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Football Study Hall and Self-Regulated Learning

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FOOTBALL STUDY HALL AND SELF-REGULATED LEARNING

by

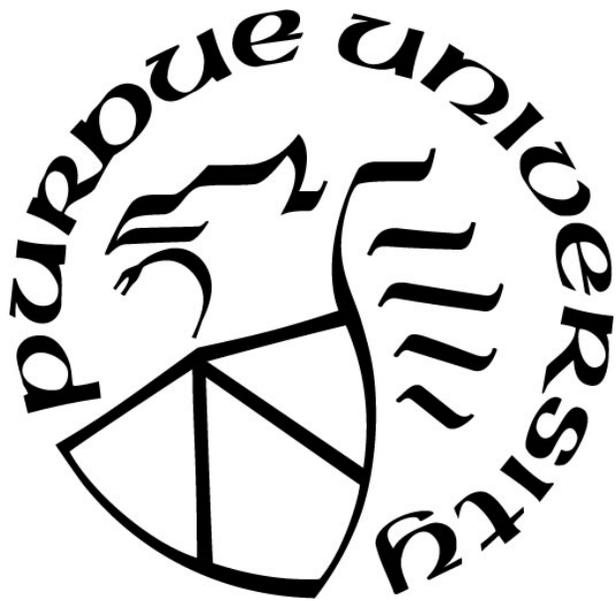
Seth M. Schwartz

A Dissertation

Submitted to the Faculty of Purdue University

In Partial Fulfillment of the Requirements for the degree of

Doctor of Philosophy



Department of Educational Studies

West Lafayette, Indiana

May 2018

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This dissertation is dedicated to my wife, Tamara (Tammy), and to our daughters – Hadasa (Haddie), Abigail (Abby), and Lila. I began this journey towards earning my Ph.D. shortly after Tammy and I were engaged in 2008. After taking my first class, I was uncertain about whether I would be able to handle everything that I was about to take on. We had just moved in together, were both working full-time jobs, and we had a wedding to plan. Tammy urged me to continue what I started and, slowly, I inched forward with completing this degree. We were married in August 2009, then Haddie was born in March 2012, Abby was born in May 2014, and Lila was born in August 2016. Obviously, more family time was required with the addition of each child, making it more and more difficult to complete this degree. However, I wanted to set a good example for our girls in hopes that they will strive for excellence in their lives and that they will always finish what they start. Though we had some turbulent times in the last couple of years with Lila’s health, it was important to me to finish what I started by completing this dissertation to earn my doctorate degree. So, I want to thank Tammy and our girls for their love and support (and patience) in helping me achieve this goal.

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Thank you to Dr. Ed Howat for allowing me to pursue this degree while simultaneously working full-time as his employee. I have learned so much from you over the years and plan to continue to do so for many years to come. You are a great boss and a great friend. Thank you to everyone that has worked with me in athletics academic support services over the years. There are too many of you to list here but know that I am appreciative of every one of you.

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ABSTRACT

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The present study sought to determine whether there were differences among football student-athletes' (FSAs') self-regulated learning (SRL) and first-semester achievement depending on the type of study hall—traditional (TSH), objective-based (OBSH) or objective-based plus weekly academic success strategy instruction (OBSH-Plus)—implemented at their institution. The SRL measures included self-efficacy, use of cognitive strategies, and use of metacognitive strategies. After examining the distribution of FSA's ethnicity and high school academic achievement (i.e., high school GPA and ACT scores) across programs, it was determined that the FSAs in the OBSH and the OBSH-Plus were comparable in these areas, however they differed significantly from the FSAs in the TSH program. FSAs in the TSH program had significantly higher high school achievement and a greater proportion of students were White/Caucasian compared to those in either of the OBSH programs. These unexpected differences did not allow for a meaningful comparison between FSAs at the TSH institution and those at either of the OBSH institutions. Therefore, the present study focused on possible differences in first semester SRL and academic achievement between the two OBSH institutions – one which implemented OBSH without weekly academic success strategy instruction and the other which implemented OBSH and included weekly academic success strategy instruction with their FSAs (OBSh-Plus).

There were no significant differences at Time 1 between the two OBSH institutions for any of the SRL measures, indicating that FSA's SRL was similar. A multivariate analysis of variance (MANOVA) at the end of the semester indicated a statistically significant difference among FSAs' SRL by study hall program. Follow-up analysis of variance (ANOVA) results indicated that at the end of the semester there was a significant difference between programs in FSAs' metacognitive strategy use. No significant difference between programs was found for self-efficacy, use of cognitive strategies, or first-semester GPA. The significant differences in use of metacognitive strategies by the OBSH-Plus FSAs could, over time (i.e., beyond one semester), foster greater achievement and self-efficacy, compared to the OBSH FSAs.

INTRODUCTION

Preface

Incoming college football student-athletes (FSAs) are generally selected and admitted on the basis of their ability to play football, rather than their academic achievement (Aries, McCarthy, Salovey, & Banaji, 2004; Espenshade, Chung, & Walling, 2004). Frequently, their highest priority after arriving at their institution – for even those who want a college degree – is to play football (Kendall, 2015). Incoming FSAs are often not well-prepared for college courses in terms of the “amount of work and level of difficulty in college,” as well as learning strategies and study skills, habits, and beliefs (Monda, Etzel, Shannon, & Wooding, 2015, p. 119). The second area is particularly crucial. Students who are self-regulated learners – who use high quality learning and self-regulatory strategies and have strong motivational beliefs (Wolters, 2011) – can work to fill in knowledge deficits, grapple with new content, benefit from available resources, and thus become successful academically. However, without appropriate cognitive and motivational knowledge and strategies – or self-regulated learning (SRL) – it is likely to be extremely difficult for FSAs to be academically successful in college. Therefore, it is important that FSAs be self-regulated learners and develop the requisite skills and habits, if they have not already. In addition to academic success being important for students individually, it is important for college football programs themselves. The National Collegiate Athletic Association (NCAA) requires that FSAs meet academic standards in order to be eligible to play football (NCAA, 2017). Therefore, academic failure hurts both FSAs and their teams.

One way that college football programs typically assist their incoming FSAs academically is to require them to participate in a study hall program. The rationale for a study

hall program is that new FSAs need to learn to set aside time in their busy schedules to complete their academic work.

In a traditional study hall (TSH) program, students sit in a room for an assigned period of time (e.g., 8 or 10 hours per week, 2 hours per night) and are required to do – or at least appear to be doing – academic work and to avoid distracting other FSAs. This type of study hall is valuable for FSAs in that it helps them to allocate time in their schedules for completing their homework, assignments, and studying, which supports their development of time management skills. Additionally, it provides a quiet study space for the FSAs to complete their academic work. However, this arrangement does not focus on the quality of the work completed or on their learning. Although some FSAs are academically prepared and/or motivated to do well with this type of program, others seem to either have little idea of what they need to focus on for their classes or do not want to put in the effort necessary to get their work completed.

There have been questions within the athletics academic advising community about the effectiveness of the TSH in terms of assisting FSAs make a successful transition to college-level academics (Jones, 2015). An alternative study hall format that has received some support recently is the objective-based study hall (OBSH; University of Tennessee, 2005).

