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Why Athletes Say NO To Doping: A Qualitative Exploration Of The Reasons Underpinning Athletes' Decision Not To Dope.

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Abstract

Athletes' motives for choosing not to use Performance Enhancing Drugs (PEDs) are likely to be diverse and complex, including a consideration of biological factors (e.g., performance advantage), psychological characteristics (e.g., risk taking behavior), and the athlete's social environment (e.g., the opinion and influence of significant others). As such, a multifactorial (bio, psycho, *and* social) evaluation is important when examining the reasons against usage. The purpose of this study was to examine the reasons athletes cite for not using PEDs. A phenomenological approach was employed and data were collected from athletes (n = 36) and coaches (n = 10) using semi-structured interviews and analyzed using Interpretative Phenomenological Analysis. Personal and moral standards were identified as key factors that led to decisions to avoid PED. Psychological and social factors (e.g., the role of significant others such as the coach) also play significant roles in decisions to avoid doping. Although anti-doping testing and education is central to anti-doping strategy, athletes' decision not to dope was made independent of, or at least not contingent on these structures. As such, these findings have the potential to inform educational initiatives designed to combat doping in sport outside the usual emphasis on sanctions and testing.

Keywords: biopsychosocial, cheating, anti-doping strategy, decision-making, qualitative

Introduction

Testing and associated sanctions are generally supported as a means of discouraging performance enhancing drug (PED) use in sport. In fact, the risk of getting caught underpins anti-doping policy and its emphasis on the detection and sanctioning of athletes in violation of anti-doping policy. Furthermore, the social impact of "shame" experienced is viewed as another significant deterrent (Bloodworth & McNamee, 2010). Thus, even though the stance of anti-doping is sometimes questioned on moral grounds of proportionality (i.e., too much emphasis on too few users, less than 2% of athletes test positive in any given year, WADA, 2009; cf. Kayser et al., 2007), there seems to be a strong and apparently consistent resistance to such usage and support of the systems used to police against it. Despite this, research has consistently shown that the prevalence of doping is much higher than the positive test results show (e.g., Petróczi & Naughton, 2011; Pitsch & Emrich, 2012). Furthermore, use of therapeutic user exemptions (TUEs) for asthma and thyroid medications, and the use of similar substances within legal limits for performance enhancing effects has received considerable attention in the media in recent times. Reflecting this, some researchers have suggested that educational strategies focused on prevention and the promotion of abstinence (Mazanov et al., 2011) are needed as opposed, or at least as an addition, to the focus on detection and punishment. This focus on understanding, promoting, and reinforcing the reasons underpinning athletes' decision *not* to dope seems warranted as both drug testing and sanctioning have been shown to remain static despite reported increases in the usage of PEDs (Petróczi & Naughton,2011; Pitsch & Emrich, 2012).

Accordingly, a broader social science understanding of reasons underpinning abstinence from doping would seem sensible in terms of shifting the attention from

detection towards an understanding of athletes' decision making process. The decision to dope is a conscious decision but also an emotional, rational, and well-informed decision. For example, whilst many athletes report satisfaction with their own environment and national situation, they perceive laxity within systems elsewhere in the world as a major problem (Bloodworth & McNamee, 2010). Indeed, an over-estimation of drug usage may well be a correlational factor with intention to use in some individuals. Attitudes to other, albeit legal, ergogenic aids such as nutritional supplements or even specific, though often medically endorsed, hormonal treatments represents another important facet of the mental model which underpins athlete thinking about usage, those who use, and their own personal intentions (Mazanov et al., 2008). For example, the use of thyroid and testosterone medication for performance enhancing effects is a current hot-topic in elite sport and understanding athletes' decision making process in this regard, together with similarities and differences between this and illegal PED usage, is an under-explored but important area for exploration in understanding doping in sport.

