habits were as follows:

- #28 I usually study in a place where I can concentrate on my course work.
- #33 I make good use of my study time for this course.
- #46 I have a regular place set aside for studying.
- #50 I make sure that I keep up with the weekly readings and assignments for this course.
- #53 I attend this class regularly.
- #55 I often find that I don't spend very much time on this course because of other activities.
- #56 I rarely find time to review my notes or readings before an exam.

These seven questions were designed to assess the time and study habits of students in this course. Students rated if they studied in a place where they could

concentrate, made good use of their study time, set aside a regular place to study, kept up with weekly assignments, attended class regularly, allowed other activities to interfere with studying, or rarely found time to review before exams.

To determine the time and study habits of students in this course, the researcher calculated means and standard deviations for each of the seven questions. As may be noted in Table 12, students were more likely to attend class regularly than study in a place where they could concentrate, make good use of their study time, set aside a regular place to study, keep up with weekly assignments, allow other activities to interfere with studying, or rarely find time to review before exams.

Table 12

Summary of Means and Standard Deviation Scores for Time and Study Environment for WV College Students

Measure of Time and Study Environment	#28	#33	#46	#50	#53	#55(reversed)	#56(reversed)
<i>M</i>	5.63	3.25	4.71	4.95	6.53	4.01	5.06
<i>SD</i>	1.51	1.60	1.98	1.80	1.04	1.93	1.78

The researcher computed an analysis of variance for Time and Study Environment and yielded $F=256$, $df=6$, $p<.01$, statistical significance.

Effort Regulation

Questions from the MSLQ that measured effort regulation of students were as follows:

- #29 I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do.
- #36 I work hard to do well in this class even if I don't like what we are doing.
- #42 When course work is difficult, I either give up or only study the easy parts.
- #54 Even when course materials are dull and uninteresting, I manage to keep working until I finish.

These four questions were designed to assess the effort that students dedicated to this course. Students rated if they felt so lazy and bored when studying that they quit before finishing, worked hard to do well even when they don't like the activity, gave up or only study easy parts when work is difficult, or managed to keep working until they're finished even when material is dull and uninteresting.

To determine the effort regulation of students in this course, the researcher calculated means and standard deviations for each of the four questions. As may be noted in Table 13, the students worked hard to do well even if they didn't really like what they were doing more than quitting before finishing, or giving up and only studying the easy parts. They also stated that they were very likely to continue studying until they were finished even when they thought the material was dull and uninteresting.

Table 13

Summary of Means and Standard Deviation Scores for Effort Regulation for WV College Students

Measure of Effort Regulation	#29(reversed)	#36	#42(reversed)	#54
<i>M</i>	4.21	5.52	5.10	5.38
<i>SD</i>	1.76	1.43	1.71	1.58

The researcher an analysis of variance for Effort Regulation and yielded $F=84$, $df=3$, $p<.01$, statistical significance.

As posed in Research Question 2, the degree to which students rated their learning strategy preferences by the scales for rehearsal, elaboration, organization, critical thinking, time and study environment, and effort regulation was reported. The data analyzed for Research Question 2 indicated that West Virginia college students preferred memorizing key words to remember important concepts; preferred trying to relate material to what they already know; preferred reviewing readings and notes to

find the most important ideas; tried to decide if there was good supporting evidence of a theory, interpretation, or conclusion; were more likely to attend class regularly; and worked hard to do well even if they didn't really like the course activity or content.

RQ 3. Was there a relationship between selected learning strategies scale scores and these selected academic variables: Grade point average, PROMISE scholarship receipt upon college entry, Honors program upon college entry, Probationary status upon college entry?

Each of the academic variables was analyzed in the following sections.

High School Grade Point Average

To determine if there was a relationship between high school grade point average and the six selected learning strategies, the researcher computed point biserial correlations. For grade point averages of 2.0 – 3.0, students were given a 0. For grade point averages of 3.1 or higher, students were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 14, statistically significant relationships were identified for students whose grade point averages were above a 3.1. These students tended to use Rehearsal, Elaboration, Critical Thinking, and Effort Regulation less than students whose grade point averages were below a 3.1.

