4-15-2010

Effects of Text Messaging on Class Punctuality of At-Risk College Student-Athletes

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Effects of Text Messaging on Class Punctuality of At-Risk College Student-Athletes

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EFFECTS OF TEXT MESSAGING ON CLASS PUNCTUALITY OF AT-RISK COLLEGE STUDENT-ATHLETES

by

Valorie Lott

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Science

Major: Instruction and Curriculum Leadership

University of Memphis

May 2010

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Abstract

This study examines the effect of text messaging on student-athlete class punctuality and overall academic progress. Participants included three male, college student-athletes at a midsouthern university. The students had a history of tardiness to class. The participants sent text messages to verify their class attendance to their academic counselor. The researcher used course grades and professor comments to evaluate academic progress. Using a multiple baseline across participants, the study demonstrated an improvement in student-athlete class punctuality. For one of the two participants, there was an improvement in academic progress. The procedures and results were supported by the professors of the courses in which the students were enrolled.

TABLE OF CONTENTS

INTRODUCTION

In 2003, the National Collegiate Athletic Association (NCAA) enacted an academic reform package that heavily emphasized student-athlete graduation on college campuses. The first portion of academic reform centered on student-athlete progress-toward-degree. The 2003 NCAA reforms also implemented what is known as academic progress rate (APR). The purpose of APR is to "improve student academic success, strengthen campus responsibility and increase overall accountability" (NCAA, 2004). The APR takes into consideration eligibility, retention, and graduation to evaluate the progress of each student-athlete and sport. This calculation provides a much clearer picture of the academic culture in each sport semester by semester. Athletic teams that do not attain satisfactory APR scores are subject to penalties that include restrictions of scholarships, recruiting and practice time, postseason competition, and in extreme cases NCAA membership status for the institution (NCAA, 2004). With these changes to NCAA rules, athletic academic support services have had to increase focus on the at-risk student population.

As dictated by the NCAA, college campuses must provide academic services for student-athletes. These services can include but are not limited to monitored study hall, academic advising, tutoring/academic mentoring, academic counseling, and monitoring of academic progress including class attendance and class tardiness. Although these at-risk students excel in their respective sports, they are often first-generation college students, educationally underprepared, have greater financial constraints, and have less social and familial support than other students (Vivian, 2005). As a result, many of these student-athletes begin their college experience defined as at-risk for academic failure.

Literature Review

Applied behavior analysis is an appropriate approach to support academic behaviors and environments that will lead to student-athlete graduation. Current behavioral research is virtually non-existent in the field of athletic academic services. In order to gain a better understanding of how to approach the use of applied behavior analysis in athletic academics, this portion of the literature review examines current behavioral research relating to college student academics and college athlete sport skills.

Although there is not published behavioral research on athletic academic services, there are valuable studies relating to both college student academics and college athlete sport skills. The available research on college academics centers on effects of student performance when using different teaching methods (Born et al., 1972; Carroll & Williams, 2007; Heward, 2004; Lloyd, Garlington, Lowry, Burgess, Euler, & Knowlton, 1972; Malanga & Sweeney, 2008; Marmolejo, Wilder, & Bradley, 2004; Ryan & Hemmes, 2005; Saville, Zinn, Neef, Van Norman, & Ferreri, 2006). Of these studies, several investigate the effects of lectures as compared to other teaching strategies (Born et al., 1972; Lloyd et al., 1972; Saville et al., 2006). Others examine student engagement, behavior, and success by examining classroom activities (Bicard et al., 2008; Carroll & Williams, 2007; Malanga et al., 2008; Marmolejo et al., 2004; Ryan et al., 2005).