Given the extant picture of the factors which have an influence, a multifactorial (bio, psycho, *and* social) evaluation is important when examining the reasons against PED usage. Support for this approach comes from evidence for the mediating role of social desirability (Petróczi, 2007) between attitudes toward and susceptibility to engage in PED usage (Gucciardi et al., 2010). From a psychosocial perspective, the "protective" or "encouraging" influences of team dynamics against PEDs have also been demonstrated (cf. Lentillon-Kaestney & Carstairs, 2010). Furthermore, the effectiveness of testing and sanctions has also been questioned by Strelan and Boeckmann (2006) who suggest that athletes consider their moral beliefs, fear of health impacts and legal consequences when making decisions about PED

usage. Indeed, there appears to be a theoretical and empirical consensus on critical social-cognitive determinants of doping usage (e.g., Dodge & Jaccard, 2008; Lucidi et al., 2008).

Extending the social dimension, the role of the coach as mediator of the athlete's social environment and the influences therein is an important factor (Huybers & Mazanov, 2012; Morente-Sanchez & Zabala, 2013). This research suggests that athletes are more at risk of doping if coaches or senior athletes provide convincing evidence of the immediate benefits. Once again, however, there is a need for further work since reviews clearly show the extra potential insights which such a focus could offer (Backhouse & McKenna, 2012). Finally, the coach's viewpoint may offer an additional perspective, answering some of the concerns expressed about the limitations of self-report data which, to date, has provided the majority of data on PEDs **(**Brand et al., 2011). In simple terms, therefore, there is clear evidence for the complex interactions that seem to be associated with uptake of use or even consideration to start, all of which must sensibly be encompassed within any global anti-doping strategy (cf. Stewart & Smith, 2010).

A number of reasons underpinning decisions not to dope have been found in the literature (e.g., Ehrnborg & Rosén, 2009). These include "doping is cheating and not fair play", the medical risks associated with doping, the perceived impact of doping on performance in particular sports, and the impact which doping has upon the image of a sport (e.g., Mohamed, Bilard & Hauw, 2013; Erickson, McKenna & Backhouse, 2014). Theoretical approaches to understanding the psychology of doping have emphasised social-cognitive determinants of use where doping is seen, using the theory of planned behaviour (Ajzen, 1991), as a volitional behaviour depending on the athlete's intentions to use PEDs, which are influenced by attitudes, expected

social approval and perceived behavioural control. Furthermore, and as discussed previously, the importance of individual views about the approval of significant others, PED use amongst peers (Wiefferink et al., 2008) as well as the individual's confidence about resisting social pressure (Lucidi et al., 2008; Erickson et al., 2014) have all been shown to play a role in understanding PED usage. Despite this understanding, however, the testing of these ideas amongst elite athletes has been scarce and the predominant emphasis has been on reasons why athletes do dope (e.g., Kirby et al., 2011) rather than on the reasons that they don't. Dodge and Jaccard (2008) present an important advance on these ideas and suggest that abstinence is a "viable, independent, behavioural alternative in some decision making contexts" (p. 710). Using a sample of adolescent athletes, this research found that the reasons underpinning decisions not to dope were not merely the inverse of the reasons cited for doping and that focusing on emotive and affective beliefs shown to influence intention not to dope within intervention programs may affect the use of PEDs (Dodge & Jaccard, 2008).

The emerging picture may lack clarity, however. An obvious limitation of many studies to date is that data is often not based on truly elite samples, with various studies conducted with high school (e.g., Laure et al., 2004), adolescent (e.g., Laure & Binsinger, 2007), or collegiate (e.g., Petroczi, 2007) athletes. Consequently, further work is indicated to confirm these findings with elite populations. As such, it would be valuable to see if the decision to not use PEDs is impacted or moderated by the elite status of the athlete and their perception of the environment in which they perform. If so, and based on data with genuine elites (e.g., Moran et al., 2008), there are strong indications that programs utilizing accurate and empirically justified information could prove a strong feature of a deterrent program.

