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Contextual influences and athlete attitudes to drugs in sport

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ABSTRACT

This article reports on 11 narrative-based case histories which sought to: (1) uncover the attitudes of players and athletes to drugs in sport, and (2) explore contextual factors influencing the formation of those attitudes as informed by social ecology theory. Overall, participants viewed the use of banned performance-enhancing substances as cheating, 'hard' non-performance-enhancing recreational or illicit substances as unwise, legal non-performance-enhancing substances as acceptable, and legal performance-enhancing substances as essential. In short, attitudes were sometimes quite libertarian, and contingent upon first, the legality of the substance, and second, its performance impact. Results also indicated that athletes' attitudes about drugs were fundamentally shaped by sport's culture. Other significant factors included its commercial scale, closely identifiable others, early experiences and critical incidents of players and athletes, and their level of performance.

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1. Introduction

Not only does drug use remain a feature of sport and sporting clubs, but research has shown that young people who play competitive sport may actually engage in more drug and alcohol use than those who play little organized sport (Hildebrand, Johnson, & Bogle, 2001). There is also evidence that substance use is correlated to engagement in other high-risk consumption behaviors (Laure & Binsinger, 2005; Wiefferink, Detmar, Coumans, Vogels, & Paulussen, 2008). Studies of college students in the United States found that those involved in athletics engaged in more risky behaviors than non-athletes (Selby, Weinstein, & Bird, 1990), and had a special preference for binge-drinking (Wechsler, Davenport, Dowdell, Grossman, & Zanakos, 1997). Moreover, the focus in sport on team bonding on the one hand, and intensive competition on the other, appears to make it fertile ground for the growth of drug use and abuse (Ford, 2007). Brissonneau (2008, p. iii) remarked in a European Union discussion paper about the anti-doping policy, that "If we take sporting events as they appear to exist in some Anglo-Saxon countries or in the United States, the rules of fair play do not seem fundamental and doping is

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ultimately only a means of enhancing performance and thus improving the 'spectator value' of the sport." In other words there seems to be something about sport and the way it is played out that makes it susceptible to various types of drug use. In this research, we examine data from Australian and New Zealand players and athletes with the objective of highlighting the contextual influences relevant to substance use choices.

The views of players and athletes about substance use in sport are ambiguous and convoluted (Petróczy, 2007; Petróczy & Aidman, 2008), and as a result it is unclear as to (1) how player and athlete attitudes to drugs in sport are formulated, (2) what factors have influenced those attitudes over their formative years, and (3) the contextual and cultural factors that may have shaped those attitudes during their playing career. The purpose of this research is to assess athletes' attitudes to substances used in sport and to explore the contextual variables that have influenced attitude formulation. An improved understanding of the contextual pressures and factors that influence athletes' and players' attitudes to drugs in sport will be pivotal to understanding how drug policy interventions may modify players' propensities to take drugs. In this article we will outline the theoretical approach and research design employed in this study, examine the evidence which links attitudes towards drugs in sport to contextual variables, report and discuss the results, and present conclusions about the attitudes players and athletes have to different drug-types, and the shaping of these attitudes.

According to Backhouse, McKenna, Robinson, and Atkin's (2007) extensive literature survey undertaken for the World Anti-Doping Agency (WADA), attitudinal research is descriptive and not always capable of establishing the causal relationship between attitudes and behavior. They also claimed that most research is under-theorized and needs to explore the complex "social matrix within which drug use becomes established" (p. 2). Our aim is to bolster the utility of attitudinal constructs by contributing to the development of theory explaining the role of socio-cultural variables. Similarly, Petróczy's (2007) predictive model seeking to connect goal orientation, win orientation, and competitiveness of athletes to doping behavior, left a considerable proportion of behavior unexplained.

The dangers of drug use in sport are well rehearsed (Ingram, 2004) if substantiated only by a handful of studies focusing on extreme behavior. For example, Parisotto (2004) reported that at least eighteen European cyclists died from erythropoietin (EPO – a drug that increases the oxygen-carrying capacity of blood) induced heart failure between 1988 and 1990. However, there remains an absence of reliable evidence documenting the adverse effects of many performance-enhancing drugs as well as reliable data about the prevalence of their use in sport (Yesalis, Kopstein, & Bahrke, 2001). To complicate matters, the majority of published studies have focused on clinical populations or case studies which tend not to address the supra-therapeutic regimens and complex pharmacology employed by serious athletes (Dawson, 2001). As Yesalis, Bahrke, and Wright (2000) counselled, absence of evidence does not mean evidence of absence, an ongoing issue further obfuscated by the failure to separate the impacts of different substances. In a sporting world where alcohol is likely to be the most serious problem, the media and governing bodies are more interested in steroids and EPO.

Substance use for or around sport has a long history, but over the last few decades a strong policy movement against doping has presided led by the International Olympic Committee, which in 1999 formed the World Anti-Doping Agency (WADA). WADA has successfully pursued a global strategy for universal anti-doping rules in elite sport with an emphasis on punitive policies for transgression. The third version of the anti-doping code was released in January 2009 accompanied by an updated list of forbidden substances and methods. In the case of Australia, the anti-doping code was unconditionally accepted by the Federal Government and placed under the authority of the Australian Sports Drug Agency (ASDA), renamed the Australian Sports Anti-Doping Authority (ASADA) in March 2006.

The WADA anti-doping policy was established with the explicit objective of improving performance parity, and in so doing, protect the social value of sport (WADA, 2003, 2004). Through a clearly defined list of prohibited substances, drug testing regimes, and coercive penalties, the message was clear: drug use in sport is cheating. This position was reinforced by the assumption that sport has significant social benefits that are vulnerable without the protection of a regulated drug control system (Rusmussen, 2005).

Despite the tight regulatory environment, many competitive and recreational athletes use both legal and banned substances. Ostensibly, at least for some, the risk of penalty is outweighed by the advantages of performance, while for others, consumption is just part of being involved in social sport or a tribal sub-group (Hunt, 2007). In addition, the use of pain killers and bronchial dilators further blur the indistinct line between legal and banned substances (Alaranta, Alaranta, & Helenius, 2008). Some illicit drugs are banned despite their performance-reducing effects, while other licit substances are acceptable despite having substantive performance impacts. A demarcation between in and out of competition testing where some illicit substances are permissible out of competition but banned during competition is also confusing (Kayser, Mauron, & Miah, 2007). Some evidence also suggests that substance use is rife in sports like bodybuilding where the majority of participants are not involved in any regulated competition (Simon, Striegel, Aust, Dietz, & Ulrich, 2006). Meanwhile, it remains unclear where alcohol should be placed given its traditional role in the sport experience and the vast evidence of its deleterious impact upon health (Smith & Stewart, 2008).

A number of variables have been identified which tend to show, at least in theoretical terms, the role that drugs play in sporting club culture, how players and athletes go about building their beliefs and attitudes about drugs, and the processes they use when deciding whether or not to use a specific drug. However, not much is known about the attitudes, values, beliefs and motivations of sport participants who employ drugs to gain a performance advantage or use them for recreation (Donovan, Egger, Kapernick, & Mendoza, 2002). Thus understanding athlete and player attitudes is central to an effective drugs in sport policy (BMA, 2002).

A study by Donovan et al. (2002) identified six inputs that influence changes in the attitude-behavior of athletes towards performance-enhancing drugs (PEDs). These were first, threat appraisal, reflecting the deterrence factor or the cost of being caught; second, incentive appraisal, representing the benefits of drug use; third, reference group opinions, highlighting the importance of peer approval; fourth, personal morality, illustrating an athlete's views on right and wrong; fifth the perceived legitimacy of the drug authority's position; and finally, personality factors which are individualized variables linked to self-esteem and optimism. Consistent with the theory of planned behavior (Ajzen, 1991; Ajzen & Fishbein, 1980), Donovan et al. make two central assumptions. The first is that behavior is basically rational and that athletes use information in a systematic manner to inform their decisions about drug use. The second is that athletes consider the implications of their behavior before they act. These twin assumptions represent a kind of rational intentionality. However, these assumptions may not always be satisfied and predictions about behavior based on them will be compromised. Moreover, Donovan et al.'s input factors say little about how variables like a masculine identity or the culture of specific sports may affect drug-taking behavior.