The major rationale for OBSH is that it provides an incentive for FSAs to complete their readings, assignments, and studying, rather than focusing only on students meeting time requirements. In OBSH programs, student-athletes sit down each week, individually, with an academic advisor or learning specialist to plan specific goals or objectives – readings, assignments, and/or studying for their courses – for each day of study hall (University of Tennessee, 2005). In the athletics academic support setting, a learning specialist is typically an individual with an education background who assists student-athletes who have been diagnosed

with learning disabilities and/or Attention Deficit Hyperactivity Disorder (ADHD), or student-athletes with general learning difficulties who may not have a diagnosis, with developing the skills needed to be successful in college. In their weekly meetings with their academic advisor or learning specialist, FSAs write objectives in their student planner. When they have completed all of their objectives for the day, they are dismissed from study hall. The incentive is that, rather than being required to spend a set period of time regardless of how much work they have to complete, FSAs are permitted to leave once their work is completed, resulting in time for other activities. FSAs are also able to work on their objectives prior to study hall, which enables them to spend even less time in study hall.

Another benefit of OBSH is that it requires students to plan their time and monitor their activities; these are key components of being a self-regulated learner (Wolters, 2011). Study hall is the ideal time for student-athletes who are not already self-regulated learners to learn how to manage their time and develop regulatory strategies and habits, because they are generally not required to attend study hall after their freshman year if they meet a designated grade point average (GPA).

In addition to conducting an OBSH study hall, at least one institution includes introducing weekly academic success strategies as part of the FSAs' weekly meetings with an academic advisor or learning specialist. In hopes of developing academic success strategies throughout the first semester, a new strategy is introduced each week through the FSAs' first semester. The weekly academic success strategies include topics such as persistence, reading strategies, note-taking strategies, various studying/test-preparation strategies, strategies for writing papers, finding quality sources, information about transfer of learning, self-efficacy, and self-regulated learning, and preparing for the week of final exams.

The Research Problem

Although OBSH programs appear to provide better opportunities for incoming FSAs as they adjust to college-level academics compared to TSH programs, there has yet to be any research that has specifically examined the impact of OBSH programs to support this premise. OBSH is a relatively new program for college FSA academic support; the first university to implement such a program was the University of Tennessee during the 2004-2005 academic year (University of Tennessee, 2005). There are now numerous universities that offer this type of program (Jones, 2015). Furthermore, at least one university offers an enhanced OBSH program. This study seeks to assist institutions to have more information when making a decision on the type of study hall that is best for their FSAs.

Students' use of self-regulatory learning strategies has been shown to play a very important role in their academic success (Perry, Albeg & Tung, 2012; Zimmerman & Martinez-Pons, 1988; Zimmerman & Schunk, 2011). Students who set goals and plan out strategies for learning, and follow through on using those strategies, are more likely to learn which strategies work best for them when preparing for an exam or writing a paper (Valentin et al., 2013). As students themselves, FSAs who use these strategies should find similar academic success.

Students' learning contexts are closely tied to their use of SRL skills (Boekaerts & Corno, 2005). In the study hall context, TSH programs might deter FSAs' SRL due to the greater emphasis on attendance and obedience. Meanwhile, OBSH programs might be more conducive for supporting FSAs' SRL due to the greater emphasis on planning and monitoring each individual FSA's workload and activities.

Need For Additional Studies

I was not able to find research regarding whether FSAs' academic achievement is associated differentially with types of study hall, particularly OBSH programs compared to TSH programs. Research addressing this area could have a significant impact on the programming provided for FSAs at NCAA institutions across the country.

Student-athletes are generally aware of the importance to them of managing their time well (Ego, 2013). Student-athletes at a NCAA Division I institution reported recognizing that they did not have enough self-control to complete their academic work on their own. The study hall program at this institution followed a traditional format, which the interviewed students perceived as being helpful for them to learn to manage their time. However, most student-athletes reported that they did not enjoy spending time in the study hall environment that required them to attend for specified time periods (Ego, 2013).

Athletics departments' financial, staffing, and service resources have not been found to be associated with the academic performance of student-athletes (Schwartz, 2006). However, some research indicates a negative relationship between the number of academic support advisors/counselors and student-athletes' GPA. This likely reflects low GPAs among student-athletes at an institution requiring a larger number of advisors, rather than more advisors leading to lower student-athletes' GPAs. Therefore, the actual support program implemented to assist student-athletes, rather than the number of academic staff members, could be a larger factor in helping student-athletes to achieve better grades.

Academic self-efficacy (Feldman & Kubota, 2015; Pintrich & De Groot, 1990; Zimmerman, Bandura, & Martinez-Pons, 1992) and student use of cognitive and metacognitive learning strategies (Pintrich & De Groot, 1990; Wolters, 1999) are positively related to academic

performance. Therefore, the data analysis in the present study could allow institutions to infer that if students in a specific study hall program are shown to improve their SRL, there would likely be a positive association with FSAs' grades.

Significance of the study for particular audiences

The results of the current study may be helpful for institutions, specifically the football academic support staffs at those institutions, in making decisions about how to structure their study hall programs and provide meaningful academic support to their FSAs.

Purpose of the Study

The purpose of the current study was to compare the SRL of FSAs in programs that use a TSH with the SRL of FSAs in one of two types of OBSH. Specifically, freshman college FSAs' SRL (i.e., academic self-efficacy, cognitive strategies, and self-regulatory strategies) in the spring semester was to be examined to determine whether their SRL was related to whether the institution uses a TSH, a regular OBSH, or an enhanced OBSH (i.e., OBSH-Plus).

Theoretical Framework

The present study is framed within SRL frameworks. SRL involves directing and controlling one's own learning autonomously and using cognitive and metacognitive learning strategies (Wolters, 2011). Although there are various models of SRL (e.g., Pintrich & Zusho, 2007; Zimmerman, 2002), they all generally involve cognitive (e.g., goal setting, rehearsal, critical thinking, metacognition, self-evaluation) and motivational (e.g., intrinsic value, learning orientation, task value, self-efficacy, self-satisfaction) components.

Zimmerman's (2002) model of self-regulated learning includes three phases: the forethought phase, the performance phase, and the self-reflection phase. The forethought phase, which includes processes that occur before learning, involves task analysis and self-motivation. Task analysis refers to goal setting and strategic planning (i.e., setting objectives). The performance phase, which includes processes that occur during learning, involves self-control, self-observation, and motivation (e.g., persistence). The self-reflection phase, which includes processes that occur after learning, involves self-judgment (e.g., self-evaluation, causal attribution) and self-reaction (Zimmerman, 2002; Zimmerman & Schunk, 2011). Examples of self-reaction include positive reactions such as self-satisfaction and positive affect, as well as defensive reactions and adaptive reactions (i.e., changing a learning strategy that does not seem to be working). Self-reflections affect future forethought processes. When students believe that they have been successful in accomplishing a task, their self-efficacy to perform a similar task increases (Schunk, 1996). If they feel that they have failed, they tend to become less efficacious on future related tasks.

Another example of a SRL framework is Pintrich and Zusho's (2007) model, which includes four phases. Phase one includes planning, goal setting, and activation of prior knowledge. Phase two includes engaging in the task and "monitoring processes that represent metacognitive awareness of different aspects of the self and task or context" (p. 743). Phase three includes controlling and regulating activities during learning to foster understanding of the material being learned. Phase four involves reactions and reflections after the task has been completed to attribute reasons for success or failure. This reflection will affect processes used in phase one for future tasks to either continue use of the strategies that worked or attempt different strategies in an attempt to produce better results (Pintrich & Zusho, 2007).

