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RUNNING HEAD: REPORTING DOPING IN SPORT

Reporting doping in sport: National level athletes’ perceptions of their role in doping prevention

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Abstract

This paper qualitatively explores national level athletes’ willingness to report doping in sport. Following ethical approval, semi-structured interviews were conducted with nine national level athletes from rugby league (n = 5) and track and field athletics (n = 4). Thematic analysis established the main themes within the data. Contextual differences existed around the role that athletes perceived they would play if they became aware of doping. Specifically, track and field athletes would adopt the role of a whistle-blower and report individuals who were doping in their sport. In comparison, the rugby league players highlighted a moral dilemma. Despite disagreeing with their team mates’ actions, the players would adhere to a code of silence and refrain from reporting doping. Taking these findings into account, prevention programmes might focus on changing broader group and community norms around doping. In doing so, community members’ receptivity to prevention messages may increase. Moreover, developing skills to intervene (e.g., speaking out against social norms that support doping behaviour) or increasing awareness of reporting lines could enhance community responsibility for doping prevention. In sum, the findings highlight the need to consider the context of sport and emphasise that a one-size fits all approach to anti-doping is problematic.

Keywords: anti-doping education, performance enhancing substances, qualitative, bystander responsibility
Introduction

Despite scientific advances which enable the detection of more sophisticated substances, along with persistent efforts to increase drug testing, the use of performance enhancing substances (PES) continues to occur within sport. Whilst the proportion of anti-doping rule violations identified through drug testing remains at approximately 2% (WADA, 2011), social science research suggests that doping prevalence is likely to be much higher. For example, self-report studies involving Greek elite athletes reported prevalence rates of 8% and 9.9% (Lazuras et al., 2010; Barkoukis et al., 2011). A much higher range of prevalence rates have also been self-reported by athletes who may not be subjected to frequent testing. For example, rates of 4-25.8% have been recorded for adolescents (Goulet et al., 2010; Gradidge et al., 2011) and 9.4-14.6% for amateur athletes (Pedersen, 2010; Petróčzi et al., 2011). Equally, Pitsch and Emrich (2011) utilised the randomised response technique and noted the upper limit of the rate of dopers among track and field athletes in Germany to be 35%. Taken together, these studies question the efficacy of current drug testing regimes and call into question the true extent of drug use in sport.

Two widely publicised doping cases also illustrate flaws in the current testing and sanctioning system. First, the doping sanction that Lance Armstrong received was not the result of a failed drugs test but rather the result of an intelligence led investigation by the United States Anti-Doping Agency (USADA, 2012). Extensive and compelling evidence revealed that Armstrong was involved in the most sophisticated and successful doping programme to date (USADA, 2012). Second, the 12 month investigation conducted by the Australian Crime Commission (2013) claims widespread use of prohibited substances in elite sport in Australia, but no formal sanctions have yet been made by the Australian Sports Anti-Doping Agency.
Furthermore, the science of testing has come under increased scrutiny in recent years (Pitsch, 2009) and a working group, led by former WADA President Dick Pound, has submitted a damning report to the World Anti-Doping Agency’s (WADA) Executive Committee (Working Group, 2013). In this report, the group conclude that ‘human factors’ are currently undermining the detection-deterrence strategy. More specifically, Pound and colleagues argue that there is a lack of genuine commitment to the vision of clean sport by sporting federations, governments and athletes themselves because the inclination to ‘name and shame’ is simply not there. This unwillingness to speak out could be problematic as current procedures that simply target individuals as potential dopers are proving ineffective. In addition, the compliance approach to anti-doping (which is consistent with a detection-deterrence strategy) has recently been criticised in the Cycling Australia review (Wood, 2013). As a result Wood argues that greater action needs to be taken by national anti-doping agencies and sports governing bodies to facilitate the extension of anti-doping activities beyond compliance. If the WADA’s goal is to foster this shift, adopting a wider community approach to anti-doping would seem to be appropriate.

Human development occurs within a set of nested and changing environments where interactions with the environment shape behaviour (Bronfenbrenner, 1977). Thus it is important to study behaviour in context. To enable a wider community approach to doping prevention we need to acknowledge the social context in which doping takes place. Sports cultures are idiosyncratic as they are characterised by members’ shared values, benefits, expectations and practices (Cruickshank & Collins, 2012). In turn, this culture can shape an individual’s behaviour and cognition (Johnson, 2012) as the values and norms of a group will determine the acceptability of certain behaviours (Chatman & Eunyoung Cha, 2003).

