INTRODUCTION

“Sports betting threatens the integrity of and public confidence in professional and amateur team sports, converting sports from wholesome entertainment into a vehicle for gambling * * * sports gambling raises people’s suspicions about point-shaving and game-fixing. * * * All of this puts undue pressure on players, coaches, and officials.” (The National Gambling Impact Study, 2001, p. 3).

Gamblers were present at the earliest stages of the American sporting world and have been a part of sports for over a century (Thornton, Champion, & Ruddell, 2011). The Merriam-Webster Dictionary (2011a) defines gambling as: “1.a.: playing a game for money or property, 1.b.: betting on an uncertain outcome,” or “2: taking something on a contingency: taking a chance”. Gambling can also be defined by the various types of activities that constitute gambling such as: pari-mutuel betting, lotteries, casino gambling and charitable gaming. It should be noted that sports betting or wagering, which is defined as making a bet or venturing on a final outcome (Merriam-Webster, 2011b), is considered as one form of pari-mutuel betting (Eadington & Cornelius, 1991). For the purpose of this research, sports wagering is betting on sporting contests while gambling refers to other forms of betting.

According to Holtgraves (2009), wagering on sports is among the most popular gambling activities. With this, it comes as no revelation that amid a group of self-identified problem gamblers, sports emerged as one of the most problematic forms of wagering and gambling (Petry, 2003).

Therefore, sports wagering is seemingly a highly consumed activity (Holtgraves, 2009) with evidence pointing towards an increase in disordered gambling behaviors (Eadington, 1989; Whyte, 1997; Shaffer, Hall & Vanderbilt, 1999). Such behavior may likely be the result of a combination of numerous, legal gaming options regarding sports wagering as well as the desire for individuals to be associated with select players and/or teams. As such gambling and
wagering on college and professional sporting events has been a popular target for those who wager on sports (Rockey & King, 2006). College athletics administrators have been concerned about the integrity of college sports due in part to the popularity of wagering on college games by college students (2006). Over the past 25 years, this concern has expanded to the gambling and sports wagering behaviors of student-athletes (Thrasher, Andrew & Mahoney, 2007; Ellenbogen, Jacobs, Derevensky, Gupta & Paskus, 2008), yet little thought has been given to other susceptible athletic populations. As noted, a scant amount of literature exists regarding sport related populations outside of the student-athlete group (such as athletics administrators, coaches and athletic trainers). Holtgraves (2009) suggested that researchers should focus on understanding the differences in people and their gambling activities as this could foster developments in awareness, education, and rehabilitation programs. For sport researchers and practitioners alike, this includes extending studies outside of the student-athlete population and looking at other groups that might be distinct, yet have some of the same characteristics as the student-athletes.

Recently, Mathner, Martin and Allen (2011) provided the first, evidenced-based rationale to further explore designated sport populations such as athletic trainers, coaches, equipment managers, and academic advisors. Specifically, the researchers examined NCAA Division I certified athletic trainers (ATCs); a group of medical professionals who abide by both a professional and educational code of ethics, and noted that 61.6% had made friendly wagers on sports and 37.8% had made monetary wagers on sports at some point in time in their life. Though the researchers noted that a majority of these wagers were not categorized as problematic gambling, there was still cause for further scrutiny due to the potential corruption of collegiate athletics.

In response to a study conducted by the NCAA, the late Myles Brand, former president of the NCAA, stated “imagine if it were all fixed in advance. No one would watch. No one would care. The NCAA has to protect the integrity of the game” (Gambling Gates, 2004, para. 9). To do so, all groups that have a unique relationship should be explored; this is especially true given the ever-growing popularity and availability of gambling. Recent scandals within intercollegiate athletics only provide more rationale to extend studies outside of student-athletes.

Most recently, in April of 2011, it was alleged that that two of the University of San Diego’s (USD) former student-athletes and an assistant basketball coach managed a sports-betting business to impact the outcome of games. The indictment alleges that Brandon Johnson, USD’s all-time leading scorer, took a bribe to influence a USD basketball game in February of 2010. Further, it alleges that he solicited an individual in January of 2011 to affect the outcome of basketball games after he left USD (Brown, 2011).