The importance of coercion, punishments, and the risk of getting caught was at the hub of Strelan and Boeckmann's (2003) analysis of behaviors involving PEDs. Using the concept of deterrence, which has its theoretical basis in criminal decision-making, Strelan and Boeckmann (2003) specified four categories of salience. The first was legal sanctions, which can take the form of fines and suspensions. The second was social sanctions, which includes disapproval, ostracism by friends and colleagues, and potential material losses from sponsors who may elect to find someone else to endorse their products. The third was self-imposed sanctions that are bound up in the guilt, loss of face, and plummeting self-worth which arises as a consequence of being publicly identified as a cheat. The final category was a health concern from the likely side effects associated with the chronic use of a specific drug. These costs and sanctions are then weighed against the benefits that might arise from the use of PEDs. Accordingly, "deterrence theory assumes that individuals make conscious decisions that are well-informed, well-planned, rational, and designed to maximize the decision maker's best interests" (p. 178). Strelan and Broeckman (2006) furthered the case for the salience of deterrence theory in their analysis of Australian Football League players' moral beliefs around the use of drugs in sport.

The previous models focus on compliance with anti-doping policies rather than on actual substance use behaviors. As a result, they tend not to take into account the possibility that the choices made by athletes to use drugs (both performance-enhancing and recreational) may also be influenced by external factors including a sport culture that is centered on winning at almost any cost, the personal importance of fame and wealth, or the need to demonstrate masculinity. These factors can lead to decisions that may have elements of the unplanned and subjective as well as the strategic and objective.

Strelan and Boeckmann (2003) observed that a better understanding of athletes' motivations might highlight the utility of policy interventions which do not rely exclusively on deterrents such as legal threats and punishments. They emphasized that the earlier in life an attitude towards drugs in sport is ingrained, the more likely it will endure. This suggests that empirical work is needed to understand how drug-use values are formed. The limited data in this area show that the problem has typically been compartmentalized into PEDs, illicit drugs or alcohol and tobacco. Here, we take a broad view with no presumption that the three are either connected or unconnected.

A more empirically-based research project that addressed contextual issues was commissioned by the Australian Sports Drug Agency (ASDA) and undertaken by Mugford, Mugford, and Donnelly (1999). Using Donovan et al.'s (2002) model as an investigative framework, Mugford et al. concluded that commercialization has tempted athletes, particularly those at the elite level, to take PEDs. The report also observed that in general athletes are inwardly focused, individually motivated, professional in orientation, and driven by both financial and intrinsic rewards. Moreover, they want to achieve their personal best, are at the centre of their families and friends' lives, are not necessarily physically healthy, have changed needs over time, and believe that elite sport is not 'normal'. While the correlations between these traits and the motivation to use PEDs was unclear, Mugford et al. concluded that most athletes view using drugs as cheating but some will use them because of pressure to win and the related perception of an unequal playing field. It was also noted that athletes who use drugs do so with considerable planning and forethought. Equally, those who do not take drugs are more likely to be influenced by the deterrents associated with getting caught, including the disaffection of the broader community.

We propose that an athlete's decision to utilize substances is far more complex and personal than the previous compliance-focused models would suggest. In fact, numerous contextual factors may affect an athlete's cost-benefit calculus by changing the values attributed to central variables. That is, there are a range of important contextual influencers upon decisions made about sport and substance use which create a differential impact depending on the substance and circumstance. In addition, the decisions taken by athletes are not necessarily rational, fully-intended or reflective of a risk assessment. Our view is that a full account of substance use in sport requires the inclusion of contextual variables, some of which may inhibit use, and others which may lead to greater use.

2. Contextual influences on attitudes to drugs in sport

Despite a shortage of empirical data about the specifics of drugs in sport, the literature on sport development and the history and evolution of drug use in sport suggests that sport is susceptible to drug use for two main reasons. First, sport has become heavily commercialized, and the rewards for success have escalated commensurately (Millar, 2005; Stewart, Nicholson, Smith, & Westerbeek, 2004; Wenner, 1998; Westerbeek & Smith, 2003; Wright, 1999). The result has been a surge in demand for substances that might improve performance and provide a competitive edge (Buti & Fridman, 2001). Sport has

become scientized and medicalized and players seek advice from physiologists, biomechanists, physicians, pharmacists, nutritionists and psychologists to help improve their performances (Waddington, 2001). This has resulted in a significant increase in the supply of services (like advice on technique and conditioning) and products (like more effective equipment, food supplements, and drugs) (Waddington, 2000b). Commercialization has also reinforced the media-sport-business triumvirate, which in turn makes winning an economic proposition (Miller, Lawrence, McKay, & Rowe, 1999). The escalation of commercial interests in sport places pressure on athletes to perform in order to maintain corporate sponsorships and to acquire as much wealth as possible during their brief and perhaps risky careers (Gerrard, 1999; Li, Hofacre, & Mahony, 2001). Under the conditions of commercial sovereignty the market is a powerful determinant of behavior in which the use of PEDs becomes a logical option for athletes intent on winning championship medals (Aghion & Williamson, 1999). The use of illicit, recreational substances may even be helpful in managing the stresses associated with maintaining peak levels of performance or reducing the anxiety associated with injury (Laure, Lecerf, Friser, & Binsinger, 2004). The commercialized sports world and its associated ideologies of competition, global expansion, and market domination align with a sport culture that focuses on acquiring the next competitive edge (Wenner, 1998).

A second influential factor is that recreational substances such as alcohol and tobacco are embedded in the culture of Australian sporting clubs (Lalor, 2003; McKay, 1991; Smith & Shilbury, 2004; Smith and Stewart, 1995; Stoddart, 1986). Alcohol-based drinks are the popular choice when the need to celebrate arises, and for male players alcohol is closely connected to ideals of masculinity and manhood (West, 1996; Whitehead, 2005). Drugs therefore become integral to identity formation and social positioning since they reflect a preparedness to engage in high-risk behavior as a means of achieving status and peer approval. In these instances failure, defeat and injury, and the social stigma of being caught using illicit drugs or of getting intoxicated, may not be perceived as problematic so long as they are associated with heroic outcomes. Drugs can play a role in the acting out of such archetypal heroism, whether in the usage of PEDs to augment physical capacities or in the flagrant overuse of dangerous recreational substances and alcohol (Peretti-Watel, Beck, & Legleye, 2002). The prominent role of alcohol as a social lubricant within Australian sporting clubs is well documented (Duff, Scealy, & Rowland, 2004) and is also considered in this research. In the following section, the design of this study is outlined followed by a detailed presentation of the results, their interpretation and conclusions.

3. Research design

3.1. Theoretical background

Social ecology theory is pivotal to the theoretical assumptions underpinning this research. The theory states that attitudes and behaviors are not driven exclusively by personal factors intrinsic to the individual. Rather, environmental influences also play a part in explaining attitudes and behavior (Graham, Marks, & Hansen, 1991; Hansen, 1997). Of particular relevance to this research is the sensitivity social ecology holds for the interdependencies between context, attitudes and behavior (Levins & Lopez, 1999). When applied to this research, it suggests that a player's decision to use drugs is influenced by contextual pressures. 'Drugs' or 'substances' were broadly defined as any substance that can be used to artificially modify the processes of the body and/or mind. As such, drugs may be used to enhance physical appearance and sporting performance, treat an illness or injury, improve recuperative powers, change states of mind, or stimulate social interaction.

