

Running head: INTERVENTION FOR SUBSTANCE-INVOLVED STUDENT-ATHLETES

AN INTERVENTION PROGRAM FOR SUBSTANCE-INVOLVED COLLEGE STUDENT-
ATHLETES: A NEEDS ASSESSMENT

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Abstract

This study was prompted by the identified need for an evidence-based treatment program for substance-involved NCAA Division I student-athletes. A needs assessment was conducted, surveying the treating clinicians in order to develop prevention and intervention recommendations to address the unique needs of the student-athlete population, the athletic environment, the athletic and university systems, and the organizational needs of the treating clinicians. Participants discussed the characteristics of the student-athletes typically presenting for mandated substance use treatment at this university. Results described recommendations for individual treatment and systemic interventions. Results also identified the need for a continuum of prevention and intervention services. Participants also discussed the need to examine interdepartmental dynamics that could influence the success of a comprehensive program. The results of this study recommend a comprehensive program with a range of services to address the continuum of student-athletes' substance use behaviors.

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Introduction

The goal of this study is to provide recommendations for an evidence-based treatment program for substance-involved NCAA Division I student-athletes. While there has been a noted shortage of substance use intervention research in college athletics, many studies have identified risk factors that render this population uniquely vulnerable to substance use (Seear & Fraser, 2010). The American Psychological Association's Presidential Task Force on Evidence-Based Practice indicated that when research is limited when considering a specific population, it is reasonable to implement treatments that have been found to be effective in similar populations, while also making thoughtful, intentional modifications to address diversity and difference issues as appropriate (APA, 2006). In this way, research evaluating drug and alcohol interventions for college student-athletes as well as the general college population can be considered as potential frameworks for interventions designs. Substance use intervention efforts, however, need to consist of education, prevention, and treatment efforts targeting the individual student-athlete, the environment and social norms, and the system in which all of this is contained (Gill, 2009). Therefore, this study consisted of a needs assessment surveying the perspectives of the treating clinicians and subsequent intervention recommendations in order to address the unique student-athlete population, the athletic environment, the athletic and university systems, and the organizational needs of the treating clinicians.

Epidemiology

Decades of research have identified college students as a population that is at high risk for excessive alcohol consumption and the negative consequences associated with heavy alcohol use (Wechsler et al., 2002; White & Hingson, 2014). Among college students, marijuana is the most commonly used illicit drug, with 46.6 percent of college students reporting lifetime marijuana use and 19.4 percent reporting marijuana use within the past 30 days (Johnston,

O'Malley, Bachman, & Schulenberg, 2012). As compared to the college student population, the rates of alcohol use among college student-athletes are comparable, with about 80 percent of student-athletes reporting alcohol use in the past year (Rexroat & Hollomon, 2014). Student-athletes, however, are less likely to engage in social drug use than general college students, with 22 percent of student-athletes reporting marijuana use within the past year as compared to 33 percent in the general college population (Rexroat & Hollomon, 2014). Rates of substance use, however, tend to vary based on the division of the sports team with the highest self-reported rates of substance use coming from Division III student athletes. Rates of marijuana use among Division III student-athletes appear to have increased as compared to Division I and II, which have either declined or remained stable (Rexroat & Hollomon, 2014). Twenty three percent of student-athletes indicated having used pain medication within the past year, the majority reporting use with a prescription. Approximately six percent of student-athletes indicated use of pain medication without a prescription. Additionally, student-athletes reporting use of ADHD medication were more likely to do so without a prescription (Rexroat & Hollomon, 2014).

Due to the positive correlation between heavy alcohol use and use of other recreational substances, it is important to consider the heightened likelihood of severe negative consequences as compared to individuals using alcohol, marijuana, or other drugs in isolation (McCabe, Browner, West, Nelson, & Wechsler, 2007; Simons & Carey, 2006). While these rates of substance use among student-athletes are concerning, it is also highly likely that the rates are underestimates as the data is based on self-reports that are potentially skewed due to the negative consequences of drug use within athletic departments (Dimeo, 2011).

Student-athletes continue to report significant rates of substance use despite the potential negative consequences related to athletic performance and eligibility. Student-athletes that test

positive for banned or illicit substances can face ramifications including suspension of varying lengths, expulsion from the university, or termination of their employment (Mottram, 2011). While many states across the U.S. have begun legalization of marijuana for medicinal and/or recreational use, the NCAA continues to prohibit use by student-athletes even in states where marijuana is legal. The NCAA maintains that marijuana use threatens the health and safety of student-athletes, noting that “The NCAA banned drug and testing policies are not tied to whether a substance is legal for general population use, but rather whether the substance is considered a threat to student-athletes health and safety or the integrity of the game” (O’Brien, 2015). However, in recent years, the NCAA has reduced the period of suspension for a positive marijuana screen from one year to one semester due to marijuana not being classified as a performance-enhancing drug. This policy change attempts to focus efforts away from punishment and towards substance use treatment (O’Brien, 2015).

Considering the depressant effects of alcohol and marijuana on the central nervous system, student-athletes engaging in substance use behaviors are jeopardizing their ability to perform physically and mentally. Short-term effects of marijuana use include impaired ability to sustain attention and concentration, diminished coordination and balance, decreased reaction time, and lowered level of motivation, all which are essential for peak athletic performance (Fant, Heishman, Bunker, & Pickworth, 1997; The High Education Center for Alcohol and Other Drug Abuse and Violence Prevention, 1999). Student-athletes who engage in strenuous exercise while concurrently using steroids or stimulants increase their risk of heart attacks (Garner, Rosen, & Barry, 1998). Additionally, stimulant use can exacerbate mental health disorders, such as eating disorders, while depressant drug use can aggravate depression (Dumas, Haustveit, & Coll, 2010; Garner, Rosen, & Barry, 1996). Finally, student-athletes often experience

interpersonal and intrapersonal issues that commonly coexist with substance use including poor relationships with teammates, family, and coaching staff, anxiety and stress, adjustment disorders, inability to cope with physical pain and injury, and academic problems (Donohue, Miller et al., 2007a; Donohue, Silver, et al., 2007b; Wechsler, Molnar, Davenport, & Baer, 1999). Specific consequences related to substance use in student-athletes have included assault, DUI, police contact, injuries, death, alcohol poisoning, unsafe sexual practices, perpetration of rape, and other interpersonal problems (Dumas & Haustveit, 2008; Scott-Sheldon, Carey, & Carey, 2008; Ullman, Karabatosos, & Koss, 1999). Yet, despite the constant potentiality of drug testing and the negative physical, cognitive, and emotional consequences of substance use, prevalence rates persist at a substantial level.

Student-Athletes Risk Factors

Athletic Environment

While many college student-athletes benefit from the privileged social status, as well as the coveted opportunity to pursue his/her athletic goals, this does not preclude them from the difficulties faced by the majority of college students (Gill, 2008). While college students as a population are vulnerable to substance use and abuse, as well as comorbid mental health issues, the environment surrounding college athletics adds additional layers of stressors that can leave student-athletes at a heightened risk for substance use (Gill, 2008; Sack, 2001). Student-athletes are expected to balance the responsibilities of being a full time student with those of being a full time elite athlete. Many college athletes, who used sports as a means of escaping crime and gang-ridden communities with underprivileged educational programs, enter top universities unprepared to face the challenges of college level academics (Edwards, 1995; Gill, 2008). Yet, while contending with the rigor of their course load, student-athletes are required to devote time

to games, practice, individual workout, medical treatment, physical therapy, film study, etc., with the expectation that he/she will work to optimize his/her athletic performance (Martens, Dams-O'Connor, & Beck, 2006).

Along with the advantages of the newfound social role, come the pressure and the scrutiny of being in the public eye, which has been demonstrated to negatively impact social, occupational, and academic development in athletes (Marcello et al., 1989; Nattiv & Puffer, 1991; Watson, 2005). Furthermore, athletes, who are directly responsible for the success or defeat of their team, may be especially vulnerable to the cultural link between athletics and substance use. Athletes are forced to endure the emotional highs and lows of athletics and therefore, may be more likely to be influenced by the pairing of substance use with celebration or commiseration (Martens et al., 2006). Given their social role as athletes, these students may also have greater access to environments and social functions where alcohol and other drugs are readily available (Tricker et al., 1989). Student-athletes often become trapped in a conflict between the needs of the team, their coach, the system, etc. for performance and profits and their own mental and emotional needs, in which the student-athletes' needs are typically given secondary priority (Gill, 2008). Yet, while theorists are quick to point to the link between the pressures of college athletic participation and substance use, research indicates that while sports-related pressures may be a contributing factor, this type of stress is not the chief explanation (Martens et al., 2006).

Many student-athletes have been left vulnerable having grown up in underprivileged communities and face further challenges when forced to integrate in the predominately affluent universities that they represent (Gill, 2008; Hawkins, 2000). Student-athletes are isolated from their communities and families for extended periods of time and placed in a new environment

that is significantly different from what is familiar (Gill, 2008; Lett & Wright, 2003). Student-athletes also tend to find themselves in an isolated environment, segregated from the rest of the university population (Harvey, 1999). Due to the time constraints of their multiple roles and responsibilities, student-athletes are significantly less likely than other college students to participate in campus activities beyond athletics, which in turn restricts their social circles and activities to those within the athletic department (Ferrante et al., 1996). This dependence on the athletic department may lead to conflict and isolation if there is a mismatch in personalities, in which the student-athletes would be left with little other social support (Gill, 2009).

Being insulated within the athletic department, furthermore, could lead to identity foreclosure, with the student-athlete drawing all his/her self-esteem from athletic performance. Student-athletes are at increased risk of being negatively impacted by the emotional toll of athletic participation in ways that would be less likely if these student-athletes had additional sources of self-worth (Marten et al., 2006). Additionally, the isolation and identity foreclosure are further complicated by the impending athletic retirement that will most likely occur at the end of the student-athlete's college career, thus adding another stressor that needs to be managed simultaneously (Tricker et al., 1989).

Social Norms

Furthermore, a prominent predictive factor for substance use among college students is perceived social norms, defined as the beliefs that an individual has regarding the prevalence of a behavior in a population of peers (Berkowitz, 2004). Independent of the accuracy of these beliefs, the perceived social norms indirectly influence the individual's own behavior. Therefore, students' overestimation of perceived substance use have been demonstrated to be highly predictive of individual alcohol and marijuana use and misuse (Kilmer, Walker, Lee, Palmer,

Mallett, Fabiano, & Larimer, 2006; Neighbors, Geisner, & Lee, 2008; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Due to the common isolation from the majority of other university students, student-athlete specific perceptions tend to be more influential on behavior as opposed to university-wide perceived norms, with misperceptions regarding substance use among teammates and other closely associated athletes correlating with individual substance use (Martens, Dams-O'Connor, Duffy-Paiement, & Gibson, 2006; Perkins & Craig, 2006). Among male athletes, perceptions of male athletes' marijuana use have been demonstrated to predict individual marijuana use, while perceptions of opposite gender marijuana use have been associated with use among female athletes (LaBrie, Grossbard, & Hummer, 2009; Page & Roland, 2004).

However, Latane (1981) purported that the connectedness and "attraction to team" (how emotionally drawn one is to a group) that an individual experiences towards a particular group influences the impact of the perceived group norms on individual behavior. Therefore, if a student-athlete does not feel connected or as if he/she belongs within his/her team, the effect of the perceived norms will at least diminish, if not disappearing altogether (Grossbard, Hummer, LaBrie, Pederson, & Neighbors, 2009). Grossbard et al. (2009) provided evidence suggesting that male athletes and athletes with higher levels of attraction to their team are more likely to have a marked relationship between perceptions of alcohol use norms and actual drinking behavior. Yet, student-athletes with high levels of attraction to their team had significantly fewer alcohol-related consequences in contrast to those athletes with lower attraction to their team (Grossbard et al., 2009). With regards to marijuana use, attraction to team was inversely correlated with use, illustrating that student-athletes with weaker attraction to their team were more likely to use marijuana, especially if these individuals also overestimated the marijuana use

of other teammates (Grossbard et al., 2009). These findings suggest that marijuana use among college athletes may occur external to the athletic community as student-athletes who were less connected to their teammates may seek alternative social contacts. Additionally, a diminished attraction to the team would also reduce the gravity of potential negative consequences of marijuana use related to eligibility and ability to perform. In this way, connection to the team would serve as a protective factor against marijuana use (Grossbard et al., 2009).