Such corruption has the potential to “shatter dreams and remove the magic that a sport offers the world” (Forrest, McHale & McAuley, 2008, p. 156). Therefore, this study was conducted to garner a more profound understanding of wagering within college athletics. The findings of Mathner et al. (2011) were extended so as to specifically look at three areas that are thought to be associated with sport wagering behaviors.

Specifically, athletic trainers’ gender, assigned sport (revenue versus nonrevenue-generating) and participation in fantasy sport leagues were examined to determine any relationships to wagering on sport. Ultimately, the findings of this study will contribute to the dearth of literature related to susceptible gambling and wagering populations.
LITERATURE REVIEW

In reviewing the literature as it relates to sport gambling and/or wagering activities of those involved with athletics organizations, it is limited primarily to the athlete populations. With this noted, this review of literature is organized to reflect the most relevant gambling literature that is associated with athletics populations including both athletes and non-athletes. Additionally, this literature review will seek to address the primary areas of the study including the ATC's gender, assigned sport(s) (revenue versus nonrevenue-generating sports), and participation in sport fantasy leagues as each relates to wagering behavior.

The Athletic Training Population As a Susceptible Gambling Population

As defined by Henry, Schneider and Stier (2009), “a certified athletic trainer is an allied health care professional who specializes in preventing, recognizing, managing, and rehabilitating injuries that result from physical activity” (para. 2). Researchers have noted the importance of certain traits in which the successful athletic trainer should possess; among these, are stamina, adaptability, empathy, humor, communication, intellectual curiosity, and ethical standards. Recently, Henry et al. (2009) classified honesty and high ethical standards as essential characteristics of the athletic trainer while being a risk taker was deemed to be the least important factor for success in the field.

It should be noted that the typical, desired ATC disposition may not fully reflect the conventional representations that are displayed in problematic gamblers, primarily due to the fact that a known trait of problem gamblers is risk-taking (Cansler, 2010). Thereby, the ATC population has not been considered as a primary target to monitor gambling activity(s). However, several other personality traits have traditionally assisted in classifying those prone to problem gambling and include being competitive (Weiss & Loubier, 2010), energetic, and restless (Cansler, 2010). Further, Cansler asserts that extroverts and men are more likely to be prone to problem gambling (2010). Although, these characteristics cannot be applied to the ATC population as a whole, they still may offer additional support, albeit limited, to examine this population. For example, the ATC field has historically been a male dominated profession, although recent trends suggest that gender representation within athletic training is close to evenly balanced (Kent, 2011).

Additionally, just as athletes are competitive and are attracted to the competitive aspects of gambling (Thrasher, Andrew & Mahoney, 2007), so may be the athletic trainer. In a recent study, researchers found that “the most influential attractors to the athletic training profession were consistent with continuation” (Gardiner-Shires & Mensch, p. 289). In other words, among the top reasons to choose athletic training as a profession was to maintain associations with sports, sports teams, and athletes (2009). As such, those involved in sport-related careers, were likely drawn to the profession due to former athletics ties. So, just as the current student-athlete has a competitive nature that may be linked to increased frequencies in gambling behaviors (Curry & Jiobu, 1995), so might those who have some association and/or history in athletics. In fact, Weiss and Loubier (2010) suggested that former athletes placed wagers on sporting events approximately 6% more frequently when compared to current athletes and nonstudent-athletes. Findings of Weiss and Loubier (2010) insinuate that those involved in athletics are particularly tenuous as related to gambling on what is familiar –
sports. Considering the various factors that are common amongst groups of identified gamblers including but not limited to being primarily males, competitive, energetic, and athletic, the need for this study becomes more apparent. Furthermore, in addition to highlighting some of the common factors among gamblers, Weinstock, Whelan, Meyers and Watson (2007) found that the longer an individual was in a college environment, the more likely that they would be involved in gambling. Essentially, these researchers noted that gambling was a university-wide phenomenon; yet, so few studies have been conducted on groups outside of students and student-athletes.