The independent variables in the studies on college academics varied, while the dependent variables were similar. All but one of the studies used quiz or exam performance as the dependent variable (Born et al., 1972; Carroll & Williams, 2007; Malanga & Sweeny, 2008; Marmolejo et al., 2004; Ryan et al., 2005; Saville et al., 2006). Only one study used class attendance as the dependent variable (Lloyd et al.,

1972). Marmolejo et al. (2004) and Malanga et al. (2008) used response cards as an intervention. Methods of presenting lecture materials were also independent variables; group versus individual work (Carroll & Williams, 2007), comparison of discussion and *the Keller* method of teaching (Born et al., 1972), and lecture versus *interteaching* (Saville et al., 2006). Lloyd et al. (1972) examined the effectiveness of course credit for attending class, instructors giving relevant information for next quiz given in class, and admission to class contingent on completing certain assignments as contingencies for attending class. Ryan et al. (2005) implemented and compared the independent variables of receiving points or no points for homework submission. The settings of the college academic behaviors all take place in both undergraduate (Born et al., 1972; Carroll & Willams, 2007; Lloyd et al., 1972; Malanga & Sweeny, 2008; Marmolejo et al., 2004; Saville et al., 2006) and graduate courses (Bicard et al., 2008; Ryan et al., 2005; Saville et al., 2006). The number of students included in the research varies; some studies investigate smaller classes of 50 students or less (Malanga et al., 2008; Marmolejo et al., 2004; Ryan et al., 2005; Saville et al., 2006), while others include large classes that include subjects of 50 or more (Born et al., 1972; Carroll & Williams, 2007; Lloyd et al., 1972).

For the studies that investigated the effect of intervention on quiz and test scores, student performance improved (Born et al., 1972; Carroll & Willams, 2007; Malanga & Sweeny, 2008; Marmolejo et al., 2004; Saville et al., 2006). Carroll and Willams (2007) reported that group learning contingencies were more effective across all three contingencies for low performing than for high performing students. Alternatives to lecture based instruction also proved to be especially. Contingencies for attending class

(Lloyd et al., 1972) and homework submission (Ryan et al., 2005) too proved to be effective when working with college students.

Behavioral research on college student-athlete sport skill is also an important area of investigation. Available studies explore interventions in NCAA college football (Smith & Ward, 2006; Ward & Carnes, 2002), men and women's basketball (Kladopoulos & McComas, 2001; Mace, Lalli, Shea, & Nevin, 1992; Roane, Kelley, Trosclair, & Hauer, 2004; Vollmer & Bourret, 2000), and soccer (Ziegler, 1994). All of these studies collect data on college student-athlete athletic performance on the field or on the court.

In the athletic skill studies, the majority of the dependent variables used were improvement in sport skills (Kladopoulos & McComas, 2001; Smith & Ward, 2006; Vollmer & Bourret, 2000; Ward & Carnes, 2002; Ziegler, 1994). Two studies looked at rates of response to diversity and rates of reinforcement (Mace et al., 1992; Roane et al., 2004). Roane et al. (2004) is a partial replication of the Mace et al. (1992). Roane et al. (2004) investigates women's basketball teams while Mace et al. (1992) uses solely men's basketball. Both studies use the NCAA basketball tournament as the setting for collecting data. Common throughout the literature is the use of goal setting (Smith & Ward, 2006; Ward & Carnes, 2002) and praise (Kladopoulos & McComas, 2001; Smith & Ward, 2006; Vollmer & Bourret, 2000) as interventions. Responses to adversity, rate of reinforcement, and calling time-out are independent variables used in Mace et al. (1992) and Roane et al. (2004). Ziegler (1994) looks at an attentional training program that includes shift exercises and skills as interventions. The athletic skill studies either investigate small subject pools or entire teams. Kladopoulos and McComas (2001), Smith and Ward (2006), Ward and Carnes (2002), and Ziegler (1994) all use five or

fewer subjects. Mace et al. (1992), Roane et al. (2004), and Vollmer and Bourret (2000) all use entire basketball teams in their research; 14 men's teams, 6 women's teams, and 26 men's and women's teams respectively.