Motivation and Self-Efficacy

Motivation is a central component to all models of SRL; it provides the “will” to accompany the “skill” involved in achievement situations (Pintrich, Marx, & Boyle, 1993). Arguably the most pervasive motivational construct is self-efficacy, or a belief “in one’s capabilities to organize and execute the courses of action required to produce given levels of attainments” (Bandura, 1998, p. 624). Academic self-efficacy is predictive of academic achievement, even after effects of prior achievement are considered (Pajares, 1996; Pajares & Graham, 1999; Pajares & Johnson, 1994; Zimmerman, et al., 1992). Students with high self-efficacy are more likely to engage in new or more difficult tasks while students with lower self-efficacy are more likely to be apathetic and unwilling to exert effort (Schunk, Pintrich, & Meece, 2008). Therefore, FSAs’ perceived self-efficacy to carry out the responsibilities of their classes will affect how they go about engaging in their academic work, which affects their behaviors.

Cognitive and Metacognitive Strategies

Cognitive strategies involve students’ use of strategies to learn and process the information presented by their courses’ textbooks and lectures (Duncan & McKeachie, 2005). These strategies include rehearsal (repeating definitions or ideas into memory for later recall), elaboration (creating analogies, paraphrasing, note-taking, etc.), organization (tables, flow charts, outlines, etc.), and critical thinking (applying knowledge to specific situations or evaluating ideas), all of which are purposefully applied in an effort by the student to learn.

Metacognitive strategies are used by students to help “control and regulate their own cognition” (Duncan & McKeachie, 2005, p. 119). These strategies include planning, goal setting, monitoring progress, and regulating activities to correct behavior as one proceeds on a task

(Pintrich, Smith, Garcia, & McKeachie, 1991). These strategies are associated positively with college students' effort and exam scores (Vrugt & Oort, 2008), as well as course grade and GPA (Bouffard, Boisvert, Vezeau, & Larouche, 1995; Nandagopal & Ericsson, 2012; Puzziferro, 2008).

The framework detailed above provides the basis for the variables chosen for this study. Students who use SRL strategies are likely to be successful students (Zimmerman, 1989, 1990). If FSAs could improve their SRL strategies and increase their SRL knowledge, then we could presume that their self-regulation and, likely, their academic performance, would improve as well.

Research Questions

The present study sought to determine whether there are differences among FSAs' SRL and first-semester achievement depending on the type of study hall—traditional (TSH), objective-based (OBSh) or objective-based plus weekly academic success strategy instruction (OBSh-Plus)—implemented at their institution. The measures of SRL were self-efficacy, use of cognitive strategies, and use of meta-cognitive strategies. The research questions were:

1. Are there differences in FSAs' academic self-efficacy depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?
2. Are there differences in FSAs' use of cognitive strategies depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?

3. Are there differences in FSAs' use of metacognitive strategies depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?
4. Are there differences in FSAs' first-semester grades depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?

It was hypothesized that, at the end of the first semester, both SRL and achievement would be higher for FSAs who receive either type of OBSH compared to those receiving a TSH. Furthermore, it was hypothesized that, at the end of the first semester, FSAs who received weekly academic success strategies in addition to participating in an OBSH program would have greater SRL and academic achievement than those who participated in an OBSH program only.

LITERATURE REVIEW

Overview

The purpose of this study was to compare the self-regulated learning (SRL) of college football student-athletes (FSAs) in programs that use two different types of an objective-based study hall (OBSH) program with those using a traditional study hall (TSH) program.

Specifically, I examined freshman college FSAs' academic self-efficacy and use of cognitive and metacognitive learning strategies (i.e., SRL) in the Spring semester, after they had attended study hall for one semester, and compared whether their SRL varied depending on study hall type.

While OBSH appears to be a program that should help FSAs adjust to college-level academics, there was no research evidence to support this. OBSH programs are designed to help student-athletes plan when and where to do their academic work, which includes studying, completing assignments, and obtaining assistance from their academic mentor and tutors. Moreover, a central goal of the objective-based study hall approach is to improve the FSAs' ability to use the skills associated with self-regulated learners and ideally become independent learners. As demonstrated via the research discussed next, college students who use SRL strategies tend to have better academic performance and academic self-efficacy than those who do not. To date, very little research has been conducted in the context of student athletes or FSAs and their use of SRL strategies and academic self-efficacy. The purpose of the current research, therefore, was to compare FSAs' academic self-efficacy and use of cognitive and metacognitive learning strategies relative to the type of study hall they experienced.

Association Between Academic Self-Efficacy and Academic Performance

According to Bandura (1997), perceived self-efficacy refers to “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Students with low academic self-efficacy may avoid attempting academic tasks while those with higher academic self-efficacy are more likely to engage in academic tasks and persist when faced with more difficult academic tasks (Schunk, et al., 2008). Academic self-efficacy has been shown to be highly associated with students’ academic achievement (Feldman & Kubota, 2015; Ferla, Valcke, & Schuyten, 2008; Mega, Ronconi, & De Beni, 2014; Pajares, 1996; Pajares & Graham, 1999; Pintrich & De Groot, 1990; Walker, Green, & Mansell, 2006; Wolters, Fan, & Daugherty, 2013). Additionally, two meta-analyses of a combined 148 studies (Multon, Brown, & Lent, 1991; Robbins et al., 2004) found statistically significant relationships between self-efficacy beliefs and academic performance.

Self-efficacy is also strongly related to effort (Bandura, 1997; Schunk, 1995; Wolters et al., 2013). Students who are high in self-efficacy are more likely to exert greater levels of effort compared to those with low self-efficacy. They are also more likely to report use of cognitive and metacognitive learning strategies (Pintrich & De Groot, 1990) as they are more engaged in the learning process and are more likely to monitor their own performance.

Association between Academic Self-Efficacy and College Student Academic Performance

Academic self-efficacy beliefs are positively related to numerous college student success variables. For example, persistence towards degree completion (Lent, Brown, & Larkin, 1984, 1986), course grades (Feldman & Kubota, 2015; Hackett, Betz, Casas, & Rocha-Singh, 1992; Wolters et al., 2013), GPA (Elias & Loomis, 2002; Turner, Chandler, & Heffer, 2009), and

adjustment to college (Chemers, Hu, & Garcia, 2001) all had significant positive relationships with students' academic self-efficacy beliefs. Academic self-efficacy and academic achievement are positively related for both African-American and European-American college students (DeFreitas, 2010). The results of the above studies provide support for examining the association that the different study hall types might have for FSAs.

Although Bandura defined the self-efficacy construct as confidence to be successful at a specific task in a specific situation, many researchers, including those conducting SRL research, have measured academic self-efficacy more generally – typically as one's confidence to be successful in a course or on other academic tasks (Elias & Loomis, 2002; Hackett et al., 1992; Turner et al., 2009; Wolters et al., 2013; Zimmerman, et al., 1992).

Association between the Use of Cognitive and Metacognitive Strategies and Academic Performance

Zimmerman & Schunk (2011) define SRL as “the process whereby learners personally activate and sustain cognitions, affects, and behaviors that are systematically oriented toward the attainment of personal goals. By setting personal goals, learners create self-oriented feedback loops through which they can monitor their effectiveness and adapt their functioning” (p. 1).

While not all students are self-regulated learners, the use of cognitive and metacognitive strategies utilized by self-regulated learners is predictive of academic achievement within many different levels of schooling. Specifically, these strategies have been shown to be positively related to academic achievement (Pintrich & De Groot, 1990; Tuckman, 2003; Wang, Shannon, & Ross, 2013; Wibrowski, Matthews, & Kitsantas, 2017; Wolters & Pintrich, 1998) and academic self-efficacy (Pintrich & De Groot, 1990; Wang et al., 2013; Zimmerman & Martinez-

Pons, 1990) as the processes associated with these strategies help foster deeper understanding and learning (Pintrich & Zusho, 2007). Table 2.1 breaks down the specific cognitive and metacognitive strategies that were found to have a significant positive relationship with academic achievement.