Reflecting these issues, the purpose of this study was to examine the reasons athletes cite for not using PEDs. Previous research has shown attitudes towards doping vary by sex, with males at a higher risk than females and sport, risk of doping is highest in speed and power sports (both factors highlighted by Alaranta et al., 2006). Further, Vangrunderbeek (2011) reports a shift in attitude over time from 'zero tolerance' to a more lenient attitude towards doping in sport as athletes age. Reflecting this, we were also interested in exploring whether the reasons *not* to use PEDs might vary against a number of key factors including age, sport, and level of performance. Given the important impacts demonstrated for psychosocial milieu, this study was delimited to an examination of athletes from a British and Irish culture. As the aim of this study was to explore athletes' personal experiences of decision-making about PEDs, a phenomenological approach was employed.

Methods

Design

Data were collected using semi-structured interviews and analyzed using Interpretative Phenomenological Analysis (IPA; Smith, 1996), as this approach allows rigorous exploration of idiographic subjective experiences and social cognitions. Essentially, IPA explores how people ascribe meaning to their experiences in their interactions with the environment (Smith et al., 1999)

Participants

A purposive sample of athletes (n = 36) and coaches (n = 10) were recruited from a range of sports (i.e., power, endurance and team sports) and backgrounds. Athletes were all high-level participants in their chosen sport (defined as participation at a world-level (e.g., World Championship or Olympic Games for the power and endurance sports; International for team sports) and declared that they had not taken

PED during their sport careers (see Table 1). This purposeful sample was an important consideration in order to examine the elite viewpoint. A range of sports was purposefully sampled in order to identify the extent to which findings, and consequently policy and strategy, could be generalizable and impactful. The coaches had, at least, 15 years' experience coaching at a world-class level (e.g., (e.g., World Championship or Olympic Games for the power and endurance sports; International level for team sports)

Procedure

Following research ethics board approval, coaches and athletes from a range of sports who met the sampling criteria were recruited through personal contact, either directly or through gatekeepers. The study was explained to participants, and consent forms were distributed to those who expressed interest. A semi structured interview approach similar to the majority of IPA studies was adopted (Smith & Osborn, 2003). The interview schedule was not intended to be prescriptive and instead, the interview guide was used as a prompt and a basis for conversation. Consistent with the IPA approach, participants were considered to be the experts and it is the meaning that they attribute to their experiences that was of interest (Smith, 1996). As such, participants were allowed to take the lead during the conversation and direct the flow of the interview. The interviewer was an experienced sport psychologist who has over 30 years' experience working at the highest level of sport in a variety of roles. This experience and understanding of elite sport, coupled with a clear separation from the respective sports organizations, training groups, and anti-doping agency, were important factors in developing rapport with the participants and ensuring that they were comfortable responding to questions. All the interviews were recorded and transcribed verbatim to produce an accurate record of the interviews. Excluding

introductions, explanations and initial conversation to build rapport, the interviews all lasted between 35 and 55 minutes.

Data Analysis

Data were independently analyzed using Smith and Osborn's recommendations for IPA analysis (2003). First, all transcripts were read and reread so that the researchers could become familiar with each participant's account. At this stage, initial notes of thoughts, observations, and reflections were recorded in the right-hand margin of the interview transcript and shared with the research team. In a second reading, the left-hand margin was used to identify themes that captured the essential qualities of the interview and connections were made between the emergent themes and researcher interpretations (Smith & Osborn, 2003). As a result, a list of subordinate themes and codes were complied, with the aim of providing an overall structure to the analysis by relating the identified themes into clusters and to identify super-ordinate categories that suggest a hierarchical relationship between them.