Recent reports provided by the Center for Counseling and Health Resources (2011) suggest that gambling behaviors are changing. For example, the gambling industry has grown tremendously, likely the result of more gambling availability and the social acceptance of gambling. In fact, it was reported that 37 states have lotteries, 66% of the adult population placed some kind of bet last year, and moreover, 15 million people have a sign of gambling addiction (2011). Gambling is a multi-billion dollar industry and it is everywhere. Consequently, it is no longer limited to select profiles of individuals, but rather it is affecting a range of individuals, from teenagers to senior citizens.

This was also evident in a recent study by Mathner et al. (2011) who found that when compared to the heavily researched and historically high-risk population of student-athletes, ATCs actually responded higher on gambling factors including the percentage who had gambled in some form or fashion in the past year. Though at first glance, this may not seem to be a problem; but, the fact is that “all gambling has an element of risk” (Center for Counseling & Health Resources, 2011) and such behavior is a violation of NCAA rules (NCAA, 2011). Though ATCs generally may not exhibit risk-taking behaviors as it is not a desired professional trait (Henry et al., 2009), there may be undiscovered elements interacting that may unintentionally pave the way for increased gambling for this population, and possibly more so than the heavily, previously studied populations of student-athletes. This is not to be confused with the enormous amount of literature that exists related to problem gambling and behavior patterns, but rather the focus is on the type of person such activities might directly or indirectly attract as well as the varying types of wagering activities.

This may offer insight to Holtgraves’ (2009) rationale of examining differences between individuals who prefer different gambling activities. In an attempt to clarify differences between a select group of problem gamblers, Holtgraves found that individuals who have used a bookie, wagered on sports, or used the Internet to gamble are much more likely to be frequent gamblers. This is problematic because overall findings of Holtgraves indicate that “the percentage of people who tried gambling on the Internet or sports betting and continued to gamble frequently on the Internet or sports was very high” (p. 300). Essentially, Holtgraves suggest that “increased availability will result in increased gambling” (p.301), thereby providing basis for systematic explorations of relationships and interactions of availability, affordability and other activities linked to gambling.

**Gender**

Research has generally shown that college student-athletes may be at an increased risk of developing gambling-related problems as compared to the nonstudent-athlete population and adults in general (Ellenbogen, et al., 2008). While a study conducted by Rockey, Beason, and
Gilbert, (2002) concluded that student-athletes were no more likely to have participated in gambling activities than other students, males were found to have high rates of pathological gambling.

This is alarming considering that the general student population has been determined to have a pathological gambling prevalence rate of 5.6%, which is three times the rate of the general adult population (Shaffer, Hall & Vanderbilt, 1997). However, the study found that female student-athletes had lower rates of pathological gambling than nonstudent-athletes. In addition, Kerber (2005) examined gambling activities of student-athletes from three Midwest U.S. universities and concluded that 21% of males were classified as problem gamblers compared to 5% of the female student-athletes. The NCAA’s recent study also concluded that male student-athletes gambled and wagered on sports more frequently than female student-athletes (NCAA, 2008).

Specifically, Division I, II and III male student-athletes were over four times more likely to have wagered on a sporting event in the past year as compared to female student-athletes. In addition, male student-athletes were over six times more likely to have wagered on a sporting event in the last month (2008). Holtgraves, (2009) affirms in his study that men are more likely to gamble via the Internet and place sport wagers, while women are more inclined to participate in lotteries, raffles and slots. More specifically, these findings, in addition to other studies (Kerber, 2005; Petry, 2003), imply that men when compared to women, are more likely to be classified as problem gamblers (2009).