Table 14

Summary of Point Biserial Correlations of Grade Point Average to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.122$	$r=-.113$	$r=-.071$	$r=-.077$	$r=-.071$	$r=-.077$
Responses	N=644	N=644	N=644	N=644	N=644	N=644
Significance	.002	.004	.073	.051	.073	.051

PROMISE Scholarship Receipt Upon College Entry

To determine if there was a relationship between students who received the PROMISE scholarship and the six selected learning strategies, the researcher computed point biserial correlations. Students who did not receive the PROMISE scholarship upon entry to college were given a 0. Students who did receive the PROMISE scholarship upon entry to college were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 15, one statistically significant relationship was identified for students who received the PROMISE scholarship. PROMISE recipients were less likely to use Elaboration as a learning strategy than students who did not receive the PROMISE scholarship upon entry to college.

Table 15

Summary of Point Biserial Correlations of PROMISE Scholarship to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.065$	$r=-.125$	$r=-.024$	$r=-.065$	$r=-.024$	$r=-.065$
Responses	N=638	N=638	N=638	N=638	N=638	N=638
Significance	.100	.002	.550	.103	.550	.103

Honors Program Selection Upon College Entry

To determine if there was a relationship between students who were selected for the Honors Program at their institutions and the six selected learning strategies, the researcher computed point biserial correlations. Students who were not selected for the Honors Program upon entry to college were given a 0. Students who were selected for the Honors Program upon entry to college were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 16, no statistically significant relationships were identified between the learning strategies utilized by students who were selected for the Honors Program and the learning strategies of those who were not selected for the Honors Program.

Table 16

Summary of Point Biserial Correlations of Honors Program to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	r=.005	r=-.019	r=.042	r=.012	r=.042	r=.012
Responses	N=641	N=641	N=641	N=641	N=641	N=641
Significance	.898	.626	.283	.759	.283	.759

Probationary Status Upon College Entry

To determine if there was a relationship between students who were admitted under a probationary status and the six selected learning strategies, the researcher computed point biserial correlations. Students who were not on probation upon entry to college were given a 0. Students who were on probation upon entry to college were

given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 17, no statistically significant relationships were identified between the learning strategies utilized by students who were admitted under probationary status and the learning strategies of those who were not admitted under probationary status.

Table 17

Summary of Point Biserial Correlations of Probationary Status to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.066$	$r=.040$	$r=.004$	$r=.073$	$r=.004$	$r=.073$
Responses	N=641	N=641	N=641	N=641	N=641	N=641
Significance	.095	.314	.920	.065	.920	.065

As posed in Research Question 3, relationships existed between academic variables and selected learning strategies. Students whose high school grade point averages were above 3.1 tended to use Rehearsal, Elaboration, Critical Thinking, and Effort Regulation less than students whose grade point averages were below a 3.1. Students who were PROMISE recipients were less likely to use Elaboration as a learning strategy than students who did not receive the PROMISE scholarship upon entry to college. No statistically significant relationships were identified between the learning strategies utilized by students who were selected for the Honors Program and the learning strategies of those who were not selected for the Honors Program. No statistically significant relationships were identified between the learning strategies

utilized by students who were admitted under probationary status and the learning strategies of those who were not admitted under probationary status.

RQ 4. Was there a relationship between selected learning strategies scale scores and these selected social variables: Membership in clubs/organizations, Leadership position in clubs/organizations, Involvement in study abroad opportunities, Involvement in service learning courses or volunteer opportunities?

Each of the social variables was analyzed in the following sections.

Membership in Clubs/Organizations

To determine if there was a relationship between membership in clubs or organizations and the six selected learning strategies, the researcher computed point biserial correlations. Students who did not participate in clubs or organizations were given a 0. Students who did participate in clubs or organizations were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 18, two statistically significant relationships were identified for students who participated in clubs or organizations. These students tended to use Critical Thinking and Effort Regulation less than students who were not members of clubs or organizations.