The advantage of a social ecological lens is that it provides a comprehensive analytical frame for considering health behaviors. Social ecology proposes that behavior is influenced by numerous factors operating and intersecting at different levels, and therefore acknowledges that substance use behavior is multi-faceted (McLeroy, Bibeau, Steckler, & Glanz, 1988) where social and contextual issues are significant contributing factors. For example, Hansen (1997) recommended a social ecology model for investigating alcohol use in collegiate athletic teams. He noted, as do we, that a framework which accounts for various levels of influence including the personal, social and environmental is essential to understanding the mechanisms through which individuals make behavioral choices impacting health. While there is some evidence indicating that interventions based on social norms can reduce substance consumption (Borsari & Carey, 2000; Gombert, Schneider, & DeJong, 2001), there are also data that multi-level approaches have greater impact (Thombs & Hamilton, 2002). The social ecology model seeks to integrate key influencing factors acting on individual behavior, and we consequently follow Stokols' (1996) assumptions which recognize multiple influencing factors in the environment that interact systemically, as well as the advantage of layers of analysis emanating from different levels of contextual application.

This research is also consistent with the theory of reasoned action which posits a link between player attitude and behavior. Ajzen (1991) and Ajzen and Fishbein's (1980) theory of reasoned action/planned behavior claims that the link between attitude and volitional behavior is mediated by intention. In addition, social-psychological research has demonstrated that personal, internally-held values are variable depending upon context, and that external factors such as peer influence have a significant affect on behavior (Cialdini, 2001). The evidence suggests that general attitudes are reliable predictors of general behavior (Eagly & Chaiken, 1993). That is, attitudes have 'predictive utility' (Cialdini, Petty, & Cacioppo, 1981). For example, Chou and Chi'en's (1997) study determined that the more positive participants' attitudes toward drug abuse are, the more likely their involvement with drugs and the higher the observed stages of abuse. Attitudes become better predictors of volitional behaviors when they are matched to context and when they connect to self-identity. In summary, the

presence of mitigating factors and the complexity and accessibility of the behavior all affect the predictive utility of theories of planned behavior and rational action (Fazio & Williams, 1986; Leone, Perugini, & Ercolani, 1999).

This research focuses on attitudes rather than behavior. Given the sensitive nature of the drugs in sport problem, and the punitive policies that currently operate, we assumed that players would be resistant to talking openly about their own drug use. However, we predicted that informants would respond candidly if the interviewers remained relatively unobtrusive, questions are more diffused, and informants are encouraged to talk more indirectly about drugs in general, and drugs use in sport more specifically. As a result, interview questions aimed to establish what informants thought about drug use in sport, the problems they believe it creates, instances where they believe drug use can be beneficial, who they feel shape the culture of sport, and the social space given to drugs of various types. At the same time, social ecology and reasoned-action theories suggest that these player attitudes are relevant to the behavior that is likely to follow.

3.2. Sample

A theoretical sampling method was utilized in which the sample categories were selected on the basis of their importance and prevalence in the relevant literature. Theoretical sampling provides a systematic sampling approach typically recommended for research seeking to culminate in theory generation (Goulding, 2002; Locke, 2001; Strauss & Corbin, 1997). The method revolves around the logic that researchers assemble theoretical premises during the research process and that this may be informed by heterogeneous samples selected in order to encourage diversity in data. Representation therefore gives way to conceptual diversity in that new or 'discovered' categories are included as their importance becomes apparent. Our approach is consistent with that advocated by Draucker, Martsoff, Ross, and Rusk (2007) in their paper on theoretical sampling in health research. According to this application, theoretical sampling is appropriate when the aim of the research is to construct explanatory concepts connected to emergent, real-life events and circumstances. To that end, theoretical sampling is a comfortable extension of the social ecology framework which emphasizes the relevance of multiple variables.

In this instance the key initial variables were first, the level of the sport's commercialization (Millar, 2005; Stewart et al., 2004; Wenner, 1998; Westerbeek & Smith, 2003; Wright, 1999), and second, the sport's cultural foundations (Lalor, 2003; McKay, 1991; Smith & Shilbury, 2004; Smith and Stewart, 1995; Stoddart, 1986). This approach is consistent with social ecology theory which predicts that these two variables will play a formative role in the construction of player attitudes towards drug use. An additional 'discovered' sample criterion 'performance level' was subsequently included based on emergent data which highlighted the importance of an athlete's level of sporting performance on their attitudes to substances in sport.

A high level of a sport's commercialization was indicated by its ability to generate revenue through gate receipts, television rights and sponsorships, with flow-on effects to players in the form of professional payments. The sample included sports with large-scale TV rights, fees and sponsorship arrangements, as well as sports with relatively small income streams. In line with the protocols of the theoretical sampling which encourages the use of 'negative' cases (Minichiello, Aroni, & Hays, 2008), sports were selected in each of the categories that were as dissimilar as possible. Culture was measured through the proxy of inherent level of risk and aggressive character. The sample included sports that are highly combative and risky on one hand, and those that are more safe, secure and do not involve aggressive body contact on the other. Performance level was divided into elite and non-elite. Elite athletes and players were considered those who have participated at a representative state, national or professional club level. Non-elite athletes were those who have participated in levels lower than these.

Cases were selected from each of the eight sampling categories created by the theoretical sampling frame. Eleven cases were selected representing a diverse cross-section in terms of team, individual, contact, water, and ball sports as well as cases relevant to the contextual factors that underpin the research design (Maxwell, 2005; Yin, 2003). Eight of the participants were male and three were female. Six of the participants competed at the elite level, while the remainder played in a broad array of community leagues and competitions. Given the prominence of numerous participants participating in this study, to preserve their anonymity and in accordance with ethics protocols, the sports cannot be named. However, participants' sports can be categorized as follows: contact-ball, combat, wheel-sport endurance, racquet, winter, non-contact-ball, technical-skill, and strength-power. The theoretical sampling frame is reproduced in Table 1.

Table 1
Theoretical sampling frame.

Commercialization (HC)				Commercialization (LC)			
Risk, aggression, masculinity (HA)		Risk, aggression, masculinity (LA)		Risk, aggression, masculinity (HA)		Risk, aggression, masculinity (LA)	
Elite (E)	Non-elite (NE)	Elite (E)	Non-elite (NE)	Elite (E)	Non-elite (NE)	Elite (E)	Non-elite (NE)

3.3. Data collection

This research adopted a narrative-based, case-history approach. This method offers several advantages. First, it reveals a detailed picture of each player's life-time sport experiences. Second, it ensures that contextual influences are central in considering the formation of player attitudes about drugs in sport. Finally, it allows the opportunity to build a network of

influences and relationships that expose the processes by which player attitudes are formed, and the relative strength of each contextual factor (Clarke, 2005).

Data were collected through a series of case histories using in-depth interviews seeking detailed and multi-layered responses. The interviews were conducted as conversations (Riessman, 2008) where the participants were encouraged to provide a narrative account of their sporting histories using a simple life-cycle frame, and where childhood and adolescent experiences provide the catalyst for subsequent exposure to the key stages of their adult sporting careers (Smith & Sparks, 2009). In order to secure detailed responses, interviewers used phrases and gestures that signaled receptivity and gave the participant centre-stage in the interview process (Riessman, 2008). Although interviewers employed an interview schedule, allowance was made for digressions that were likely to identify some unexpected but relevant issues, illuminate a previous point, or provide a hint of some causal link between specific events and incidents and the formation of a specific attitude to drug use in sport.

This data collection method, which is implicit to social ecology, emphasizes the social and cultural variables that influenced athletes' sporting experiences, and is consistent with the study of social phenomena from the perspective of symbolic interactionism, where it is concerned with the meanings of events to people (Eaves, 2001). In addition, narratives can play a sense-making role for participants who are attempting to retrospectively find meaning in a complex set of sometimes ambiguous experiences. Like Gabriel (2004), we note that narratives do not necessarily reflect reality or the 'truth', but remain shapers of personal meaning. Accordingly, narratives provide symbolic reference to experiences and variables that are sometimes covert or difficult to articulate with a pre-formed interpretation (Czarniawska, 2004).

Our use of a social ecology conceptual framework ensured that we took an interpretive approach, therefore reflecting the ontological assumption that narratives are socially constructed and subject to different interpretations by participants and researchers (Deetz, 1996). Any socially constructed narrative contains meanings that cannot be identified objectively (Schwartzman, 1993). Narratives were treated as symbols of a socially constructed reality rather than as objective representations of the truth. Interpretive approaches are useful because they help reveal non-obvious meanings for participants because it positions narratives at the symbolic margin of reality where their social and personal worlds collide. Researchers employing an interpretive approach are faced with the need to make distinctions between fact and personal interpretation.