Due to the nature of learning and the inability to demonstrate experimental control through reversal, the majority of the studies in both college academics and athletic sport skills used multiple baseline and multielement designs. Multiple baseline designs varied across behaviors (Born et al., 1972; Carroll & Willams, 2007; Marmolejo, 2004; Smith & Ward, 2006; Ward & Carnes, 2002), participants (Born et al., 1972; Kladopoulos & McComas, 2001; Smith & Ward, 2006;), and settings (Born et al., 1972; Lloyd et al., 1972). Multielement designs were used in combination with other designs (Carroll & Williams, 2007) and alone (Mace et al., 1992; Roane et al., 2004; Saville et al., 2006; Vollmer & Bourret, 2000). Both Ryan et al (2005) and Malanga & Sweeney (2008) used an alternating treatment design in their college academic studies.

The interventions strongly affected sport skill performance as well. Player performance improved in practice (Kladopoulos & McComas, 2001; Smith & Ward, 2006; Ward & Carnell, 2002;) and also generalized to game situations. Vollmer and Bourret (2000) demonstrated that the matching equation closely predicted 2- and 3-point shot allocation, which strengthens the use of praise in athletic settings as well. Of all the athletic skill studies, only one study did not demonstrate a functional relation. Roane et al. (2002) did not demonstrate a replication of Mace et al. (1992); the momentum effect was less frequent for women's play as opposed to men's game performance.

Non-behavioral studies concerning student-athlete academics focus on predictive studies and student-athlete perceptions. While the results from these studies are valuable,

they do not address specific interventions that address deficient academic skills. However, academic support professionals should consider these perceptions and beliefs when applying interventions to the student-athlete population.

Several factors have been identified as predictive of student-athletes success in college. Gaston-Gayles (2004) examined the use of athletic and academic motivation as a predictor for academic success. The participants in the study were 211 college student-athletes at a Division I university in the Midwest. The study demonstrated that ACT score, ethnicity, and academic motivation were significant after controlling for background characteristics. Beamon and Bell (2006) found in a case study that included an entire Division I football team that African American student-athletes had less emphasis on academics during their socialization process. Further, that the level of academic focus during socialization affected academic behavior in college. Relationships demonstrated that the more African American parents emphasize academics over athletics, the better performance a student-athlete will have in the classroom.

Potuto and O'Hanlon (2007) surveyed student-athletes at 18 Division IA institutions to discover how college athletes feel about their experiences as students and how they assess those experiences. The survey had two purposes; first, to expand the information base concerning the student experience of student-athletes by asking them to describe and evaluate that experience. Second, the researchers hoped to the information would help professionals enhance the experiences of student-athletes. The survey found that student-athletes had positive perceptions of their overall college experiences and were committed to their college educations. Student-athletes reported that athletics contributed to their overall development in college. While students indicated that they needed strong

academic support systems to succeed in college, they felt limited in their time that they could devote to academics due to their athletic schedules. Student-athletes also enjoyed community and campus activities, but felt limited in their time available to participate in these activities. Although lack of time was reported as a problem in various parts of the survey, student-athletes reported that time spent in athletics was worthwhile.

Research has also been conducted on student-athlete and faculty relationships. Simons, Bosworth, Fujita, and Jensen (2007) found that 33% of student-athletes felt they were perceived negatively by professors and 51.9% felt they were perceived negatively by student peers. Only 15% of the 538 college student-athletes reported that they were perceived positively. African American college athletes at predominately White institutions reported that their academic achievement and confidence improved when they were encouraged by faculty (Comeaux, 2008).

The obvious limitation to the research included in the literature review is that none of the studies available investigate student-athlete performance in academically related tasks once students enter college, nor do the studies provide research on specific interventions to help improve deficient academic skills. Athletic academic departments on university campuses are constantly searching for effective ways to enhance and improve the student-athlete academic experience. Athletic departments are also interested in these interventions as means to improving APR scores and graduation rates. Behavior problems such as class attendance, classroom performance, and study hall behavior are all areas where intervention is needed.