However, the social pressure and perceived norms can also be skewed in the opposite direction, with student-athletes assuming that they must engage in substance use in order to fit in or to avoid negative consequences and social exclusion. Certain sports teams may foster a team culture that encourages substance use, especially use of alcohol (Ford, 2007). Leichliter et al. (1998) purported that due to the restrictions on the ability of student-athletes to drink alcohol during their athletic season, student-athletes may be more likely to drink excessively when presented with the opportunity. Student-athletes may be more likely to endorse a “work hard, play hard” mentality or allow their competitiveness to manifest in their drinking behavior (Wilson et al., 2004). Ford (2007) stated that further research is necessary to determine why certain teams are more likely to engender a culture of substance use while others foster an environment that is disapproving.

Cognitive and Psychological Factors

Many student-athletes face the additional challenge of balancing mental health issues. Gardiner (2006) estimated that between 10 and 20 percent of student-athletes suffer from depression, with student-athletes being at a higher risk of having depression than their non-athlete peers (Gardiner, 2006; Maniar, Chamberlain, & Moore, 2005). Student-athletes experiencing mental health issues also have higher rates of substance abuse (Miller, Miller,

Verhegge, Linville, & Pumariega, 2002). However, student-athletes have demonstrated high levels of underutilization of counseling services (Brewer et al., 1998).

Finally, over 300,000 child and adolescent athletes each year sustain sports-related head injuries that result in loss of consciousness and with many more mild concussions and mild traumatic brain injuries (mTBI) being unrecognized, undiagnosed, and therefore, unreported (Semrud-Clikeman & Klipfel, 2016; Webb & Salinas, 2011). Additionally, athletes who have experienced a head injury are four to six times more likely to experience a second concussion, typically from a milder head trauma and athletes who have sustained greater than three head injuries tend to experience increased severity of symptoms with each subsequent concussion (Collins et al., 2002; Guskiewicz et al., 2003; Semrud-Clikeman & Klipfel, 2016). TBI and substance use are bi-directionally related with each increasing risk and negatively impacting treatment outcomes (Graham & Cardon, 2008). Substance use frequently causes TBIs due to car accidents, falls, or assaults, while TBIs may increase the risk of substance use in psychologically vulnerable individuals (Horner et al., 2005; Taylor et al., 2003). It is unknown, however, whether experiencing a TBI causally results in increased substance use behavior or if substance use after a head injury is used to cope with chronic pain or psychosocial difficulties resulting from the TBI (Nampiarampil, 2008). Substance use also negatively influences the length and quality of recovery from a TBI (Ilie et al., 2015). Substance use following a head injury can result in further brain damage, increased frequency of aggressive or antisocial behavior, poorer academic performance, and interpersonal difficulties (Corrigan & Deutschle, 2008; Ilie et al., 2015).

Interventions

Student-Athlete Drug Interventions

Psychoeducation. Prevention and intervention efforts that focus primarily on general educational programming about drugs and alcohol coupled with warnings about drug testing procedures and potential consequences have largely proven ineffective in adequately deterring student-athletes from engaging in substance use (Anshel, 1991; Martin, 1998). In fact, researchers suggest that drug education is associated with increased substance use (Hanson, 1982). Marcello et al. (1989) implemented programming for student-athletes consisting of educational components regarding drugs and alcohol, skills training in decision making, risk assessment, stress management, assertiveness, and resisting peer pressure, as well as elements designed to enhance generalizability of these new skills. Despite the inclusion of evidenced-based interventions for substance abuse, the program did not produce a significant change in substance use behavior or attitudes towards drugs, thus highlighting the need to consider additional factors in order to increase the potential efficacy of preventative efforts.

Web-based interventions. More recently, researchers have aimed to develop brief, low cost web-based interventions targeting marijuana use in college students. Interventions provide students with individualized feedback as well as normative data for comparison in an attempt to correct perceptions of social norms surrounding drugs and alcohol on campus. Lee, Neighbors, Kilmer, & Larimer (2010) did not find an overall intervention effect for reductions in marijuana use or marijuana-related consequences, yet reported a pattern of reductions in use among students who were more contemplative about changing their marijuana use behavior at baseline as well as among students reporting a family history of drug use. It is possible that the information was more salient for these types of students due to the perceived personal relevance,

and therefore increased active processing and integration of the information (LaBrie et al., 2009). These results indicate that a web-based feedback intervention might be most appropriate for students who are, at least, contemplative about changing their substance use behavior (Lee et al., 2010). Furthermore, it is likely that a more general college population requires more intensive intervention efforts in order to be impactful (Lee, Kilmer, Neighbors, Atkins, Zheng, Walker, & Larimer, 2013).

Subsequently, Lee et al. (2013) implemented an in-person intensive feedback session to supplement the web-based personalized feedback. This single session intervention included reviewing information regarding the student's individual pattern of marijuana use, comparing this pattern of use to the normative sample of peers, discussing social, cognitive, and physical consequences of marijuana use, and considering individual risk for abuse and dependence. The individual financial cost of marijuana use was presented and the student was engaged in discussing the costs and benefits of stopping marijuana use. Students received feedback concerning family history of risk, alcohol use, and use of other drugs. Finally, the students were engaged in discussing their social circles as well as their personal goals and how marijuana use interacts with each. Lee et al. (2013) reported that while the intervention did not significantly reduce the number of days that participants used marijuana, students did report reducing the quantity of marijuana they used. This effect, however, was no longer present at a six-month follow-up. The authors suggested the need for in-person multi-session interventions with the possibility of booster sessions at regular intervals in order to maintain motivation and reexamine incompatibility of marijuana use with individual goals (Lee et al., 2013).

CBT and MI. Research considering the unique configuration of factors influencing the substance use behavior of student-athletes has been minimal thus far. Despite an identified need

for interventions that complement sport performance interventions, evidence based protocols have not been established (Aoyagi, Portenga, Poczwardowski, Cohen, & Statler, 2011).

Presently, guidelines for working with substance-involved student-athletes point toward cognitive-behavioral interventions that have demonstrated efficacy with other substance-involved populations including, behavioral therapy, cognitive therapy, CBT, contingency management, goal setting, social skills training, etc. (Rounsaville, Carroll, & Back, 2004).

Furthermore, cognitive-behavioral approaches align with the beliefs and the disposition typically displayed in athletics. Student-athletes are familiar with cognitive-behavioral interventions as their coaches and trainers commonly use these methods to enhance athletic performance. In this way, student-athletes are primed to view cognitive-behavioral interventions as more acceptable and congruent with their values and world view (Donohue, Pitts, Gavrilova, Ayarza, & Cintron, 2013).

Cognitive- behavioral therapy emphasizes teaching student-athletes the skills to cope with internal and external triggers that previously had led to substance use behaviors. Sessions focus on managing situations that involve alcohol or other drugs, coping with urges, assertiveness and communication skills, and reducing risk of relapse. Student-athletes are also taught skills to cope with negative thoughts, emotion regulation techniques, and anger management skills. Additional focus is on developing a new social network that is supportive of the student-athlete's recovery. Sessions include problem solving situations encountered throughout the week in order to facilitate transfer of skills. Role-playing is often used in session to practice new skills and homework is assigned to ensure implementation (Mattson et al., 1993).

The effectiveness of cognitive-behavioral interventions, however, is often reliant on the individual's readiness to change, which may vary across time, and tends to fall along the

continuum from precontemplation (not considering change) to contemplation (considering change) to action (actively working to make changes) (Prochaska & DiClemente, 1986).

Motivational enhancement techniques have demonstrated effectiveness in working with individuals who present as ambivalent about change (Rowe, 2012; Stephens et al., 2006).

Motivational enhancement approaches may be especially relevant for work with the student-athlete population, as many of these students are living within difficult conditions and are isolated from their established social supports, which can understandably generate ambivalence (Donohue et al., 2013).

Motivational enhancement techniques aim to highlight the student-athlete's own resources to effect change. Student-athletes are provided individualized feedback regarding problems associated with substance use in order to foster motivation to change. Multiple sessions may be used to consolidate the student-athlete's commitment to changing their substance use behavior and begin to remove barriers to successful change efforts. Motivational enhancement therapy emphasizes the processes of natural recovery through the stages of change and highlights the student-athlete's responsibility and choice in the change process. Therapy sessions are not viewed as the primary vehicle of change, instead focusing on the student-athlete's internal resources and the resources and supports already within their environment (Mattson et al., 1993).

Cognitive strategies appeal to student-athletes' maturity, intellect, and desire for self-actualization personally and professionally, as well as individually and collectively as part of a team (Donald, 1983). Grossbard et al. (2009) emphasized the potential importance of fostering connection to one's team as a protective factor against drug use and negative consequences from substance use. In this way, discrepancies between individual and team goals and substance use behaviors can be used to leverage motivation for change (Grossbard et al., 2009). Social skills

training can aid in facilitating individual connection to teammates and to the group as a whole (Senecal, Loughhead, & Bloom, 2008). Finally, it would be important when using normative feedback to use norms that are athlete and/or team specific (Grossbard et al., 2009).

Table 1
Comparison of Intervention Techniques

Cognitive-Behavioral Therapy	Motivational Interviewing
<ul style="list-style-type: none"> • Coping skills to manage internal and external triggers • Contingency management • Coping with urges • Assertiveness and communication skills • Emotion regulation • Coping with negative thinking • Developing a positive social network • Problem solving and role-playing 	<ul style="list-style-type: none"> • Highlight the individual's responsibility and choice in their behavior • Mobilize individual's internal resources and motivation for change • Develop discrepancy between behavior and goals • Facilitate change talk • Remove barriers to change

In order to enhance buy-in from student-athletes, Donohue et al. (2013) suggested that individual therapy sessions occur within the athlete's natural environment, such as in a training facility or playing field, thus enhancing privacy and decreasing stigma. If this is not possible, Donohue et al. (2013) recommended conducting therapy sessions in offices that are decorated with athletic paraphernalia and/or motivational posters and having therapists who are knowledgeable, interested, and up to date with professional sports. Donohue et al. (2013) proposed that therapists wear athletic attire, such as polo shirts, and use the title "performance coach" as opposed to therapist or psychologist. These external modifications aim to enhance acceptability and confidence in the treating professionals, while also emphasizing that therapist and student-athlete have the same goal of performance enhancement. Furthermore drawing from performance enhancement techniques, it is typical for coaches to use humor with student-athletes

and therefore, it is recommended that therapists adopt a similar manner when implementing interventions with student-athletes (Burke, Peterson, & Nix, 1995). Student-athletes have been conditioned to respond to positive reinforcement and individual feedback, which serves to increase individual confidence, motivation, and focus, which again highlights a recommendation for conducting therapy sessions (Weinberg & Gould, 1999).

Goals for treatment and session agendas should be framed in a positive manner and focus on goal attainment, aligning with the values of the individual student-athlete. Homework should be reviewed and achievements highlighted and reinforced (Donohue et al., 2013). Therapists should also be aware of unique “people, places, and things” that influence substance use behavior in student-athletes that differentiates these students from the general population, including pressure to perform, anxiety regarding games, fatigue, injuries, disagreements with coaches, teammates, or others in the athletic department, pressures from the media, pressure to have unprotected sex or binge drink, pressure to stay out past curfew, or difficulty completing school assignments (Donohue et al., 2013). Moreover, the substances used vary greatly dependent on the specific culture of the team and therefore, interventions need to be tailored to the drug or drugs of choice, as well as attentive and responsive to the motivations for substance use (Green, Uryasz, Petr, & Bray, 2001). It is also important to consider cultural adaptations and accommodations that may be necessary in treatment planning, as well as assessing the potential stress of cultural mismatch between the student-athletes and the university environment (Donohue et al., 2013).

Family behavior therapy. While presently there is no evidence-based intervention for the treatment of substance use specifically in student-athletes, Donohue et al. (2013) proposed a model of behavioral therapy that has been modified to address the needs of student-athletes.

