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Drug use and abuse by athletes

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The sports-drugs nexus has been around since ancient times, from enhancing the sporting prowess of athletes using anything from figs to bull’s testicles (Verroken, 2005) to the alcohol-fuelled celebrations after sporting events (Dunning & Waddington, 2003). The relationship between sport and drug use is ongoing, and one of central concern to contemporary sport psychologists. The issue for sport psychologists is how best to work with and counsel athletes navigating the sport-drug relationship.

World Anti-Doping Code (WADC) responsibilities

Both athletes and sport psychologists have responsibilities under the WADC, where the use of certain prohibited drugs and methods (e.g., performance-enhancing drugs, masking agents, blood doping) are defined as being contrary to the “spirit of sport.” The WADC is the framework athlete support personnel (including sport psychologists) operate under if they work in WADC-compliant sporting organizations, or work with athletes in sports bound by the WADC (e.g., Olympic sports). If sport psychologists choose to test the limits of the WADC, they could find themselves sanctioned (banned) from sport. There are eight possible sanctionable anti-doping rule violations:

- a positive drug test;
- use or attempted use by an athlete (and strict liability);
- athletes refusing, failing to provide, or evading sample collection;
- non-compliance with out-of-competition testing;
- tampering or attempted tampering with doping control;
- possession of prohibited substances or methods;
- trafficking of prohibited substances or methods;
- administration, attempted administration, assistance, encouragement, aiding, abetting, covering up, or any other type of complicity involving an attempted or actual anti-doping rule violation.
The first three make athletes culpable for drug use. The remaining five apply to all athlete support personnel, including sport psychologists. The last one is the most ambiguous; for example, it is unclear whether silence about the treatment of an athlete for anabolic-androgenic steroid (AAS) dependence contravenes the WADC. The sanctions for transgressions vary in severity by circumstance (e.g., a violation involving a minor compels a life ban for the offending athlete support person).

Under the WADC, athlete support personnel are obliged to support the objectives of anti-doping. These responsibilities include being knowledgeable and compliant with the WADC, and fostering anti-doping attitudes and behaviors in athletes. It is unclear what, if anything can be done to (or for) sport psychologists who may disagree with the WADC as a method for managing drugs in sport. For example, some sport psychologists may prefer a harm-minimization approach when counseling athletes about substance use and abuse.

Irrespective of preferred approach, all practising sport psychologists should have at least passing familiarity with the WADC, as well as the arguments and counter-arguments for anti-doping. Athletes can be easily overwhelmed by the information and rumors about doping and anti-doping. Knowledgeable sport psychologists are well placed to help athletes navigate what can be a turbulent sea of issues around doping and substance use.

The relationship between sport and drug use

There has been some debate as to the influence of sport participation on both drug use and abuse. For example, there is evidence that self-reported illicit drug use among Australian athletes is lower than that of the general population (Dunn et al., 2009), typically explained using the “deterrence hypothesis.” Evidence arising from this hypothesis that participating in sport deters drug use is mixed, with some studies indicating sport has a protective effect and others that sport makes people more vulnerable to drug use and abuse (Lisha & Sussman, 2010); the latter point is particularly true for alcohol abuse. The research is inconclusive as to whether sport participation has a protective or deterrent effect on drug use. Sport may have a protective effect against some drugs (e.g., illicit ones), but may leave athletes more vulnerable to others (e.g., alcohol).

Models of athlete drug use

Investigations of athlete drug use (as a sub-population of all drug users) have been largely devoted to explaining why elite athletes use banned performance enhancing drugs (doping). The focus on doping stems from an implicit assumption that athlete licit and illicit drug use follows the same principles as use in the general population. The current discussion on athlete doping follows one of three models: the social cognitive, the life cycle, and the grounded models. The first two models stem from evidence on licit and illicit substance use outside sport and provide some conceptual background for athlete substance use. The grounded model was developed from data arising from within the sporting context, and provides the first empirically validated model of why athletes dope.