Also important is that the available research does give some insight into some possible effective interventions when working with college student-athletes. Alternative

teaching methods have proven to be effective with non-athlete college students. Carroll (2005) reported that low performing students were affected more by the intervention than high performing students. Since many student-athletes struggle in the classroom, it would be worth investigating if interventions such as response cards and interteaching would be effective with student-athletes. Goal setting and praise prove to be valuable interventions in improving athletic skills. Given that student-athletes respond well to these interventions on the field or court, one could determine if these independent variables generalize into the classroom. Also significant is that student-athletes must be competitive in order to succeed in their sport, interventions such as goal setting create a competition against a student-athlete's him/herself or versus his/her peers. The use of technology in both the classroom and in the private lives on college students should also be considered when developing appropriate interventions for student-athletes.

Problem

Athletic academic professionals must be vigilant in developing best practices for all, but especially at-risk student-athletes. Student success in the classroom begins with simply attending class sessions. When the student is not attending at all or if the student is not punctual; the student falls behind in the classroom, misses important information, and demonstrates disrespect for the professor. As a result, when a student-athlete does not attend class, academics suffer and the student is also at-risk for loosing academic eligibility.

Research has also shown the effectiveness of text messaging on college classrooms and also in changing health behaviors. Villano (2007) reported on how college campuses are turning to text messaging in order to communicate with their students. Students are

informed of emergencies, special offers, shopping online, and tracking campus shuttles. Concerning behavior change, researchers analyzed fourteen studies published between January 1990 and March 2008 that utilized an intervention delivered via text messaging (Fjeldsoe, 2009). Eight of the studies evaluated reported statistically significant behavioral changes, five reported statistically non-significant positive trends, and one reported no changes (Fjeldsoe, 2009).

The use of cellular phones has increased over the past five years; this trend is obvious among the college student population. In 2005, Americans had 67.5 cellular phone subscriptions per 100 people. By 2008, Americans had 86.79 subscriptions per 100 people (ITU, 2009). Baron and Ling (2007) found that 88 to 96% of surveyed undergraduate college students used the text messaging feature on their cellular phones. The student-athlete participants use text messaging to communicate with their coaches and academic support staff. Coaches send reminders concerning practice and team meetings and academic support staff text grade requests and appointment reminders. Since college students currently use text messaging technology as a means of communication with their peers, coaches, and academic counselors; this would be an appropriate intervention to improve academic skills.

Purpose

The purpose of this study is to develop a successful intervention in aiding the struggles of at-risk collegiate student-athletes. At-risk student-athletes have difficulty meeting the academic expectations of college students. This struggle stems from many characteristics including class attendance, class punctuality, athletic vs. academic focus, and academic confidence. Research on this topic is limited, but athletic academic support

staffs continue to look for useful interventions; in this study the effects of text messaging on the class punctuality. If successful, athletic academic professionals and coaching staffs will be provided with an additional tool in aiding student-athlete development in the classroom.

Research Questions

This study will examine the following research questions: (1) What is the effect of text messaging on the class punctuality of high profile college student-athletes at a division 1 midsouthern university? (2) If class punctuality improves, does the student's academic performance increase?

Hypotheses

The student's class punctuality will improve between baseline conditions and the text messaging intervention. As a result of improved class punctuality, the student's grades will improve on exams, essays, and final course grades.

METHOD

Participants

The participants of this study were three African American male, student-athletes. For confidentiality purposes the participants will be referred to as MH, LS, and AG throughout the rest of the paper. All of the participants attend the same NCAA Division I university. The participants range in ages from 19 to 22 years old. All three students have had a history of class attendance issues such as tardiness and missing class altogether.

The participants have also been in danger of being ruled academically ineligible due to academic unpreparedness as well has consistent tardiness to class. All of the students have self-selected majors in a general studies degree which includes 42 hours of elective. The NCAA recently established the Facilitating Learning and Achieving Graduation (FLAG) program, which includes the Graduation Risk Overview (GRO) to help identify at-risk student-athletes. In order to define a student as at-risk, GRO considers academic progress, the role of academics in the student's life, the student's transfer status, his/her personal history, the student's sport (NCAA, 2009). Table 1 further explains the GRO risk assessment. According to the FLAG classification, MH has a score of 8 points, LS has 10 points, and AG has 9 points.