Family Behavior Therapy (Donohue & Allen, 2011; Donohue & Azrin, 2011), originally designed to treat drug and alcohol use in adults and adolescents, has demonstrated efficacy in controlled clinical trials (Bukstein & Homer, 2010). In this modified approach, Family Behavior Therapy is combined with the Sport Psychology Benefits Interview (Donohue et al., 2004) and the Semi-Structured Interview for Consideration of Ethnic Culture in Therapy (Donohue et al., 2006) in order to address ambivalence and reluctance to engage that is typical of mandated student-athletes. Family Behavior Therapy aims to promote long-term abstinence by developing skills that are incompatible with substance use (antecedent control, communication and assertiveness skills) in order to reduce stressful events that could trigger substance use, by modifying the environment to reinforce activities that are incompatible with substance use, and by rewarding actions that are incompatible with substance use.

Family Behavior Therapy seeks to engage significant others from the student-athlete's life into the treatment in order to foster social support and accountability. In the initial session, student-athletes are asked to generate a list of significant people in their life that could be invited to participate in the treatment. When considering student-athletes, it is recommended that therapists aim to include parents, romantic partners, teammates, close friends, coaches, and other mentors (Donohue et al. 2013). Gill (2008) described how student-athletes who feel isolated and disenfranchised within the athletic environment could especially benefit from the inclusion of parents and coaches in treatment. The involvement of important others also enables rapid, accurate, in-depth assessment of individual and cultural considerations that are instrumental in treatment planning (Turrisi et al. 2009). Significant others may also aid in fostering engagement in treatment, monitoring target behaviors, improving communication, containing relapses, modeling appropriate skills, and reinforcing positive behaviors (Donohue et al., 2013). Student-

athletes also often report feeling homesick and isolated from their families and networks and therefore, by including important others in treatment, student-athletes may be more likely to engage as communicating with their families is likely reinforcing (Donohue et al., 2013).

Systemic interventions. Finally, it is important to consider systemic level changes that could influence student-athlete's substance use behaviors. Coaches and athletic staff have more contact with these student-athletes than anyone else and therefore, the student-athletes often absorb the behavior and attitudes of their coaches and trainers (Anshel, 1991). It is important to recruit coaches and trainers into efforts to intervene regarding substance use. Coaches and athletic staff need to be explicit in discussing the negative impact of drugs on athletic performance as well as their personal concerns about student-athlete's risky substance use behaviors. In addition to implementation of consequences as outlined in department policy, student-athletes need to understand that coaches and athletic staff are concerned about their personal well-being. Policies regarding substance use need to be clear, detailed, and enforced consistently (Anshel, 1991). It is also important to consider the potentiality of using peer mentors or support groups consisting of teammates or other athletes in order to facilitate engagement, communication, and motivation to control substance use as the intervention would be coming from peers or teammates rather than a punitive authority (Anshel, 1991). Ideally, a comprehensive intervention program would include components at multiple levels, addressing individual factors, involving significant others, and creating an athletic environment that has a clear message regarding substance use with each component complementing the others (Larimer, Kilmer, & Lee, 2005).

Due to the lack of research of substance use interventions for student-athletes, it is necessary to consider intervention designs that have been established for other related

populations. Research supports the potential for the upward extension of drug treatment programs designed for adolescents, the downward extension of those established for adults, as well as the lateral extension of substance use treatment programs designed for general college populations (Larimer, Kilmer, & Lee, 2005; Martens, Dams-O'Connor, & Beck, 2006).

Furthermore, the etiological factors maintaining drug use among college students are similar to those in alcohol use, therefore providing support for the potential application of alcohol use interventions to the intervention of drug use in a college aged population (Larimer, Kilmer, & Lee, 2005). Finally, it is important to consider individuals that discontinue substance use without formal intervention as these individuals might be able to illuminate factors that have not previously been considered (Larimer, Kilmer, & Lee, 2005).

Student-Athlete Alcohol Interventions

Similar to interventions described above, research concerning alcohol use programming has indicated that cognitive-behavioral and motivational enhancement interventions demonstrate effectiveness in reducing alcohol abuse among college students, with general psychoeducational programming having a significantly smaller effect (Larimer & Cronce, 2002). Martens, Dams-O'Connor, & Beck (2006) proposed that alcohol interventions for college athletes need to consider the unique needs of these student-athletes and the research regarding risk factors and motivations for alcohol use specifically in student-athletes populations, while also incorporating these athlete specific factors and the athletic department as a system into interventions. When athletes who do not drink alcohol were assessed for their motivations to stay sober, student-athletes primarily endorsed do so for health and performance reasons (Nelson & Wechsler, 2001). Thus, health and performance concerns are a likely avenue to achieving buy-in and generating goals. Student-athletes may be lacking education about or may not have a detailed

account of the health related consequences of alcohol use (Martens, Dam-O'Connor, & Beck, 2006). Research suggests that alcohol consumption within 24 hours of athletic activity can result in decreased aerobic activity, dehydration, deteriorated psychomotor skills, decreased exercise capacity, reduce muscular strength, decreased cardiovascular endurance, and diminished capacity regulate body temperature (American College of Sports Medicine, 1982; El-Sayed, Omar, & Lin, 2000).

Web-based interventions. Dumas & Haustveit (2008) evaluated the efficacy of a brief web-based individualized normative feedback program offered through the Athletic Department's fall first year seminar that was designed to target drinking in freshman student-athletes. Results indicated that student-athletes participating in this web-based feedback program had significant reductions in alcohol use and greater changes in beliefs about peer's drinking behavior as compared to student-athletes receiving an alcohol education program. The researchers contended that despite the small to medium effect size, the practical significance is relevant with a reduction in drinking variables of 32-46% in the intervention group and 6-12% in the education only group (Dumas, Haustveit, & Coll, 2010). The researchers suggested future studies to evaluate the effect of using a normative comparison group that presents athlete drinking norms as compared to average college student norms (Dumas, Haustveit, & Coll, 2010), as well as investigations of the difference in student-athlete drinking patterns during the athletic season versus the offseason (Martens, Dams-O'Connor, & Duffy-Paiement, 2006). Depending on whether student-athletes are presently in their competitive season or in the off-season may influence their drinking habits and the perceived and actual social norms, and subsequently the types of interventions that would be most effective (Dumas, Haustveit, & Coll, 2010). While web-based normative feedback may be useful as a brief intervention, it can also be

incorporated into ongoing treatment. Student-athletes may be more amenable to completing a web-based program between sessions and may be more forthright about alcohol use. Feedback can be brought into session and collaboratively discussed, providing information that can be incorporated into motivational interviewing strategies (Doumas, Haustveit, & Coll, 2010).

Finally, the fact that this intervention was conducted through the Athletic Department may have contributed to student-athletes' buy-in, acceptability, beliefs about personal applicability, and reduction in stigma.

Systemic interventions. The National Institute on Alcohol Abuse and Alcoholism (2002) proposed that interventions at multiple systemic levels are necessary in order to change the culture of drinking on college campuses. Following from this recommendation, any intervention designed to influence substance use behavior would likely benefit from interventions at multiple systemic levels, involving as many athletic personnel as possible (Martens, Dams-O'Connor, & Beck, 2006). It is likely that athletic trainers and other staff that work closely with student-athletes may be best positioned to provide brief interventions as they are likely the people that student-athletes interact with the most and would possibly be the first to notice if a student is drinking heavily. Athletic trainers could provide brief motivational interviewing style interventions that have demonstrated effectiveness in primary care settings (Bertholet, Daeppen, Wietlishbach, Fleming, & Bumand, 2005). Additionally, coaches could be recruited into the intervention plan in the role of enforcing systemic policies and influencing the culture of the athletic department concerning substance use by providing clear, consistent messages regarding use. Due to their position of power, coaches have the platform to effectively intervene on a large scale (Martens, Dams-O'Connor, & Beck, 2006).

The research on alcohol interventions targeting student-athletes provides support for the transferability of drug use interventions for college students to a student-athlete population as many of the concepts, strategies, and interventions are similar. Furthermore, the similar etiology of drug and alcohol use in college-aged individuals lends additional support to the applicability and potential effectiveness of these types of interventions with a student-athlete population.

Mandated Alcohol Interventions

Considering that most college-aged students who drink heavily will not identify themselves as having issues with substance use, college students primarily present to treatment for a brief mandated substance use intervention after a drug or alcohol incident or violation (Barnett & Read, 2005; Caldwell, 2002). Mandated students are more likely to experience negative long-term outcomes due to increased defensiveness about their substance use behaviors and high levels of resistance to treatment (Barnett et al., 2008). Mandated students typically present with lower readiness to change and limited aversion to high risk substance use behaviors that may have recently resulted in consequences (Barnett et al., 2008; Carey, Henson, Carey, & Maisto, 2007).

Barnett et al. (2004), however, reported that at intake, 70% of mandated students had already made changes to their substance use behavior following medical evaluation for intoxication or alcohol-related violations. Morgan, White, and Mun (2008) reported that mandated students significantly reduced total weekly drinks and frequency of alcohol use prior to mandated interventions, with students who had more serious violations reducing their alcohol consumption significantly more than those referred for less serious violations, suggesting that the process of getting caught, receiving consequences, and being mandated to treatment contributes to behavioral change. The authors propose that students with more serious violations may

experience more negative cognitive self-appraisals and affective responses, which could motivate change in substance use (Morgan, White, & Mun, 2008). Intake clinicians should assess substance use behavior prior to any violations, as well as changes in behavior and substance use since the violation. In this way, clinicians can reinforce behavioral changes and provide more accurate recommendations regarding level of care (Morgan, White, & Mun, 2008).

Additionally, research has demonstrated that mandated students who engage in brief motivational interventions for substance use following a drug or alcohol violation display lower rates of drinking and alcohol related issues for periods of up to six months with intervention effects being greater than the effect of the disciplinary action alone (Carey et al., 2011; Terlecki et al., 2010). Carey et al. (2013) reported that mandated students tend to prefer in person brief interventions as compared to computerized feedback, highlighting how in combination with the effectiveness of brief motivational interventions, this format may be the best suited intervention for high risk substance using students.

BASICS program. Terlecki et al. (2015) suggested use of the Brief Alcohol Screening and Intervention for College Students (BASICS; Dimeff, Baer, Kivlahan, & Marlatt, 1999), which is a brief intervention that assesses substance use and provides individualized feedback within the frame of motivational interviewing techniques. BASICS is a two session model that has students monitor alcohol use between sessions in order to enhance implementation, problem solving, and personalization of feedback. Motivational interviewing may be particularly important with mandated students in order to highlight the choices that the student is making in a non-confrontational manner (Miller & Rollnick, 2002). Terlecki et al. (2015) reported that mandated and volunteer students engaged in BASICS demonstrated sustained reductions in drinking and alcohol-related issues at one year post-intervention. At four week follow-up,

students reduced weekly drinking, typical alcohol consumption, and peak alcohol consumption. BASICS participants also continued to reduce drinking over a one year assessment period relative to controls regardless of whether the participant was mandated or voluntary (Terlecki et al., 2015).

Research further suggests that a continuum of services to address alcohol use and violations may be warranted with students involved in less serious violations being mandated to educational interventions or psychoeducational groups and students involved in more serious violations or assessed to engage in heavy substance use behaviors being mandated to brief motivational interventions that provide individualized feedback. In this way, the university can balance cost and staff resources by referring students to appropriate levels of care (Terlecki et al., 2015). Moreover, following from research on autonomous health behavior change, individuals who are actively involved in the choices surrounding their health care are more likely to sustain behavioral changes as opposed to individuals who are forced to change (Markland, Ryan, Tobin, & Rollnick, 2005). This suggests that if possible, students should be involved in the selection of mandated interventions to further enhance motivation for behavioral change.

Barriers to Implementation

Despite the high risk for student-athletes to engage in substance use behaviors, there is a dearth of evidence-based treatments that have been modified to address the needs and risk factors of a student-athlete population (Donohue et al., 2013). The American Psychological Association designates that when there is limited research addressing interventions with a specific population, treatment programs designed for similar populations should be implemented with appropriate modifications (APA, 2006). Yet, issues of transportability of interventions from research settings to applied settings often impact treatment fidelity and potentially efficacy, the

additional layer of using an intervention with a population for which the intervention has not been studied further complicates the issues of appropriateness of the intervention (Donohue et al., 2013; Larimer, Kilmer, & Lee, 2005). Substance use interventions that are selected must have enough flexibility to be able to be modified and adapted to the needs of the student-athlete population, as well as the unique culture of the treatment center and its clinicians, without compromising the efficacy (Rohrbach, D'Onofrio, Backer, & Montgomery, 1996). Therefore, it is important to anticipate the needs of the population and the organization before selecting an intervention in order to make an informed decision about which intervention would best suit the multiple levels of needs.