One step taken towards developing a community responsibility to keeping sport clean is the introduction of ‘Report Doping in Sport’ hotlines. For example, UK Anti-Doping - in
partnership with Crimestoppers – promote an anonymous hotline facility whereby any individual who is aware of, or has suspicions of, doping activity can report that information. If anti-doping agencies want to encourage a wider community approach to anti-doping, it is necessary to know whether or not athletes would report doping or whether they would remain silent on the matter. One could argue that an approach based on community responsibility would fail if athletes and support personnel were not willing to report doping behaviours. Research indicates that doping is more likely to occur among sub-elite athletes (Pitsch & Emrich, 2011), particularly those competing at national level (Whitaker et al., 2013). Consequently, this paper explores national level athletes’ willingness to report doping in sport in order to investigate the feasibility of shifting towards a community-based prevention approach. Specifically, this paper considers the accounts of sportsmen and women from two sports; reflecting the respective cultures in which they are situated. Within sport, teams hold shared ideals, motivational guidelines and views on what governs acceptable behaviour (Mankad et al., 2009) and because of this ‘doing the right thing’ might be constructed differently in different contexts.

**Methods**

**Participants**

The sample involved nine national level athletes (individuals who had either competed in their sport’s national championships or held a professional contract). To verify that participants were national level rather than international level, participants were asked to confirm that they were not required to provide whereabouts information (information provided to anti-doping organisations on athletes’ movements which allows athletes to be located for out-of-competition testing without notice) as part of UK Anti-Doping’s National Registered Testing Pool. In total, four track and field athletes were included in the study (two female), along with five male Super League rugby league players. The track and field athletes
ranged from 19-22 years old (M = 20.5 years; SD = 1.3) whilst the rugby league players ranged from 24-34 (M = 29 years; SD = 4.0). Ethical approval was received from the University Research Ethics Committee and expectations of voluntary participation, informed consent, confidentiality and the right to withdraw were complied with.

Constructing a sample of athletes prepared to discuss matters as sensitive as doping is a major challenge. Therefore, careful consideration was given to how recruitment could be enhanced. First, known gatekeepers were asked to discuss the study with potential participants and provide contact details of those interested in being involved. At the end of each interview, participants were asked if they knew of any other player/athlete from a different club/training group who might be prepared to take part in the study. We acknowledge the risk that the use of personal referrals can create a sample of participants who are all characterised by the same attitudes and beliefs (Pappa & Kennedy 2013). However, we believe that this limitation was offset by the fact that participants informed the lead researcher that they felt more comfortable talking about a socially sensitive behaviour, such as doping, once they knew someone else had already taken part in the study. In addition, each track and field athlete competed in a different discipline and the rugby league players were recruited from different clubs. Therefore, all the participants that took part in the study were situated within different training environments and surrounded by different people. Whilst the sample size and research methodology prevent generalisations from being made about the perceptions of other track and field athletes/rugby league players, the study provides initial insight into athletes’ perceptions about reporting doping from two different sports at one point in time.

Data collection

Semi-structured interviews were undertaken as they combine consistency and flexibility to meet the researchers’ needs (Langdridge, 2007) while also offering a
conversational style to help make participants feel at ease (Wadey et al., 2011). They also enable the collection of multi-layered responses through the pursuit of themes important to the participant (Smith et al., 2010). The prototype willingness model (Gibbons et al., 2003) along with the key findings from a previously conducted quantitative study which investigated athletes’ doping-related perceptions and willingness to dope (Whitaker et al., 2013) guided the design of the interview schedule. In addition, existing literature in the field (e.g., Kirby et al., 2011; Mazanov et al., 2011) and guidelines on qualitative research (e.g., Patton, 2002) contributed to the design. Once the interview guide had been designed, it was reviewed by experienced qualitative researchers. Three pilot interviews were then conducted to ensure that the questions and prompts were appropriate. All interviews were conducted at a mutually convenient time in a safe place.