3.4. Data analysis

All interviews were transcribed and managed through the software program NVivo. The data were examined using a three-stage coding process. The first stage involved the assemblage of notes taken by the interviewers into a one to two page summary, which was used as a reflective guide highlighting the most prominent issues that arose during the interview. This summary was used to help structure the initial organization of the data into major groupings which were allocated according to common themes, tones and images (Crossley, 2007). The second stage involved the construction of a clean transcript within each theme where all extraneous words and incomplete phrases were deleted, appropriate punctuation was added, and pauses and false starts were removed. This was done to achieve an effective and proper narrative flow, a strong sense of immediacy, and easy readability (Elliott, 2006). The third stage used Gee's (1986) units-of-discourse model to structure the thematic groupings around stanzas. In order to create the stanzas, sentences were broken down into short blocks of phrases that encapsulated a specific occurrence or event. This was designed to ensure a strong cadence which allowed key incidents, events and turning points to be signaled for subsequent analysis of attitude formation and shaping (Elliott, 2006). The approach allowed the identification of the content or practicalities of participant's attitudes to drug use, thereby revealing how attitudes were correlated to precipitating incidents, events or occurrences. As a result, it was possible to identify significant contextual links and relationships that threaded their way through each of the narratives, and to see if there were common themes across the narratives and life stories of the participants (Riessman, 2008). The outcome of the analytical process was an independent narrative for each participant, each of which was examined for themes, tones and images in order to develop the set of common contextual variables presented here in the form of a thematic composite narrative.

Our method therefore treated the 11 individual narratives as the units of analyses from which we constructed the thematic composite. Riessman (2008) noted that thematic analysis is the most common form of narrative interpretation. Themes were used as Riessman (2008) specified to organize content across the 11 narratives in order to reveal the common content. We emphasize, as did Riessman (2008), that plots are the key interpretive device in individual narratives, while themes are the central structural form in construction of concepts and theories. As a result, although our analysis could have taken the form of 11 individual and separate case narratives, we chose to continue the interpretive process in order to create a composite set of data. Our results in the form of illustrative stanzas are presented in line with this method, accompanied by analytic introductions, commentary, discussion and contextualization (Riessman, 2008).

4. Results and discussion

Results are organized according to the macro-structure of the coding categories identified following on from the analysis of the 11 narrative case histories. Seven macro-themes were specified, each with numerous sub-themes or variables acting on the themes which were articulated in terms of quotation stanzas. The seven macro-themes were (1) Personality and Identity, (2) Influential People, (3) Early Sporting Experiences, (4) Commercial Pressures, (5) Sporting Culture, (6) Attitudes to Policy, and (7) Attitudes to Substances. The coding structure is illustrated in Fig. 1. In the next section each of the themes is

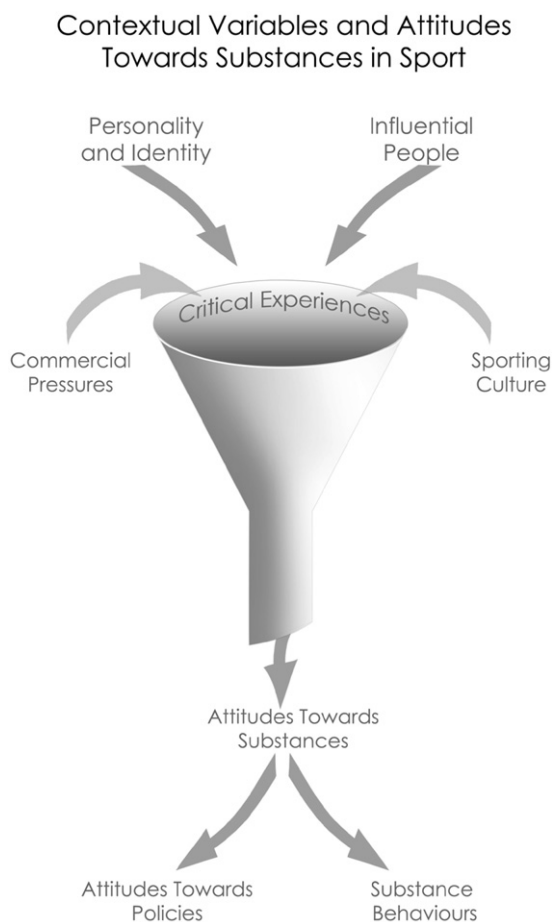


Fig. 1. A conceptual model of contextual variables and attitudes towards substances in sport.

presented in detail with a focus on the major issues emerging from each in terms of their influence on the formation of attitudes to substance use in sport. Gender and category of sport participation are displayed after each stanza of data in addition to the sampling characteristics of high and low commercialization (HC, LC), high aggressive or low aggressive (HA, LA) and elite or non-elite (E, NE).

4.1. Personality and identity

While at a societal level an individual's personality and sense of identity clearly influences behavior, there was little evidence highlighting specific traits and dispositions that corresponded to particular attitudes about drug use in sport. Our results did not reveal any clear-cut association between a particular self-identified temperament, gender identity, life experience or moral code, and a particular position on substance use in sport. Although these three factors appear to be intuitively relevant, particularly gender, it remains unclear as to how they affect attitude formation. It is also noteworthy that the results fail to corroborate Donovan et al.'s (2002) claims that morality is a principal variable in shaping attitudes towards substance use in sport. However, personality and identity were important in explaining the ongoing involvement of players and athletes in competitive sport at the elite level, and their commitment to sporting excellence. One recurring theme was the self-driven nature of elite athletes and their early awareness of a single-minded desire to excel that was evident from childhood.

... my personality has always been if there's something I wanted and I wanted it bad enough I just do what I had to do to do it.
[LC, LA, E, male, racquet]

All of the six elite athletes in the sample indicated that they had developed strong egos from an early age when it came to their sporting performances. They all identified themselves as high performance athletes, and understood that aspirational goal-setting and confidence-building were integral to their sporting development. A heightened sense of their superior performance was an integral component of their elite-athlete identity.

They look to themselves in the mirror every day and think they're the almighty. [LC, LA, E, male, racquet]

4.2. Influential people

Five categories of influential people were recorded: (1) Family, (2) Peers, (3) Teachers, (4) Coaches, and (5) Heroes. Players and athletes were strongly influenced by adult mentors during their sporting careers, and their attitudes to substance use were in part shaped by the nature of these relationships. Parents, and particularly fathers, loomed large, and were instrumental in shaping participants' sport-career paths, a finding consistent with previous work in sport development studies (Lenskyi, 2003; White, Duda, & Keller, 1998). However, parental influences were not necessarily positive, and in a number of cases fathers were excessively ambitious for their children, which pressured them to become highly competitive.

his reality of sport is either you win or you're the first loser. [HC, LA, E, male, endurance]

In some cases it was clear that early exposure to parental drinking led participants to also take a libertarian attitude to alcohol use. This familiarity with alcohol helped explain its overall acceptance as a social lubricant. In addition the subsequent binge-drinking experiences of some athletes were associated with early parental behaviors and positive social experiences.

Mum and dad is (sic) always on the drinking every day... [LC, HA, E, male, weight-strength]

For elite athletes, in line with Strean and Holt (2001), and notwithstanding the immense impact of their initial exposure to sport via their parents, the most important influencers were coaches, usually the first elite level coach. Coaches were not only seen as inspirational and knowledgeable, but were also obeyed without question.

So if a coach says, you know, run 6,000 miles until you drop dead you just do it. [LC, HA, E, male, combat]

There were also some comments which suggested that the coach's support staff were equally influential. One Olympic level elite athlete in a technical skill-based sport reported:

my sports psychologist was probably my number one person in the end. [LC, LA, E, female, technical-skill]

The blind-obedience that some participants reported was mirrored in their comments about the instructional methods used by coaches to impart their knowledge and experience. Coaches were often didactic, and their leadership styles bordered on the authoritarian. The sometimes larger-than-life presence of coaches not only had a lasting impact on player and athlete on-field behavior, but also their off-field practices. One elite athlete described how her coach had seriously affected her eating habits, even out of season.