The social cognitive model

Donovan, Kapernick, Egger, and Mendoza (2002) suggested that three factors influence athlete intentions to use banned performance-enhancing drugs: appraisals (threat and benefit),
individual differences in the athletes, and the influence of reference groups. Like all social-cognitive theories, this approach is explicitly rational, assuming that athletes weigh up a collection of threats (e.g., being banned, being disgraced) against presumed potential benefits (e.g., staying on the team). The threat–benefit appraisal is moderated by individual differences and reference groups (e.g., coaches, administrative structures) and the eventual formation of an intention (with attendant implications arising from the imperfect correlation between intention and behavior: see Greve, 2001). The social cognitive model provides a sound framework in which to think about why an athlete might dope. Further, with a basis in licit and illicit drug research, it is likely the model can be extrapolated to those substances as well. Therefore, sport psychologists would do well to explore the costs and benefits as athletes perceive them, the individual differences that might influence athlete drug use (e.g., self-esteem), and who might be involved in the athletes’ decisions one way or the other.

The life cycle model

Petroczi and Aidman (2008) used self-regulated behavior towards achieving performance goals as an explanation for doping over an athlete’s “life cycle” or career. Like the social cognitive model, the life cycle model contains personality and systemic factors that influence a cost–benefit analysis of both vulnerability and inhibiting factors that predict doping behavior. A key assumption underpinning this model is that drug use is functional. For example, use of an ergogenic substance may be functional towards injury rehabilitation. Equally, alcohol could be functional for coping with the stress of competition. This functionality is then rationally pursued in the context of committing to and executing a goal achievement strategy. The introduction of goal achievement in terms of the functionality of drug use is the main difference between the social cognitive and life cycle models.

In terms of responding to athlete drug use, the life cycle model suggests sport psychologists explore the functionality of that drug use towards achieving goals. An implication of this goal-directed functionality is that prevention of drug use might be best effected by exploring alternative ways of achieving goals (Mazanov, 2009). Interventions for treating drug use might be effectively managed by using the same psychological mechanism that got them into the drug use (i.e., goal achievement).

The grounded model

Mazanov and Huybers (in press) interviewed a range of elite athletes and support personnel to develop a grounded model that explains the observed variation in experiences and explanations of why athletes decide to dope. Four themes emerged that, in part, reflected the previous models.

The first theme was the objective of doping, usually articulated as some variation of doping “to win.” Winning was characterized as a performance outcome (e.g., overcome injury, improve performance) or prize money. The second theme was the kinds of information to which athletes attend in relation to doping, such as the influence of coaches or senior athletes, or the source of information (e.g., side effect information from pharmaceutical companies). The third theme was the system in place aimed at enforcing abstinence; in the context of anti-doping, this theme was represented by the likelihood of testing positive and being prosecuted. The final theme was the consequences of being caught doping, such as being ostracized from the sporting community, irrespective of any formal bans.

In practice, this model provides some focus on what to talk about with athletes. For example, the functional objective of drug use is clearly an important part of athlete decisions.
The discussion of drug use can also explore the credibility of certain forms of information and influence. For example, it may be worthwhile discussing the role of the coach or senior athletes in the decision to use a drug, whether performance-enhancing or a beer after the game. The athlete's response to the system aimed at compelling a certain kind of behavior is also a central part of the discussion in relation to drug use, especially in the context of the WADC. Finally, the consequences of athletes' actions beyond the immediate drug use can be explored. Overarching this model is a sense that sport psychologists need to help athletes navigate the potentially difficult decision to use or abstain, rather than judge the athletes in terms of the “rightness” of their actions.

Lessons learned from the models

There has been some conjecture about whether athlete drug use is rational (Stewart & Smith, 2008), but all of the models discussed indicate that athlete drug use behavior does have a rational component (Mazanov & Huybers, in press). Although specific mechanisms may be open to debate, the models broach issues that may assist sport psychologists working with athletes either considering or using some kind of drug. It may be useful to reflect upon:

1. Why is the drug use occurring?
2. Who is involved in the drug use, and are they the right people to listen to?
3. What are the unanticipated consequences of drug use?