Table 2.1. Summary of Studies Examining Associations of Academic Achievement with Cognitive and Metacognitive Strategies

	Rehearsal	Elaboration	Organization	Critical Thinking	Metacognition
Pintrich & De Groot (1990)	+	+	+		+
Tuckman (2003)	+	+	+	+	+
Wang et al. (2013)		+		+	+
Wibrowski et al. (2017)	+	+			+
Wolters & Pintrich (1998)	+	+			+

Note. Blank cells indicate variables that were not examined in the study.

Association between the Use of Cognitive and Metacognitive Strategies and College Students' Academic Performance

Students' use of cognitive and metacognitive strategies are associated positively with college students' effort and exam scores (Vrugt & Oort, 2008), as well as course grade and GPA (Bouffard, et al., 1995; Nandagopal & Ericsson, 2012; Puzziferro, 2008; Wibrowski et al., 2017). Additionally, higher achieving college students were more likely to use SRL strategies than were lower-achieving college students (VanderStoep, Pintrich, & Fagerlin, 1996). Furthermore, college students who were admitted to their college with the requirement of completing developmental coursework were less likely to utilize cognitive and metacognitive strategies than students who were admitted without this caveat (Ley & Young, 1998). This may provide an explanation for why lower-achieving college students have difficulty improving their academic achievement, even after completing developmental coursework.

Development of Cognitive and Metacognitive Strategies among College Students

Weinstein, Acee, and Jung (2011) identified cognitive strategies – rehearsal, elaboration, and organization strategies – that are critical to learning. It is specifically important for students to not only know the basic idea of a strategy, but they must also know how to use it and the ideal conditions in which to use it. That is, they need conditional knowledge.

First-generation ethnically diverse college students from “educationally and economically disadvantaged backgrounds” admitted below regular admission standards participated in a “Skills Learning Support Program” and reported increased motivation and use of cognitive and metacognitive learning strategies, as well as grades “similar to or higher than” students who were not required to participate in the program (Wibrowski et al., 2017, p. 323). Students attended a required 6-week summer program prior to their freshman year which included developmental coursework, study skills instruction, tutoring, and counseling services. The developmental coursework included topics such as time management, goal setting, self-monitoring, and self-evaluation. The counselors continued working with the students throughout their freshman year. Students’ self-efficacy, cognitive strategy use (specifically rehearsal and elaboration), and metacognitive strategy use all improved significantly. Additionally, the mean GPA for students who participated in this program was significantly higher than the mean GPA for regularly admitted students after their freshman year and for the following four semesters (i.e., sophomore and junior years). This indicates that teaching learning strategies and providing academic counseling may help improve academic achievement for first-generation, ethnically diverse college students.

Hu and Driscoll (2013) conducted a study in which college freshmen and sophomores enrolled in an online college success course “designed to develop and reinforce skills necessary

for college and career success” (p. 173). The semester-based course included teaching different motivational, cognitive, and metacognitive strategies, as well as application of these strategies in studying for the course. Those who participated in the course had higher academic achievement, both in the semester in which they completed the course and in the following semester, than the control group, suggesting that learning to apply motivational, cognitive, and metacognitive strategies may help with academic achievement.

Hofer and Yu (2003) examined the improvement of motivation and use of cognitive and metacognitive strategies following a semester-based “Learning to Learn” course for freshmen and sophomore students at the University of Michigan. Most variables had significant mean differences from Pretest to Posttest, including self-efficacy, memorization (i.e., rehearsal), elaboration, organization, deep processing (i.e., critical thinking), and metacognition. Additionally, self-efficacy at Time 2 had positive correlations with most of the cognitive strategy use variables (i.e., elaboration, organization, and deep processing) and with metacognitive strategies. These findings provide more support for the teaching of academic success strategies in improving college students’ academic achievement.

Tuckman and Kennedy (2011) examined the impact of a learning strategies course on college students’ GPA, retention, and graduation rate compared to students who did not take the course. The students who took the course had higher GPAs through their first year and into their second year of college, had higher levels of retention during that period, and graduated at a higher rate compared to students who did not take the course. These results suggest that the teaching of learning strategies has a positive association with academic achievement and retention.

FSAs' Development of SRL Compared to Non-Athlete Students

FSAs are generally selected and admitted to their institution on the basis of their ability to play football, while their non-athlete peers are generally selected on the basis of their academic achievement (Aries et al., 2004; Espenshade, Chung, & Walling, 2004). Incoming FSAs are often not well-prepared for college courses in terms of the “amount of work and level of difficulty in college,” as well as learning strategies and study skills, habits, and beliefs (Monda, et al., 2015, p. 119). Additionally, college student-athletes have generally performed at (but not below) the level expected based on their admission profiles, which is below the non-athlete student population (Aries et al., 2004).

Tebbe and Petrie (2007) examined the effectiveness of teaching learning strategies to student-athletes through a 1-credit semester-based college course to help mitigate the differences in preparedness between non-athlete students and student-athletes. Student-athletes who were required to enroll in the learning strategies course and had high school profiles lower than their non-athlete peers, earned equivalent GPAs and percentage of hours passed after each semester of their first two years of college, compared to student-athletes who were not required to enroll in such a course who had high school profiles similar to non-athlete admits at the institution. This indicates that the course may have assisted student-athletes who had lower academic profiles entering college in overcoming their academic deficiencies and improving their academic performance in college.

Research Questions and Hypotheses

The present study sought to determine whether there were differences among FSAs' SRL and first-semester achievement depending on the type of study hall—traditional (TSH),

objective-based (OBSH) or objective-based plus weekly academic success strategies (OBSH-Plus)—implemented at their institution. The measures of SRL were self-efficacy, use of cognitive strategies, and use of metacognitive strategies. The research questions were:

1. Are there differences in FSAs' academic self-efficacy depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategies?
2. Are there differences in FSAs' use of cognitive strategies depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?
3. Are there differences in FSAs' use of metacognitive strategies depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?
4. Are there differences in FSAs' first-semester grades depending on whether their study hall is traditional, objective-based, or objective-based with weekly academic success strategy instruction?

It was hypothesized that, at the end of the first semester, both SRL and achievement will be higher for FSAs who receive either type of OBSH compared to those receiving a TSH.

Furthermore, it was hypothesized that, at the end of the first semester, FSAs who receive weekly academic success strategies in addition to an OBSH will have greater SRL and academic achievement than those who receive an OBSH only.

METHODOLOGY

Participants

The participants were 69 first-semester male freshmen student athletes from their university's football program. The football student-athletes (FSAs) came from three large, Midwestern universities, each of which implemented a different type of mandatory study hall: (a) a traditional, hours-based study hall (TSH); (b) an objective-based study hall (OBSH); and (c) an OBSH program with weekly academic success strategy instruction (OBSH-Plus). There were 26 FSAs from the TSH program, 21 FSAs from the OBSH program, and 22 FSAs from the OBSH-Plus program.

All freshman FSAs at the three universities were invited to participate in the study; 76 (100%) consented and completed the first questionnaire. Seven participants from the TSH program did not return to the football team for the spring semester and, therefore, did not complete the second questionnaire. All participants from the OBSH-Plus and OBSH programs returned and completed the second questionnaire. There were 69 FSAs (94.5%) who completed both the first and second questionnaire.