Beyond questions of transportability and applicability, it is also important to consider the acceptability of a treatment program among the target population, the system as a whole, and the treating clinicians. Larimer, Kilmer, & Lee (2005) indicated that student-athletes may be distrustful of the intentions behind a substance use assessment, screening, or intervention, which would likely result in unwillingness to engage honestly and openly. This reluctance should be monitored and quickly addressed before attempting to move forward with any therapeutic efforts in order to maximize the chances of a successful outcome. Furthermore, there may be hesitancy within the system to implement a drug prevention or intervention program as this would highlight that this behavior exists within the athletic department and has been identified as a problem, which many departments may be reluctant to admit (Larimer, Kilmer, & Lee, 2005). This wariness may be further compounded by the tendency to want to keep the student-athletes “in house” and the averseness to introducing “outsiders” into the system (Gill, 2008).

Finally, a selected intervention program must be acceptable to the treating clinicians in order for the transferability of the program to be successful. It is important, therefore, to spend

time prior to implementation of the intervention to work with directors, administrators, and staff members in order to increase familiarity and buy-in (Liddle et al., 2002). It is also necessary prior to implementation to consider administrative factors, such as budget, training, and staffing, and have conversations with administrators and other key stakeholders to address any potential barriers that could undermine the implementation efforts (Larimer, Kilmer, & Lee, 2005). Oftentimes, the uncertainty of a new intervention program, as well as working with a new population, may cause hesitancy among the staff to adopt a new approach. Staff members typically want to maintain treatment approaches that are familiar and comfortable, feelings that should be met with empathy and reframing (Liddle et al., 2002). Sobell (1996) highlighted the need for ongoing attentiveness to maintaining an intervention, emphasizing the need to be thoughtful regarding planning, development, and implementation, as well as maintenance such as providing training workshops at regular intervals, ongoing clinical support, and additional resources and materials to support the implementation efforts. By maintaining an ongoing supportive relationship, the longevity of the treatment program is enhanced (Sobell, 1996).

Goals and Scope of Study

Presently, there is limited research on substance use interventions designed specifically for student-athletes, yet this population shares some commonalities with the general college population, therefore enabling the potentiality of drawing from research in this area. Guidelines for working with substance-involved student-athletes suggest cognitive-behavioral and motivational enhancement interventions that have demonstrated efficacy with other substance-involved populations and are consistent with cognitive-behavioral interventions used by coaches and trainers to enhance athletic performance (Rounsaville, Carroll, & Back, 2004). Doumas and Haustveit (2008) demonstrated effectiveness of a web-based feedback program in significantly

reducing alcohol use and perceptions of peer's drinking behaviors. Lee, Neighbors, Kilmer, and Larimer (2010), however, did not find sustainable changes in marijuana use in college students who participated in a web-based intervention with an individualized feedback session. It is possible that additional sessions to reinforce motivation for decreased use and incompatibility with goals would be required to maintain reduced use. Dumas, Haustveit, and Coll (2010) suggest that student-athletes may be able to complete web-based interventions between sessions and results can be incorporated into ongoing treatment. Web-based interventions are designed to provide information regarding normative data about substance use behavior among peers and Grossbard et al. (2009) recommended that norms be adjusted to be specific to student-athletes or even to a specific athletic team, highlighting how this could be more impactful for student-athletes.

Family Behavior Therapy, which has demonstrated clinical efficacy in controlled trials with substance use in adolescents and adults, aims to promote long-term abstinence by developing skills that are incompatible with substance use. Family Behavior Therapy seeks to engage significant others from the student-athlete's life into the treatment in order to foster social support and accountability, which may be especially significant for socially isolated student-athletes (Donohue et al., 2013). Finally, any intervention designed to influence substance use behavior would likely benefit from interventions at multiple systemic levels, involving as many athletic personnel as possible (Martens, Dams-O'Connor, & Beck, 2006). By coordinating any intervention efforts with the athletic department, student-athletes' buy-in, acceptability, beliefs about personal applicability, and minimization of stigma will be enhanced.

Given the extensive list of risk factors that substance-involved student-athletes may present with and the lack of evidence-based interventions specific to treat substance use in this

unique population, the goal of this study is to survey the treating clinicians in order to obtain their perspective on which risk factors to prioritize when developing a treatment program. Risk factors likely vary across sports teams, athletic departments, universities, and will change over time. Treating clinicians will have the most up to date information about relevant risk factors and could potentially also be able to identify interventions that would not be appropriate or would have issues regarding acceptability or transportability. The goal will also be to assess the organizational needs and the intersecting needs of treating clinicians, student-athletes, and the athletic department. The needs assessment will consider the interdepartmental dynamics and how this is impacting implementation of interventions.

Methods

The purpose of this dissertation was to conduct a needs assessment, surveying the opinions of the treating clinicians in order to inform recommendations for a treatment program to address the identified need for an evidence-based intervention for substance use behaviors in student-athletes. From the perspective of the treating clinicians, the needs assessment evaluated the needs of the student-athletes, the treating clinicians, and the athletic department, all within the context of this specific university environment with specific attention paid to the interaction between departments and systemic needs.

Participants

The focus of this study was on the perspectives of the treating clinicians, aiming to consider all potential areas of assessment and intervention. The participant sample was limited to treating clinicians, prioritizing depth of information rather than breadth. The level of detail that the survey requires renders it impossible to complete by professionals in other disciplines. The key informant method was used to identify and recruit participants that were likely to have a

breadth of knowledge regarding the needs of the target population and the systemic context. Due to the presupposed comprehensiveness and representativeness of the knowledge of the key informants, a smaller number of participants was needed. In collaboration with an internal consultant, who had previously been involved in treatment of student-athletes at this university, eleven key stakeholders were identified and were sent an initial email inviting participation in the survey. Three of the initial identified participants were employed in the Sports Medicine department of the athletics program, five of the identified participants were employed through the Center of Alcohol Studies, which had previously partnered with the athletics department in the treatment of substance involved student athletes, and three of the identified participants were independent psychologists, who have partnered with the athletics department and are consistent referral sources for substance involved student athletes. Two of the emails sent to employees in Sports Medicine were unable to be delivered. It is likely that these email accounts were no longer active. Snowball sampling was also implemented as participants were encouraged to forward the link to the survey to other personnel within the university whose responses would benefit the representativeness and comprehensiveness of the sample and subsequent outcomes of the study. The aim of this technique was to reduce to potential of unintentionally excluding an important perspective (Soriano, 2013).

The initial participants were further recruited with the assistance of the aforementioned internal consultant, who acted as a liaison between the researcher and the identified participants. The internal consultant emailed each potential participant providing information regarding the nature and purpose of the study and encouraging participation in the survey. An endorsement from an internal consultant likely enhances the perceived validity and utility of the study and therefore, the participation rate, which is consistent with the participation in this study as the

majority of completed surveys were submitted after the internal consultant emailed his endorsement (Soriano, 2013).

A total of thirteen individuals opened the survey link and completed the demographic information. Eight surveys were submitted with sufficient information to be included in the analysis. Participants included one male-identified individual and seven female-identified individuals. There were two participants employed through the Center for Alcohol Studies, one clinician in private practice, four employed through the university Counseling, ADAP, and Psychiatric Services (CAPS), and one participant employed through the graduate school community clinic. Ages of participants were as follows: one participant aged between 20 and 29, one between 30 and 39, three between 40 and 49, two between 50 and 59, and one between 60 and 69. Six participants identified as Caucasian, one participant identified as African American, and one participant identified as Black. On four of the five incomplete surveys, the individual completed the demographic information, but did not respond to any other question. The fifth survey was excluded because the individual completed the demographic information, but responded "N/A" to all questions. All five individuals who submitted incomplete surveys were female-identified, two were aged between 30 and 39, three were aged between 40 and 49, two identified as Caucasian, one identified as Black, one identified as biracial, and one identified as Asian. One of the incomplete surveys was submitted by an employee in the Athletics department, one was employed by Student Health Services, and three were employed by the Center for Alcohol Studies.

Procedures

Participants were invited to complete an online survey consisting of open-ended questions that enabled the participant to answer in narrative form. The qualitative nature of the

survey aimed to reduce the constraints around the multitude of possible responses and allowed for responses that would not have been predicted, while also reducing the potential influence of social desirability. Survey questions were developed based on factors identified through a thorough literature review of risk factors for substance use in student-athletes, interventions for substance use, as well as best practices in conducting a needs assessment. Questions were tailored to maintain the scope and the goals of the study.

The direct and indirect benefits of participation in the study were described to prospective participants, including benefits to the health and performance of the student-athletes and in turn, the athletic department and sports teams, as well as benefits to the treating clinicians as an intervention program will be recommended that is compatible with the organizational culture. Before beginning the survey, participants were provided with information about the purpose of the study and how their responses will be used. Participants were informed that participation is voluntary and were alerted to any potential risks to participation. Anonymity and confidentiality were assured, highlighting that responses will in no way be connected to any identifying information and that results were for internal use only.

The survey was open for about two months and potential participants were prompted by three separate emails, each approximately two weeks apart, encouraging their participation in the survey and/or their assistance in forwarding the link for the survey to other potential participants. The survey was closed when there was substantial convergence of themes across completed surveys and there was minimal novel information gathered through analysis of subsequent surveys.

Analyses

A qualitative approach, specifically utilizing grounded theory, was implemented, which allowed themes and categories to emerge from the interviews, without imposition of preexisting

theories (Mertens, 2010). Emerging theories were consistently tested against the data that was systematically collected via the constant comparative method (Mertens, 2010). A constructivist perspective was also adopted, recognizing that the themes and categories are not inherent to the data and were constructed by the researcher. In this way, there is recognition that the boundaries of each category are fluid rather than definitive (Mertens, 2010). The qualitative approach allowed for exploration of complexities of the needs of the student athletes, treating clinicians, and the athletic department, as well as contextualization of the perspectives of the treating clinicians.

An inductive analysis, in which themes and patterns are discovered in the data, was conducted in order to identify core themes that could inform treatment recommendations that would be appropriate to the specific needs of each group at this university. This content analysis was performed to reduce the data and develop a manageable coding/classification system. Initially, classification systems indigenous to the data were used to evaluate the content in an attempt to determine the distinctions and categories that were utilized by the treating clinicians to describe their perspectives and experiences. Researcher-constructed typologies were then employed to further explicate the themes that emerged (Patton, 2002). Convergence of data across interviews into meaningful categories was sought and evaluated based on the internal homogeneity of the category, as well as the external heterogeneity (Patton, 2002).

Credibility was developed by triangulating data across participants in order to establish substantive significance, which is the corresponding concept in qualitative research to statistical significance in quantitative research. When triangulating the data, attention was paid to voice, seeking data from each participant rather than relying on the most articulate participants. Negative case analysis and consideration of alternative interpretations was applied to the data in

order to further establish the credibility of the findings (Mertens, 2010). The limited amount of divergence within the data and the absence of a plausible alternative interpretation support the credibility of the results. Data was also reviewed for potential areas where more information is necessary in order to draw valid conclusions. Consistent with Soriano's (2013) recommendation, participants were asked at the end of the survey what they believe are the key findings in order to minimize the potential for misinterpretation of responses.

Finally, attention was paid to the subjectivity of the researcher and the potential biases that may have been brought to the data, through continual questioning and reflexive thought regarding the data and the emerging themes (Mertens, 2010). As the researcher is also a mental health clinician, it is possible that the results are biased by the researcher's ability to align with the perspectives of the treating clinicians more readily than with the goals of the athletic department. It is also possible that having conducted a literature review prior to data analysis, the researcher may have been primed to notice certain themes in the responses that are consistent with the literature. Recognition and continual questioning of the influence of these potential biases likely limited the impact on the results generated.