**Revenue-Generating Sports**

Curry and Jiobu (1995) theorized that student-athletes are at an increased risk for gambling problems due to the competitive spirit found in their environment. They further concluded that student-athletes in the most competitive environments (i.e., sports in which lucrative professional contracts, television appearances, and endorsement deals) would likely be at greater risk for developing gambling problems.

Additionally, researchers reported high gambling participation rates from football and men’s basketball student-athletes (Cross & Vollano, 1999; Cullen & Latessa, 1996; Ellenbogen, et al., 2007). It is important to recognize that college football and men’s basketball are two of the most frequently wagered on sports in the United States (Rockey & King, 2006).

Considering that these sports are typically considered to be the highest revenue-generating sports for many collegiate athletic programs and that there is documented high gambling behavior albeit limited to the student-athlete population, rationale for further exploring this function is provided. Additional justification may evolve when considering that these revenue-generating sports are likely to have the largest amount of support staff; thus, creating a working environment that is not necessarily competitive, but one that exists in a competitive setting.

Furthermore, this environment which houses various athletics administrators and support staff may occasionally lend way to either gaining or being a target to retrieve inside information on athletics teams and individual team members.
Fantasy Sports Leagues

Although previous research has suggested that fantasy games contain characteristics of gambling, federal law states that fantasy games do not comprise “an illegal bet or wager as a matter of law” (Moorman, 2008, p. ). Fantasy sports leagues are one way fans can enjoy their favorite players and teams away from the stadium or arena (Farquhar & Meeds, 2007). Increased participation in online fantasy sport has resulted in an industry that has grown to nearly over 32 million participants in the United States and Canada (Fantasy Sport Trade Association, 2011). This is a 113% increase in participants since 2003 when there were an estimated 15 million participants (Fantasy Sports Trade Association, 2003). U.S. and Canadian participants spent over 4 billion dollars in 2009, (Fantasy Sports Trade Association, 2009). As such, fantasy games can certainly be considered addictive due to the excessive amount of money spent and the relative uncertainty of the outcome(s) (Davidson, 2002).

While past research has shown motivations for Internet use, research focusing on fantasy sports in the online environment is lackin g (Farquhar & Meeds, 2007) and participants engaged in fantasy games have not received much attention (Lee, Kwak, Lim, Pedersen & Miloch, 2010). In addition, knowledge of motivations for participating in a fantasy sport that is based on the real sport appears to be lacking and may provide insight into other gambling and sport wagering behaviors.

PURPOSE

Research Questions

Based on the review of literature and pursuant to the exploratory nature of this study, the researchers seek to develop a better understanding of NCAA Division I athletic trainers’ sport wagering behavior by advancing the following research questions:

Research Question 1: Will the athletic trainer’s gender impact their sport wagering behavior?

Research Question 2: Do athletic trainers working primarily with revenue sports (football and men’s basketball) display different sport wagering behavior from athletic trainers primarily working with nonrevenue sports?

Research Question 3: Do athletic trainers that participate in free fantasy sports leagues display different sport wagering behavior from athletic trainers that do not participate in fantasy sport leagues?

METHODS

Participants

The participants within this study included NCAA Division I athletic trainers that voluntarily responded to an online survey distributed to them via e-mail. Consequently, a total
of 453 responses were collected. However, after determining the criteria for the revenue versus nonrevenue sports variable, 150 respondents were removed from the study. The 150 respondents were removed for identifying more than two ‘main sports’, thus it was not feasible to classify them into one of the two categories. Subsequently, there were 303 participants utilized in the current study. Of the 303 participants, 180 (59.4%) were assigned to revenue sports while 123 (40.6%) were assigned to nonrevenue sports. Furthermore, 183 were males (60%) and 120 were females (40%).

Instrument

The instrument that was utilized in this study, *The NCAA National Studies on Collegiate Wagering Survey*, was developed by the National Collegiate Athletic Association (NCAA). Permission for the researchers to use and adapt the survey was granted by the NCAA. The 50-item survey was utilized to garner revealing data that would be indicative of gambling and/or non-gambling behaviors of athletic trainers.