The FSAs' ethnicity (White/Caucasian or ethnic minority) is represented in Table 3.1. A chi-square test of independence was conducted to examine whether the distribution of ethnicity (i.e., minority or not) was equivalent across institutions (and consequently, type of study hall). The chi-square statistic indicated a statistically significant difference in distribution of ethnicity among institutions, $\chi^2(2) = 12.61, p < 0.01$. From Table 3.1 it appears that there are significantly more White students in the TSH program than in either of the OBSH programs. Additionally, the distribution of ethnicity between the OBSH programs appears similar.

Table 3.1. FSAs' Ethnicity across Types of Study Hall and Overall

	White/ Caucasian		Ethnic Minority		Total	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
TSH	21	80.8	5	19.2	26	100
OBSH	7	33.3	14	66.7	21	100
OBSH-Plus	9	40.9	13	59.1	22	100
Total	37	53.6	32	46.4	69	100

The participants' high school academic performance data – high school GPA and ACT scores – are shown in Table 3.2.

Table 3.2. FSAs' High School Achievement across Types of Study Hall and Overall

	GPA			ACT		
	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	<i>n</i>
TSH	3.53 _a	0.49	26	25.50 _a	4.16	24
OBSH	3.03 _b	0.48	21	20.23 _b	2.05	13
OBSH-Plus	3.34 _{a, b}	0.58	22	22.56 _{a, b}	4.24	16
Combined OBSH	3.19 _b	0.55	43	21.52 _b	3.58	29
Total	3.34	0.58	69	22.56	4.24	53

Note. Means with different subscripts within a column differ significantly at $p < .05$ in the Tukey significant difference comparison.

An analysis of variance (ANOVA) was conducted to examine whether the FSAs' high school achievement varied among the types of study hall programs. All 69 FSAs reported their high school GPA, however only 53 reported an ACT score. Because the number of participants differed for these two measures of achievement, a separate ANOVA was conducted for each one.

There was a significant difference in high school GPA among the three study hall programs; $F(2, 66) = 5.36, p < 0.01$. A post-hoc Tukey test indicated that FSAs in the TSH program had a higher mean high school GPA ($M = 3.53, SD = 0.49$) compared to those in the OBSH program ($M = 3.03, SD = 0.48$). The mean difference was 0.50, $SE = 0.15, (p < 0.01)$. The

mean GPA of FSAs in the OBSH-Plus group ($M = 3.34$, $SD = 0.58$) did not differ significantly from the mean GPA of FSAs in either the TSH or OBSH groups.

A separate ANOVA comparing the FSAs' mean high school GPA of the TSH program to the mean high school GPA of the combined OBSH and OBSH-Plus programs indicated a significant difference; $F(1, 67) = 6.58$, $p < 0.05$. The mean high school GPA for TSH FSAs was $M = 3.53$, $SD = 0.49$, compared to $M = 3.19$, $SD = 0.55$ for FSAs in the OBSH and OBSH-Plus programs combined.

The FSAs' ACT scores differed significantly across study hall programs; $F(2, 50) = 8.61$, $p < 0.001$. A post-hoc Tukey test indicated that FSAs in the TSH program had significantly higher mean ACT scores ($M = 25.50$, $SD = 4.16$) compared to those in the OBSH program ($M = 20.23$, $SD = 2.05$). The mean difference was 5.27 , $SE = 1.31$, ($p < 0.001$). The mean ACT score of FSAs in the OBSH-Plus group ($M = 22.56$, $SD = 4.24$) did not differ from those in either group.

Another ANOVA was conducted comparing the FSAs' mean ACT scores of the TSH program to the mean ACT scores of the combined OBSH and OBSH-Plus programs. There was a significant difference in mean ACT scores between the TSH program and the combined OBSH and OBSH-Plus programs; $F(1, 51) = 14.03$, $p < 0.001$. The mean ACT scores for TSH FSAs was $M = 25.50$, $SD = 4.16$, compared to $M = 21.52$, $SD = 3.58$ for FSAs in the OBSH and OBSH-Plus programs combined.

In summary, the FSAs in the OBSH and the OBSH-Plus were comparable in terms of ethnicity and high school achievement, but they differed significantly from the FSAs in the TSH program. This unexpected difference for the TSH FSAs did not allow for a meaningful comparison between the TSH format and either of the OBSH formats. Therefore, the decision

was made to focus here-on-in on possible differences in first semester SRL and achievement between the two types of OBSH programs.

OBSH Study Hall Programs

The two OBSH study hall programs were fairly similar in their management, as outlined by the general structure of OBSH (University of Tennessee, 2005). In both programs, this involved an academic advisor or learning specialist meeting weekly with each FSA to plan specific goals or objectives – readings, assignments, and/or studying for their courses – for each day of study hall. Student-athletes were to write objectives in their student planner. The time that FSAs attend study hall varies, but generally they attend either during the day between classes or in the evening after practice and dinner. FSAs meet with an academic mentor at study hall, who assists them by proofreading assignments, helping with studying, and keeping them on task. When FSAs have completed all of their objectives for the day, they are dismissed from study hall. The incentive in an OBSH program is that, rather than being required to spend a set period of time regardless of how much work they have to complete (as required in a TSH program), FSAs are permitted to leave once their work is completed. This results in more time for other activities and presumably rewards focus. FSAs are also able to work on their objectives prior to study hall, which enables them to spend even less time in study hall.

In hopes of developing academic success strategies throughout the first semester, FSAs at the OBSH-Plus institution ended their weekly meetings with their academic advisor or learning specialist by reviewing a different academic success strategy. This began with their first weekly meeting in the second week of the semester and continued for the remainder of the semester with the exceptions of Week 8 (because of Fall break) and Week 14 (Thanksgiving break). The

instruction typically lasted between two and five minutes each week, depending on the depth of the content. This set of activities was not included for FSAs at the OBSH institution.

Topics were chosen based on the time of the semester and were provided by the learning specialist at the OBSH-Plus institution. Early topics focused on note-taking and study strategies so that the FSAs could develop these skills early in the semester. Writing strategies were introduced shortly after the first round of exams and before most classes had lengthier assignments due. Mnemonics strategies were introduced to add to the tools that had been previously taught in hopes of adding to the FSAs' writing and studying skills. The instruction on transfer of learning, self-efficacy, and SRL were introduced late in the semester to assist FSAs in understanding how the strategies they had learned could help them moving forward in their educational careers. Finally, during the last week of classes, before final exam week, strategies about preparing for final exams were discussed. The academic success strategy topics are listed by week in Table 3.3.

Table 3.3. Academic Success Strategy Topics by Week

Week #	Topic	Week #	Topic
2	Introduction: General information about mastery of new skills and practice	10	Mnemonics – Part 2: Active studying, keyword locking, and picture mapping
3	Reading college textbooks	11	Mnemonics – Part 3: Active studying, rhyming repetition, and acronyms
4	Taking good lecture notes	12	Transfer of learning & how it can help
5	Studying for exams	13	Self-efficacy & how it can help
6	Tips for writing essays/papers	15	Self-regulated learning & benefits
7	Gathering and using quality sources	16	Studying for final exams
9	Mnemonics – Part 1: Introduction to mnemonics and useful “note-taking”		

Instruments

Self-regulated Learning was measured with scales from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991, 1993). The MSLQ “is a self-report instrument designed to assess college students’ motivational orientations and their use of different learning strategies for a college course” (Pintrich et al., 1991, p. 3). Each item involves participants responding to how true the statement is for them on a 1-7 scale, from 1 (*not at all true of me*) to 7 (*very true of me*).