Answers to these questions do not fully resolve issues, but they do provide a starting point for sport psychologists counseling athletes about drug use.

Key ideas from the models

The three models include lists of variables thought to influence athlete drug use that can be broadly categorized as individual differences and social/systemic variables. What follows is a selection of variables that may inform sport psychologists working with athletes confronting drug use issues.

Individual differences

Self-esteem

Self-esteem is associated with all forms of drug use (see Byrne & Mazanov, 2001). Athletes may be vulnerable to drug use as a function of changes in self-esteem due to perceptions of the self being associated with sporting performance. When self-esteem declines athletes may turn to external coping mechanisms, one of which may be drug use. Drawing on the life cycle model, the function of drug use is coping with a decline in self esteem. Like most coping, drug use behavior can be functional if, for example, alcohol consumption ceases when self-esteem returns. Low self-esteem-driven substance use becomes problematic if the use continues or becomes critical to self-esteem. In this context the complex issues at play may benefit from clinical treatment. The role of the sport psychologist becomes preventative monitoring of both self-esteem and drug use to determine when links between the two may be potentially harmful.
Morality

The role of morality in substance use can be complex. There are several levels of morality in the sporting context that may cloud the judgment of both the athlete and the sport psychologist. Athletes are subject to the morality imposed upon them by the WADC: doping has been effectively defined as “immoral” in sport. This edict sometimes conflicts with societal conventions around drug use. For example, there is evidence illicit drug use has become normalized among 18–25-year-olds (Duff, 2003); athletes may judge the morality of their substance use relative to these prevailing societal norms rather than those imposed by the WADC. In addition, athletes have to contend with the morality of drug use within their sport. For example, professional cyclists may take a different view of ergogenic drug use than do “up and coming” talents (Christiansen, 2010).

This potentially conflicting context is the scene within which athletes try to make the “right” decision. For some athletes the decisions are unambiguous; for others decisions are difficult to make. Sport psychologists need to avoid confusing the issue further by imposing their moralities on athletes. Sport psychologists need to help athletes navigate the issues by providing an impartial sounding board, ready to articulate arguments and counter-arguments. For example, some athletes may argue that doping is conceptually equivalent to better running shoes on the grounds that both are performance-enhancing technologies. The issue is defining what is right for the athletes and what they can live with rather than what is right according to everyone else, including the sport psychologists.

Knowledge of health consequences

The importance of physical health to sustained sporting performance suggests athletes would shun drugs on health reasons alone. Using the health consequences of drug use to promote abstinence or quitting behavior is intuitively appealing on the assumption that the potential health effects lead to a rational solution of ongoing abstinence. The three models outlined above suggest that athletes are rational in their decision-making around drug use, yet some athletes continue to use. Rationalizing drug use or abstinence is only partially influenced by knowledge of health consequences.

Results from the general population indicate users know more about the health consequences of drug use than non-users and that knowledge of health consequences appears to have little influence on whether non-users start using or users stop (Mazanov & Byrne, 2007). Applying these results to the sporting context, knowledge of health consequences is unlikely to provoke a change in behavior one way or the other, possibly because athletes prioritize other knowledge or outcomes. For example, athletes may prioritize performance outcomes above health outcomes, demonstrated by Goldman’s work showing elite athletes would exchange longevity for Olympic success (Connor & Mazanov, 2009). Nevertheless, prioritizing health may vary by age. Masters level athletes may prioritize health over performance. The key message is that although knowledge of health consequences may be useful as part of counseling athletes about drug use, it is unlikely to serve as Archimedes’ lever.