Results

Throughout the completed surveys, several themes, as well as interactions between the themes emerged as the participants articulated from their perspective what types of interventions would and would not be effective based on their knowledge and experience working with substance-involved student-athletes within their specific university system. Participants detailed client characteristics that substance-involved student-athletes tend to present with in this specific university system, which inform intake, assessment, and treatment planning. The majority of participants advocated for a range of intervention services, detailing consistent recommendations

for individual treatment and for systemic interventions. Participants also highlighted the relationship between departments and the interaction between competing goals of individual treatment and systemic needs. Participants discussed how individual treatment and systemic interventions interact on two dimensions: the need for a continuum of services and the current and historical relationships and dynamics between the athletic department and the organizations that employ the treating clinicians.

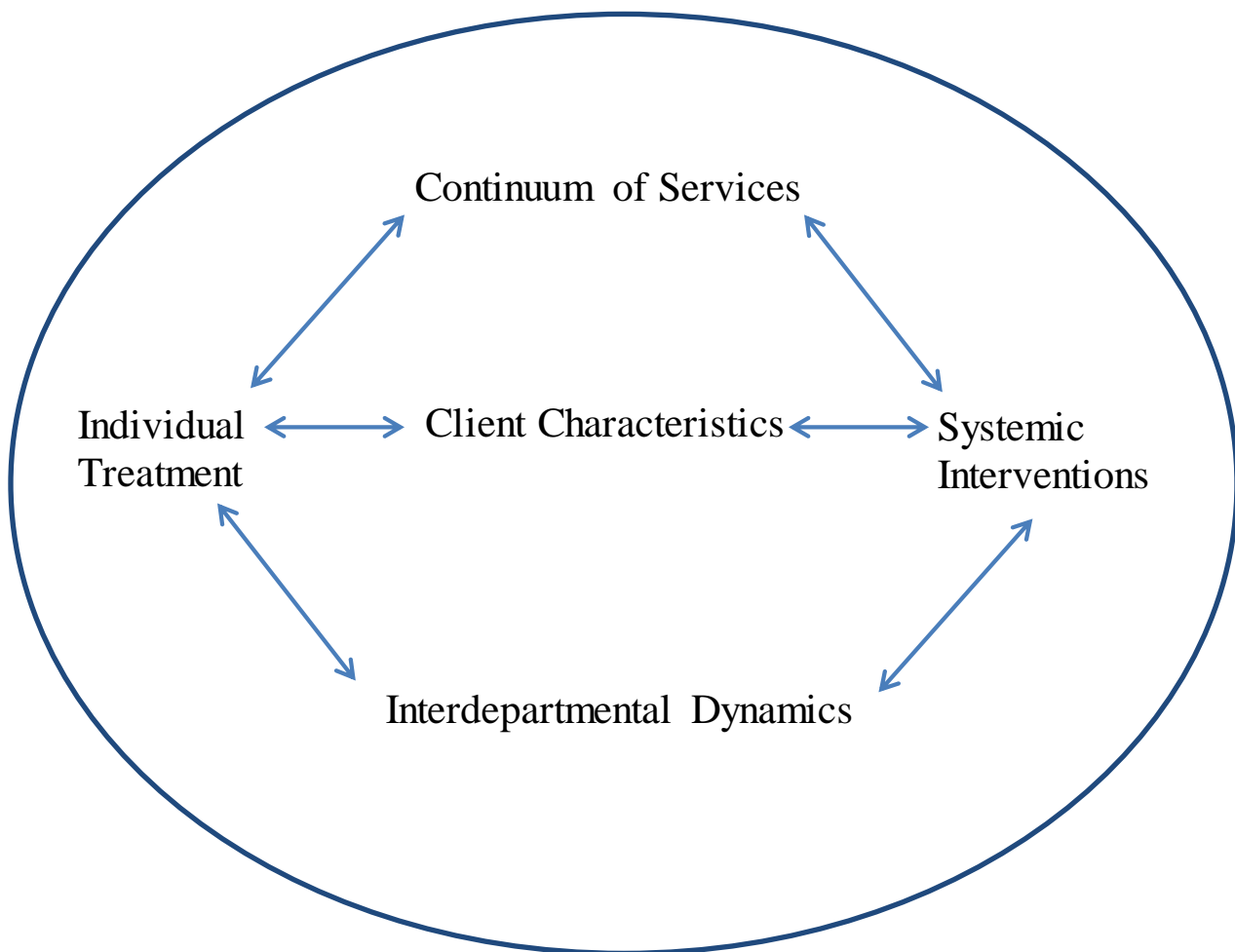


Figure 1. Interaction among five themes.

Client Characteristics

Participants reported that student-athletes seen in treatment present from a variety of athletic teams, with participants identifying football and lacrosse athletes being at highest risk. All participants indicated that either alcohol and/or marijuana were the primary substances that student-athletes were using. Participants reported significant differences in the substance use patterns between male and female student-athletes, highlighting the importance of considering gender in a treatment plan. According to participants, anxiety and depression are the most common co-occurring psychiatric disorders, describing a bidirectional relationship between substance use behaviors and symptoms of anxiety or depression. Participants also reported the importance of considering the student-athlete's history of concussions and TBIs, noting how a significant history of TBIs is correlated with symptoms of depression, which could in turn result in substance use as a method of coping. The majority of participants indicated that their perception of the motivation for student-athletes' substance use behaviors was "to be part of the 'normal' college population," explaining how this is "part of the cultural of this age group" and how student-athletes tend to have a "play hard, party hard mindset." Participants also discussed, however, how some student-athletes engage in substance use in order to conform to peer pressure within their team, while others use substances primarily for coping.

According to participants, student-athletes typically present for mandated treatment and, at least initially, have a high level of resistance and/or, as one participant described, "are passive participants/observers," noting also that this resistance may reflect how the student-athletes "are very mindful of impression management." Participants noted that student-athletes may be particularly vulnerable to the influence of the stigma surrounding psychotherapy and substance use treatment, describing how student-athletes do not want to appear weak or as though they need help. Additionally, participants reported that many student-athletes come from families of

varying cultural backgrounds, many of which do not support seeking mental health treatment.

Participants indicated that student-athletes also have extremely limited time, detailing how student-athletes' daily schedules are highly structured with little flexibility or free time to devote to treatment. Participants further noted that student-athletes are unlikely to be willing to miss scheduled team activities, which complicates scheduling and attending weekly therapy sessions.

One participant reported that the student-athletes' "level of resistance likely reflects their team/trainer/coach/university's level of resistance," highlighting how if mental health and substance use treatment is not valued and prioritized within the system, then it is unlikely that the student-athlete will value and be invested in treatment. Due to the primarily mandated nature of the therapy and the high levels of resistance demonstrated by the student-athletes, one participant explained how the student-athletes "don't stay longer when they could benefit from it," thus limiting the potential effectiveness of the treatment. Participants suggested assessing the student-athletes' level of motivation to engage with treatment, implementing motivational interviewing techniques to highlight the incongruence between the student-athletes' goals and their substance use behaviors.

Individual Treatment

Participants reported using evidenced-based treatments when working with substance-involved student-athletes, while also highlighting the need to individualize these protocols to the unique presentation of the client. One participant stated, "One-size-fits-all treatment approaches are probably unsuccessful. They may not account for the specific risk factors for student-athletes." Clinicians at CAPS reported implementing an evidenced-based three session motivational interviewing treatment protocol that incorporates individualized feedback regarding patterns of use and articulates inconsistency between substance use and goals. Participants

discussed the discrepancy between mandated treatment focusing on substance use and recognizing that student-athletes will present at varying points on the stages of change model, noting that mandated treatment may focus too heavily on substance use behaviors before the student-athlete is ready, which would give the student-athlete a negative therapy experience and potentially reduce the likelihood of returning or engaging in further treatment. Participants suggested allowing space for focus in treatment on issues beyond substance use in order to enhance rapport and allow for a collaboratively developed treatment plan that incorporates the student-athlete's substance use behaviors in the context of his/her unique presentation. Participants reported that a strong therapeutic relationship was necessary to have successful outcomes.

One participant discussed the utility of adopting a trauma-informed treatment, describing how student-athletes have a wide range of childhood and adolescent experiences and how substance use behavior can be a symptom of a trauma response. Participants highlighted the importance of putting "the student athletes' needs first, not the needs of the team." Limited involvement in treatment by family members, friends, partners, etc. was reported by participants, with participants primarily endorsing that involvement of these social supports was not applicable. Few participants suggested that it would be important to increase the student-athlete's social supports and reduce interactions with substance using peers. Participants also outlined interventions that would not be successful including punitive or shame-inducing measures. Participants highlighted how abstinence only treatments would be difficult to implement and would likely result in treatment attrition and/or unsuccessful outcomes.

Participants discussed the need to balance comprehensiveness of intakes with the needs of the individual student-athlete as two participants noted that the intakes can, at times, be "too

thorough” or “cumbersome” and may “scare some students away.” Participants did not report using measures of treatment fidelity, but some expressed interest in the inclusion of these measures. Participants indicated that there is a range of desired outcomes, but it is unclear whether clinicians are tailoring goals to individual clients, if goals vary based on the clinician’s approach, if the athletic department has varying desired outcomes based on the specific circumstance, or if there are no delineated desired outcomes. Participants highlighted, however, that it would be important to have an objective measure of outcomes in order to increase buy-in and support from the athletic department. Participants discussed the need for clinicians that have training and experience in both sports psychology and substance use treatment. Finally, participants noted the importance of setting clear boundaries and maintaining confidentiality, explaining how previous treatment programs utilized high information sharing between clinicians and the athletic department in a manner that was detrimental to the development of the therapeutic relationship.

Continuum of Services

As one participant described, “I believe that universities only respond to two levels of substance users (those who engage in very little use and those who are mandated to treatment)... The weakness of current treatment models is this bifurcation. There are countless athletes whose substance use behaviors are on the verge of being hazardous and their needs are never explicitly addressed.” Participants reported the need for a comprehensive range of prevention and intervention services that can address all levels of substance use behaviors. “Individuals could be identified earlier for more or less intense prevention and intervention efforts based on their location on a continuum of use.” Participants suggested that universal screenings are conducted for all student-athletes to identify at-risk individuals and match student-athletes with appropriate

levels of treatment. A continuum of services would require additional types of interventions beyond solely psychoeducation or individual therapy, which could be interchanged to address varying presentations. Participants also recommended that athletic staff and other personnel that had regular contact with student-athletes, such as tutors and interns, having training on identifying symptoms and behaviors consistent with substance use, providing brief motivational interviewing style interventions, and referring student-athletes to appropriate services. Participants discussed how oftentimes, student-athletes will confide in auxiliary staff and how it would be important for these staff members to be able to facilitate treatment referrals.

Systemic Interventions

Participants discussed how more support and follow up is needed from within the athletic department, describing how after brief mandated treatment, oftentimes student-athletes do not have continued care despite remaining at high risk for substance use behaviors. Participants highlighted how it is unlikely that there will be increased support without increased buy-in from the athletic department, noting the importance of working with staff in athletics to prioritize substance use screening and treatment. Participants articulated how this prioritization would allow for allocation of needed time in the schedules of the student-athletes and funding within the budget. Participants described how buy-in will be necessary from all staff members in the athletics department as coaches, trainers, etc. have significant influence over the opinions of the student-athletes. In addition, participants discussed the importance of fostering open discussions within the athletic department regarding mental health and substance use treatment in order to normalize help-seeking behaviors and to provide psychoeducation about etiology and function of substance use behaviors. Participants suggested incorporating mentors, role models, and/or alumni who can speak about experiencing issues with mental health or substance use,

experiences in treatment, and the positive effects of treatment on life in general, as well as the influence on athletic and academic performance.

Participants also discussed the need for clear messages within the athletic department regarding the substance use policy including consequences, treatment, and remediation.

Participants reported that it would be helpful to student-athletes, as well as to the treating clinicians, to have a clear policy and consistent adherence to and application of the policy.

Participants noted that the procedures for screening, assessment, and referral are unclear and that the desired treatment outcomes are unknown. Participants highlighted how a results driven program with specific measurement of objective outcomes would likely increase the value and acceptability of treatment for many professionals within the athletic department.