The MSLQ scales used in this study were: self-efficacy for learning and performance; cognitive strategies, including rehearsal, elaboration, organization, and critical thinking; and metacognitive self-regulation, encompassing planning, monitoring, and regulating. Studies with non-athlete college students have shown that these scale scores are generally internally consistent; alphas ranged from .64 to .93 (Duncan & McKeachie, 2005). Evidence of scores’ validity come from Pintrich et al. (1993); Academic Self-efficacy ($r = 0.41$) and Metacognitive Strategies ($r = 0.30$) were correlated significantly with students’ standardized course grade. While Pintrich et al. (1993) did not aggregate the Cognitive Strategy sub-scales, they did find that three of the four Cognitive Strategy sub-scales – Elaboration ($r = 0.22$); Organization ($r = 0.17$); and Critical Thinking ($r = 0.15$) –were also correlated significantly with course grades; Rehearsal ($r = 0.05$) was not. In contrast to Pintrich et al. (1993), Wolters (2004) aggregated the four cognitive strategies sub-scales and reported a significant correlation between course grade and cognitive strategy use ($r = 0.11$).

For the current study the wording of items was altered slightly, in line with the modification by Kitsantas, Winsler, and Huie (2008). Specifically, the phrase “in this course” was changed to “in my courses,” so that the FSAs would answer each item in terms of their

entire course load. The original MSLQ items for the scales used in the current study are shown in Appendix A, and the scales with the modified wording are shown in Appendix B.

Academic Self-Efficacy. The measure of academic self-efficacy scale is comprised of eight items (Pintrich et al., 1991). The MSLQ developers report a Cronbach's alpha of 0.93 with college students (Duncan & McKeachie, 2005). In the present study the Cronbach's alpha reliability was 0.89 for Time 1 and 0.90 for Time 2.

Cognitive Strategies. FSAs' use of cognitive strategies was measured with 19 items. Of those, there were four items about rehearsal, six items about elaboration, four items about organization, and five items about critical thinking. Wolters & Yu (1996) reported Cronbach's alphas for the cognitive strategy scale ranging from 0.79 to 0.87 (from Time 1 to Time 2 of their study). For the present study, Cronbach's alpha was 0.85 for Time 1 and 0.93 for Time 2.

Metacognitive control strategies. FSAs' use of strategies to control their cognition was measured with 12 items. The MSLQ developers report a coefficient alpha of 0.79 (Duncan & McKeachie, 2005). The Cronbach's alpha reliability for metacognitive strategies in the present study was 0.71 for Time 1 and 0.81 for Time 2.

High school achievement. FSAs self-reported their high school GPA and ACT scores at Time 1.

First semester academic performance. FSAs were asked to self-report their first-semester GPA and credit hours earned at Time 2.

Procedure

In the first week of the Fall semester (Time 1) the freshman FSAs were instructed by their athletics academic advisor to attend a meeting where information about the study was

presented. Participants were informed of the purpose of the study and provided with instructions for completing the questionnaire. Those who provided informed consent then completed the SRL scales online during the second or third week of the Fall semester (Time 1). The FSAs also provided information about their ethnicity and their high school achievement.

The SRL questionnaire was administered online to these FSAs again during the second or third week of the spring semester (Time 2), following a full semester of participating in their institution's study hall program. Participants also reported their Fall semester GPA and the number of credit hours earned in the Fall semester. The FSAs completed the questionnaires in a monitored setting at their institution during both Time 1 and Time 2. Their responses were private (i.e., their computer screens were not visible to others).

RESULTS

Time 1

Descriptive Statistics and Correlations

Table 4.1 shows the descriptive statistics at Time 1 for the three measures of self-regulated learning (SRL): academic self-efficacy, cognitive strategy use, and metacognitive strategy use. These statistics are presented for the entire sample ($N = 43$), in addition to separately by study hall program.

Table 4.1. Descriptive Statistics for FSAs' Self-Regulated Learning at Time 1

	Objective-based Study Hall		Objective-based Study Hall-Plus		Total	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
Self-efficacy	5.29	1.05	4.95	0.84	5.11	0.95
Cognitive Strategies	4.66	0.77	4.41	0.60	4.53	0.69
Metacognitive Strategies	4.46	0.84	4.36	0.50	4.41	0.68

Pearson correlational analyses were conducted across the three SRL measures at Time 1 and two measures of high school academic achievement (i.e., high school GPA and ACT scores). All three SRL measures were positively correlated with each other at the $p < 0.01$ level. The correlation between self-efficacy and metacognitive strategy use ($r = 0.39$) was moderate, whereas the correlations between cognitive strategy use and self-efficacy ($r = 0.60$) and between cognitive strategy use and metacognitive strategy use ($r = 0.77$) were strong. These results are shown in Table 4.3. Neither of the high school academic achievement variables was correlated significantly with the SRL variables.

Table 4.2. Correlations Between Self-Regulated Learning Variables and Prior Achievement at Time 1

Variables	1.	2.	3.	4.	5.	6.
1. Self-efficacy	-					
2. Cognitive Strategies	0.60*	-				
3. Metacognitive Strategies	0.39*	0.77*	-			
4. HS GPA	0.08	-0.01	0.05	-		
5. ACT	0.00	-0.05	0.25	0.62*	-	

* $p < 0.01$; $n = 43$, except for correlations with ACT where $n = 29$.

Differences in FSAs' Self-Regulated Learning Entering First Semester

A multivariate analysis of variance (MANOVA) indicated there was no significant difference in FSAs' SRL between programs; $F(3, 39) = 0.64, p = 0.59$. That is, academic self-efficacy, use of cognitive strategies, and use of metacognitive strategies between the FSAs in the OBSH and OBSH-Plus programs were not significantly different from each other at Time 1.

Time 2

Descriptive Statistics and Correlations

The descriptive statistics for all variables at the 2nd-to-3rd week of the spring semester (Time 2) are shown in Table 4.3. The variables include, specifically, (a) measures of self-regulated learning (SRL): academic self-efficacy, cognitive strategy use, and metacognitive strategy use at Time 2, and, (b) measures of academic achievement at Time 2: credit hours earned in the fall semester and fall semester GPA.

Table 4.3. Descriptive Statistics for FSAs' Self-Regulated Learning and Achievement at Time 2

	Objective-based Study Hall		Objective- based Study Hall-Plus		Total	
	Mean	<i>SD</i>	Mean	<i>SD</i>	Mean	<i>SD</i>
<u>Time 2 (Semester End)</u>						
Self-efficacy	4.84	0.97	5.23	0.91	5.04	0.91
Cognitive Strategies	4.27	0.87	4.76	0.93	4.52	0.93
Metacognitive Strategies	4.12 _a	0.66	4.76 _b	0.76	4.44	0.78
Credit Hours passed	14.14	4.16	13.68	1.62	13.91	3.10
GPA	2.75	0.42	2.88	0.67	2.82	0.56

Note. Means with different subscripts within a row differ significantly at $p < .05$ in the Tukey significant difference comparison.

Pearson correlational analyses were conducted across the three SRL scales in Time 1 and Time 2, as well as the academic achievement variables. These results are shown in Table 4.4. Specific to Time 2, all three SRL scales were found to have strong positive correlations with each other (r s range from .67 - .87; p s < 0.01). A moderate positive correlation ($r = .46, p < .01$) was found between Fall semester GPA and Time 2 self-efficacy. Additionally, autocorrelations between Time 1 and Time 2 SRL variables were significant (r s range from .40 - .56, p s < 0.01).