Table 18

Summary of Point Biserial Correlations of Membership in Clubs to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=.034$	$r=.001$	$r=-.016$	$r=-.098$	$r=-.016$	$r=-.098$
Responses	N=648	N=648	N=648	N=648	N=648	N=648
Significance	.391	.972	.684	.012	.684	.012

Leadership Position in Clubs/Organizations

To determine if there was a relationship between students who held leadership positions in clubs and organizations and the six selected learning strategies, the researcher computed point biserial correlations. Students who did not hold a leadership position in a club or organizations were given a 0. Students who did hold a leadership position in a club or organization were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 19, three statistically significant relationships were identified for students who held leadership roles in clubs or organizations. These students tended to use Rehearsal, Organization, and Time and Study Environment less than students who were not in leadership positions in clubs or organizations.

Table 19

Summary of Point Biserial Correlations of Leadership in Clubs to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.138$	$r=-.034$	$r=-.105$	$r=-.065$	$r=-.105$	$r=-.065$
Responses	N=642	N=642	N=642	N=642	N=642	N=642
Significance	.000	.387	.007	.102	.007	.102

Involvement in Study Abroad Opportunities

To determine if there was a relationship between students who participated in study abroad opportunities and the six selected learning strategies, the researcher computed point biserial correlations. Students who did not participate in study abroad opportunities were given a 0. Students who did participate in study abroad opportunities were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 20, five statistically significant relationships were identified for students who participated in study abroad opportunities. These students tended to use Elaboration more than students who did not participate in study abroad opportunities, but used Organization, Critical Thinking, Time and Study Environment, and Effort Regulation less than students who were not involved in study abroad opportunities.

Table 20

Summary of Point Biserial Correlations of Study Abroad Participation to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=.067$	$r=.077$	$r=-.095$	$r=-.100$	$r=-.095$	$r=-.100$
Responses	N=648	N=648	N=648	N=648	N=648	N=648
Significance	.089	.050	.016	.011	.016	.011

Involvement in Service Learning Courses or Volunteer Opportunities

To determine if there was a relationship between students who were involved in service learning courses or volunteer opportunities and the six selected learning strategies, the researcher computed point biserial correlations. Students who were not

involved in service learning courses or volunteer opportunities were given a 0. Students who were involved in service learning courses or volunteer opportunities were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 21, two statistically significant relationships were identified for students who were involved in service learning courses or volunteer opportunities. Students who were involved in service learning courses or volunteer opportunities tended to use Critical Thinking and Effort Regulation less than students who were not involved in service learning courses or volunteer opportunities.

As posed in Research Question 4, relationships existed between social variables and selected learning strategies. Students who were involved in Clubs and Organizations tended to use Critical Thinking and Effort Regulation less than students who were not members of clubs or organizations. Students who held leadership positions in clubs and organizations tended to use Rehearsal, Organization, and Time and Study Environment less than students who were not in leadership positions in clubs or organizations. Students who were involved in study abroad opportunities tended to use Elaboration more than students who did not participate in study abroad opportunities, but used Organization, Critical Thinking, Time and Study Environment, and Effort Regulation less than students who were not involved in study abroad opportunities. Students who were involved in service learning courses or volunteer opportunities tended to use Critical Thinking and Effort Regulation less than students who were not involved in service learning courses or volunteer opportunities.

Table 21

Summary of Point Biserial Correlations of Service Learning or Volunteer Participation to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	r=.011	r=.005	r=-.057	r=-.141	r=-.057	r=-.141
Responses	N=648	N=648	N=648	N=648	N=648	N=648
Significance	.772	.893	.149	.000	.149	.000

RQ 5. Was there a relationship between selected learning strategies scale scores and these selected demographic variables: Gender, Hometown Size, First-Generation College Student, and Socioeconomic Status?

Each of the demographic variables was analyzed in the following sections.

Gender

To determine if there was a relationship between gender and the six selected learning strategies, the researcher computed point biserial correlations. Female students were given a 0. Male students were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 22, three statistically significant relationships were identified for gender. Male students tended to use Rehearsal, Organization, and Time and Study Environment less than female students.