Social/systemic variables

Perverse incentives

The prioritization of performance over athlete welfare is common across sport (Houlihan, 2004). For example, many athletes are told about the ideal of sacrificing the self for sport,
or are encouraged to play while in pain or injured. Similarly, coaches often receive rewards for medals and championships rather than for helping athletes prepare to realize their genetic potentials. Prioritization of performance means that athletes may take the teleological approach of the “ends justifies the means.” That is, drug use becomes the way in which they manage performance at the expense of health. For example, in Australia a prominent rugby league player, Andrew Johns, reported self-medication of bi-polar depression with illicit drugs to preserve his prominent role in the sport. Such social/systemic issues demand social/systemic solutions, such as rewarding the path to performance as much as the end results. Sport psychologists may be unable to have input at that level, but they should be cognizant of the perverse incentives created by broader social structures, either real or perceived, that influence the context in which drug use occurs.

Culture

Although there has been no direct assessment of how the culture of a sport influences drug use vulnerability or resistance, drug use has been associated with sports that demand hypermasculine behavior such as American football (Eitle, Turner, & Eitle, 2003). Whitehead (2005) characterized this behavior as an overemphasis on ideals of strength, stamina, pain endurance, or fearlessness in the face of danger. The pursuit of hypermasculinity can be seen in the various versions of football and rugby. For example, these sports seem to include reckless consumption of alcohol as integral to group initiation, social identity, and team cohesion. Alternatively, athletes may feel pressure to use AAS to achieve hypermasculine physiques. Of course, hypermasculinity does not explain cultures of drug use resistance or vulnerability in all sports, and is offered here as an example of the role of culture as a social/systemic force that may influence drug use by athletes.

Medicalization of society

Waddington and Smith (2009) argued that the medicalization of society has influenced drug use in sport. The medicalization of society refers to the expectation and use of medical treatment to overcome physical and social deficiencies or to enhance them in some way. Overcoming deficiencies could be the expectation of “popping a pill” in relation to illness, pain, anxiety, or fatigue. Enhancing the self is reflected in cosmetic surgery to enhance physical attractiveness, alcohol and illicit drugs to “have a good time”, or blood transfusions to boost hemoglobin. For athletes medicalization leads to an expectation that barriers to sporting excellence, whether realistic or unattainable, can be resolved with medical intervention. The task for sport psychologists becomes broadly interpreting the role of medicine in sport and society. In particular, sport psychologists can point to alternative methods that achieve the same outcomes using, for example, psychological interventions.

Specific issues for drug types

Licit drugs

Alcohol perhaps represents the single greatest drug abuse threat to athletes. The culture of alcohol abuse in some sports, usually binge drinking, brings with it unambiguous dangers to athletes in terms of vulnerability to anti-social behavior and alcoholism. The vulnerability is translated into unwanted pregnancies, jail sentences, permanent injury, or death. The pressures upon athletes to abuse alcohol can also come from sponsorship. For example, athletes
may feel obliged to consume a sponsor’s product, whether a multi-national company or the local bar (O’Brien & Kypri, 2008). It is beyond the scope of this short review to explore the intricacies of treating athlete alcohol abuse, but having an effective response to alcohol abuse for any age range (adolescents, young adults, or mature athletes) is an essential tool for all sport psychologists.

Illicit drugs

As noted above, sport may have a protective effect against illicit drug use. Athlete sub-populations appear less likely to use illicit drugs than other sub-populations. Illicit drug use and abuse usually follow normal developmental and addictive sequelae. For example, adolescence is a period of experimentation with illicit drugs. Therefore, adolescent athletes need to receive the same intervention or treatment as other adolescents. Young adult illicit substance use is equally part of the developmental cycle, with some young adults choosing to use illicit drugs for socializing. Progression and treatment of substance use towards abuse should follow standard psychological approaches.