Following icebreaker exchanges, questioning started broad (e.g., “How might you feel if a fellow athlete ever offered you a banned substance?”) with the option of using probes for the purposes of clarification and elaboration to gather greater detail when necessary (Patton, 2002). Due to the semi-structured nature of the interviews, the order of questions and the extent of probing were determined by participants’ responses. Once the questions had all been answered, participants were provided with the opportunity to add anything else they felt was relevant to the discussion.

The interviews provided an opportunity to hear about doping from the athletes’ perspective. For some participants, the interviews may have represented an opportunity for them to talk openly for the first time about their doping opinions in a safe environment. Before starting his interview, Harry wanted clarification that his identity would not be revealed to the Rugby Football League (RFL), suggesting he may have been afraid to voice his opinions previously. The emotions and frustration that Harry portrayed throughout the interview implied that he felt this was an opportunity to voice an untold story without it
having implications for him or his team mates. However, this may not have been the case for every participant. Others did not give such obvious clues, but the positive, non-judgemental relationship established between researcher and participants gives confidence that what was recounted was a reasonable representation of participants’ views.

It is important to acknowledge that the researcher may have influenced what participants felt they could say. Participants may have made assumptions about the researcher’s opinions and expectations due to the nature of the topic, which could have resulted in them providing socially desirable responses. To mitigate this, the researcher endeavoured to remain neutral and not give indications (verbal and non-verbal) to participants that may have influenced their responses. Moreover, being an ‘outsider’ may have made participants more comfortable to talk openly. To safeguard against the viewpoint of the researcher affecting the analysis, interpretations were reviewed by the co-authors.

Data analysis

Interviews were audio-recorded and transcribed verbatim by the first author. At this point, any identifying information was removed from the transcripts. The initial step of transcribing provided an early opportunity to become familiar with the data (Braun & Clarke, 2006). Before data analysis began, copies of the transcripts were sent to participants for member checking. This enabled participants to verify the accuracy of the transcripts before recordings were deleted. Transcripts were then read and re-read to enhance content familiarity before thematic analysis (Braun & Clarke, 2006) was used to interpret the data. Key words and phrases were highlighted throughout the transcripts before being assigned codes. Similar codes were then grouped into themes to provide the basis for interpretation and analysis.
Results and discussion

From the conversations held with participants it became evident that in order to explore the willingness of national level athletes to report doping in sport, it is necessary to appreciate contextual differences that may shape the behaviours athletes perceive they would display if they became aware that an athlete was doping. From the interviews, two key themes emerged in relation to reporting doping in sport where at the time of the interviews, viewpoints differed between athletics and rugby league. The two alternatives proposed by participants were the role of whistle-blower or adhering to a code of silence. It is important to emphasise that the findings represent what participants said they would do and not necessarily what they have actually done to date.

Taking on the role of a whistle-blower

Throughout the interviews, the track and field athletes gave the impression that they would attempt to help remove doping from athletics by blowing the whistle. Both the male and female track and field athletes stated that if one of their fellow athletes offered them PES, they would report them for encouraging doping behaviour. Gemma felt it was important to “speak to someone because if they’re doing that then who’s to say they haven’t offered it to someone else”. Gemma was not alone. Other track and field athletes reported wanting to take a similarly active role. For example, Charlie identified the anti-doping hotline that can be used to “dob people in”, which he thought was “quite good”. The perceived willingness of these track and field athletes to report infringements was related to the emotions of disappointment and anger they felt by being associated with doping behaviour. They were particularly disappointed because it “gave their sport a bad name”. In addition, Gemma felt more disappointed if the athlete who had tested positive was from athletics and Great Britain because “they are representing you so it’s like they are disappointing you really”. Some also explained that they would feel angry if they “lost to dopers” (Nathan) because they “try so
hard to get their own technique right” (Gemma) without doping. The negative emotions experienced by the track and field athletes indicate that developing a community responsibility approach to anti-doping is appropriate. For example, through reporting doping, it may be possible for individuals to reduce the negative emotions they experience in association with doping activity.