Table 22

Summary of Point Biserial Correlations of Gender to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.102$	$r=.007$	$r=-.081$	$r=.015$	$r=-.081$	$r=.015$
Responses	N=648	N=648	N=648	N=648	N=648	N=648
Significance	.009	.854	.040	.696	.040	.696

Hometown Population Size

To determine if there was a relationship between hometown population size and the six selected learning strategies, the researcher computed point biserial correlations.

Students who hailed from towns less than 25,000 in population were given a 0.

Students who hailed from towns more than 25,000 in population were given a 1.

Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 23, one statistically significant relationship was identified for hometown population size. Students whose hometown populations were greater than 25,000 tended to use Rehearsal less than students who hailed from hometowns where the populations were under 25,000.

Table 23

Summary of Point Biserial Correlations of Hometown Population to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-B Correlation	$r=-.090$	$r=-.016$	$r=-.029$	$r=.002$	$r=-.029$	$r=.002$
Responses	N=648	N=648	N=648	N=648	N=648	N=648
Significance	.022	.692	.464	.951	.464	.951

First-Generation College Students

To determine if there was a relationship between first-generation college students and the six selected learning strategies, the researcher computed point biserial correlations. Students who were not first-generation college students were given a 0. Students who were first-generation college students were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 24, three statistically significant relationships were identified for first-generation college students. First-generation college students tended to use Rehearsal more than students who were not first-generation college students, they tended to use Critical Thinking more than students who were not first-generation college students, and they tended to use Effort Regulation more than students who were not first-generation college students.

Table 24

Summary of Point Biserial Correlations of First-Generation College Students to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-BCorrelation	r=.097	r=-.063	r=-.045	r=.213	r=-.045	r=.213
Responses	N=642	N=642	N=642	N=642	N=642	N=642
Significance	.014	.110	.253	.000	.253	.000

Socioeconomic Status

To determine if there was a relationship between family income and the six selected learning strategies, the researcher computed point biserial correlations. Students whose parents earned less than \$50,000 were given a 0. Students whose

parents earned more than \$50,000 were given a 1. Pearson correlations and significances were calculated for each of the six selected learning strategies.

As may be noted in Table 25, one statistically significant relationship was identified. Students whose parents make more than \$50,000 annually tended to use Rehearsal less than students whose parents made under \$50,000 annually.

Table 25

Summary of Point Biserial Correlations of Family Income to Selected Learning Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Time and Study Environment	Effort Regulation
P-BCorrelation	$r = -.097$	$r = .029$	$r = .033$	$r = -.047$	$r = .033$	$r = -.047$
Responses	N=631	N=631	N=631	N=631	N=631	N=631
Significance	.015	.473	.405	.240	.405	.240

As posed in Research Question 5, relationships existed between demographic variables and selected learning strategies. Male students tended to use Rehearsal, Organization, and Time and Study Environment less than female students. Students whose hometown populations were greater than 25,000 tended to use Rehearsal less than students who hailed from hometowns where the populations were under 25,000. Students who were first-generation college students tended to use Rehearsal more than students who were not first-generation college students. Students whose family income was higher than \$50,000 tended to use Rehearsal less than students whose parents earned less than \$50,000 annually.

CHAPTER FIVE SUMMARY AND DISCUSSION

This chapter presents a summary of this study and important conclusions drawn from the data presented in Chapter Four. The researcher provides discussion of the implications for actions and recommendations for further research.

Summary of the Study

The researcher sought to identify the motivations and learning strategies of West Virginia college students at four four-year institutions of higher education. The survey instrument, *Motivated Strategies for Learning Questionnaire (MSLQ)*, was administered to 648 students enrolled in an Introduction to Psychology course at one of the four selected schools during the 2011 spring semester. In addition to the MSLQ survey instrument, the researcher added an additional 12 questions to correlate relationships between certain academic, social, and demographic variables and the learning strategies selected for this study.

Review of Research Questions

RQ1. What was the degree of learning motivation for West Virginia college students by these scales?