Each of the participants uses the services of the university's student-athlete academic support system. The services they use include study hall, tutoring appointments, and weekly meetings with their athletic academic counselor. All of these services are designed to address their at-risk status. Each of the participants spends 5 to 8 hours per week in study hall.

Table 1

GRO Academic Risk for Student-Athletes Post-Entry

Category	Weight	Variable(s)/Criteria
Academic	+2	Current cumulative GPA < 2.6 or current term GPA < 2.6 or educational disability diagnosed or academically ineligible within the past year or other locally identifiable red flag
Role of Academics	+1	Identifies strongly as an athlete, not as student
	+2	Academic effort lacking
	+1	Negative attitude toward major
Transfer	+1	Transferred into current institution
Personal History	+1	First-generation college student or student has low financial resources or student is homesick
	+1	Health, family, mental health or substance abuse issue
Sport	+1	Student in high profile sport at your school
	+2	Exhausted eligibility prior to graduation
	+1	Poor coach attitude toward academics or coaching change occurred or dissatisfied with athletics experience
Total		0-2 = low risk; 3-4 = moderate; 5+ = high

Setting

The setting is a NCAA Division I university located in the southern United States. The study took place during the first few minutes of each student's respective college classrooms. Data were collected during the university fall 2009 and spring 2010 semesters. The specific courses that were measured depended varied among the participants depending on their class schedule: for one student-athlete (MH) data were collected in Freshman English Composition and Analysis (ENGL 1020) and Contemporary Social Problems (SOCI 1111), for the second participant, LS, data were

collected in SOCI 3112, Sociology of Deviant Behavior (SOCI 3501), and ENGL 1020, for the third, AG, data were collected in Freshman English Composition (ENGL 1010), SOCI 3112, and U.S. History before 1877 (HIST 2010).

Materials, Dependent Variable, and Measures

The materials used were a stop watch to record in minutes the student's arrival time to class, data recording sheets and a writing utensil to document latency. Both the experimenter and participants used a cellular telephone with text messaging capabilities.

The dependent variable of this study was the latency (in minutes) of the amount of time between the exact start of class, as indicated by the university's schedule of classes, and when the student first steps into the classroom. Athletic academic counselors and interns of the student-athlete academic support staff recorded latency.

The observers of the students included the experimenter, an athletic academic counselor, and two interns employed at the university's athletic academic support center. The observers used a stopwatch to record latency. The observer started the stopwatch at the exact time that the class began according the university class schedule and continued timing until the student-athlete stepped into the classroom. It was not necessary for the student to be seated; simply entering the classroom consisted of arriving to class. If the student did not arrive to the class 30 minutes after the class start time, the student was considered absent from class on that day.

Academic progress was measured using the student's GPA in the course in which data was collected. The researcher determined the GPA by using grade reports from the student's professors. As part of the academic support program, professors at the

university are asked to communicate academic progress via grade card, email, or phone two times during the semester.

Experimental Conditions and Research Design

During Student-Athlete Orientation, all student-athletes are informed of the importance of attending all classes on time. In addition, those students are continuously reminded verbally throughout the school year by coaches, athletic academic counselors, and professors to attend class on time. During baseline, latency was measured by an observer standing obscured outside the participant's classroom. The observer began the stopwatch at the exact time the class began according to the university's schedule of classes and continued timing until the student stepped inside the classroom. If the student did not arrive to the class 30 minutes after the class start time, the student was considered absent from class on that day.

The athletic academic counselor informed the professors of the procedures of this study. Once a participant of the study had established steady baseline data, the independent variable was introduced. Steady baseline data consisted of four consecutive data points of five or more minutes late to class. The independent variable of this study was the act of text messaging the student's respective athletic academic counselor.

Once a stable baseline was established, the athletic academic counselor called in the student for a meeting. During this meeting, the counselor informed the student that he was to text message the phrase "in class" while standing directly outside the classroom door immediately before walking into the classroom. Also during this meeting, the student sent a practice text message to their athletic academic counselor to make sure he knew how to send a text message and that the text message was successfully sent

between the two phones. After the independent variable was introduced, the observers continued to check latency to ensure that the student was text messaging their respective athletic academic counselor directly before entering the classroom.