I don't like walking around holding junk food because when we were training ... the coaches always were watching what you were eating. [LC, LA, E, female, technical-skill]

In other instances coaches facilitated, and even encouraged access to different substances by creating a set of expectations and cultural mores.

There was one particular coach ... after we won the grand final.

He said, go easy tonight you know, don't drink too much but the party was back at his place and he'd organized all the booze anyway. [HC, LA, NE, male, wheel-sport]

4.3. Early sporting experiences

In concert with influential people, critical early sporting experiences also had an impact on the acquisition of beliefs relevant to attitudes towards substances. The key issues included the places athletes and players grew up, the sports they participated in, the level of competition they played, and the nature of the incidents that they were exposed to, all points highlighted by Morris, Sallybanks, Willis, and Makkai (2003).

The more frequently the early experiences of players and athletes emphasized serious competition, the more likely they were to hold favorable and/or permissive attitudes towards both licit and illicit performance-enhancing substances. Five of the six elite participants reported that they had been exposed to performance-enhancing substances during their teenage years.

Well, now as an adult when I look back to the gym that I was training at, there was huge amounts of performance-enhancing drugs in there.

Everyone was on steroids without question... You could pick up injectable steroids from any personal trainer. [HC, LA, E, male, endurance]

In contrast, none of the five non-elite athletes could remember any incidents that involved the possession or use of performance-enhancing substances during the early period of their sports participation. However, they clearly remembered cases of heavy alcohol use, but this was considered nothing more than an integral part of the sport club culture, a tool for ensuring social cohesion, and a vehicle for displaying their local and national identity. In short, it was seen to be a cultural imperative to be involved in sport at the elite and social level.

I was brought up in Australia.

You played sport all the time. [LC, LA, E, female, ball]

4.4. Commercial pressures

Amongst the commercial pressures impacting upon participants' attitudes to substance use, the most prominent were issues of professionalization, sponsorship, material reward and fame. These factors were used to explain the pressures to use performance-enhancing substances. Each of the 11 participants acknowledged the lure of financial incentives in tempting players and athletes to use various substances, whether available over-the-counter, secured by prescription, or obtained through illegal trafficking. This finding is not surprising in light of previous empirical studies and commentary about the impact of commercial incentives on player and athlete behavior (Bairner, 2003; Belk, 1996; Gems, 1999; van Bottenburg, 2003). There was agreement that the drive to secure a competitive edge is strongest where the rewards—be they psychic, social or financial—are highest.

And with more money coming in, people are going to ... you know want to be better and get the edge any way they can. [LC, LA, E, female, ball]

Five of the six elite athletes were strongly pragmatic when it came to commenting upon the motives to achieve in a heavily commercialized sport world. They had a distinctly mercenary attitude towards sport, concluding that the opportunity to acquire fame was a powerful incentive to use a banned substance, even when the risk of being caught was high.

I think the potential to reach fame maybe even immortality almost is the driver for these people to do that. [LC, LA, E, male, racquet]

That incentive is increasing in accordance with the money. [HC, HA, E, male, combat]

Two elite participants observed that elite sport was about excelling, and in a sense it was not inappropriate to do everything necessary to secure a win, and break a record.

when you don't get caught you get fantastic records. [LC, LA, E, male, racquet]

it comes back to the ... the winning. [HC, LA, NE, male, wheel-sport]

For these two elite athletes, commercial pressures not only impose a demanding regime of expectations, but also represent an opportunity to win fame and fortune along the way. According to them, this is what 'big-time', spectator sport is all about.

If they don't increase their performance, people don't get interested. [LC, NA, E, male, racquet]

Broadcasting rights will disappear, sponsorship disappears, there's no money. [HC, LA, NE, male, wheel-sport]

The commercial imperative highlighted the common attitude amongst elite players and athletes that despite the pressure to be role-models and good sporting citizens, the blame for the use of performance-enhancing substances lies not with the players and athletes, but with a society that has created a culture of relentless competition and grand expectations, where competitive advantages, regular record-breaking performances, and constant improvement is not possible without the use of banned performance-enhancing substances. This theme threads its way through most of the commentary on global and professional sport (Wenner, 1998; Wilson, 1990; Wright, 1999). As Waddington (2000a, p. 4) observed: "Sport is played for higher, sometimes much higher stakes, whether these be economic, political-national, personal or a combination of all three". Sport's consequent corporatization has created a world where players' salaries and tenure are conditional upon high and sustained levels of performance (Stewart, 2007). For some participants it comes as no surprise that drug use is embedded in the world of sport.

society's to blame because they put so much money into it and so there's so much money at stake so you do whatever it takes to win. [NC, LA, E, male, winter]

According to four elite participants, this situation presents an untenable position for elite players and athletes. The combination of constant pressure to perform and the availability of so many drugs—most illegal, but some not—that can improve athletic performance at the margin, provides the perfect conditions for rampant substance use. It led one participant to recommend that the only way of removing the ambiguity, contradiction and hypocrisy from high-level sport would be to legalize all performance-enhancing substances.

So why not open it up? [NC, LA, E, male, racquet]

4.5. Sporting culture

There is no one single sporting culture, and it varies from sport to sport. A sport's culture—its prevailing values and beliefs—is built around a number of features, which include the emphasis it gives to masculinity, risk-taking and aggressiveness. The prominence of these features will, in turn, influence a participant's attitudes towards substance use. The ways in which these values and beliefs are formed are complex, unique to individual sports, and are influenced by not only the above factors, but also by the physical performance requirements of the sport. Its demands can focus on (1) power and

strength (e.g. weightlifting), (2) endurance and stamina (e.g. road cycling or triathlon), (3) technical skill (e.g. sailing). It can sometimes also involve a distinctive combination of all three (e.g. gymnastics). Other features that can shape a sport's culture include the level at which it is performed (i.e. elite or non-elite), whether the sport is team or individually-based, its level of medicalization and scientization, and the degree to which it values social engagement over success and winning.

Given the different ways in which sport activities can be structured and organized, it is not surprising that some sports have quite different cultures to others. For example, elite cycling is highly medicalized and scientized with a heavy reliance on physicians, support therapists, sport scientists, biomechanists and engineers (Brissonneau, 2006; Waddington & Smith, 2008). For elite cyclists, licit performance-enhancing substances like caffeine, analgesics and nutritional supplements are a way-of-life, and an accepted part of the culture of competitive cycling. Another example is Australian football where, at the non-elite level in particular, the bar, being the distribution point for alcohol, is a focal point for building camaraderie and ensuring social cohesion. This emphasis on social networking and social capital investment is accompanied by a heavy drinking culture that includes a few weekly beers at one end of the continuum, and regular binge-drinking at the other.

In the team sport context, both at the elite and non-elite levels, participants described how the Australian societal culture in general, and sporting club cultures in particular, encourage heavy alcohol consumption.

a big part of that culture generally speaking is the . . . excessive drinking component where peoples' characters and past are based on a lot of . . . a lot to do with heavy drinking. [HC, LA, NE, male, wheel-sport]

In addition to alcohol, team sports, more than individual sports, were strongly associated with other licit substance use such as tobacco. Every participant from a team sport spoke about their sport's tribal culture and tight social bonding, and how it was reinforced by regular drinking with their teammates in a convivial setting. As a result, team-sport participants held alcohol and tobacco to be not only legitimate, and indeed, often ideal vehicles for building social cohesion, but also to be relatively harmless activities.

It was very tribal. [HC, HA, E, male, combat]

The culture after the game, very, very social culture. [female, elite, non-contact-ball]

very much a brotherhood . . . [LC, LA, E, male, winter]

Alcohol consumption was accepted as a normal part of the team-sport experience. It was integral to the bonding and camaraderie that team sports demanded. But it was also clear that alcohol had additional importance for players and athletes, including its capacity to help celebrate victory and commiserate loss. Alcohol therefore had significant social utility.