- a. Intrinsic Goal Orientation
 - a. Extrinsic Goal Orientation
 - b. Task Value
 - c. Control of Learning Beliefs
- b. Self-Efficacy for Learning and Performance

RQ2. What was the degree of application of learning strategies for West Virginia college students by these scales?

- a. Rehearsal
- b. Elaboration
- c. Organization
- d. Critical Thinking
- e. Time and Study Environment
- f. Effort Regulation

RQ3. Was there a relationship between selected learning strategies scale scores and these selected academic variables?

- a. High school grade point average
- b. PROMISE scholarship receipt upon entry to college
- c. Honors program status upon entry to college
- d. Probationary admissions status upon entry to college

RQ4. Was there a relationship between selected learning strategies scale scores and these selected social variables?

- a. Membership in clubs/organizations while in college
- b. Leadership position in clubs/organizations while in college
- c. Involvement in study abroad opportunities while in college
- d. Involvement in service learning courses or volunteer opportunities while in college

RQ5. Was there a relationship between selected learning strategies scale scores and these selected demographic variables?

- a. Gender
- b. Hometown Size

- c. First-Generation College Student
- d. Socioeconomic Status

Review of the Method

The survey was a self-reporting instrument designed to “assess college students’ motivational orientations and their use of different learning strategies for a college course” (Pintrich, 1991, p. 3). The original assessment was comprised of two components: a motivation section and a learning strategies section. For the purpose of the current study, the researcher utilized 26 items from the original motivation section of the questionnaire (see Appendix C, Section A), and utilized 31 of the learning strategies section (see Appendix C, Section B) to focus only on data collection for the following scales: rehearsal, elaboration, organization, critical thinking, time and study environment, and effort regulation, totaling 57 items. Additionally, the study included a section of 12 questions inquiring about academic, social, and demographic variables (see Appendix C, Section C) to determine if relationships existed among these variables and the learning strategies employed by students in this particular course.

Significant Findings from the Study

For this study, the researcher sought to identify significant findings related to the intrinsic goal orientation, extrinsic goal orientation, task values, control of learning beliefs, and self-efficacy for learning and performance of West Virginia college students in a particular course. For the motivations portion of the survey, no significant findings about West Virginia students’ performance in this course were identified. However, the means for the learning strategies employed by West Virginia college students in this

course generated significant findings, as did the correlations among the learning strategies and demographic variables.

When asked if students wrote brief summaries of main ideas and class notes, the mean score for the whole population for this elaboration technique was 3.25 out of a possible 7. This elaboration sub-score was significantly lower than the rest of the elaboration technique sub-scores. From the collected data, it was discovered that West Virginia college students were least likely to employ an elaboration technique that required them to write summaries of course material. In this particular course, students preferred elaboration techniques that allowed them to “pull together,” “relate,” “make connections” and “apply” instead of allowing them to “write.”

For the sub-population of students who received the PROMISE scholarship, elaboration was used the least in this course. Knowing that elaboration was a cognitive strategy that required students to make connections between what was already known and what had been introduced and allowed the materials to be committed to the students’ long-term memories, the researcher assumed that this type of learning strategy would be utilized by a group of students that had higher grade point averages and higher standardized test scores (Donker, 2013, p. 3). However, this assumption was incorrect for this course as the data show.

The learning strategy of organization held interesting discoveries as well. For the entire population of West Virginia college students, one sub-score was significantly below the other organization sub-scores. When asked if students made charts, diagrams, or tables to help organize course material, the mean score was 2.54 out of a

possible 7. From this finding, it was clear that West Virginia college students did not utilize graphic organizers in this particular course.

When exploring the findings related to critical thinking techniques in the classroom, three interesting discoveries were made. The mean score for questioning things they hear or read in this course to decide if they find them convincing was a 3.85 out of a possible 7; the mean score for treating the course material as a starting point and trying to develop their own ideas about it was a 3.88 out of a possible 7; and the mean score for thinking about possible alternatives to assertions or conclusions read or heard in class was 3.93 out of a possible 7. From these mean scores, it was evident that West Virginia college students were, for the most part, accepting material presented in the course as true and not questioning or attempting to engage with the material to explore other possibilities. This finding underscored Kuh's theory that students believed the classroom was the primary place of learning (Kuh, 1993). Yet again, it appeared that West Virginia college students were disengaged from the course material as they were not attempting to make new meaning or apply presented material to other contexts.