The researcher also investigated whether academic progress was influenced by the intervention. Exam, essay, and final term grades reported by the professor allowed the researcher to determine if there has been an improvement in academic performance since the onset of the intervention.

The design used for this study is a multiple baseline across participants. This was an appropriate design because reversal of the attendance behavior could be detrimental to the student-athlete's eligibility and the expectations set by the coach and university at large.

Reliability

A procedural integrity (see Appendix) checklist that details each step of the independent variable was implemented. The checklist was used by each observer and implementer of the independent variable, which included the academic counselor and interns employed by academic support services. Interobserver agreement (IOA) was conducted by sending a second observer to simultaneously, but independently measure the latency in minutes between the exact start time of class and when the participant walks through the door during intervention.

IOA was conducted for 30% of the sessions. IOA was calculated by using the total agreement approach. The researcher added the total latency of behavior recorded by each observer, divide the smaller total by the larger total, and multiply the amount by 100%. The results of the IOA were 100% across all sessions.

RESULTS

Class Punctuality

Figure 1 presents class punctuality data in the multiple baseline design. MH was an average of 25.7 minutes late to his classes with a range of 0 minutes to 30 minutes during baseline. During intervention his tardiness decreased to 0.7 minutes late with a range of 0 minutes to 5 minutes. Also, during the intervention phase, MH's class attendance demonstrated little variability. Further, maintenance data demonstrated that he was still attending class and arriving on time by being 0 minutes late.

LS was an average of 28.5 minutes late to his classes, with a range from 9 minutes to 30 minutes during the baseline phase of the experiment. During the intervention LS did have a decrease in tardiness to 10.3 minutes, with a range of 9 to 12 minutes, but he was not sending text messages to verify his attendance. Although the data was on a downward trend, the researcher implemented intervention since it was the beginning of the spring 2010. LS had attended the first two sessions of class 15 minutes late, the academic staff wanted to correct the problem immediately. Once a prompt was introduced, LS sent text messages and decreased class tardiness to 1.6 minutes with a range of 0 to 5 minutes. For LS, the data was at a low level with little variability when the prompt and intervention were applied.

AG's data was most variable of the participants. During baseline, AG was on average 12.3 minutes late to his classes, with a range of 0 to 30 minutes. Once the intervention was introduced, AG decreased to 6.7 minutes tardy to his classes. The data during intervention was less variable, ranging from 3 minutes to 10 minutes late.