Procedures

The sampling frame was inclusive of all NCAA Division I certified athletic trainers who had a publicly available e-mail address displayed on their respective athletics web site. A total of 1,617 athletic trainers’ e-mail addresses were obtained via these web sites. An electronic link to the survey was then distributed via e-mail to all athletic trainers within the sampling frame. As a result, a total of 453 athletic trainers returned a survey. This represents a return rate of 28%. However, in order to create a variable for revenue versus nonrevenue sports, the researchers determined it was necessary to exclude the 150 athletic trainers that indicated they had more than two ‘main sports’.

The researchers felt this was appropriate because there was a separate item on the survey providing an opportunity for the athletic trainers to identify all of the sports that they have been assigned to within their collegiate athletics department. Unfortunately, 150 respondents listed more than two ‘main sports’, thus making it too difficult to classify them as being assigned to revenue sports versus nonrevenue sports. Therefore, the researchers created a separate data set (*n* = 303) for the athletic trainers by establishing the criteria of having either one or two ‘main sports’. If the respondent indicated that one or both of their ‘main sports’ were revenue sports (football and/or men’s basketball), they were coded with a 1; otherwise they were coded with a 2.

Data Analyses

Descriptive statistics including percentages were calculated for gender, age, ethnicity, NCAA sub-division, and years of athletic training experience (Table 1). Chi-square tests were the primary data analytical methods to answer the research questions. Chi-square tests were applied to determine the relationship between categorical independent variables and categorical dependent variables (Hair, Wolfinbarger, Ortinau, & Bush, 2008). The following research questions were answered using the chi-square tests: (a) relationship between gender
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and sport wagering behavior, (b) relationship between assigned sport (revenue vs. nonrevenue) and sport wagering behavior, and (c) relationship between free fantasy sport league participation and sport wagering behavior. For each research question, two chi-square tests were performed. This was due to the fact that two different dependent variables were utilized to measure wagering behavior. The first dependent variable was measured by the participants’ response (1 = Yes, 2 = No) to the following statement, “For myself, sport wagering is a harmless pastime”. The second dependent variable was measured by the participants’ response (1 = Yes, 2 = No) to the following question, “Have you ever placed a monetary bet of any size on any sporting event?”. SPSS 17.0 (SPSS, 2008) was used for all data analyses in the current study.

### Table 1.

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<th>Participants’ Profiles</th>
<th>(N)</th>
<th>(%)</th>
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### RESULTS

**Research Question 1**

Before the researchers could analyze the results of the chi-square tests, a series of assumption tests were performed. The assumption tests included: a) having two categorical variables, b) independence of observation, and c) at least five samples in all cells. There were no violations of these assumptions for either chi-square test. The first chi-square test revealed
that there was not a statistically significant relationship between the athletic trainers’ gender and whether they considered sport wagering a harmless pastime ($\chi^2 (1) = 3.396, p > .05$). However, the second Pearson chi-square test yielded statistically significant results. There was a statistically significant relationship between the athletic trainers’ gender and their actual sport wagering behavior; placing monetary bets on sporting events ($\chi^2 (1) = 4.722, p < .05$). Inspection of the cross tabulation table revealed that male athletic trainers were more likely to place monetary bets on sporting events than female athletic trainers. Forty-two percent of the males surveyed admitted to placing monetary bets on sporting events while twenty-nine percent of the females surveyed admitted to placing monetary bets on sporting events.

Research Question 2

Before analyzing the results of the chi-square tests, the researchers conducted a series of assumptions tests. Once again, there were no violations of the assumptions for either chi-square test. The first Pearson chi-square test was used in order to examine the relationship between assigned sport (revenue vs. nonrevenue) and whether the athletic trainer considered their sport wagering a harmless pastime. As a result, it was revealed that there was a statistically significant relationship between these two variables ($\chi^2 (1) = 5.769, p < .05$). Surprisingly, after inspection of the cross tabulation table, it was revealed that athletic trainers assigned to nonrevenue sports were more likely to consider sport wagering a harmless pastime than those assigned to revenue sports. Approximately 25% of the athletic trainers assigned to nonrevenue sports viewed sport wagering as harmless while only 11% of the athletic trainers assigned to revenue sports viewed this as harmless behavior. The second chi-square test was used in order to examine the relationship between assigned sport (revenue vs. nonrevenue) and actual sport wagering behavior. Results of the chi-square test indicated that there was not a statistically significant relationship between these two variables ($\chi^2 (1) = .53, p > .05$).