Another interesting discovery related to time and study environment. When asked if students made good use of their study time for this course, the mean score was 3.25 out of a possible 7. Conversely, the mean score for attending class regularly was 6.53 out of a possible 7. Once again, these mean scores continue to demonstrate that West Virginia college students believed that course content was important in the classroom but were not regularly engaging with the material outside of class.

As the researcher outlined above, West Virginia college students in an Introduction to Psychology course at four different universities displayed through their self-report survey that they were significantly less likely to write summaries of course material; were significantly less likely to use graphic organizers to help them organize course material; were significantly less likely to question things they read or heard in the course, to develop their own ideas about material presented, or to think about possible alternatives than those presented in this course.

Perhaps the most significant discoveries from this study were made when correlating the demographic variable among the learning strategies. For female students, the learning strategies of rehearsal and organization were used more. While there are few differences between the academic abilities of boys and girls, parents, teachers, and peers stereotypically encourage students to believe that boys are stronger in math and science and girls are stronger in writing and reading (Bussey, 2011, p. 427). The learning strategy of rehearsal requires students to recreate material presented like memorizing vocabulary words for a quiz (Caverly, et al., 2000, p. 108). Similarly, the learning strategy of organization requires students to group and categorize course material to make meaning of the material (Donker, 2013, p. 3). Both of these learning strategies would be more natural for students who have historically been encouraged to recall, rewrite, and regroup course material.

Not only was the learning strategy of rehearsal used more by females, it was also the preferred strategy for students whose hometowns had less than 25,000 residents, students who were first-generation college students, and students whose familial income was less than \$50,000. Rehearsal is the reproduction of course material

without much thought being given to why or how the knowledge can be applied or incorporated into other coursework (Caverly, et al., 2000, p. 108). For these four sub-populations in this study, females, students from hometowns with less than 25,000 residents, first-generation college students, and students whose familial incomes were less than \$50,000, using rehearsal as the primary learning strategy in this course signified that these sub-populations were either not able to understand how to engage fully with the material to make meaning or they were not able to understand why it was important to engage more deeply with the course material for future learning. Previous research (Chenoweth & Galliher, 2004; Pascarella, et al., 2004; WVHEPC, 2010) identified the academic deficiencies of first-generation college students and those deficiencies were substantiated in this current study.

Recommendations for Future Research

From this study, future research is needed to determine the cause of the significance of rehearsal as a learning strategy for female students, students who come from hometowns with less than 25,000, students who have familial incomes of less than \$50,000, and/or students who were first-generation college students. Perhaps these students were working many hours to pay for college and only had time to minimally engage with their course material, or perhaps these students were not engaged with course material at higher levels because of their inability to do so, given their academic deficiencies.

Another area of future research should be to explore the organization learning strategy across several courses to determine if graphic organizing is utilized in another

type of course. It would be interesting to find out if West Virginia college students rate this organization technique as their least likely to be used in other courses as well.

Most importantly, a future study exploring if critical thinking techniques measured in this study are utilized more as the students mature in their collegiate careers. For this population of students to rate that they didn't question material presented in class or tried to consider alternative conclusions was disappointing.

Concluding Remarks

As proposed in Chapter Two, isolation due to the state's geographic location (DeYoung, 1995) and living in areas where economic limitations exist (Chenoweth & Galliher, 2004) may be distinct challenges for West Virginia college students that translate into their college learning and performance. In addition, first-generation college students have a greater challenge in college courses because they were less likely to engage in college preparatory curricula (Chenoweth & Galliher, 2004). When demographic variables were correlated with learning strategies for this population of students, strong themes of limited engagement with course material were evident as the learning strategy of rehearsal was identified in this course time and again for four sub-populations. For West Virginia college students as a whole and for sub-populations identified in this study, generational isolation and economic limitations seem likely contributors to the limited academic engagement by students in this course.