Throughout this process, checks were made with the original transcript and the interviewer's field notes to ensure that connections still worked with the original data and that the analytic accounts could be traced back to recognizable core accounts. In cases where this step identified a disagreement, each investigator reread the original transcript, discussed the coding, and a consensus was reached. Disagreement was evident in less than 15% of codes and all issues were resolved following discussion. Once the analysis was completed for one transcript, a second transcript was coded. The table of themes was used to code similar meanings in the same categories, and was expanded to incorporate new ideas as they emerged. During this phase, emergent themes were continually compared back to the original transcripts to ensure consistency. Once this process had been completed for all the transcripts, the research

team reread the transcripts to ensure that all themes were coded consistently (Smith & Osborn, 2003). As expected with this form of analysis, some of the emergent themes reflected the content of the interview schedule, while others emerged from the participants' novel responses. The super-ordinate themes and their sub-ordinate components are presented in Table 2 along with a short verbatim account that illustrates each super-ordinate theme.

Ensuring Trustworthiness and Credibility

A number of steps were taken to enhance the study's trustworthiness (Lincoln & Guba, 1985). Bracketing, which involved the researchers keeping a reflective diary to help bracket their personal experiences and consider the influence of personal values, was used (Nicholls et al., 2005). Furthermore, and also ensuring that the authors remained cognizant of their assumptions and presumptions, an independent "critical friend" was used throughout the data analysis process by supporting in-depth critique and investigation of the emerging interpretation, discoveries and explanations (Faulkner & Sparkes, 1999). Credibility was also enhanced in a number of ways including the sample size employed, having two investigators involved in each level of analysis, and having researchers with significant experience in performance sport involved in the study (Sparkes, 1998).

Results

Table 2 highlights the range of factors underpinning athletes' decision making about PEDs. All participants mentioned each of the super-ordinate themes during their interviews. Sub-ordinate themes were only included when data from at least 75% of the participants could be attributed to the theme. As such, the findings reported represent consensus amongst the group.

Anti-Doping Testing and Associated Sanctions

Despite the emphasis placed by WADA and National Governing Bodies of Sport on anti-doping testing and associated sanctions, these factors were not reported as central to athletes' decision to avoid doping. Interestingly, although athletes were cognizant of the testing procedures in place, many suggested that there were *"ways around the testing procedures…if you want to do it, there are ways to dope without getting caught"* (Endurance sport athlete, International, male). Furthermore, the majority of participants suggested that they still would not take PEDs even if the anti-doping testing procedures were removed. Illustrating this, one premiership rugby player described how "*it wouldn't make any difference to me…I could go away to visit a mate in South Africa for six weeks in the summer and come back a lean sprinting machine, seven kilos up in weight and I know I wouldn't get caught for it. But I still wouldn't do it".*

There did appear to be some differences across the different sports, perhaps reflective of the level of anti-doping testing carried out. Track and field athletes suggested that they would likely be tested and that this acted as somewhat of a deterrent – '*I've been tested in the past, and you still cack yourself because even though I know I am clean, you think what if something shows up, what if I took something without knowing…so it does keep you on your toes in that respect'*. (International Athlete). However, many of these athletes suggested that there were many in their sport who were '*way ahead of the testers…I mean, they know how to get away with it' – '…you read about people and you hear it as well, that certain things can be out of your system before they test, or they can't test for certain things yet, so people are getting away with it' (*Endurance athlete, International level).

The team sport athletes, rugby players and footballers for example, suggested that testing was not a deterrent since testing was not that prevalent in their sport '*…it*

isn't the testing that stops me, we rarely get tested, so yeah, it is not that I don't take drugs because I might get caught…that isn't the reason' (Rugby player, International).

***Anti-Doping Education*.** Participants also suggested that anti-doping education was not an influencing factor in their decision not to take PEDs. In most cases, participants reported that they had made their decision about doping long in advance of their first attendance at a workshop and described how these educational sessions "*just educated you on the testing procedures…they don't really get you to think about the reasons why you should or shouldn't" (*Judo player, International). Although most participants reported that anti-doping education was useful in that it informed them about policies and procedures – *"I think the information was good in that way…it gave me a clear understanding of what to watch out for when you are taking stuff…the Sudafed and all that…"* (Track and field athlete, International) it didn't impact on their decision-making process about taking illegal PEDs – "*I don't think it was that effective really…I formed an opinion long before any of these workshops and I would stick to these" (*Judo player, International). These results suggest that the traditional emphasis on education, testing, and sanctions in anti-doping campaigns does not appear to be a significant influencing factor on these individual's decisions about PEDs.