'Cause it represents celebration. [LC, LA, E, male, winter]

It was also evident that alcohol consumption was just the tip of the substance-use iceberg. Participants from those sports who valued heroism and conspicuous displays of masculinity reported that binge-drinking was linked to the use of illicit drugs. They saw it as an inevitable outcome of sport cultures that celebrated risk taking and the bending of rules to secure an advantage.

having their hour and a half of being a hero. [HC, LA, NE, male, wheel-sport]

For most male participants, the drive to confirm their masculinity was also aided and abetted by substance use. For the non-elite athletes in particular, performance-enhancing substances offered an opportunity not only to improve their sport performance, but also build their physique, command peer-respect for their more powerful and muscular bodies, and thereby build an identity that fitted with their view of the masculine ideal.

I'd experimented with steroids in gyms in my early 20s for a couple of years just on and off to look good. [HC, LA, E, male, endurance]

While team-sports played at the non-elite level encouraged liberal attitudes to alcohol, tobacco, party drugs and the periodic recreational use of steroids, they did little to encourage the use of performance-enhancing substances in any systematic way. This appeared to be a function of an ambivalence towards a win-at-all-cost culture, and the often more pressing concern for social cohesion combined with masculine-style risk-taking. On the other hand, elite athletes in individual sports were meticulous about their use of licit performance maintaining and enhancing substances, and went out of their way to build their knowledge base, and use it to ensure that a substance intake would optimize both their training output and in-contest performance.

you need assistance at times so, painkillers and anti-inflammatories, they're all part and parcel of what we do. [LC, LA, E, female, technical-skill]

We would do anything to get through training.

Panadol, prescription anti-inflammatory that they insert into their bum because the ones they need are too strong for their gut. [HC, LA, E, male, endurance]

It was also clear that a number of players and elite athletes were single-minded about performance and prepared to go to extremes to gain an edge over their rivals. This meant that the use of prescription medicines and tablets were common. These substances were used on the grounds that they were appropriate for a variety of medical conditions, and were supplied through pharmacies. The fact that they were sometimes prohibited under their governing body's anti-doping policy was ignored.

Speed is used by some endurance athletes. I recommend caffeine, to some people ephedrine if they can get a hold of it. [HC, LA, E, male, endurance]

4.6. Overall attitudes to substance use in sport

As the above discussion of participant narratives show, there is widespread use of substances of various types at all levels of sport. In one way this is surprising, since one of the most pervasive and taken-for-granted myths about sport is that it is a vehicle for maintaining fitness, and an effective way of ensuring a healthy lifestyle. A common cliché is that serious players and athletes see their bodies as temples, and as such they are sacred sites that demand the utmost respect. The fact of the matter is that our results show something quite different. In reality, sport is a haven of substance abuse because of the nature of its activities, and the culture of its clubs and associations. Sport is competitive, it attracts players and athletes with strong achievement drives and it rewards winners. Many clubs and associations encourage the use of both performance-based and recreational substances, and it is a center for social interaction and engagement.

At the same time, it was found that the decision to use or not use a particular substance was made on the basis of many factors and influences. While the Donovan study referred to earlier suggests that players and athletes utilize (1) a rational decision-making process to compare the deterrents and incentives for using both licit and illicit substances and (2) their own ethical framework to underpin this process, the results from this study do not support this view. Instead players and athletes engage in highly pragmatic assessments of what is permissible and what is not, and are subject to the values, beliefs, and practices of their sporting colleagues. Their attitudes about substance use are formed within a clearly defined context where situational factors and the behavior of coaches, peers, friends, and team-mates also count for a lot.

If you're hanging around with people that will take drugs, it's the accepted norm. [LC, LA, E, male, winter]

The accepted norm varied between sports, but where attitudes towards non-performance-enhancing substances were concerned, there was common agreement that so-called recreational and party drugs were not a problem since they did nothing to improve performance, and did not therefore constitute cheating or unfairly tilting the playing field to one's own advantage.

Well I don't see the point of why a weight lifter ... can't smoke a joint. [LC, LA, E, male, racquet]

When asked to comment on their attitudes to performance-enhancing substances there was a sharp demarcation between the elite players and athletes and those who competed at the lower level. Non-elite players and athletes had quite strong negative attitudes, which were especially evident when there was no personal or heavy material incentive for participants to use banned substances. It was agreed that there was no place in recreational sport for performance-enhancing drugs.

It's not acceptable.

I go out and I play safe and I'd play clean. [HC, LA, NE, male, wheel-sport]

On the other hand, all of the six elite participants were more understanding of, and sympathetic to, the pressures to perform at the national and international level, and the incentives used to reward wins and record breaking performances. As a consequence they took a more textured and philosophical perspective whereby appropriate performance-enhancing drug use could be justified, particularly where there was no health risk, and the drug was generally available in the community. Moreover, four of the six elite participants questioned the validity of the much-cited 'level-playing field' argument that was used by sport officials to defend the banning of substances that might secure a competitive edge.

... is it an unfair advantage to get a better coach? Oh, you train harder than everyone else. Is that an unfair advantage? No, because I choose to train harder, 'cause I choose to take drugs, 'cause I choose to pay more money to get a better coach or I choose to get you know a psychologist to work on me? [LC, LA, E, male, winter]

One elite athlete observed that it was easy for non-elite competitors to take the high moral ground when commenting on the so-called evils-of-drug-use. He viewed their attitudes as inconsistent and hypocritical, since he knew many who drink, smoke and regularly use illicit recreational drugs.

And I think it's ridiculous ... I mean ... we're doing drugs everywhere and anywhere. [LC, LA, E, male, winter]

Nine of the eleven participants accepted that drinking alcohol-based beverages to excess was acceptable when celebrating a win, and when seeking relief from the stresses of competition. For some participants it was all reflective of a 'work hard, play hard' mentality that was easily escalated when, as self-confessed obsessive elite athletes, they approach

drinking with the same desire for excess as they do in their sporting activities. Elite athletes tended to hold a more liberal interpretation of what excessive consumption of alcohol means than did their non-elite counterparts. In fact, binge-drinking was considered an essential part of stress release after the pressures of high performance sport.

They would approach it the same as they do training which is about 100% and usually alcohol comes with that.

I don't see a problem if you're going over seven drinks for a couple of nights a year. [LC, LA, E, male, racquet]

In fact, none of the participants had any ethical or social objection to the use of alcohol in their sport, which suggested that it was embedded in the culture of Australian sport in general, rather than being confined to a small pocket of hyper-masculine power-athletes and endurance athletes, as the popular literature tends to imply. In this instance it was clear that the culture of a sport has a significant impact on attitudes towards alcohol consumption.

You'd go into the rooms and there'd be a big esky of beer. They'd have cigarettes and beer at half-time and then you'd go out and play your other half of football. [HC, HA, NE, male, contact-ball]

When it came to commenting on their attitudes to various over-the-counter and prescription drugs that could be used to assist training, recuperation from injury and on-track performance, many participants have quite sophisticated views. These views were underpinned by a sound knowledge of the drug's pharmacological properties, a solidly pragmatic assessment of what benefits the substances could deliver, and at what cost. For example, all the elite participants routinely used legal substances such as analgesics, which included pain killers, cortisone injections, and the use of local anesthetics. Caffeine was also viewed favorably as a substance that could improve endurance, and enhance training intensity. Moreover, all of the elite participants were prepared to take these substances even if they might be deleterious to their health, as long as they aided performance and remained absent from the prohibited list.

Well, it's okay ... to have a cortisone injection when your knee is buggered. [LC, LA, E, female, technical-skill]

I love painkillers. [LC, LA, E, female, ball – contact]

Caffeine basically is something I became hooked on to get through the volume of training. [HC, LA, E, male, endurance]

In general, substances that could be purchased in pharmacies, like caffeine, analgesics and bronchial dilators were viewed as acceptable, even essential, to the extent that they are legal under the WADA prohibited list. Elite athletes were educated as to the effects of substances they were taking, although they also reported that they did additional independent research to find out more about its pharmacological and physiological affects. As a result they felt comfortable with not only self-administering regular doses, but also increasing the dose when they felt the need arose.