“I wouldn’t know the process to go through to report doping”

None of the track and field athletes reported ever being in a situation where PES had been offered to them, and therefore it is possible that if the athlete using PES was a friend, their commitment to whistle-blowing would be tested. In addition, it was evident that all the track and field athletes interviewed were unsure of the protocol they should follow to report doping behaviour. Rachel said that she would not know what to do but would probably tell her coach, whereas Charlie admitted that he would just keep ringing people until he got the right person:

“I’d have to make some phone calls, just ring UK Athletics and stuff... there’s nothing set in place for that. Personally I wouldn’t know like what to do, I’d just start ringing people until you got to the right person”.

Not being aware of how to go about reporting doping behaviour could create a barrier for some individuals, preventing them from taking an active role in doping prevention. Consequently, introducing a community responsibility approach may require increased awareness of Report Doping in Sport hotlines by ensuring promotion of facilities reaches out across all sports and levels of competition.

A community of silence

In contrast to the whistle-blowing role the track and field athletes said they would adopt the five rugby league players highlighted a moral dilemma by suggesting they would all adhere to a code of silence and refrain from reporting a team mate for doping despite
disagreeing with their actions. The players’ responses suggested that three mechanisms were in play in this situation: 1) loyalty to team mates and their sport (not wanting to give rugby league a bad name); 2) worries about the repercussions in a sport involving a small community of players and staff (e.g. Jack described rugby league as being a “small fraternity” and Harry portrayed rugby league as a bit of a “boys’ club”); and 3) feelings of helplessness to stop others using PES.

In a small sporting community (Super League consists of 14 teams and approximately 400 players), it is likely that if a player was to provide information on an individual who was doping, even if the player was from another team, at some point in the future, they could end up playing for the same team as that player. Alternatively, they could find themselves at the same club as the player’s former team mates or support network. If this were to happen, players could experience negative consequences, such as being singled out and isolated for being a ‘grasser’, which in turn could negatively affect a player’s well-being. Before Harry gave consent to being interviewed for the study, he wanted to make sure that his identity would be protected and that the RFL would not know that he had spoken out about doping in his sport. Harry believed that if the RFL knew he had been talking, they too would want to question him to find out what he had been saying. This could explain why Alex and Jack reported that they probably would not “grass them up”, while Harry acknowledged that he should “go and tell the authorities” because players can receive sanctions for being in possession of PES. Instead, he conceded he would probably think “oh there’s somebody else who’s taking it” and not do anything about the situation. In this instance, the players may not want to report doping because it could tarnish their sport’s reputation and this could have significant commercial implications (i.e., major sponsors ceasing ties with the sport and restricting the sport’s earning power). This reticence to report is despite the anger players reported when they felt they were “losing out on the accolades” (Harry) or because others
“have cheated and got away with it” (Simon). Even for those not using PES, having the sport associated with doping can result in negative consequences (e.g., reduction in lucrative benefits), which may be seen as more detrimental to their sport and their own performance and well-being than turning a blind eye to the players that are doping.

Alternatively, a community of silence may result from feelings of helplessness to stop others from doping. Alex reported, “If players want to cheat it kind of makes you angry but you can’t prove it unless they’re found guilty, and you’re helpless to do anything against it”. Alex was not alone in his resignation: Harry commented, “By the end, you go through a phase where you think well there’s not really anything I can do about it so there’s no point worrying anymore”. If athletes feel that they cannot do anything about other athletes’ behaviour, they may choose to focus on their own behaviour and again turn a blind eye to doping.

Influence of contextual factors on an athlete’s willingness to report doping in sport

The team nature of rugby league compared to the individual nature of athletics may explain the differences in willingness to report doping in sport. Although track and field athletes often train together, they mainly compete for themselves and therefore may feel no loyalty towards their training partners. As Charlie said, “...in athletics... you’ve gotta be selfish”. In contrast, the importance of team cohesion and the need to work together in rugby league are likely to enhance feelings of loyalty, preventing them from reporting doping. Unless a player was fighting for the same position within a team, they may perceive that another player’s doping behaviour could actually benefit them and enhance the performance/success of the team. In such circumstances, there might be reluctance to report doping activity. In addition, players may feel impelled to guard against information emerging about the prevalence of doping within rugby league, especially given the view expressed by Ben and Jack that the media only publicised rugby league in a negative light. Unless the
culture is clearly supportive of reporting doping (which can be achieved through emphasising community responsibility), players are likely to be deterred from whistle-blowing because of the impact it might have on them.