Research Question 3

Pearson chi-square tests were utilized to examine the relationship between fantasy sport league participation and sport wagering behavior. There were no violations of the assumption tests. The result of a Pearson chi-square test indicated that there was a statistically significant relationship between fantasy sport league participation and whether they considered sport wagering a harmless pastime ($\chi^2 (1) = 12.383, p < .01$). Athletic trainers that participated in fantasy sports leagues were more likely to perceive sport wagering as a harmless pastime than those that did not participate in fantasy sports leagues.

Approximately 22% of those involved in fantasy sports leagues viewed sport wagering as harmless, while only 7% of those not involved in fantasy sports perceived sport wagering as harmless. Furthermore, results of the second chi-square test were statistically significant as well. There was a statistically significant relationship between fantasy sport league participation and actual sport wagering behavior ($\chi^2 (1) = 12.289, p < .01$). Inspection of the cross tabulation table revealed that athletic trainers that participated in free fantasy sport leagues were more likely to place monetary bets on sporting events than athletic trainers that
do not participate in free fantasy sports leagues. Approximately 48% of those involved in fantasy sport leagues had placed monetary bets on sporting events while 28% of those not involved in fantasy sport leagues had placed monetary bets on sporting events.

**DISCUSSION**

While researchers have devoted time to studying the gambling and sports wagering behaviors of the student-athlete population, a scant amount of literature exists regarding sport-related populations outside of the student-athlete group (such as athletics administrators, coaches, and athletic trainers). To elaborate, numerous studies have been conducted by the NCAA and member institutions on the scope of sports wagering by student-athletes. Most recently, Cross and Vollan (1999), Rockey et al. (2002), LaBrie, Shaffer, LaPlante and Wechsler (2003) concluded that NCAA Division I, II and III student-athletes wagered on sporting events. In addition, the NCAA (2003 & 2008) conducted sports wagering studies supporting that student-athletes not only wagered on sports but also either conspired to fix and/or throw sporting events or were approached to do so. It is understandable that student-athletes might be at risk for being targeted by those who place wagers on sports due to their abilities to control performances, game outcomes, and/or provide insightful game related information. As such, researchers have devoted time to studying the gambling and sports wagering behaviors of this population.

Not far from this notion, yet fairly unrepresented in the literature, is the review of NCAA athletics department staff members as it relates to gambling and their sports wagering behavior. For example, athletics department staff members often possess confidential information regarding the mental and physical well-being of student-athletes and in some cases might know when a student-athlete is suspended and/or returning to competition. Therefore, it is not an implausible suggestion that some athletics staff members might either willing participate in sport wagering activities or be a likely target for those who wager on sporting events and want to obtain inside information related to sports wagering.

Holtgraves (2009) suggested that researchers should focus on understanding the differences in people and their gambling activities as this could foster developments in awareness, education, and rehabilitation programs. For sport researchers and practitioners alike, this includes extending studies outside of the student-athlete population and looking at other groups that might be distinct, yet have some of the same characteristics as the student-athletes. As a response to this need, Mathner et al. (2011) sought to provide the first evidence-based study of athletics administrators and staff members’ involvement in gambling and sport wagering. Results of the study (2011) further supported a need for research within these select groups, as it was noted that 61.6% of those studied indicated that they had, in fact, placed a friendly wager on sport and 37.8% had placed a monetary wager on sport.