Personal Ethical Standards

In contrast to the comparatively weak role played by education and testing, the key factor that influenced decision-making about PEDs centered on the athlete's moral stance about doping in sport. Participants strongly suggested that doping was a moral decision, typified by this athlete's explanation that, irrespective of whether the athlete would get caught, it is wrong and "cheating". Typifying this, one development

level endurance athlete stated that *"I have friends who don't even get tested, who could easily take drugs, get themselves to a reasonable performance level and stop because they will never get caught. But they don't for the same reason that I don't, because they feel like they are cheating themselves".* Interestingly, the participants described this as "*a line that I wasn't prepared to cross"* with one international level Judo player suggesting that she "*doesn't want to cheat myself, and I don't want to cheat the other four fifths of people that are competing with me, the ones that are competing without doping, I don't want to cheat myself and I don't want to cheat them".*

Participants were also asked to compare and contrast doping with other "cheating" behaviors in their sport. Of course, cheating is difficult to define in this context but can be understood as violating the explicit or implicit nature of the rules of the competition in order to gain an advantage (Lee et al., 2007); simply, professional fouls or gamesmanship. Interestingly, participants suggested that doping was a significantly worse offense than other forms of cheating such as diving in football, punching in rugby, or psyching out your opposition in athletics

> "*Punching, getting someone at the bottom of a ruck, all those things are cheating, like to the letter of the law. But not one rugby player plays the game to the letter of the law, you are always looking for the little advantage. So you are constantly pushing that line but I think that that is different to taking drugs, that is what you do in the heat of battle, I think there is a line in sport and I know that I wouldn't cross it'.* (International rugby player)

Although the athletes acknowledged that these behaviors were outside the rules of the sport, they suggested that they were part of the game whereas doping was outside the spirit of the sport and not acceptable.

This moral complexity was an interesting basis for athletes' decision about "cheating" behaviors in their sport. Although they stated that their decision about PEDs was morally based, the decision making underpinning other aspects of the participants' behavior in the sport had a more rational underpinning. The key message that emerged from participants in this regard was that there was a personally enforced ethical line that they wouldn't cross to gain an *"unfair advantage"* against their peers.

There also appeared to be significant age effects apparent in athletes' attitudes towards, though not necessarily their usage of, PEDs. A minority of older athletes and coaches (then as athletes) admitted to taking PEDs during their early career and recognized the temptation of this. Conversely, the younger cohort of athletes strongly articulated their stance and stated how they would not take PEDs due to their personal ethical standards. As such, and perhaps somewhat surprisingly given the increasing competiveness of elite sport, the younger athletes displayed a much stronger anti-doping stance, grounded by their personal morals and ethics, than the older athletes and coaches. However, there was significant complexity evident underpinning athletes' decision making about performance enhancing substances, both legal and illegal, and these will be explored further in the next section.

Illegality of Substances

The central role that morals seemed to play in the athletes' decision making was interesting and went beyond the use of PEDs. The legality of substances was an important factor in the athletes' decision making with all the participants suggesting that legal nutritional aids are not cheating *"because WADA says so*!" However, although all the participants spoke about the legality of substances as an important factor in their decision, this was actually a complex issue. For example, when athletes were probed about whether they would take medical supplements to achieve above

normal, though still legal, levels (e.g., thyroid manipulation) the majority suggested that they wouldn't be comfortable, describing this type of supplementation as also "*unethical*" and "*cheating*". For example, one international level endurance athlete when asked about whether he would take testosterone to boost his levels responded:

> *"I don't know, I guess if the doctor said I needed to, if it was healthy. If I went to a normal GP and they suggested that I took it, not anything to do with the sport, then I would take it. But if I went to a doctor from [name of NGB] and they said, take it, it will boost your performance, then I would be like well, why do you want me to do that…I would feel different about it if it was only performance enhancing…"*

In fact, this idea of equality was another reason athletes cited for not taking PEDs, describing how other, legal, substances were acceptable because "*I feel that everyone has access to that sort of dietary stuff"* and "*if it is allowed and everyone is doing it then I think it's alright. If everybody is on the same playing field then its fine but if people are taking stuff that does a bit more than help you recover then I think there is a big difference"* (Track and field athlete, development level).

As described in the previous section, age effects were apparent in athletes' and coaches' responses to these questions. For example, when a younger international level endurance athlete was asked "*would you take supplementary testosterone to get your levels up to a normal, legal…would that be cheating?'* he replied, "*No, that is not acceptable, if it is specifically targeted to get you to the limit, the legal limit, then I would say that is cheating, I wouldn't do it"*. However, when responding to a similar question, an older coach suggested that "*there is stuff that sails a little close to the wind, thyroid manipulation and things, it is legal but still kind of iffy…if it would help an athlete and it was legal, maybe even if I had reservations, I would want the athlete*

to have it" (Track and field coach). This potentially related age and role (i.e., coach or athlete) effect deserves further clarification but should have important implications for the design and delivery of anti-doping policy and education.

The Role of Significant Others

A number of key psycho-social influences emerged as playing a central role in athletes' decision making about PEDs. Firstly, the importance of the training group and culture of their sport was cited as fundamental to athletes' decision not to take PEDs. The participants described how doping was "culturally inevitable" in other countries and sport systems but was not part of their involvement in sport. One developmental level judo player suggested that "*it [doping] is not part of what I understand as traditional Judo culture. We are quite traditional in this group, we have a traditional background, a lot of what we take as our culture is from [name of coach] and before him and because of that, no I would never consider doping".* As such, anticipated feelings of shame and guilt associated with doping were cited as key reasons underpinning the decision not to dope with a number of participants suggesting that they would be letting significant others who helped them achieve in their sport down. For example, one international endurance athlete described how he "*came from a very strong family background, and to my family through that if I got busted for a positive test…I could never, I could never even consider that".*

Psycho-social Environment

The protective mechanism of the athletes' training environment certainly appeared to influence their decision, with significant others, including parents, coaches and peers, all playing a role in the athletes' decision-making. Interestingly, many of the participants emphasized the role of parents in guiding their decisions about PEDs and how their upbringing instilled those values from an early age.

Typifying this, one international level footballer described how "*yeah that comes from my family, you shouldn't win by cheating and I think that is what I have been taught and that is how I like to win".* Reflecting the role played by significant others, many of the participants suggested that they trusted the actions of coaches and other medical and sport science support staff in guiding their decision about substances. For example, another international level footballer commented that "*you put your trust in a lot of the people around you, and you hope that they give you the right advice".* However, despite the importance placed on significant others, and the rules governing what is legal or not, participants all stressed that it was their individual decision to take or refuse PEDs. Supporting this, one international level rugby player described how "*this is my line, someone else's line might be different, but this is my line and I won't cross it".* Nonetheless, the importance of reference group opinion, peers and significant others' approval or disapproval of doping, does appear to play an important role in athletes' decision-making about doping.