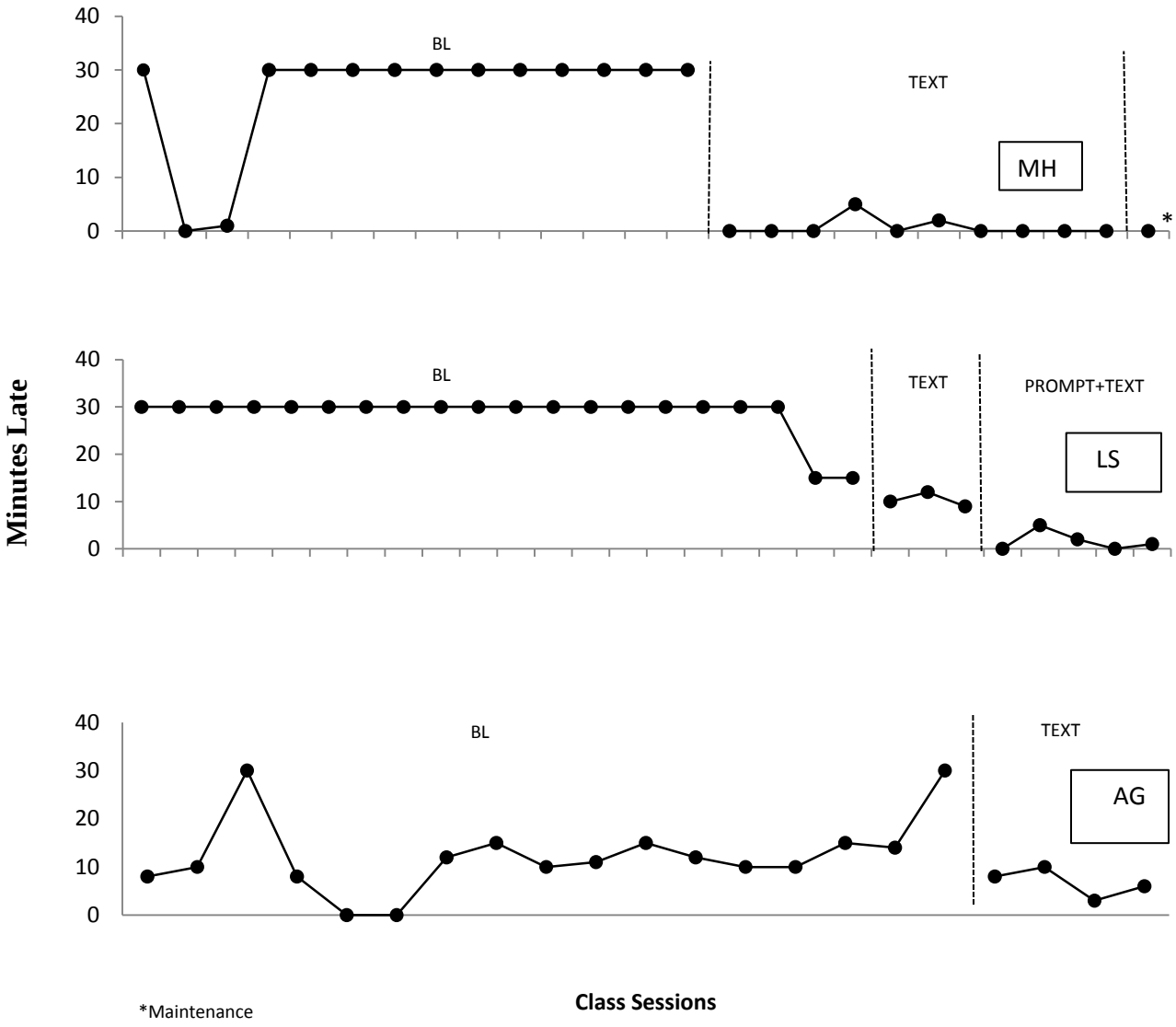

Figure 1. Student-Athlete Class Punctuality

Academic Progress

Table 1 presents the amount of academic progress the students demonstrated as a result of the intervention. During baseline MH had a 0.50 GPA in the courses in which data was collected. At the end of the intervention, MH had a 3.84 GPA. For LS, his GPA was a 2.55 during baseline. At the end of the intervention, his GPA was a 2.00.

Baseline data were collected on three courses, SOCI 3112, SOCI 3501, and ENGL 1020. For LS, English is a subject that he struggles with; he has had to drop the course three previous semesters due to failing grades. As a result, the 2.00 GPA is a satisfactory grade in the course. The Sociology courses are not as difficult for LS, he has never reported to the academic staff difficulty in this area of study. AG had a stable GPA throughout the experiment; his GPA was a 2.0 during baseline and intervention. For AG, professor comments to the academic support staff were more positive, but there was not a significant improvement.

Table 2

Academic Progress of Student-Athletes

Student-Athlete	Baseline	Intervention
MH	0.55	3.84
LS	2.50	2.00
AG	2.00	2.00

Reports from the student's professors demonstrated that there was improvement in the student's attitude, class participation, and overall progress. For MH during baseline, he missed a test due to not being in class when the exam started and had to arrange for a make-up test at the end of the term. In ENGL 1010, he failed the course due to too many absences. During intervention, MH was re-enrolled in ENGL 1010 with the same professor. The professor commented that "<Name of Student> has matured a

lot since I had him before. He is attentive, contributes to discussions and submits his assignments on time!! He will do well if he keeps it up!"