Therefore, the purpose of this study was to add to the dearth of literature related to susceptible gambling populations and further examine if gender, assigned sport (revenue-generating or nonrevenue-generating sports) and participation in fantasy sport leagues impacted the ATCs sport wagering behavior. Overall results are indicative of gambling occurrences and tendencies in the athletic training population. This is cause for concern as this group is known to operate with high ethical standards (Henry & Schneider, 2009).
Gender

The results of this study suggest that male athletic trainers bet on sports at a higher rate than their female colleagues. This aligns with research findings suggesting that men do typically gamble at a higher rate than females (Rocky et al., 2002; Kerber, 2005; NCAA, 2008; Holtgraves, 2009). Though the gender findings of this study are supported by existing literature, this study did not examine the level of gambling within this population. In other words, it is unclear if any of the ATCs in this study could potentially be classified as problem gamblers as is the case for many of the other gender-based gambling studies (Petry, 2003; Keber 2005).

Given that this is one of very few studies to examine sport wagering behaviors of athletic trainers, it is difficult to establish trends of gambling and wagering activities. Further, it is not clear as to the effect that such behaviors might have on the realm of intercollegiate athletics. However, in relating this study to comparable NCAA studies (2003; 2008) it should be noted that male student-athletes actually increased their casino-style gambling and sport wagering activities over a five year period. Among female student-athletes, the level of social sport wagering (having gambled on sports once or more in the past year) was similar in both the 2003 and 2008 studies. Therefore, the current study reinforces the notion that males involved in athletics are more inclined to wager on sport than their female counterparts. The researchers recommend that informational campaigns developed to educate ATCs regarding NCAA rules, corruption in college athletics, and the dangers of gambling focus additional efforts in targeting males.

Revenue-Generating Sports

The results of this study indicated that no significant relationship existed between assigned sport and actual sport wagering behavior. However, results did suggest a difference in perception of sport wagering by sport assignment. Specifically, results revealed that those who were assigned to nonrevenue generating sports actually perceived sport wagering as a harmless pastime while those assigned to revenue generating sports felt that this was potentially harmful behavior.

These findings are interesting and do not parallel with research which insinuates that the individuals in more competitive environments are likely to be at a greater risk for developing problem gambling (Ellenbogen, et al., 2007; Cross & Vollano, 1999; Cullen & Latessa, 1996; Jiobu, 1995).

This is notable and supports Holtgraves’ (2009) notion that we should focus on understanding differences in individuals and their gambling activities. It is possible that ATCs who are assigned to higher profile sports, or those that typically generate revenue, may be more alert to gambling activities associated with sport; thus, the ATCs in this case do view gambling in any form or fashion as harmful more often than those who are not exposed to these higher profile sports. However, those assigned to nonrevenue-generating sports may not generally be exposed to gambling related activities as often as the revenue-generating ATCs; thus, these ATCs simply are not alert to the dangers of gambling in sport. This is aligned with findings from the NCAA (2003; 2008) which suggest that Division III student-athletes actually gambled more frequently than the higher profile Divisions I and II.
Fantasy Sport Leagues

Results of this study indicated that ATCs that participated in fantasy sports leagues were more likely to perceive sport wagering as harmless compared to those that did not participate in fantasy sports leagues. This is notable as results also suggested that ATCs who participated in fantasy sport leagues were 20% more likely to place monetary wagers on sport when compared to those not participating in fantasy leagues. These findings support research suggesting that the online fantasy sport industry is popular (Fantasy Sport Trade Association, 2011) and lucrative. Recent reports estimate that participants spend $2.9 billion dollars a year on fantasy sport leagues. The popularity of this form of gambling speaks volumes to the social acceptance of gambling. This is problematic due primarily to the fact that as individuals are becoming more accepting of this form of gambling activity, they are becoming desensitized to the potential negative effects. Davidson (2002) asserted that fantasy games can be considered as addictive due to the excessive money spent and the relative uncertainty of the outcome. As fantasy sport league participation continues to increase, it is critical that athletic administrators counter these effects by intensifying their messages to the individuals involved in college athletics. Regardless of the increasing social acceptance of gambling, college athletics must be protected from the corruption and harmful effects associated with sport wagering.

