

An Examination of Self-Regulation and Motivation in College Students: A Comparison Study

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Abstract

This research investigated differences between male and female undergraduate students with regard to learning strategies and motivation at a Historically Black College or University (HBCU). In addition, differences across academic levels were examined with regard to the aforementioned measures. A total of 153 students, 57 male and 96 female, of at least 19 years of age participated in this study. The participants were undergraduate students at an HBCU, taking an introductory psychology class. The Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991) was administered during regularly scheduled classes. MANOVA results reported no statistically significant differences between male and female students in motivation or learning strategies. Moreover, academic level was not a significant factor in these measures either. Generally, students demonstrated similar measures of motivation and learning strategies.

Introduction

Self-regulated learning is defined as “an effort to deepen and manipulate the associative network in a particular area and to monitor and improve that deepening process” (Corno & Mandinach, 1983, p. 95). It is a dynamic process in which learners develop constructive behaviors towards achieving the goals they set and monitor and regulate their cognition and behavior accordingly (Pintrich, 2000; Zimmerman, 1989). Schunk (1988) stated that self-regulated learning consists of attention to instruction, processing and integration of knowledge, information rehearsal, and self-efficacy.

Confidence in self-regulated learning strategies has been reported to correlate with academic self-concept, self-efficacy, value of school and school subjects, achievement goals, and academic performances, while it is negatively correlated with academic-anxiety and subject-specific anxiety (Pajares, Britner, & Valiante, 2000; Pajares, Miller, & Johnson, 1999; Pajares & Valiante, 2001). Murayama, Pekrun, Lichtenfeld, and vom Hofe (2013) studied growth in students’ math achievement as a function of motivation, learning strategies, and intelligence. The results indicated that motivation and learning strategies predicted growth in achievement over five-year period. However, gender did not seem to have any impact on total amount of change in growth.

Radovan (2011) surveyed 319 college students (mean age of 29.6) to shed light upon the effects of motivation and self-regulated learning on success in distance education program using MSLQ. The findings of this study suggested that goal setting, task value, self-efficacy, and effort regulation were predictors of academic achievement.

Stegers-Jager, Cohen-Schotanus, and Themmen (2012) examined relationships among motivational beliefs, learning strategies, participation, and year 1 performance at a medical school. The results suggested that participation mediates relationship between motivations and learning strategies.

The impact of gender on learning strategies and motivation has been examined over the years with conflicting findings. To illustrate, Miller, Finley, & McKinley (1990) asserted that women reported higher intrinsic motivation in their learning than men.

Similarly, Wolters and Pintrich (1998) reported statistically significant differences between male and female students with respect to motivation and cognitive strategy use. The gender difference was also supported by Bembenutty (2009) who asserted that male students reported lower rehearsal scores compared to females on learning strategies and that female students were more likely to use organizational strategies than male students. In contrast, Yukselturk and Bulut (2009) analysis of gender differences in self-regulated learning components, motivational beliefs, and achievement in self-regulated online-learning environments suggested no statistically significant gender differences in terms of motivation, self-regulation, or achievement.

Yildirim (2012) studied gender differences with regard to self-efficacy, anxiety, intrinsic value, number of learning strategies used, and math achievement and reported that while math self-efficacy, anxiety, intrinsic value, and instrumental value were predictors of learning strategy, learning strategy did not mediate relationship between motivational beliefs and math achievement. The study suggested that students who perceived that they received support from their teacher were more likely to report more motivation to learn and be engaged compared to those who perceived no support. In addition, female students seemed to use more learning strategies than their male counterparts. The findings of research by Marrs and Sigler (2012) indicated that female students at a community college and university scored higher on deep approach, achieving approach, motivation, self-testing, use of study aids, and time management compared to male students.

This research examined differences between male and female undergraduate students in terms of motivation and learning strategies at an HBCU. It was also the intention of the researchers to analyze differences in motivation and learning strategies across academic levels.

Methods

Participants

A total of 153 students, 57 male (37.3%) and 96 female (62.7%) participated in this study. The participants were undergraduate students at an HBCU, taking an introductory psychology class. There were 89 (58.2%) freshman, 46 (30.1 %) sophomore, 12 (7.8%) junior, and 3 (2%) students. The participants were at least 19 years of age. Table 1 illustrates the demographic information of the participants with regard to gender, academic level, and ethnicity.

Table 1

Demographics of Students with regard to Gender, Academic Level, and Ethnicity

| Variables | n | % |
|------------------|-----|------|
| Sex | | |
| Male | 57 | 37.3 |
| Female | 96 | 62.7 |
| Class Level | | |
| Freshman | 89 | 58.2 |
| Sophomore | 46 | 30.1 |
| Junior | 12 | 7.8 |
| Senior | 3 | 2.0 |
| Ethnicity | | |
| African American | 147 | 96.3 |
| Caucasian | 2 | 1.3 |
| Other | 3 | 2.0 |

N = 153

Instrumentation

The Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991) was administered to students to capture a measure of their study strategies and motivation. The students were instructed to respond using a 7-point scale (1= not at all true of me to 7= very true of me). MSLQ consists of demographic information, motivation scales (intrinsic goal orientation, extrinsic goal orientation, task value, control of learning beliefs, self-efficacy for learning and performance, test anxiety; and learning strategies scales (rehearsal, elaboration, organization, critical thinking, metacognitive self-regulation, time and study environment management, regulation, peer learning, and help seeking).