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Appendices A, B, and C

Appendix A: Letter to Professor of Specific Course

April 2011

Professor (First Name Last Name)

Address

City, State, Postal Zip

Dear Professor (Last Name),

Determining the motivation and learning strategies of West Virginia college students will be an essential tool in implementing programming, adjusting classroom delivery techniques, and engaging current and future students. However, this population of students has been researched very little. We attempt to apply nationally generalized models of teaching to this group because of our lack of data available.

This study, conducted under the supervision of Dr. Paul Chapman, Interim Associate Dean at West Virginia University, will correlate information regarding the academic, social, and demographic data of West Virginia students in your course with the nationally-utilized *Motivated Strategies for Learning Questionnaire*. I will identify relationships between your students' histories and experiences with their current application of learning strategies in your classroom.

I request that the survey be conducted in your classroom sometime between April 1 and May 10 in order to complete the survey. The survey will take approximately 20-30 minutes to complete, and the students will remain anonymous. West Virginia University's Institutional Research Board has approved the method of data collection for this survey. Please be aware that out-of-state students in your class will not be eligible to complete the survey based on the selection criteria as specified on the survey form.

The results of this study can be made available to you at your request. Email me at kgcoolebank@frontier.com to receive a copy of the survey results. I appreciate your assistance in conducting this research to fulfill my requirements of my doctoral studies. Sincerely,

Kimberly G. Colebank
Doctoral Candidate
West Virginia University

Office of the Dean

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Morgantown, WV 26506-6122

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Fax: 304-293-7565

Equal Opportunity/Affirmative Action Institution

Appendix B: Letter to participants

April 2011

Dear Student,

This letter is a request for you to take part in a research study about West Virginia college students and their motivations and learning strategies. The study is being conducted by a doctoral candidate in West Virginia University's Educational Leadership Studies program under the supervision of Dr. Paul Chapman, Interim Associate Dean, College of Human Resources and Education.

The survey is an adapted version of a nationally utilized instrument titled the Motivated Strategies for Learning Questionnaire (MSLQ). There are 57 items plus 12 additional items asking about your academic, social, and demographic data. The entire survey should take you less than 30 minutes to complete. YOUR PARTICIPATION IN THIS SURVEY IS COMPLETELY VOLUNTARY AND IN NO WAY AFFECTS YOUR GRADE IN THIS COURSE. All information obtained will be presented as aggregate data without identification of individuals. You may skip any question that you do not wish to answer and you may stop taking the survey at any time. West Virginia University's Institutional Review Board has approved the method for this study.

In order to participate in this study, you must meet the following criteria:

- 18 years of age
- Graduated from a public or private high school in West Virginia
- Attending a four year institution in West Virginia

Your participation in this study is greatly appreciated. The results of this study may help higher education administrators better understand how West Virginia college students prepare for, participate in, and complete collegiate courses. If you have any questions about this study, you may contact Kimberly Colebank at (304) 698-5966 or via email at kgcolebank@frontier.com.

Thank you for your time and help with this study.

Sincerely,

Kimberly G. Colebank
Doctoral Candidate
West Virginia University

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Equal Opportunity/Affirmative Action Institution

Appendix C

Motivated Strategies for Learning Questionnaire Adapted with permission

Section A. Motivation

The following questions ask you 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 the 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 the 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. I think I will be able to use what I learn in this course in other courses.*						1 2 3 4 5 6 7
4. I think I will be able to use what I learn in this course in other courses.*						1 2 3 4 5 6 7
5. I'm certain I can understand the most difficult material presented in the readings for this course.						1 2 3 4 5 6 7
6. Getting a good grade in this class is the most satisfying thing for me right now.						1 2 3 4 5 6 7
7. It is my own fault if I don't learn the material in this course.						1 2 3 4 5 6 7
8. It is important for me to learn the course material in this class.						1 2 3 4 5 6 7
9. 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