Table 4.4. Correlations between Time 1 and Time 2 Self-Regulated Learning and Achievement Variables

	1.	2.	3.	4.	5.	6.	7.	8.
<u>Time 1</u>								
1. Self-efficacy	-							
2. Cognitive Strategies	0.60*	-						
3. Metacognitive Strategies	0.39*	0.77*	-					
<u>Time 2</u>								
4. Self-efficacy	0.45*	0.44*	0.36*	-				
5. Cognitive Strategies	0.27	0.56*	0.42*	0.68*	-			
6. Metacognitive Strategies	0.15	0.42*	0.40*	0.67*	0.87*	-		
7. Fall Semester GPA	0.28	0.02	0.04	0.46*	0.09	0.13	-	
8. Credit Hours Earned	0.24	0.30	0.34*	0.09	0.06	0.06	0.05	-

$p < 0.05$

Differences in FSAs' Self-Regulated Learning After a Semester of Study Hall

A MANOVA with Time 2 data indicated a statistically significant difference among FSAs' SRL by study hall program ($F(3, 39) = 3.45, p < 0.05, \text{partial } \eta^2 = 0.21$). Follow-up ANOVA results indicated that, at Time 2, there was a significant difference between programs in FSAs' metacognitive strategy use ($F(1, 41) = 8.66, p < 0.01, \text{partial } \eta^2 = 0.17$). There was greater use of metacognitive strategies at Time 2 for the OBSH-Plus FSAs ($M = 4.76, SD = 0.76$) compared to the OBSH FSAs ($M = 4.12, SD = 0.66$). FSAs' academic self-efficacy ($F(1, 41) = 1.83, p = 0.18, \text{partial } \eta^2 = 0.04$) and cognitive strategy use ($F(1, 41) = 3.28, p = 0.08, \text{partial } \eta^2 = 0.07$) were not statistically significantly different between programs. However, there was a trend for OBSH-Plus FSAs' academic self-efficacy and use of cognitive strategies to be higher than those of the OBSH FSAs' (recall that levels of self-efficacy and cognitive strategy use were

similar for both groups at Time 1). These trends were in the same direction as the significant difference between programs in metacognitive strategy use.

FSAs' First-Semester Academic Achievement

An ANOVA was conducted to examine the differences between the FSAs' first-semester GPA at the two institutions. There was no significant difference indicated ($F(1, 41) = 0.53, p = 0.47$).

DISCUSSION

Overview

The present study originally sought to determine whether there were differences among FSAs' SRL and first-semester achievement depending on the type of study hall—traditional (TSH), objective-based (OBSH) or objective-based plus weekly academic success strategies (OBSH-Plus)—implemented at their institution. The SRL measures included self-efficacy, use of cognitive strategies, and use of metacognitive strategies.

After comparing the differences in ethnicity and high school academic achievement (i.e., high school GPA and ACT scores) it was determined that the FSAs in the OBSH and the OBSH-Plus were comparable in these areas, however they differed significantly from the FSAs in the TSH program. This unexpected difference for the TSH FSAs did not allow for a meaningful comparison between the TSH program and either of the OBSH programs. Therefore, the decision was made to focus solely on possible differences in first semester SRL and academic achievement between the two OBSH programs.

The academic experience of FSAs in an objective-based study hall can be characterized generally by a focus on completing specific objectives each day rather than focusing on spending a specific length of time in a study hall setting. Both OBSH institutions implemented this study hall format, with one adding in weekly academic success strategy instruction in individual meetings between each FSA and an academic advisor or learning specialist.

It was hypothesized that, at the end of the first semester, FSAs who received weekly academic success strategy instruction in addition to participating in an OBSH would have greater SRL and academic achievement than those who participated in an OBSH only. The results of this

study supported the hypothesis for metacognitive strategy use, and suggest that the addition of an educative component – instruction in academic success strategies – may be beneficial in developing FSAs’ use of metacognitive strategies at institutions which implement an OBSH program.

Metacognitive strategies include planning, goal setting, monitoring progress, and regulating activities to correct behavior while performing a task. Therefore, the significant differences in the use of metacognitive strategies by the OBSH-Plus FSAs could, over time (i.e., beyond one semester), help to foster FSAs’ self-efficacy and use of cognitive strategies, as well as their academic achievement. As mentioned earlier, Zimmerman’s (2002) model of self-regulated learning includes three phases: the forethought phase, the performance phase, and the self-reflection phase. The forethought phase, which includes processes that occur before learning, involves goal setting, strategic planning, and self-motivation. The performance phase, which includes processes that occur during learning, involves self-control, self-observation, and motivation (e.g., persistence). The self-reflection phase, which includes processes that occur after learning, involves self-judgment (e.g., self-evaluation, causal attribution) and self-reaction (Zimmerman, 2002; Zimmerman & Schunk, 2011). These phases are thought to be cyclical in that self-reflections affect future forethought processes. When students believe that they have been successful in accomplishing their goals or identifying the changes needed for them to accomplish their goals, their self-efficacy toward eventually attaining their goals increases (Schunk, 1996). If they feel that they failed, students’ self-efficacy and intrinsic interest often decrease, which leads to self-doubt and avoidance.

Engaging in tasks that monitor performance and reacting in a way that cultivates efforts and improves achievement (i.e., continued use of metacognitive strategies) should, over time,

lead to higher self-efficacy and cognitive skills for the FSAs at the OBSH-Plus institution compared to the FSAs at the OBSH institution. Improvements in self-efficacy and cognitive skills should cultivate greater achievement (Schunk et al., 2008).

Though not all significantly different from the FSAs at the OBSH institution, the higher self-efficacy and use of cognitive and metacognitive strategies reported at Time 2 by the FSAs at the OBSH-Plus institution are consistent with previous studies which focused on the development of college students' SRL (Hofer & Yu, 2003; Hu & Driscoll, 2013; Tuckman & Kennedy, 2011; Wibrowski et al., 2017). These results can be used to support programming (e.g., summer bridge, courses, workshops/seminars, academic counseling) aimed at developing these areas for all college students, but especially for similar populations such as first-generation college students, students who are part of an ethnic minority, and students with low incoming academic achievement.

Similarly, these results provide additional support for the findings by Tebbe and Petrie (2007) in which the teaching of learning strategies through a 1-credit semester-based college course appeared to mitigate the differences in preparedness between non-athlete students and student-athletes. Whether through a course for credit, a summer bridge workshop/seminar, or weekly academic counseling, the training in academic success strategies for student-athletes, some of whom could likely benefit from instruction in cognitive and metacognitive learning strategies, appears to show great promise in supporting the academic success of FSAs, at least in the first semester of college.

Limitations and Directions For Future Research

The design of this study does not enable statements about causality. That is, it cannot be concluded that OBSH paired with academic success strategy instruction results in improved academic self-efficacy and/or use of cognitive or metacognitive strategies by FSAs. However, it would be possible to conduct a true experiment to further explore this possibility.

It would have been beneficial to explore whether type of study hall program was related to FSAs' academic achievement, both in the spring semester and through their second year of college. It would have also been beneficial to follow the SRL and academic performance of FSAs throughout their academic careers and, ultimately, whether or not they graduated from their original institution. This may have provided greater clarity of the results of FSAs beginning their college years as participants in these types of study hall programs.

The addition of more institutions for each study hall type would have been helpful in producing a larger sample size for the study. The small sample size restricts the ability to detect differences between the programs. In striving for a more closely comparable sample, a greater focus could be placed on the participants' ethnicity and high school achievement in the selection of institutions for the study.

One factor that future studies could consider including is whether or not FSAs are first-generation college students. College students who have a parent who attended college may have more knowledge from which to draw to help develop their children's cognitive and metacognitive development, while others may not have had this resource (Schunk et al., 2008). It would be beneficial to determine the impact that these study hall programs may have on first-generation FSAs.