Ergogenic nutritional supplements

The common use of ergogenic nutritional supplements such as vitamins, minerals, proteins, herbs, creatine, and caffeine warrants their inclusion in any discussion of athlete drug use and abuse. There has been an upsurge in supplement use as a consequence of the medicalization of society, the regulation of some ergogenic substances under the WADC, and the absence of regulation in relation to nutritional supplements (Nieper, 2005). Athletes are consuming supplements at alarming rates in pursuit of legal performance enhancement. Ironically, the ergogenic effect of most of these substances is open to debate, with sports nutritionists indicating their effects are irrelevant given an appropriate, balanced diet (Rodriguez, DiMarco, & Langely, 2009). Ergogenic effects could therefore be placebo effects, with the exception of those substances proven to influence sporting performance (e.g., caffeine).

Behaviorally, athletes seem to be caught in a marketing cycle as new products are released. Athletes rush towards supplements rumored to have specific ergogenic properties. Those products that do have ergogenic effects may actually be contaminated: for example, effective protein supplements may have some level of AAS in them, which could lead to a sanction under the WADC. The best advice sport psychologists can give athletes in relation to nutritional supplements is to consult a sport nutritionist to help them better match their diets and performance goals.

Caffeine abuse has increased with the popularization of high caffeine energy drinks. Caffeine addiction and withdrawal may become serious issues for athletes given the sustained sport sponsorship and marketing of these drinks. Consequently, treatment of caffeine abuse may become as important as treating alcohol abuse.

Doping

Doping is typically constructed as an issue that exists only at the elite level. Evidence is mounting that doping is increasing in non-elite, non-athlete, and adolescent populations to the point that some commentators are suggesting it has become a public health issue (Harmer, 2010). The simple message is that doping should be an issue of concern at all levels of sport. Huybers and Mazanov’s (2010) quantitative work on the grounded model indicates that elite athletes are vulnerable to using prohibited ergogenic substances when they can be
convinced of easily attained gains for little or no risk. Such gullibility represents part of the human psyche that con artists rely upon in plying their trade – it appears athletes are no different to the general population. Sport psychologists can help athletes overcome gullibility by pointing out the rapid rise and fall of prominent athletes (e.g., Marion Jones), or examining the time and effort that goes into achieving gains in other aspects of life.

Evidence is emerging that AAS use can become a substance dependence disorder, leading to signs of classic drug abuse in men akin to those seen in nicotine addiction (Kanayama, Hudson, & Pope, 2009). For example, use of AAS leads to withdrawal, self-administration by animals in controlled experiments, continued use despite adverse effects, maladaptive behavior patterns around use, and poly-drug use. The mechanisms behind AAS dependence are hypothesized to be muscle dysmorphia, biological vulnerability to the dysphoric effects of withdrawal, or overlap with other substance dependence. There is speculation that people with AAS dependence and individuals with opioid dependence may share a common diathesis (Kanayama et al., 2009).

**Conclusion**

The role of sport psychologists in addressing issues of drug use or abuse is central to both prevention and intervention. The factors influencing use or abuse may differ by type of substance, meaning that interventions may need to reflect these differences. Sport psychologists must remain ready to counsel athletes and support personnel about the implications of drug use towards outcomes in the best interests of the athlete. See Box 23.1 for the main take-home messages from this chapter.

**Box 23.1**

Main take-home messages about substance use and abuse

- Sport has a protective effect against some substances, but makes athletes vulnerable to abusing others.
- Sport psychologists have a responsibility to be aware of their obligations under the World Anti-Doping Code, and to be able to discuss with athletes the issues that arise from the Code.
- A framework for guiding discussions with athletes about substance use involves reflecting on: Why is the substance use occurring? Who is involved in the substance use, and are they the right people to listen to? What are the unanticipated consequences of substance use?
- Low self-esteem-driven substance use becomes problematic if the use continues or becomes critical to self-esteem.
- Avoid making moral judgments about athlete substance use.
- Talking about health consequences is important, but unlikely to change substance use behavior.
- It may be exciting to talk about prohibited ergogenic substances, but alcohol and caffeine are the big issues for athlete substance abuse.
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