Interdepartmental Dynamics

Across surveys, participants' responses described a theme of balancing confidentiality of individual therapy while also enhancing collaboration with the athletic department. Participants articulated the need for increased coordination between departments, while also highlighting the need for clear boundaries. Participants discussed how previously, there has been requests for high levels of information sharing between individual treatment providers and athletic department staff with student-athletes being pressured to sign a release of information. This lack of confidentiality, participants reported, negatively impacted rapport and subsequent treatment involvement and outcomes. On the other hand, participants requested increased support and follow up care from the athletic department. It appears that participants are suggesting a different type of relationship between departments rather than an increase or decrease of involvement. It is this balance between confidentiality and cooperation that is sought and needs to be collaborative developed by the athletic department and the treating clinicians. However, participants also

articulated that “there is a lot of history between the two departments that needs to get ironed out,” highlighting how there are “old politics” that could impede collaboration and cooperation.

Discussion

Client Characteristics

Important considerations with regard to the typical presentation of this client population include the primarily mandated nature of the substance use treatment and the high level of resistance demonstrated by the student-athletes. This resistance, however, likely derives from a unique interaction of factors that will vary with each client. There is stigma surrounding mental health and substance use treatment within athletics environments, within many cultures that student-athletes may identify with, as well as within American culture in general. Student-athletes may have difficulty asking for help and may feel weak for needing treatment.

It is therefore, important to assess motivation and engagement in treatment early on and continuously throughout in order to address resistance, facilitate rapport, and enhance the likelihood of successful treatment outcomes. It is likely that student-athletes who are mandated to treatment will present with a lower readiness to change, which could be incompatible with a standardized brief intervention. These student-athletes may not be fully aware of or may be in denial regarding the potential consequences of their substance use, tending to minimize the impact of their substance use and the potential long-term effects (Carey, Henson, Carey, & Maisto, 2007). Alternatively, after a drug or alcohol involved incident or violation, even student-athletes with high levels of substance use behaviors may begin to implement harm-reduction strategies and other behavioral changes (Morgan, White, & Mun, 2008). Intake clinicians should assess for behavioral changes including strategies that have been effective as well as strategies that were partially successful and strategies that failed. In this way, clinicians can praise and

reinforce harm reduction efforts, use information regarding effective and failed strategies to guide treatment planning, and problem solve with student-athletes around difficulties with implementation or effectiveness.

Additionally, results from this study highlight the need to assess the specific culture of the student-athlete's team, which likely has significant influence over the potential motivations for substance use as well as the type of substance used, the frequency of use, and possible barriers to recovery (Green, Uryasz, Petr, & Bray, 2001). Discussion of social norms was notably absent in participants' responses in this study, suggesting that while assessment of the influence of the student-athlete's team is important, adopting intervention strategies that emphasize changing the normative substance use behaviors within athletic teams and providing normative feedback regarding substance use may not be the most effective with this population at this time and within this university.

Student-athletes may also appear to be resistant to treatment when in fact, their schedules are interfering with consistent attendance in weekly therapy. Student-athletes are being asked to balance their academic work, classes, and tutoring with their athletic commitments including practices, workouts, games, medical treatment, physical therapy, film study, etc. with the expectation that student-athletes will prioritize their athletic performance above everything else (Martens, Dams-O'Connor, & Beck, 2006). This inconsistency in attendance and scheduling would likely be frustrating for treating clinicians who are attempting to develop a therapeutic relationship, foster engagement and motivation, and promote behavioral change. Drawing from suggestions regarding systemic level interventions, it may be useful for treating clinicians and athletic department staff to collaborate to resolve the difficulty of student-athletes' maintaining consistent appointments. Athletic department staff may have more knowledge about how

schedules are developed, where there may be flexibility in schedules, and how weekly therapy appointments can be built into a student-athlete's schedule that also allows the student-athlete to maintain other commitments.

As mandated student-athletes likely will present to treatment with a low readiness to change their substance use behaviors, it may be beneficial on multiple levels to focus on other related issues. In this way, the therapeutic relationship will be maintained and potentially strengthened as the therapist is demonstrating a collaborative stance. Additionally, this will likely enable the student-athlete to have a more positive experience in therapy as opposed to being forced to discuss substance use before the student-athlete is ready. By having a positive therapy experience, the student-athlete may be more willing to discuss substance use in the current therapy and/or may feel better able to return to therapy in the future to address substance use. Furthermore, many student-athletes will present to treatment with comorbid psychiatric disorders ranging from adjustment disorders to anxiety, depression, and trauma reactions. Student-athletes are also likely to present with a history of concussions and TBIs. All of these conditions bidirectionally interact with substance use and therefore, a treatment focus on comorbid psychiatric disorders or the effects of TBIs will indirectly address substance use. Treatment can also provide psychoeducation to student-athletes regarding the interaction between anxiety, depression, and/or TBIs and substance use, highlighting the bidirectional negative influence each has on the other and how substance use will impede recovery and may, in fact, worsen long-term outcomes.

Due to the positive correlation between heavy alcohol use and use of other recreational substances, it is important to consider the heightened likelihood of severe negative consequences as compared to individuals using alcohol, marijuana, or other drugs in isolation (McCabe,

Browner, West, Nelson, & Wechsler, 2007; Simons & Carey, 2006). Student-athletes' substance use patterns should be assessed, detailing which substances are used in combination with others and at what frequency. Student-athletes should be provided psychoeducation about the potential negative effects of using multiple substances. It is also important to highlight how significant alcohol use can impair decision making and therefore, heighten the likelihood that student-athletes will use other drugs. Finally, when working with student-athletes, it will be important to consider the stress of potential cultural mismatch between the student-athlete's culture of origin and the university culture (Donohue et al., 2013). Student-athletes may be grappling with cultural and identity issues that may be contributing to substance use. Many student-athletes were raised in underprivileged communities and used athletics as a means to escape family conflict, gangs, and other trauma. It is likely that the university environment is significantly different than their hometown, which could also be influencing student-athletes' substance use behaviors.

Individual Treatment

Across survey responses, participants from different organizations described varying approaches to individual treatment. It is unclear how referrals decisions are made with some student-athletes being referred for three session brief therapy at the university counseling center, some being referred to the graduate school psychological clinic, and others being referred to clinicians in private practice. It appears at this time, that the student-athletes are no longer being referred to the Center for Alcohol Studies, but it is unclear what resulted in this decision. This study was prompted by a request for an evidence-based treatment program through the Center for Alcohol Studies and therefore, it is curious that student-athletes are primarily being treated elsewhere. It would be prudent to discuss the referral process with the athletic department and develop a protocol for referral decisions. Student-athletes should be assessed and referred based

on their level of acuity and recommended level of care as different organizations affiliated with the athletic department may be able to provide varying types of treatments that would meet the unique needs of each student-athlete.

Additionally, it is important to standardize the referral process in order to ensure that services are not duplicated. The types of services available and the amount of clients that an affiliated organization can manage should be assessed in order to have a detailed description of what is already available, what services are missing, what can be added, and what can be omitted. Further consideration should be given to cost and insurance, location and transportation, as well as time and flexibility in scheduling. The frame of treatment offered at the university counseling center should be outlined as the participants employed by the organization reported using a three session model, while also seeming open to extending treatment if the student-athlete is interested. It may be that the university counseling center is able to provide brief or shorter-term treatment while the graduate school clinic and private practice clinicians could provide longer-term treatment. Clinicians at the graduate school clinic and in private practice should be asked whether or not they would consider providing brief treatment and the limits of treatment at the Center for Alcohol Studies should be detailed in order to inform referral decisions. If one organization was able to provide individual treatments of varying lengths, then the athletic department may want to partner with one organization to streamline referral and coordination of care.

The majority of participants discussed implementing evidence-based interventions while also using clinical judgement to individualize treatment to the unique needs of each student-athlete, consistent with literature suggesting the extension of cognitive-behavioral and motivational enhancement interventions that have demonstrated efficacy with other substance-

involved populations (Donohue et al., 2013; Rounsaville, Carroll, & Back, 2004; Rowe, 2012).

Motivational interviewing techniques may be especially important with mandated clients presenting with low readiness and/or ambivalence towards changing substance use behaviors.

Cognitive-behavioral interventions are commonly used by athletic coaches and trainers and therefore, are consistent with the beliefs and disposition of the athletics environments and some techniques may be familiar to student-athletes, which could enhance acceptability and engagement (Donohue et al., 2013).

Outlining objective and specific goals may also align with student-athletes' experience of working towards performance based goals. Objective goals may also motivate student-athletes if they have tangible positive outcomes. Moreover, objective goals would likely improve the acceptability and value of substance use interventions for the athletic department as outcomes can be linked to athletic performance and overall wellbeing. While the goal abstinence from all substances would likely be the main desired outcome of the athletic department due to policies set forth by the NCAA, behavioral science research suggests that relying on abstinence as the sole measured outcome does not provide a sufficient assessment of the client's psychosocial functioning and overall wellbeing. Outcomes should be measured on numerous dimensions including drug and alcohol use, academic functioning, psychological health, interpersonal relationships, and legal issues (Mattson et al., 1993). This information can be gathered through a clinical interview with the student-athlete, collateral information, and behavioral rating scales as appropriate to the individual case.

In addition to assessment of what would work well within these intersecting systems, it is essential to understand what types of interventions would be incompatible with the needs of these systems. Participants articulated that previous interventions emphasized abstinence only

treatments as well as use of punitive measures in attempts to force behavioral change. Anecdotal and research-based evidence supports that these methods are unlikely to be successful in producing sustained change (Markland, Ryan, Tobin, & Rollnick, 2005). It will be important to convey this message to athletic department staff and to advocate for interventions that favor a harm reduction approach and use motivational interviewing to combat resistance. This would require a major attitudinal shift within the athletic department and therefore, will require continuous attention to cultivate an environment that is non-shaming and instead, compassionate towards student-athletes struggling with substance use. Unfortunately, however, NCAA policies on substance use do not allow for a harm-reduction approach to be adopted when treating drug use in student-athletes as a positive urine screen would be grounds for suspension regardless of efforts to reduce use. Harm-reduction approaches could be utilized in the treatment of alcohol use, but it would likely be difficult to differentiate between alcohol and other drugs when attempting to foster an attitudinal shift within the athletic department, but also among the student-athletes and the treating clinicians. Again, this highlights the need for policy-level advocacy that would recommend adopting a harm-reduction model and creating pathways that student-athletes could take to seeking treatment, engaging with recovery, and returning to athletics.

Donohue et al. (2013) posits a multitude of recommendations for adapting substance use interventions for work with student-athletes. However, according to participants' responses, many of these suggestions would be inconsistent with the needs of student-athletes at this time at this university. Participants highlighted the need for clear boundaries and confidentiality around individual treatment, which is counter to the recommendations by Donohue et al. (2013) to include parents, romantic partners, teammates, close friends, coaches, trainer, and other mentors

in treatment. Few participants described the need to encourage and support student-athletes in finding more positive and sober social circles, but none of the participants suggested including staff from the athletic department, instead advocating for less involvement by athletic staff and firmer boundaries.

Donohue et al. (2013) also proposes that therapy sessions should be held within the student-athlete's natural environment such as in a training facility in order to enhance privacy and decrease stigma. However, participants indicate that student-athletes may not even feel comfortable receiving treatment at the university counseling center because of concerns regarding confidentiality and stigma, preferring instead to seek treatment from a private practitioner that would allow for distance and privacy. By implementing external modifiers such as holding sessions in the athletic department, using the title performance coach as opposed to therapist, or decorating offices with sports memorabilia, clinicians may foster engagement and confidence in the therapy. However, this may alienate student-athletes who do not identify strongly with their athletic identity or who are seeking a space that allows for them to engage with other parts of their identity. By joining with the athletic parts of the student-athlete, it may be at the neglect of other parts of their identity and may further contribute to identity foreclosure. Student-athletes may be accustomed to having the needs of their team be the priority and therefore, by emphasizing similarity to athletic department staff, the student-athlete may assume and act in ways that are consistent with prioritization of the team and their athletic performance as opposed to their personal wellbeing (Gill, 2008).

Continuum of Services

Participants described how currently at this university, and likely at the majority of other universities as well, there is a two pronged approach to substance use intervention. At present,

psychoeducation and policy information is provided to all student-athletes and individual treatment is mandated for student-athletes who test positive for substance use on a urine screen. The structure of these prevention and intervention efforts does not address a large portion of student-athletes that are engaging in risky substance use behaviors that do not yet rise to the level of mandated intervention. In this way, mandated treatment is reactive rather than proactively providing appropriate levels of intervention to all student-athletes. Participants advocated for a comprehensive range of services that would address a continuum of substance use behaviors. Based on review of the literature and participants responses, a comprehensive prevention and intervention program may include psychoeducational presentations, web-based interventions using social norms and providing individualized feedback, brief motivational enhancement therapy, brief therapy with subsequent booster sessions to sustain motivation, and ongoing individual therapy.