An alternative to the brief academic success strategy instruction for FSAs which could provide support for their long-term academic success is for the FSAs to take a study skills course in their first semester of college to receive instruction that could be helpful for their long-term academic success in addition to participating in an OBSH program. Those in the present study who may not have taken the instruction as seriously may have had to do so in a course setting in order to earn a desired grade, which may have resulted in more SRL that could have been helpful in that same semester and in future semesters.

There are many ways in which one could improve the study skills component for future studies in an effort to increase the use of, and possibly internalization of, cognitive and metacognitive strategies. One example is to include a self-reflection component – asking FSAs if they tried any of the strategies used and how helpful he found it/them (Wolters, 2003). Another example is to encourage self-monitoring or self-observation – having FSAs report at the end of each day of study hall the strategies that they used and how helpful they were to them, which could be used to identify what strategies are working and which ones should be altered (Zimmerman, 2000). Additionally, providing individual feedback to each FSA from their academic advisor or learning specialist could increase self-efficacy, ensure understanding, and/or ensure that the FSAs are using the strategies correctly (Wolters & Benson, 2013).

It would also be beneficial to include some questions regarding the FSAs' self-concept and whether they identify more as a student or as an athlete and evaluating their SRL and academic performance based on those results. Effort and persistence play a huge role in a college student's success, beyond what can be measured in the current study.

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APPENDIX A

Motivated Strategies for Learning Questionnaire (MSLQ)

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)*. Ann Arbor: University of Michigan, National Center for Research to Improve Postsecondary Teaching and Learning.

Please rate each statement as it best describes your attitudes/behaviors based on a scale ranging from 1-7 where 1=Not at all true of me and 7 = Very true of me.

Self-Efficacy for Learning and Performance

1. I believe I will receive an excellent grade in this class.
2. I'm certain I can understand the most difficult material presented in the readings for this course.
3. I'm confident I can understand the basic concepts taught in this course.
4. I'm confident I can understand the most complex material presented by the instructor in this course.
5. I'm confident I can do an excellent job on the assignments and tests in this course.
6. I expect to do well in this class.
7. I'm certain I can master the skills being taught in this class.
8. Considering the difficulty of this course, the instructor, and my skills, I think I will do well in this class.

Cognitive Strategy Use

1. When I study for this class, I practice saying the material to myself over and over.
2. When studying for this class, I read my class notes and the course readings over and over again.
3. I memorize key words to remind me of important concepts in this class.
4. I make lists of important terms for this course and memorize the lists.
5. When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.
6. I try to relate ideas in this subject to those in other courses whenever possible.
7. When reading for this class, I try to relate the material to what I already know.
8. When I study for this course, I write brief summaries of the main ideas from the readings and the concepts from the lectures.
9. I try to understand the material in this class by making connections between the readings and the concepts from the lectures.
10. I try to apply ideas from course readings in other class activities such as lecture and discussion.
11. When I study the readings for this course, I outline the material to help me organize my thoughts.
12. When I study for this course, I go through the readings and my class notes and try to find the most important ideas.
13. I make simple charts, diagrams, or tables to help me organize course material.
14. When I study for this course, I go over my class notes and make an outline of important concepts.

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

Metacognitive Self-Regulation

1. During class time, I often miss important points because I'm thinking of other things.
2. When reading for this course, I make up questions to help focus my reading.
3. When I become confused about something I'm reading for this class, I go back and try to figure it out.
4. If course materials are difficult to understand, I change the way I read the material.
5. Before I study new course material thoroughly, I often skim to see how it is organized.
6. I ask myself questions to make sure I understand the material I have been studying in this class.
7. I try to change the way I study in order to fit the course requirements and instructor's teaching style.
8. I often find that I have been reading for class but don't know what it was all about.
9. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.

10. When studying for this course I try to determine which concepts I don't understand well.
11. When I study for this class, I set goals for myself in order to direct my activities in each study period.
12. If I get confused taking notes in class, I make sure I sort it out afterwards.

APPENDIX B

Adapted Motivated Strategies for Learning Questionnaire (MSLQ)

The following questionnaire asks you about your study habits, your learning skills, and your motivation for work in your college courses. THERE ARE NO RIGHT OR WRONG ANSWERS TO THIS QUESTIONNAIRE. THIS IS NOT A TEST. We want you to respond to the questionnaire as accurately as possible, reflecting your own attitudes and behaviors typical of you in your courses.

This survey was adapted from the Motivated Strategies for Learning Questionnaire developed by Paul R. Pintrich, David A.F. Smith, Teresa Garcia, and Wilbert McKeachie from the National Center for Research to Improve Post-Secondary Teaching and Learning (1991).

Thank you for your participation.

MSLQ (please rate each statement as it best describes your attitudes/behaviors based on a scale ranging from 1-7 where 1=Not at all true of me and 7 = Very true of me)

Self-Efficacy for Learning and Performance

1. I believe I will receive an excellent grade in my courses.
2. I'm confident I can understand the most difficult material presented in the readings for my courses.
3. I'm certain I can understand the basic concepts taught in my courses.
4. I'm confident I can understand the most complex material presented by the instructors in my courses.

5. I'm confident I can do an excellent job on the assignments and tests in my courses.
6. I expect to do well in my courses.
7. I'm certain I can master the skills being taught in my courses.
8. Considering the difficulty of my courses, the instructors, and my skills, I think I will do well in my courses.

Cognitive Strategy Use

1. When I study for my courses, I practice saying the material to myself over and over.
2. When studying for my courses, I read my class notes and the course readings over and over again.
3. I memorize key words to remind me of important concepts in my courses.
4. I make lists of important terms for my courses and memorize the lists.
5. When I study for my courses, I pull together information from different sources, such as lectures, readings, and discussions.
6. I try to relate ideas from a subject to those in other courses whenever possible.
7. When reading for my courses, I try to relate the material to what I already know.
8. When I study for my courses, I write brief summaries of the main ideas from the readings and the concepts from the lectures.
9. I try to understand the material in my courses by making connections between the readings and the concepts from the lectures.
10. I try to apply ideas from course readings in other class activities such as lecture and discussion.

11. When I study the readings for my courses, I outline the material to help me organize my thoughts.
12. When I study for my courses, I go through the readings and my class notes and try to find the most important ideas.
13. I make simple charts, diagrams, or tables to help me organize course material.
14. When I study for my courses, I go over my class notes and make an outline of important concepts.
15. I often find myself questioning things I hear or read in my courses to decide if I find them convincing.
16. When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.
17. I treat course material as a starting point and try to develop my own ideas about it.
18. I try to play around with ideas of my own related to what I am learning in my courses.
19. Whenever I read or hear an assertion or conclusion in class, I think about possible alternatives.

Metacognitive Strategy Use

1. During class time, I often miss important points because I'm thinking of other things.
2. When reading for my courses, I make up questions to help focus my reading.
3. When I become confused about something I'm reading for my courses, I go back and try to figure it out.
4. If course materials are difficult to understand, I change the way I read the material.
5. Before I study new course material thoroughly, I often skim to see how it is organized.

6. I ask myself questions to make sure I understand the material I have been studying in class.
7. I try to change the way I study in order to fit the course requirements and instructor's teaching style.
8. I often find that I have been reading for class but don't know what it was all about.
9. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.
10. When studying for my courses I try to determine which concepts I don't understand well.
11. When I study for my courses, I set goals for myself in order to direct my activities in each study period.
12. If I get confused taking notes in class, I make sure I sort it out afterwards.