Discussion

Testing and anti-doping education is central to anti-doping strategy (WADA, 2009). However, the results of this qualitative study suggest that athletes' decision not to dope was made independent of, or at least not contingent on, these structures. This reflects other evidence which suggests that anti-doping testing and sanctions do not play a significant role in athletes' decision not to dope. Instead, the individual's personal and moral standards, and the influence of their psycho-social environment appear to be the key factors underpinning their decision about doping (Erickson et al., 2014; Petrozci, 2007; Wiefferink et al., 2006). However, this moral reasoning appeared to be more complex than "it is just against the rules so I won't do it". The athletes suggested that they had their own "moral compass" that guided their

decisions about both PEDs and other legal performance enhancing substances (Dodge & Hoagland, 2011; Strelan & Boeckmann, 2006). This was illustrated by the athletes' suggestion that they would not take legal substances *just* to gain a performance enhancing effect even if these were allowed. Further, the participants described the shame that would be associated with getting caught doping and this was very much described in terms of a moral emotion and a failure to live up to the norms and expectations of their social group (Eisenberg, 2000). The ability to influence athletes' moral compass would seem an effective way to influence decision-making about PEDs in sport. Interestingly, the participants were very strong in their stance that they would prefer to compete, and perhaps not win, as a "clean" athlete than be more successful by taking PEDs (Laure et al., 2004).

When athletes' attitudes to doping, compared to other forms of cheating in their sport, are examined a number of interesting issues emerge. Although the participants suggested that they would engage in some forms of cheating when it was within the spirit of the sport (e.g., attempts to 'psych' opponents out or illegal tackling) the degree of rationality in terms of decision making about PEDs was interesting (Backhouse et al., 2007) – even if the athletes weren't going to get caught and they were assured their performance would improve, they still reported that they wouldn't take PEDs. Again, this points to the importance of attitudes and morals as a key feature of the decision-making process (Haugen, 2004).

The differences across different age cohorts is another important issue that emerged from the results and is consistent with previous research (e.g., Mazanov et al., 2008). For example, there appeared to be a significant difference in older and younger participants' responses to the questions about illegality of substances with the younger cohort strongly suggesting that even if certain substances were legal (or not

tested for) they would not take them as this crossed their "personal moral compass". Conversely, the older cohort was not as strong in their conviction about this and suggested that *"as long as it was legal, it was ok"*. Given the rapid development of PEDs and the difficulty of maintaining an efficient testing program that can adequately test of *all* PEDs the role of personal ethical and moral standards in younger athletes should be an important avenue for exploration for anti-doping agencies.

Unlike some evidence from the literature (e.g., Goldman & Klatz, 1992), athletes did not report health risks as a significant factor in their decision not to dope. In fact, the negative health risks (both short and long term) were not seen as influencing factors with most athletes suggesting *"I haven't even thought about it, the health implications wouldn't have crossed my mind"*. Although the lack of attention to long-term health risks associated with PEDs may be expected within a young population, such as that sampled for this study (Ehrnborg & Rosén, 2009), short-term health implications were also not seen as a significant factor in the athletes' decision-making. As such, the significant factors influencing the athletes' decision not to dope appear to be their personal moral and ethical standards rather than a "cost versus benefit" evaluation of doping. Personal moral beliefs therefore seem to act as a preventing factor for doping (Strelan & Boeckmann, 2006).

Interestingly, the participants were realistic that, at least in some sports, many competitors were taking PEDs and that success at the world level was difficult for "clean" athletes. Despite this, the overwhelming majority reported that they wouldn't take PEDs, not primarily because they were banned or the likelihood of getting caught, but because cheating in this manner was against their personal ethical standards. This is not to say that the athletes wouldn't cheat in other ways (e.g.,

diving, shirt pulling), defined by the athletes as "within the spirit, if not the rules of the game". In fact, the athletes' stated reluctance to take legal supplements for purely performance enhancing reasons is interesting against the growing trend worldwide for such supplementation. The athletes suggested that this crossed a line of fairness but did recognize that there "shades of grey" in terms of this debate. For example, the participants recognized that other legal supplements such as creatine or caffeine also have performance enhancing effects but suggested that they were comfortable with these because they are available to all athletes. However, the complexity underpinning this decision making is worthy of attention as it, no doubt, has a significant impact on the athletes' attitudes to different performance enhancing supplements. In fact, the complexity of this issue is evident in the "hypocritical" stance taken by some athletes about one substance and another suggesting that athletes' attitudes to PEDs is not as clear cut as whether a substance is legal or not.