So, I literally would go there and Google caffeine and find out all the information about caffeine and the ... the by products of taking it, implications, the benefits ... all of those things. [HC, LA, E, male, endurance]

... one anti-inflammatory in the morning, if we had competition and I was in a lot of pain I would have my anti-inflammatories plus maybe a couple of Nurofen before competition or a couple of Panadol to give that little bit of an edge. [LC, LA, E, female, technical-skill]

The participants' perceptions of substances were strongly associated with the degree of scientization and medicalization inherent in the sport in which they participated in. In other words, the more that sports medicine and sport physicians were used to assist coaches and athletes, the more that players and athletes were informed about substance use, and how they impact on sporting and athletic performance (Waddington, 2001). Indeed, Houlihan (1999) suggested that improvements in sports medicine have paralleled the development of a culture which encourages the treatment of both injured and healthy athletes with drugs. One participant reported, for example, that he had acquired his knowledge of caffeine use through a national institute of sport.

you'd get pure caffeine measured to your body weight in a tab. [HC, LA, E, male, endurance]

The precise measurement of substances was calculated and then compared with the WADA guidelines.

So, based on the information from the IOC, we knew there was a tolerance level that we could take before we were deemed as cheating. And it's 6mg per kilo of body weight. So we would dose on that amount of caffeine every four hour period during an event and also during training. [HC, LA, E, male, endurance]

Elite participants were generally tolerant of illicit recreational drugs, with none stringently opposed to their use on moral, health or social grounds. Apart from expressing a concern about their illegality, all but one elite participant viewed these drugs as no more problematic than alcohol and tobacco. Most illicit drugs were considered acceptable for use in a sporting context because they were perceived to be relatively harmless.

... there was a core group of some of the best athletes in the world recreationally taking drugs in off-season all the time. [LC, LA, E, male, winter].

A number of elite participants argued that illicit recreational drugs—or party drugs as they were often called—are an appropriate alternative to alcohol. Not only were they effective social ice-breakers and social-bonding catalysts, they were also a preferred choice for stress release. Like alcohol they had become an accepted part of the post-competition wind-down and/or celebration.

So, they've been brought up with the drinking culture but have been introduced to the drug culture. [HC, LA, NE, male, wheel-sport]

In some instances the illicit recreational drugs were seen as less problematic than the licit ones. For example, where body weight was a relevant on-court requirement, party drugs were reported as preferable to alcohol because they generally prevented the consumption of excess calories.

taking . . . drugs when you go out rather than drinking alcohol . . . it's easier to recover and . . . your skin folds stay down. [LC, LA, E, female, ball – contact]

This is not say that participants were always sympathetic to colleagues who tested positive to recreational drugs, or who were caught in possession of them. While getting caught using a non-performance-enhancing substance was not viewed as cheating, it was considered stupid enough to warrant some form of sanction or punishment.

I don't care. I don't frown upon it. I think if they're stupid enough to take it. [LC, LA, E, male, winter]

. . . your responsibility to check what you're taking . . . if you get caught then . . . that's your own problem and too bad pretty much. [LC, LA, E, female, technical-skill]

All participants had a realistic view of the drugs in sport issue, and understood its problematic outcomes. At the same time they also understood that it would not disappear, even with a vigorous set of sanctions in place for the use of illicit drugs and performance-enhancing substances. There was unanimous agreement that the use of both licit and illicit substances in sport is not only here to stay, but will also probably increase.

Well, we can do that but it's still going to grow. [HC, LA, NE, male, wheel-sport]

In addition, the whole issue of the link between sport participation, substance use, and long term health was problematic for some of the participants. In one instance an elite athlete suggested that the idea that high performance athletes were pictures-of-health was nothing more than a myth. It was even suggested that participation in elite sport is fundamentally unhealthy because it places so much unnatural stress on the human body. Elite athletes in particular were largely unconcerned about the health impacts of the substances they employed.

We waive the worry or concern about what will happen long-term to the heart. [HC, LA, E, male, endurance]

The highly competitive nature of high level sport, its sophisticated sport science support, and a concern that the real health risks of using various substances in sport are not accurately represented, led all but one participant to doubt the ability of sport's governing bodies to effectively manage their use. One frustrated participant declared, for example:

Maybe we can create another league on top of that where all these different drug users compete against each other and find out who the best drug cheat is. [LC, LA, E, male, racquet]

5. Implications

All of the participants in this study conceded that drug use of one sort or another was a feature of their chosen sport. They also agreed that substances have been used in sport over a long period of time, although they noted that in recent years the variety of substances, and their potency in improving performance, has increased significantly. It was also agreed that alcohol had become embedded in sport club culture because of its unique capacity not only to bring people together in a convivial atmosphere, but also dissipate stress and anxiety, particularly after the completion of a highly competitive sporting contest. A majority of participants also observed that illicit recreational drugs had secured a place in sport for the same reasons that alcohol had. In addition, elite players and athletes took a positive stance on the use of painkillers, anti-inflammatories and any other substances that get them back on the field of play as quickly as possible. They viewed them as an essential item in their sport performance kit-bag. Finally, even substances that enhanced performance were either tolerated or embraced by most elite participants. If, for example, a performance-enhancing substance was removed from the prohibited list, most elite athletes would be interested in testing its performance efficacy.

On the other hand, non-elite athletes agreed with WADA's policy platform on performance-enhancing substances which insists athletes should not be allowed to utilize substances that artificially bolster performances, harm their health, or undermine the 'spirit of sport'. In fact, non-elite athletes argued for stronger penalties for transgressors. In contrast, elite athletes were practical in their attitudes towards performance-enhancing substances; colloquially noting that banned equals 'wrong' and legal equals 'opportunity'. Strong pain killers and some narcotic analgesics were viewed as acceptable, along with caffeine because they are not banned, even though some athletes recognized that the dosages they used were unhealthy and potentially dangerous. For elite athletes, moral issues were not particularly relevant, which goes some way to

explaining why their attitudes were not linked to either their self-perception of personality and identity. Athletes saw themselves operating in a sporting culture which fundamentally supports the use of medical treatments and substances to boost and sustain performance. They also noted that coaches and managers of professional sport teams have a vested interest in getting injured players back on to the field of play in the shortest possible time, and in a number of instances cited cases where coaches used a cocktail of pain-killing and anti-inflammatory drugs to speed up the process. This result supports earlier studies which found that athletes received their first substances from trusted sources close to them (Laure & Binsinger, 2005).

For most of the participants, illicit non-performance-enhancing substances were a problem only in that they are illegal and their use can incur penalties. In these cases, most participants suggested that athletes caught using non-performance-enhancing substances like recreational drugs were neither criminals nor cheats, but were demonstrably foolish. The participants in this study were relatively unconcerned about what they considered as lighter, recreational drugs such as ecstasy and alcohol. Occasional use of party drugs and bouts of binge-drinking were shrugged off as being essential to relieve stress or act as a social lubricant. Although elite athletes claimed to binge drink or use party drugs infrequently compared to the endemic consumption of alcohol by their non-elite counterparts, elite athletes expressed a far greater inclination to over-indulge. Their obsessive natures exacerbated a 'work hard, play hard' mentality where everything was pursued to the limit. Our data consequently support previous studies reporting that sport can increase the risk of injury, encourage binge-drinking, and undermine an athlete's long-term health prospects (Loland, 2002; Long & Sanderson, 2001; Waddington, 2000b).

These results beg the question as to how these attitudes were formed in the first place, and what were the major factors and influences that shaped them. Player and athlete attitude formation about drugs in sport is a complex amalgam of factors, and according to this study includes not only sporting culture and its commercial scale, but also the influence of closely identifiable people, critical incidents and experiences through the player and athlete life-cycle, and the level at which players and athletes perform their sport.

Sporting culture was seen as an especially powerful influence on attitude formation. This influence was compounded because of its close link to the drive for performance improvement, constant competition, the stress it creates, and the importance of team bonding and group cohesion. It was also clear from this study that sport possesses an indigenous cultural view on substances which asserts a heavy influence on participants, especially those who become involved in the sport at an impressionable age. Within each sport, our analysis suggested that the major variables that impacted on the attitudes of players and athletes to drug use in sport were the intensity of the physical performance required by the sport, whether it required team collaboration or individual activity, its level of exposure to commercial pressures, and the presence of embedded cultural features that emphasized or encouraged performance at all costs, or of using substances as a social lubricant.