Procedure

Psychology faculty members at an HBCU were contacted through email and telephone to grant permission to recruit their students during regularly scheduled meetings. Granted with the permission, researchers visited the introductory psychology classes to explain the scope of their study and share the information consent with the students. The students who volunteered to participate in the research filled out MSLQ. Motivation and study strategies were measured by MSLQ.

Results

To investigate whether there is a statistically significant difference between male and female undergraduate students' motivation, MANOVA was performed, which yielded no statistically significant difference ($p > .05$) between male and female students' motivation, Hotelling's $T^2 = .046$, $p > .05$. The multivariate η^2 based on Hotelling's Trace was .044. An observed power of .435 was reported. In addition, examining the gender differences in learning strategies, MANOVA yielded no statistically significant difference ($p > .05$) between male and female students' learning strategies, Hotelling's $T^2 = .097$, $p > .05$. The multivariate η^2 based on Hotelling's Trace was .088. An observed power of .707 was reported. Similarly, MANOVA yielded no statistically significant difference ($p > .05$) in motivation across academic levels, Wilks' Lambda = .766, $p > .05$. The multivariate η^2 based Wilks' Lambda was .085. An observed power of .960 was reported. Finally, MANOVA yielded no statistically significant difference ($p > .05$) in motivation across academic levels, Wilks' Lambda = .p $> .05$. The multivariate η^2 based Wilks' Lambda was .040. An observed power of .673 was reported. Table 2 displays the reliability estimates for the original MSLQ and the current study and Table 3 displays the motivation and study strategies subscale mean scores.

Table 2

Summary of Reliability Estimates for MSLQ

| Dimension | # items | Cronbach's Alpha (C) | Cronbach's Alpha (O) |
|---|---------|-------------------------|-------------------------|
| Motivation | | | |
| Intrinsic Goal Orientation | 4 | .72 | .74 |
| Extrinsic Goal Orientation | 4 | .69 | .62 |
| Task Value | 6 | .79 | .90 |
| Control of Learning Beliefs | 4 | .37 | .68 |
| Self-Efficacy for Learning & Performance | 8 | .89 | .93 |
| Test Anxiety | 5 | .72 | .80 |
| Learning Strategies | | | |
| Rehearsal | 4 | .60 | .69 |
| Elaboration | 6 | .76 | .75 |
| Organization | 4 | .59 | .64 |
| Critical Thinking | 5 | .73 | .80 |
| Metacognitive Self-Regulation | 12 | .73 | .79 |
| Time and Study Environment | | | |
| Management | 8 | .59 | .76 |
| Effort Regulation | 4 | .45 | .69 |
| Peer Learning | 3 | .72 | .76 |
| Help Seeking | 4 | .53 | .52 |

Table 3

Male and Female Scores of Motivation and Learning Strategies

| Dimension | Male M (SD) | Female M (SD) |
|---|----------------|------------------|
| Motivation | | |
| Intrinsic Goal Orientation | 5.02 (1.106) | 5.21 (1.235) |
| Extrinsic Goal Orientation | 6.00 (.936) | 5.82 (1.273) |
| Task Value | 5.36 (.947) | 5.63 (1.088) |
| Control of Learning Beliefs | 5.51 (.931) | 5.52 (1.025) |
| Self-Efficacy for Learning & Performance | 5.93 (.875) | 6.00 (1.025) |
| Test Anxiety | 3.71 (1.348) | 3.46 (1.529) |
| Learning Strategies | | |
| Rehearsal | 4.93 (1.024) | 5.30 (1.116) |
| Elaboration | 4.80 (1.138) | 4.97 (1.276) |
| Organization | 4.48 (1.240) | 4.57 (1.367) |
| Critical Thinking | 4.55 (1.178) | 4.81 (1.242) |
| Metacognitive Self-Regulation | 4.67 (.898) | 4.87 (.915) |
| Time and Study Environment | | |
| Management | 4.77 (.911) | 5.11 (.862) |
| Effort Regulation | 4.94 (1.076) | 5.25 (1.164) |
| Peer Learning | 4.26 (1.497) | 3.92 (1.710) |
| Help Seeking | 4.57 (1.362) | 4.81 (1.162) |

Discussion

This study investigated whether gender had an impact on the motivation and learning strategies used by undergraduate students at an HBCU. No statistically significant difference was found between male and female students in their motivation or learning strategies. In general, male and female students demonstrated similar measures of motivation and learning strategies. In addition, academic level did not seem to be a predictor of motivation or learning strategies. Regardless of seniority, undergraduate students showed similar measures of motivation and study strategies as well. Due to the sampling method of this research, generalization to the population cannot be made. Researchers hope that this study could be furthered with a larger sample.

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