For LS, he missed two tests in SOCI 3112 due to tardiness and absence during the baseline phase. During intervention, his ENGL 1020 professor has commented that his attitude is good and he has good attendance. However, he is often on his cell phone during class. AG also missed two tests in SOCI 3112 due to tardiness and absence during the baseline phase. During intervention, his HIST 2010 professor reported that he did not have any unexcused absences in class. In addition, the professor indicated that AG had a good attitude and good class participation.

DISCUSSION

Limitations

The results of this study suggest that text messaging decreases the latency between the exact start time of class and the arrival of student-athletes to class. Although the data appeared to demonstrate experimental control, there were some limitations. A major limitation in this study occurred during the intervention phase when the student attended class with reduced latency, but did not text message his athletic academic counselor. This occurred three times with LS. Since LS was not texting, a prompt was implemented. The academic counselor sent LS a text message stating "text me when you get to class" each morning when she arrived to work. Once the prompt was introduced, the student did text message when arrived to class.

Another limitation to the study was it was conducted during the fall 2009 and spring 2010 semesters. During the study, the students' class schedules changed between the fall and summer terms. For one student, MH, this was not completely the case. Data was collected for his ENGL 1010 course both the fall and spring terms. The time of day was different, but he did have the same instructor. For two of the students, there was a change in their sport's discipline policy between the two terms. The team discipline policy during the spring term encouraged class attendance.

Only MH demonstrated a considerable amount of academic progress according the grade information gathered by the academic counselors. One limitation to this data is that the baseline grade point average included more than one course, whereas the intervention data was collected on only one course. Also important to note is that the academic counselors received positive professor comments once students demonstrated

decreased class tardiness. The spring 2010 term may reflect the positive attitude towards the students with an increased final grade in the course.

Implications for Practice

Athletic academic support personnel can benefit from interventions that address the at-risk student-athlete population. Research for this study has demonstrated the obvious lack of resources in order to address performance in academically related tasks. The intervention was easy to implement, college students are comfortable using their cellular phones, and the professors reported improvement in attitude and behavior in the classroom.

Future Research

This study suggests several directions for future research regarding the effects of text messaging on college student-athlete class punctuality. First, the study should be replicated during a single term in the academic school year. Academic schedules are more consistent and the student-athletes remain in the same class schedule for sixteen weeks.

This research could also become more specific in determining a specific group of student-athletes that the intervention of text messaging most benefits. The researchers could collect baseline on multiple student-athletes. Intervention could then be implemented for students that are, on average, between 1-15 minutes late as well as students that are typically 15-30 minutes late for class. This research would be more specific in determining the population most benefited by the intervention. It would also open doors for future research on interventions for the group of student-athletes that text messaging does not work for.

Conclusion

This study examined the effect of text messaging on student-athlete class punctuality and overall academic progress. Participants included three male, college student-athletes at a midsouthern university. The students had a history of tardiness to class. The participants sent text messages to verify their class attendance to their academic counselor. The researcher used course grades and professor comments to evaluate academic progress. Using a multiple baseline across participants, the study demonstrated an improvement in student-athlete class punctuality. For one of the two participants, there was an improvement in academic progress. The procedures and results were supported by the professors of the courses in which the students were enrolled.

This study is one of the first in the area of academic progress of college student-athletes. Overall, the students benefitted from the intervention. Although academic progress did not always demonstrate improvement, the students did improve in the area of class punctuality. Also important is that the professor attitude toward the participants improved as a result. Future research on strategies and interventions demonstrating an academic improvement in college student-athletes would be beneficial and accepted in the field of athletic academic services.

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Appendix
Procedural Integrity Checklist

Student-Athlete Texting Intervention Checklist

- Arrive to the student's class 5 minutes before the class starts according to the student's university schedule.
- Stand in an area that is not obvious to the student.
- Begin stopwatch at the start time of the class according to the student's schedule.
- Stop time when student walks into the classroom.
- On blank below, record time on stopwatch in which student walks into class and return checklist to Valorie.

Student: _____

Course:_____

Location:_____

Course Start Time:_____

Minutes Late:_____