The design for a comprehensive prevention and intervention program could benefit from using an adaptation of the Response to Intervention approach, which enables early identification and support of students in schools with learning and behavior needs. The Response to Intervention model provides high-quality instruction and universal screening to all children in the classroom. Students who are struggling within the general education curriculum are provided with intervention at increasing levels of intensity to accelerate the rate of learning. Formative assessment is utilized to measure progress and outcomes of each student as well as to inform decisions regarding the intensity and duration of interventions (Barnett, Daly, Jones, & Lentz, 2004). Similarly, interventions can be arranged in a hierarchical manner with all student-athletes being provided with psychoeducation and universal screenings and at-risk student-athletes being assigned to varying levels of intervention based on assessment of their individual needs and their

outcomes following an intervention. Interventions can be arranged on a continuum beginning with universal screening, followed by web-based feedback, group therapy, brief motivational interviewing, ongoing individual therapy, IOP/PHP programs, and finally residential substance use treatment.

While it is wise to accumulate a list of referrals for each level of care, it is unlikely that student-athletes would be referred to the highest levels of care as a student-athlete's eligibility would likely be terminated before their substance use behavior escalated to the level of requiring intensive outpatient or residential treatment. The athletic department will always be constrained by the policies of the NCAA, which presently suspends or revokes eligibility based on the number of positive urine screens. Even student-athletes at lower levels of care may find themselves suspended before completing an intervention or being recommended to a more intensive treatment. The athletic department may not want to invest the time and money in monitoring the substance use treatment of a student-athlete and may, instead, terminate their employment. If this were the case, then the student-athlete would be taken out of the system and therefore, out of the comprehensive intervention program. It is necessary to advocate at the NCAA policy level for systemic changes that would allow for student-athletes to seek treatment for substance use, while also providing an avenue for returning to the team.

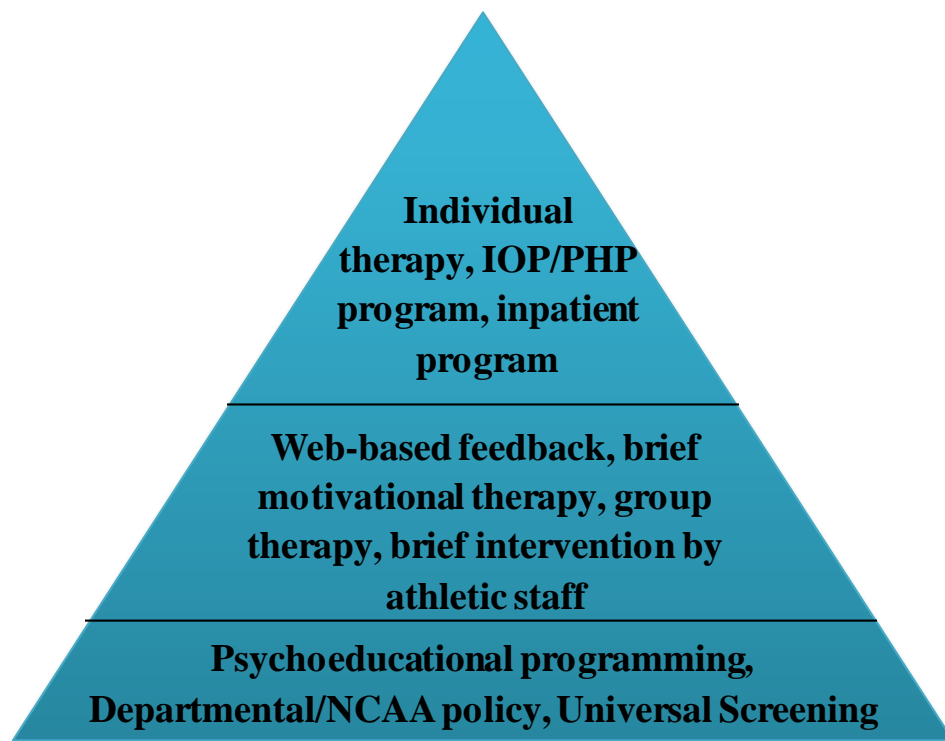


Figure 2. Continuum of services.

Consistent with recommendations by the American Society of Addiction Medicine, student-athletes identified with at-risk substance use behaviors on a universal screening should be required to complete a more detailed assessment of their substance use in order to ascertain the most appropriate level of intervention. Student-athletes should be assessed on six dimensions including acute intoxication and/or withdrawal potential; biomedical conditions and complications; emotional, behavioral, or cognitive conditions and complications; readiness to change; relapse, continued use, or continued problem potential; and recovery/living environment (Mee-Lee, 2001).

A comprehensive assessment should include a diagnostic clinical interview with the student-athlete and any relevant collateral informants, self-report behavioral measures, and laboratory tests of blood and urine as appropriate (Mattson et al., 1993). A semi-structure clinical interview should include demographic information, psychiatric history, drug and alcohol history, family history, and legal history. The Structured Clinical Interview for DSM-V (SCID-5) (First, Williams, Karg, & Spitzer, 2015) and/or the Addiction Severity Index (ASI) (McLellan, Luborsky, O'Brien, & Woody, 1980) could be used in part or in full to provide a structured means of assessment. The Time-Line Follow-Back Method (Sobell & Sobell, 1996) could be used within or between sessions to provide a quantitative estimate of drug and alcohol use. The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) (Miller & Tonigan, 1996) can be used to assess a student-athlete's recognition that they have a problem with substance use, ambivalence about changing their substance use behavior, and to what extent they have already begun taking steps towards changing their substance use behaviors.

Mention of group therapy was notably absent in the responses of the participants in this study. Group therapy is oftentimes the primary treatment modality when working with clients with substance use issues or dually diagnosed individuals. This may be reflective of the individual clinicians surveyed in this study who likely favor individual therapy themselves and may not have the experience or desire to facilitate therapy groups. While none of the participants recommended group treatments, skills groups, support groups, and/or interpersonal process groups may be a cost effective means of providing intervention to lower risk student-athletes who could benefit from ongoing weekly treatment. The group therapy format may also be effective in reducing resistance to treatment and enhancing motivation to change substance use behaviors.

Again, it is important to consider what services exist and if it is feasible to utilize these treatments as primary referrals. The university counseling center has listed on their website a few groups with substance use related topics. Depending on the extent of referrals to these groups that the university counseling center tends to receive currently, these groups could be an option for student-athlete referrals. Student-athletes may feel more comfortable in a group of non-athlete peers, which would allow for confidentiality and privacy. Alternatively, student-athletes may prefer a group of athlete peers who face similar stressors, which would suggest the need for athlete-only groups that could either be housed in the athletic department or in any affiliated organization.

When developing a comprehensive range of services, it will need to be decided which, if any, interventions should be implemented through the athletic department. Doumas and Haustveit (2008) demonstrated that student-athletes engaged in a web-based individualized feedback program had significant reductions in alcohol use and greater changes in beliefs about peer's drinking as compared to student-athletes receiving an alcohol education program, which suggests that prevention programs may be more effective at deterring substance use if student-athletes participated in an individualized feedback intervention as opposed to a psychoeducation only program. The researchers also highlighted that this intervention was universally conducted through the athletic department, which likely normalized the intervention, reduced stigma, and may have contributed to increased buy-in and beliefs regarding personal applicability. Considering the numerous risk factors present in this population, it would be worthwhile to implement a universal screening measure to assess mental health and substance use in order to improve early identification and intervention.

A universal screening could be conducted yearly with all student-athletes and at shorter intervals with at-risk individuals. This screening could be incorporated into systems that are already in place, such as during medical appointments. Primary care physicians could be trained to administer the ASSIST and/or the AUDIT. The Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) is a brief questionnaire to assess individual's use of tobacco, alcohol, marijuana, cocaine, amphetamine type stimulants, sedatives, hallucinogens, inhalants, opioids, and other drugs, designed for use in a primary care setting (W.H.O. Group, 2002). The Alcohol Use Disorders Identification Test (AUDIT) is a screening measure that assesses excessive alcohol use, alcohol dependence, and consequences of heavy drinking (W.H.O. Group, 2002). Athletic department staff may have additional ideas as to when a screening could naturally be conducted at regular intervals.

In addition to universal screenings, universal web-based individualized feedback programs could replace the psychoeducational programming that is currently being used in order to normalize and encourage conversations about substance use and individual risk factors. Student-athletes could be mandated annually to complete a web-based intervention, such as e-Chug, in order to maintain eligibility. E-Chug is a 20-minute online alcohol intervention that provides individualized normative feedback that discusses the amount of alcohol consumed, caloric intake from alcohol use, gender-specific normative data, estimated annual cost of alcohol, estimated BAC and tolerance, as well as negative alcohol-related consequences. E-Chug also provides psychoeducation about the effects of alcohol and presents a list of safer drinking strategies and referrals for substance use treatment (Hustad et al., 2010). Extending this concept, less intensive interventions, such as brief motivational interviewing or group therapy, could be housed in the athletic department to reduce stigma and encourage help-seeking.

A comprehensive prevention and intervention program would also need clear, objective guidelines that detail how student-athletes are referred to different levels of care. Ideally, there would be a staff member in the athletic department who would perform case management duties, especially for students referred to brief treatments. A case manager would need to monitor students who complete brief mandated treatment, assessing symptoms and substance use behaviors after intervention completion and providing recommendations for or mandating further care. A case manager could also act as a liaison between student-athletes and all substance use treatment options, which could encourage help-seeking and voluntary engagement in treatment. Additionally, consistent with research on autonomous health behavior change, a case manager could offer options for treatment to student-athletes, mandated or voluntary, which could enhance motivation (Markland, Ryan, Tobin, & Rollnick, 2005). Ideally, a comprehensive intervention program would include components at multiple levels with each component complementing the others (Larimer, Kilmer, & Lee, 2005).

Table 2

Proposed Measures

Universal Screening	Universal Intervention	Extended Assessment
<ul style="list-style-type: none"> Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) Alcohol Use Disorders Identification Test (AUDIT) 	<ul style="list-style-type: none"> Psychoeducation regarding substance use Policy information e-Chug 	<ul style="list-style-type: none"> Structured Clinical Interview for DSM-V (SCID-5) Addiction Severity Index (ASI) Time-Line Follow-Back Method Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES)

Systemic Interventions

Included in the continuum of services are systems-level changes that foster an atmosphere within the athletic department that provides clear messages regarding the negative personal and professional consequences of substance use in a non-shaming manner and encourages help-seeking. It may be likely that within the athletic department, there is an emphasis on the negative effects of substance use on eligibility and athletic performance, but the negative personal effects of substance use should also be highlighted in order to reflect that the athletic department staff cares about the student-athlete's overall wellbeing. Substance use policies and consequences need to be explicitly communicated to student-athletes on multiple occasions and should be applied consistently across student-athletes and across time in order to convey the importance of the policy and motivate adherence. Coaches and athletic staff have more contact with student-athletes than any clinician would and therefore, it would be essential to enlist the assistance of these professionals in creating an environment that discourages substance use, while also supports substance use treatment (Anshel, 1991).

Open discussions within the athletic department about substance use, mental health, and treatment could further promote an atmosphere that normalizes seeking support. Participants suggested recruiting alumni, mentors, and other role models who have struggled with substance use and received treatment to speak with the student-athletes in order to model help-seeking and work to reduce stigma. These presentations and conversations could include psychoeducation about substance use and how to access services in order to further reduce barriers to treatment. Additionally, auxiliary staff such as trainers, tutors, interns, etc. should also be provided consultation regarding messages to convey about substance use, how to identify and briefly assess substance use, and how to make appropriate referrals and encourage engagement with

services. A case manager could aid in tracking at-risk student-athletes and facilitating connecting student-athletes to an appropriate level of care. If athletic department staff were interested, training could be provided in brief motivational interviewing techniques that could be implemented within daily interactions with student-athletes. These brief conversations could aim to facilitate “change talk,” help cultivate motivation to seek treatment, and develop the discrepancy between goals and substance use.