Limitations

This research study aimed to extend the findings of Mathner et al. (2011) and further develop a better understanding of NCAA Division I athletic trainers’ sport wagering behaviors. It should be noted that several limitations existed, and thus the findings are constrained. For example, the study’s findings can only be generalized to Division I ATCs. Though several efforts were made to capture non-respondents, the response rate remained just below 30%; the results may have differed if more ATCs completed the instrument. Additionally, in an effort to increase response rate, the researchers placed structured items within the questionnaire to help differentiate gamblers and non-gamblers. Consequently, the second portion of the instrument was only completed by gamblers.

Though the researchers utilized a modified form of The NCAA National Studies on Collegiate Wagering Survey the instrument was lengthy and may have discouraged participation in the study. Also, the survey response options did not allow for advanced data analysis techniques. It was also noted that given the subject nature of this project, some ATCs may have opted not to participate. Though, the instrument was able to solicit valuable information from the ATCs, there was a subjective element to some items. A final noted limitation was that the study was exploratory, and thus no cause and effect findings could be made. With the noted limitations, the findings may be inconclusive.

CONCLUSION

To our knowledge, this study represents the first national study of gambling among college athletic trainers. The results of this study point to the need to conduct more research.
involving the gambling and sport wagering behavior of all those involved with athletics. The Center for Counseling and Health Resources (2011) suggests that the multi-billion dollar gambling industry has grown and is likely the result of gambling availability and social acceptance. Consequently, the numbers of individuals who are involved in gambling activity continue to rise. This aligns with Holtgrave (2009) as well as other accessibility studies (Blaszczynski & Nower, 2002; Thomas, Sullivan & Allen, 2008; Hing & Haw, 2009) that suggest that increased exposure, availability and accessibility will result in gambling increases. As previously noted, ATCs do not typically exhibit behaviors that are associated with gambling (Henry, 2009); however, Holtgraves (2009) and others (Blaszczynski & Nower, 2002; Thomas et al., 2008; Hing & Haw, 2009) pointed out that as a result of the increased exposure, availability and accessibility, the face of gambling is changing.

This research has not only contributed to the literature regarding specialized populations and gambling, but it has provided rationale to focus on the type of person such activities might directly or indirectly attract as well as the varying types of gambling and wagering activities. However, this research did not establish the levels of problem and/or pathological gambling behaviors among this group. Therefore, future research should continue to extend gambling studies outside of the student-athlete population and also seek to establish if these populations are prone to problem and/or pathological gambling.

Of concern is that sports wagering, a potentially serious violation of NCAA rules, remains a popular form of gambling not only among student-athletes (NCAA, 2003; NCAA, 2008) but also NCAA Division I athletic trainers, with almost 72.2% of ATC’s noting that they have engaged in gambling, sports wagering or other betting activities during the past twelve months, almost 40% stating that they placed a monetary bet on any sporting event at some point, and 13% indicating that they had placed monetary bets on sport fantasy leagues (Mathner et al., 2011).

Overall, these findings do align with studies suggesting that sports wagering is a highly consumed activity (Holtgraves, 2009; Pellegrini, 2011); it is continuing to reach individuals of all backgrounds (Center for Counseling and Health Resources, 2011); and, disordered gambling is on the rise (Eadington, 1989; Whyte, 1997; Shaffer, Hall & Vanderbilt, 1999). The social acceptance of gambling may essentially be driving the growing gambling industry. However, along with the social acceptance of gambling comes one of the greatest threats…addiction (Pellegrini, 2011). Essentially, as members of society as a whole are more frequently exposed to gambling activity, they are becoming desensitized to its harmful effects. Part of the desensitization may include ATCs not fully comprehending the seriousness of sharing privileged and sensitive information to those who might use it to compromise the integrity of college athletics by placing wagers on sports teams.

REFERENCES