Our results support findings which suggest that the celebration of heroic deeds via sport encourages excessive alcohol consumption (Peretti-Watel et al., 2002), which further reinforces the need to damage the body in order to exude masculinity. Noteworthy is the evidence indicating that alcohol's role as a social lubricant is central to the ongoing life of Australian sporting clubs (Duff et al., 2004). Most sporting pursuits, especially at the elite level, demand performance at the outer limit of physical capacity, and therefore call for risk-taking and pain tolerance. The masculine ethos holds risk-taking at its core, and for some athletes, the combination of illegality, risk of exclusion, and potential for physical damage, can be part of the attraction of taking drugs. It is therefore not surprising that studies have shown that males have significantly more libertarian attitudes toward substance use than females (Alaranta et al., 2006; Lucidi et al., 2008; Peretti-Watel et al., 2004).

As a result, a punitive anti-doping policy may unintentionally increase the appeal of drug use for some hyper-masculine athletes because of its association with deviant and high-risk behavior. Conversely, a policy that normalizes the logic for drug use to enhance performance might, counter-intuitively, de-masculinize its consumption, in part, by eliminating the implication of deviance.

Our results also lend support to the work of Dodge, Litt, Seitchik, and Bennett (2008), which showed that higher outcomes on 'Muscularity Drive' and 'Muscularity-oriented Body Image' scales differentially predict performance-enhancing substance use. More ambiguous is the best way of conceptualizing the role of masculinity in choosing to use substances. It is unclear, for example, whether the same cultural and contextual factors encourage different substance choices. Part of this uncertainty results from the discourse around substance use and masculinity. Keane (2005) suggested that steroid use can be seen either from a criminal-addiction frame where the user is an anti-social, dangerous, overly-masculinized figure, or within a frame of body-image disorder where the user is viewed as an example of masculinity in crisis. The problem with both modes of discourse is that they render the use of steroids as physical or psychological pathology. Our concern, like Keane's (2005), is that the consumption of substances is not conceived to occur outside the influence of culture and context. The usual response is to conclude that the use of substances in sport is evidence of individual weakness and lack of any moral compass, and should be solved with more vigilant policies for intervention, control and punishment. A legal and governance response is much neater than one that accounts for the complexities of masculinity and its exemplification through sport's heroics.

On the other hand, it also needs to be acknowledged that players and athletes run their daily lives in a wider world where drug-use is embedded in community culture and practice. Even a cursory review of the health statistics available in Australia suggest that it is a drug-taking culture. The Australian Institute of Health and Welfare's (AIHW) (2008) study showed that just under 83% of people over 14 years of age had consumed at least one serve of alcohol in the previous 12 months, while just

over 39% drank at least once a week and 8% drank at least once a day. Around 17% of people over 14 years of age were daily smokers, and nearly 39% of people over 14 years of age had used an illicit drug of one sort or another at least once, while 13% had used an illicit drug over the last 12 months. These figures are minute when compared to prescription numbers for pharmaceuticals. In 2007, over 220 million prescription medicines were dispensed to Australians. On average, this equates to roughly 15 prescriptions per year for each person over 14 years of age. Australia would not seem to be at odds with the rest of the western-world. For example, a 2007 study of drug use in the USA found that 6% of the adult population used cannabis in the previous 12 months, while 1.5% used stimulants. Around 51% of the adult population used alcohol regularly, while 29% used tobacco products at least once a month.

The figures presented above, as Keane (2005) pointed out, show that drug use is not an aberrant behavior confined to a problematic subculture of deviants, misfits and criminals, but rather a common practice amongst mainstream Australians. It is impractical to expect elite and non-elite players and athletes to eliminate their use of substances when social conventions encourage drug-dependency as a means of coping with the pressures and tensions of daily life. Australians use substances of all kinds—from caffeine to cannabis—to make them feel psychologically and physically better.

Mixed messages about the circumstances under which it may or may not be appropriate to use substances adds a thick layer of complexity to the drugs in sport conundrum. It is counterproductive to declare that athletes will be punished for using substances that help them cope better with the pressures of sporting life, while encouraging everyone else to ease their problems with pharmaceuticals. The ambiguity is reinforced when the anti-doping code determines that one over-the-counter drug with significant side effects is acceptable, while another illicit drug with no greater side is banned as well as being indicative of a moral failing.

Meanwhile, coaches, journalists and fans not only demand that players always perform at their best, but also remind them that under-performance is the greatest possible failure. The confusion is compounded, and the mixed messages escalate, when off the field-of-play, alcohol and tobacco are viewed as essential lubricants to the social world of the sport machine.

Sport's commercialization is also an important element in explaining drug use in sport, and it comes through this study as a subtle and insidious force on player and athlete behavior. As Li et al. (2001) concluded, sport is driven principally by the need for new revenue opportunities, and under these conditions the market becomes a powerful determinant of behavior in which the use of performance-enhancing substances becomes a logical option for players and athletes intent on winning (Aghion & Williamson, 1999). There is also reason to suspect that "Competing is connatural to humans" (Lippi, Franchini, & Guidi, 2008, p. 10), and performance-enhancing substances are merely an inexorable extension of this axiom.

The results of this study also indicate that critical incidents and experiences have played a crucial role in forming and strengthening attitudes, which in part explains the ways in which players' and athletes' attitudes differ between different drugs types. On one hand, almost all participants, irrespective of their background, expressed a concern about the use of banned performance-enhancing substances like EPO and steroids. However, participant experiences, particularly their involvement in higher level competition, strongly influenced their attitudes. Take, for example, the views between elite and non-elite athletes on the use of substances to improve athletic performance. For the former, some performance-enhancing substances were a concern only because they are banned. This heavily pragmatic logic also led them to report that non-banned performance-enhancing substances were not a concern, be it an ethical one or a health-related one. In fact, all elite level participants in this study reported that these substances are an essential part of training and competition. On the other hand, for all of the five non-elite participants, the use of performance-enhancing substances to build a competitive edge was morally wrong because they provided an unfair advantage, compromised the good name of sport, and undermined athlete health.

There are lessons to be learnt here for strategic intervention at pivotal moments in athletes' decision-making life-cycle. Our findings suggest that Petróczi and Aidman's (2008) model is worthy of further consideration, since it suggests that deterrence strategies that focus on the actual use of prohibited substances are less effective than those which target influencing-factors at the right career-stage of athletes' professional lives.

6. Final comments

The results of this study reinforce the importance of addressing the contextual factors that shape the attitudes of players and athletes to drug use in sport. They show that players and athletes do not run their lives in an economic, social or cultural vacuum, and that the culture of sport lends itself to drug use through its emphasis on competition and sociability, and the use of drugs to enhance both sets of experiences. Herein lays the real and vexing problem for policy makers. It is one thing to impose coercive rules and punitive regulations that punish players and athletes for wanting to secure an advantage, reduce anxiety, alter their mood, or modify their temperament. It is another thing to thwart these not unreasonable ambitions, which are regularly sought within a sport setting. Our study suggests that they are in fact embedded in sport. The challenge for sport policy makers is to change the culture of sport so that it takes a more moderate line on drug use, and persuades virile and hedonistic players and athletes that it is really not in their interests to engage in activities that gain them significant short-term achievements at the cost of serious long-term illness.

Moreover, substance use in sport is neither a matter of linear and logical decision-making nor one of fundamental morality. Like Petróczi (2007), we acknowledge that doping-specific attitudes and beliefs are instrumental to doping behavior, but we do not necessarily declare whether they are causes or consequences of other associated attitudes and

behaviors. A better understanding of drug use in sport is only likely to emerge from more systems-based frameworks, or what Mazanov (2009) refers to as 'cosmopolitan' research, that breaches disciplinary boundaries and focuses on the economic, social and cultural complexity and interdependency of substance use in sport.

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