10. I'm confident I can learn the basic concepts taught in this course. 1 2 3 4 5 6 7
11. 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
12. I'm confident I can understand the most complex material presented by the instructor in this course. 1 2 3 4 5 6 7
13. 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
14. I am very interested in the content area of this course. 1 2 3 4 5 6 7
15. If I try hard enough, then I will understand the course material. 1 2 3 4 5 6 7
16. I'm confident I can do an excellent job on the assignments and tests in this course. 1 2 3 4 5 6 7
17. I expect to do well in this class. 1 2 3 4 5 6 7
18. 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
19. I think the course material in this class is useful for me to learn. 1 2 3 4 5 6 7
20. 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
21. If I don't understand the course material, it is because I didn't try hard enough. 1 2 3 4 5 6 7
22. I like the subject matter of this course. 1 2 3 4 5 6 7

23. Understanding the subject matter of this course is very important to me. 1 2 3 4 5 6 7

24. I'm certain I can master the skills being taught in this class. 1 2 3 4 5 6 7

25. 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

26. 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

*Question 3 and 4 measured two different motivations.

Section B. Learning Strategies

The following questions ask you 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 the 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
					Very true of me	
Not at all true of me						

27. 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
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28. I usually study in a place where I can concentrate on my course work.	1	2	3	4	5	6	7
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29. 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
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30. 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
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31. When I study for this class, I practice saying the material to myself over and over.	1	2	3	4	5	6	7
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32. 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
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33. I make good use of my study time for this course.	1	2	3	4	5	6	7
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34. 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
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35. 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
36. 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
37. I make simple charts, diagrams, or tables to help me organize course material. 1 2 3 4 5 6 7
38. 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
39. I find it hard to stick to a study schedule. 1 2 3 4 5 6 7
40. 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
41. I memorize key words to remind me of important concepts in this class. 1 2 3 4 5 6 7
42. When course work is difficult, I either give up or only study the easy parts. 1 2 3 4 5 6 7
43. I try to relate ideas in this subject to those in other courses whenever possible. 1 2 3 4 5 6 7
44. 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
45. When reading for this class, I try to relate the material to what I already know. 1 2 3 4 5 6 7
46. I have a regular place set aside for studying. 1 2 3 4 5 6 7
47. 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

48. 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
49. 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
50. I make sure that I keep up with the weekly readings and assignments for this course. 1 2 3 4 5 6 7
51. Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives. 1 2 3 4 5 6 7
52. I make lists of important items for this course and memorize the lists. 1 2 3 4 5 6 7
53. I attend this class regularly. 1 2 3 4 5 6 7
54. Even when course materials are dull and uninteresting, I manage to keep working until I finish. 1 2 3 4 5 6 7
55. 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
56. I rarely find time to review my notes or readings before an exam. 1 2 3 4 5 6 7
57. I try to apply ideas from course readings in other class activities such as lecture and discussion. 1 2 3 4 5 6 7

Section C. Academic, Social, Demographic Information

1. What was your high school grade point average when you entered college?
a. 2.0 - 3.0 b. 3.1 - 4.0
2. Did you receive the PROMISE scholarship when you entered college?
a. Yes b. No
3. Were you admitted into the Honors Program when you entered college?
a. Yes b. No
4. Were you admitted under a Probationary Admissions Status when you entered college?
a. Yes b. No
5. While in college, have you become a member of any club, organization, or campus organized activity?
a. Yes b. No
6. If you are in a club or organization, do you hold a leadership position? (President, Treasurer, etc.)
a. Yes b. No
7. While in college, have you participated in a study abroad opportunity?
a. Yes b. No
8. While in college, have you participated in a service learning or volunteer opportunity?
a. Yes b. No
9. How do you identify your gender?
a. Male b. Female
10. What was the size of your hometown where you were raised?
a. Less than 25,000 b. More than 25,000
11. Are you a first-generation college student? (Neither parent has a college degree.)
a. Yes b. No
12. How would you identify your family's annual income level?
a. Less than \$50,000 b. More than \$50,000