Recently, concerns that athletes who report doping in sport are treated more harshly than dopers (i.e., worries about being isolated/punished for coming forward) have been raised in the ‘lack of testing effectiveness’ report recently submitted to the WADA Executive Committee (Working Group, 2013). Equally, the strength of the doping Omerta (code of silence) in cycling further emphasises the challenges that some athletes might face if they speak out. Those that have broken the code of silence within cycling were ostracised (Kimmage, 2007; Hardie et al., 2010; Møller, 2010) and eventually pushed out of the sport because they were not willing to support or join in with doping. The rugby league players who were interviewed may therefore feel they would refrain from reporting doping to maintain team solidarity and protect themselves from losing their team mates’ trust, which they may see as more harmful than allowing a player to continue using PES. Alternatively, if athletes think that they would be disbelieved if they ‘blew the whistle’ on another individual, they are unlikely to risk the consequent ridicule and rejection that may be experienced as a result of speaking out. Therefore, if the strategy is to empower a community responsibility in preventing doping, it may be necessary to emphasise the confidential nature of the ‘Report Doping in Sport’ hotline. Doing so might help to eliminate concerns about whistle-blowing and encourage individuals to come forward and report doping.

Possible explanations for the differences in willingness to report doping between the track and field athletes and the rugby league players

Although the different viewpoints regarding willingness to report doping held by the track and field athletes and the rugby league players could be the consequence of contextual differences between an individual and team sport, they may also be due to other differences
between the two groups. Two of the track and field athletes were female whilst all the rugby league players were male creating the possibility of gender influences. Even though there is evidence to suggest that doping perceptions differ between males and females (e.g., Whitaker et al., 2013), this did not appear to be the case in the present study. The female track and field athletes included in this study offered the same viewpoints on reporting doping as their male counterparts. Therefore, the gender split between sports is unlikely to have influenced the results. However, the results may have been influenced by the age differences between the two groups. The rugby league players were older than the track and field athletes, which may explain why they were less willing to report doping. While there is a dearth of literature examining whether doping perceptions differ with age, suggestions that perceptions differ between amateur and professional status are proposed. Specifically, young elite cyclists’ portrayed views that doping was not acceptable at amateur level but that their opinions regarding the use of PES would relax once professional status was achieved (Lentillon-Kaestner & Carstairs, 2010). Therefore, the amateur versus professional status of track and field athletics and rugby league respectively may contribute to differences in willingness to report doping. As it is unknown whether the age differences influenced participants’ willingness to report doping, future research may wish to consider examining this factor further.

What prevents athletes from reporting doping behaviour?

Some of the participants interviewed were clearly unsure of what to do if they became aware of doping behaviour. This was evident through some of the conversations with the track and field athletes. Any benefits that might be gained from the introduction of the anti-doping hotline will fail to materialise if athletes are unaware of the facility or alternatively, would not use it. Research into the use of the anti-doping hotline may provide insight into whether individuals are willing to adopt an active role in anti-doping by reporting doping
behaviour. In addition, increasing awareness of the hotline would help to empower those who wish to speak out by providing them with an appropriate avenue to report doping behaviour.

Athletes may also refrain from reporting doping behaviour because there is currently no incentive to contribute to exposing this behaviour (Working Group, 2013). Athletes need to feel that they will gain something from speaking out (e.g., recognition, removing unfair opposition) to encourage them to do so. Without such incentive, athletes are unlikely to be proactive in keeping sport clean. Moreover, if athletes do not think they have a role to play in ensuring ‘clean’ sport, they are unlikely to report doping behaviour. Those wanting to move forward with anti-doping practices need knowledge of what prevents some athletes from reporting doping behaviour. There are a number of consequences associated with whistle-blowing such as being bullied, shunned and discredited by others (Dasgupta & Kesharwani, 2010). If athletes perceive that they will be negatively affected by speaking out, they will be unlikely to whistle-blow. Emphasising the confidential and anonymous nature of reporting lines could help to reduce the perceived personal costs and risks to a potential whistle-blower (Gundlach et al., 2003).