All of the systemic level interventions inherently require active participation from athletic department staff and therefore, it will be essential to collaborate from the beginning with key leaders in the department. The willingness and commitment to change needs to be assessed early on in order to identify and resolve any resistance or barriers to successful implementation and maintenance of all changes. It is possible that there would be hesitancy to adopt a comprehensive prevention and intervention program as this would be highlighting that there are substance use issues among the student-athletes at this university (Larimer, Kilmer, & Lee, 2005). While it may seem obvious that substance use would be common among college-aged student-athletes, the athletic department may be reluctant to admit this especially due to the potential for public scrutiny, which is why the development of positive, collaborative relationships with leaders in the athletic department are necessary for change.

Athletic department staff may have ideas as to how to work within the existing system to accomplish prevention and intervention efforts. Additionally, buy-in could be generated by cooperatively developing objective outcomes with the athletic department that are linked to athletic performance or other goals that would be of value to staff. The athletic department would need to be convinced of the value of a comprehensive substance use program in order to sustain any implemented components as well as to prioritize treatment. Student-athletes’ schedules are

rigid and overly full, leaving little time for engaging in additional prevention and intervention programs. By working with the athletic department, it may be possible to find time within the current schedules or to reprioritize scheduled activities to allow for consistent time to engage in treatment.

Finally, in order to ensure that prevention and intervention programs are being implemented appropriately and that this comprehensive program is sustained over time, there will need to be a consultant acting as a champion for this program and providing consistent attention to any barriers that arise. The consultant would offer maintenance services including support and trainings, resolution of resistance, and advising on unforeseen necessary adaptations to the outlined program. By maintaining an ongoing supportive relationship with all involved organizations, the longevity of the program will be enhanced (Sobell, 1996). When considering who could serve as this consultant, a decision will need to be made as to whether an internal or external consultant would be preferable. Internal consultants have more knowledge and understanding of the systems and the history of the organizations. Internal consultants may already have relationships with key leaders, which could help facilitate collaboration. External consultants, however, tend to be perceived as more confidential and objective, which could encourage honest communication of needs. Regardless, a consultant would need to agree to a long-term committed relationship with these organizations as systemic change is often gradual, occurring slowly over an extended period of time.

Interdepartmental Dynamics

The successful implementation and maintenance of a comprehensive prevention and intervention program hinges on an ongoing collaborative relationship between all involved organizations, in which all departments are invested and motivated. As described above,

participants expressed wishing for a different working dynamic between departments, highlighting the need to balance confidentiality with coordination of care. However, participants mentioned “old politics” that could impede collaboration. While descriptions of the nature of the interdepartmental relationships were vague and judiciously worded, it suggests a history of, at least tension, if not outright conflict, likely between competing goals and values held by each department. Further assessment of the nature and intensity of the interdepartmental difficulties is necessary in order to determine the type of intervention that would be required to mediate and resolve historical issues and forge a new working relationship.

It could be beneficial to hire a consultant who could meet individually with leaders in each department, gathering historical accounts of interdepartmental dynamics as well as detailed descriptions of what would be required to overcome relational difficulties. Alternatively, a consultant could hold a meeting with all key leaders in order to facilitate and mediate conversations with the aim of repairing relationships (Caplan, 1970). Compromises regarding the details of a comprehensive prevention and intervention program would need to be reached amongst all involved organizations in order for the program to be successful. Leaders will need to be invested and will need to value the program in order to communicate the importance of the program to their personnel. An external consultant would be able to enter the system with an objective perspective and make recommendations that represent compromises between competing needs. Depending on the extent of the interdepartmental tension, a consultant could be enlisted for a short-term assessment and provision of recommendations or could be hired for an extended period of time during which the consultant would become embedded in the system and would be able to have a more nuanced understanding of the systemic dynamics. An extended

assessment would also allow for a consultant to work with leaders to implement and monitor change over time (Caplan, 1970).

Limitations

The primary limitations were products of the fact that the researcher was external to the system and therefore, made decisions that were inconsistent with the nature of the system. The researcher did not have a thorough understanding of who the current treating clinicians are and how student-athletes are referred, which resulted in the primary sample being incomplete. Fortunately, the snowball sampling enabled the survey to be forwarded to current treating clinicians. However, this raises the question of whether or not the participants are a representative sample and if all important opinions were solicited. The convergence amongst responses provides evidence that while the majority of participants were obtained through snowball sampling that their perspectives were representative of the majority of treating clinicians. As participation in this survey was voluntary, the sample was self-selecting and therefore, could be biased. Participants may represent individuals who are motivated to provide their opinion. It is possible that individuals with more neutral or positive opinions regarding the current state of prevention and intervention may be less motivated to complete the survey.

Additionally, as only treating clinicians were surveyed in this study, the results are limited by the lack of incorporation of perspectives from individuals within the athletic department, as well as in any other involved department. The results of this study are consistent with best practices in substance use prevention and intervention, which may or may not be compatible with the values and goals of the athletic department. The results will need to be implemented with flexibility and individuals will need to be open to compromise. A needs assessment of involved personnel within the athletics department should be conducted in order to

develop recommendations based solely on the athletic department's needs. By having two sets of independent assessments and recommendations, the chance of generating a biased comprehensive program will be minimized. Personnel within the athletic department would have a better understanding of the NCAA policies and how these policies would or would not fit with treatment recommendations. Staff may also have additional insight into the motivations for substance use among student-athletes and may be able to detail risk factors specific to this population. Athletic department staff may also be able to discuss what approaches have been tried previously, including what contributed to the success or failure of interventions. Furthermore, assessment of the relational dynamics between departments will be needed in order to examine what interventions will be necessary to mediate and resolve tension and establish a positive collaborative relationship.

As there was one researcher, the results are limited by the lack of opportunity to triangulate the identified themes across coders. The significance of the themes could have been strengthened by surveys with additional clinicians in order to confirm convergence and seek any divergent opinions. The credibility of the results may be impacted as the research did not have prolonged engagement with the system. However, this is buffered by the member checks that were conducted at the end of each survey to ensure that the identified themes were consistent with what the participants identified as most important. Despite the limitations, this study identified key themes that provide detailed recommendations for the development of a comprehensive prevention and intervention program.

Future Directions

In addition to assessment of the perspectives of the athletic department staff, opinions of the student-athletes and alumni would be valuable to inform how prevention and intervention

efforts are received. A thorough needs assessment should be conducted to survey student-athletes and alumni to obtain a first-hand report of motivations and risk factors contributing to substance use. This could also provide further information on the fit between recommended prevention and intervention programs and the specific student-athlete population at this university. In the same way that a treatment program would need to match the needs and perspectives of the treating clinicians and athletic department, the interventions would need to fit with the student-athletes. It would be important for the needs assessments of the treating clinicians, the athletic department staff, and the student-athletes/alumni to be conducted by independent researchers in order to reduce the chance of bias in the results. The combination of these three perspectives would provide a comprehensive understanding of the needs of all involved individuals. It is unlikely that one treatment program would be able to satisfy the needs of all involved parties and therefore, it will be necessary to also consider the importance and prominence of different factors in order to balance competing recommendations. It would also be important to survey student-athletes who abstain from substance use and/or who have stopped substance use without intervention in order to evaluate if there are components that could be implemented in substance use prevention or treatment. Research on treatment implementation fidelity and subsequent outcomes would be important in ensuring that interventions are acceptable to the student-athletes as well as effective in reducing or eliminating substance use behavior.

There is currently a lack of research specifically studying substance use prevention and intervention with student-athletes despite the high risk nature of the population. It would be beneficial to conduct controlled research trials to evaluate prevention and intervention programs with college-aged student-athletes. Finally, substance use prevention and intervention with student-athletes would benefit from policy level work with governing bodies such as the NCAA

to prioritize substance use and mental health treatment and to implement standardized guidelines that would be applicable across universities.

Conclusion

This study was prompted by the identified need for an evidence-based treatment program for substance-involved NCAA Division I student-athletes. A needs assessment was conducted, surveying the treating clinicians in order to develop prevention and intervention recommendations to address the unique needs of the student-athlete population, the athletic environment, the athletic and university systems, and the organizational needs of the treating clinicians. Participants discussed the characteristics of the student-athletes typically presenting for mandated substance use treatment at this university. Results described recommendations for individual treatment and systemic interventions. Results also identified the need for a continuum of prevention and intervention services. Participants also discussed the need to examine interdepartmental dynamics that could influence the success of a comprehensive program. The results of this study recommend a comprehensive program with a range of services to address the continuum of student-athletes' substance use behaviors.

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Appendix A

You are invited to participate in a research study that is being conducted by Alison Tripptree, Psy.M., who is a doctoral student at the Graduate School of Applied and Professional Psychology at Rutgers University. The purpose of this research is to determine the needs of the substance involved student-athletes, the treating clinicians, and the multiple systems in which these individuals operate in order to make recommendations for an intervention program.

The study procedure include completing a survey of open ended questions tailored to assess various domains of needs and considerations that may be unique to this population and to these particular organizations. The data collected from this survey will be used to inform intervention program recommendations designed to treat substance use in student-athletes.

You will be asked to report your age, race/ethnicity, gender, and department. This information will be kept confidential by keeping the data in a secure location and will not be reported in a manner that could lead to the identification of the individual.

There are no foreseeable risks to participation in this study. Potential benefits include contribution to the development of an intervention program designed specifically to meet the needs of the student-athletes and treating clinicians, which could improve implementation, sustainability, and potentially effectiveness and treatment outcomes.

Participation in this study is voluntary. You may choose not to participate, and you may withdraw at any time during the study procedures without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

If you have any questions about the study or study procedures, please contact me at:

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1. What is your age?
2. What is your gender?
3. Please describe your race/ethnicity.
4. In which department do you work?
5. Please describe current programs/interventions being used to treat substance involved student-athletes (e.g. type and scope of interventions, staffing, student-athlete population demographics)
6. What are the strengths of the current treatment program for substance involved student athletes? What is working well?
7. What are the weaknesses of the current treatment program? What is not working and why not?
8. Are there any treatment approaches that have been effective in the past? Why are these approaches no longer being used?
9. Are there any treatment approaches that have already been tried and have not been effective?
10. What type of treatment program would not fit with the organizational needs and/or the needs of the student athletes?
11. What team are the referred student athletes primarily from?
12. Do you perceive differences in motivation for use and/or response to intervention dependent on the team?
13. Do you perceive gender to be an important factor to consider when designing a treatment program?
14. Do you feel that there are cultural adaptations or considerations that should be made?

15. What substances are primarily being used?
16. What is your perception of the motivation for substance use among the student athletes?
17. What co-occurring psychological disorders are most common among referred student athletes?
18. What is your perception of the influence of co-occurring concussions/TBIs on substance use in student athletes?
19. Are the referred student athletes primarily mandated to treatment or self-referred?
20. How would you describe the level of resistance of the student athletes to treatment?
21. Do you have a sense of what might increase the acceptability of treatment for the student athletes?
22. What are the desired outcomes of the treatment program? How are outcomes currently being measured?
23. What factors do you feel contribute to successful outcomes?
24. What differences or factors do you feel contribute to unsuccessful outcomes and/or relapse in the student athletes?
25. What are the strengths of the current screening and intake procedures?
26. What are the weaknesses of the current screening and intake procedures?
27. Is there anything that should be added or omitted from the screening/intake?
28. Is treatment fidelity currently being measured? If so, how? If not, why?
29. How would you describe the level of involvement in the treatment program from coaches, trainers, other athletics department staff, etc.? Is this too much? Too little?
30. How would you describe the level of involvement from family, significant others, or friends in treatment? Is this too much? Too little?

31. What do you think would increase the likelihood of a new program being acceptable to treating clinicians?
32. What do you think would increase the likelihood of a new program being acceptable to the athletic department?
33. What do you think might be a potential source of resistance to a new treatment program among treating clinicians?
34. What do you think might be a potential source of resistance to a new treatment program within the athletic department?
35. Are there staff training needs for treatment program implementation?
36. What are the funding constraints for treatment programs?
37. Is there any other important information that would be useful in designing a treatment program for substance involved student athletes?
38. Considering all the answers you provided, please describe what you believe are the most important factors to consider when designing a treatment program.

Thank you for your participation. If there are other key stakeholders whose opinion you feel would be valuable in contributing to a program design, I would appreciate if you would pass along the link to this survey.