The need to empower community responsibility in doping prevention

The argument has been proposed that in order to make progress in preventing doping in sport, fostering community responsibility is necessary. This is clearly not straightforward when, although the athletes interviewed disagreed with doping, not all of them appeared willing to report doping behaviour. One way of securing such a change could be through utilising bystander responsibility and increasing community members’ receptiveness to prevention and training (Banyard et al., 2010). Bystander approaches emphasise that every individual within a community has a role to play in preventing individuals from engaging in risky behaviours. Behaviour occurs within an ever-changing environment (Bronfenbrenner, 1977), therefore, it is important to consider how the community can contribute to establishing
an encompassing anti-doping environment and enhance the well-being of athletes. Moving beyond a focus on the individual can help to get away from a victim blaming culture (Green, 1984) leading to less defensiveness as sole emphasis on individual athletes within anti-doping programmes would be removed and people would be seen as allies (i.e., helping to keep sport clean) rather than victims (i.e., vulnerable to doping themselves; Banyard et al., 2004).

Although athletes cannot necessarily stop others from being involved in doping, they can still play a role by reporting any doping activity they are aware of and refraining from doping themselves. Bystander interventions have been used to good effect in sexual violence and bullying prevention programmes (e.g., Banyard, 2011; Polanin et al., 2012) to enhance community responsibility and equip individuals with the skills to intervene. That experience gives reason to believe that adopting this type of approach in sport could help to ensure that individuals within the sporting community are equipped with skills to enable them to promote clean sport, reinforce positive anti-doping norms and intervene to prevent doping behaviour.

**Conclusion**

Efforts to understand doping perceptions and behaviour continue with the aim of enhancing prevention. In particular, the need to understand the role athletes play in doping prevention is necessary. This paper indicates that contextual factors may influence the role athletes choose to adopt with respect to reporting doping in sport, serving to demonstrate that a one size fits all approach to anti-doping is not appropriate. If sporting institutions are to enhance the prevention of doping, efforts need to extend beyond the individual athlete and reach out to all members of the sporting community (including athlete support personnel, sports federations, and national anti-doping organisations). By adopting a community responsibility approach to doping activity and raising awareness of facilities such as the anti-doping hotline (where suspicions of doping can be anonymously reported), it may be possible to empower the sporting community to play a role in keeping sport clean.
The bystander model provides all members with a specific role that they can identify with and adopt to prevent a community problem (Banyard et al., 2005). Those roles include intervening in situations that could lead to the problem, speaking out against social norms and having the skills to be a supportive ally to those who may be affected by the problem. Within anti-doping, this could involve helping community members become more sensitive to issues of doping behaviour and help them to develop skills to intervene to prevent doping from occurring (e.g., speak out against social norms that support doping behaviour). Equally, steps could be taken to encourage community members to report knowledge of doping behaviour. Fostering community responsibility may help reduce athletes’ resistance to doping prevention messages whilst also enhancing efforts to change broader community norms around PES use in sport. Prevention approaches must go beyond changing individuals to changing the system that creates and maintains doping behaviour.

**Perspectives**

If the effectiveness of doping prevention is to increase, changes in the approach to anti-doping may be necessary. To avoid being met with defensiveness from athletes who do not perceive anti-doping to be relevant, a shift towards developing community responsibility is required. This approach means stressing that the whole sporting community has a role to play in doping prevention. While it may appear illogical not to report another athlete felt to be gaining an advantage by using PES, a number of factors may prevent whistle-blowing. These include: 1) the closeness of the sporting community; 2) beliefs about protecting the sport, 3) personal cost and 4) being unsure of how to report doping. Although hotlines exist which allow individuals to report information on doping activity, without knowledge of how to report doping, assurance of there being no repercussions for them or the skills to intervene, athletes will remain silent. Ensuring that reporting lines are confidential and anonymous may help to increase the role played by the sporting community. Equally, increasing community...
members’ receptiveness to doping prevention may help to encourage individuals to speak out against social norms that support doping and in turn, increase the effectiveness of anti-doping prevention programmes.
References


Hardie M, Shilbury D, Ware I, Bozzi C. "I wish I was twenty one now". Beyond doping in the Australian peloton. Tecnh. Report "Doping and Australian professional cycling: attitudes, issues and a pathway to a new approach". Deakin University, Victoria, Australia, 2010.