The athletes' psychosocial environment, and the role of significant others, was also shown as a key factor underpinning their decision about PEDs. As found elsewhere in the anti-doping literature (e.g., Bird & Wagner, 1997), the external pressures of social and moral expectations acted as a deterrent with coaches, the norms of the training group, and peers especially important in this influence. As such, interventions and anti-doping strategies that work at group levels would seem an efficacious way to influence decision making about taking PEDs. In fact, the traditional anti-doping education procedures were described by the participants as "*not particularly useful"* outside the focus on procedures and systems. Instead, influencing the subculture of a sport or training environment may be more effective. This was particularly evident in the current results with athletes describing how the anti-doping ethos of their training group, sport, and country played a role in their

decision (Mazanov & Huybers, 2010; Strelan & Boekmann, 2003). The sport's culture has been shown to be influential in precipitating PED use (Kirby et al., 2011) as described by admitted dopers. Individuals strive to show solidarity with peers and enhance their group identity by conforming to group norms. Therefore, altering expectations and group norms about doping would seem a salient way to impact PED usage. This might be especially important from a developmental perspective given that many factors such as role models, vulnerability to peer pressure, and attitudes change as athletes move from one developmental stage to another (Petróczi & Aidman, 2008).

As found elsewhere in the literature, participants suggested that doping was not a widespread problem within their training group or country and that there was an "anti-doping culture" in UK / Irish sport. However, there were repeated references to the extent of the problem in other countries. In fact, the track and field and endurance athletes as well as the rugby players suggested that there was systematic and organized doping in other countries, similar to the "sporting xenophobia" described by Bloodworth and McNamee (2010). Although this "doping dilemma" has been suggested to be a driving factor in PED usage, since the associated suspicion that everyone else is using PEDs drives athletes to use to compete under the same circumstances, this was not the case in this study. Instead, the participants' personal moral standards, reinforced by their psycho-social environment, were the driving factor in their decision not to dope. This finding has interesting implications for anti-doping policies. Given the protective influence that coaches, significant others and the social milieu appear to play in an athletes' decision not to dope, emphasis at this social level would seem important.

Of course, there are a number of limitations to this study that must be highlighted and considered. Firstly, this study is based on participants' self-reported accounts and, given the nature of the topic, the findings must be interpreted in light of this and the possibility that participants were not honest in their responses, despite the steps taken during the data collection process to overcome this limitation. We also acknowledge that the findings of this study are delimited to an Irish and British population. Given that the social environment, and by extension cultural milieu, has been shown to play a significant role in athletes' decision making, it would be worth exploring the extent that these findings are generalizable to other countries, cultural contexts, and indeed other sports (e.g., aesthetic sports for example). Finally, we did not explore differences between male and female athletes in this study due to the relatively small number of females recruited to participate (cf. Alaranta et al., 2006**).** However, given that males tend to have a more permissive attitude towards doping (Bloodworth et al., 2012), as well as the paucity of research on females' experiences of doping at elite levels of sport, it would be interesting from both an academic and applied perspective to further examine the reasons females "say no" to doping as these may potentially differ from their male counterparts.

The findings from this study suggest that there are interesting implications for emphasizing the importance of abstinence, "saying no", within anti-doping policy (cf. Dodge & Jaccard, 2008). These results support the literature suggesting that there are different behavioral outcomes associated with abstinence from risky behavior compared to engaging in risky behavior and these are manifested in an individual's attitudes, beliefs and social norms (Dodge & Jaccard, 2008). Importantly, many of the reasons underpinning abstinence from PED usage were affective, emotional and social and targeting these in doping prevention strategies should be an important

consideration. Reflecting this, anti-doping strategies should benefit from campaigns that emphasis the positive effects of abstinence rather than the negative effects of engaging in doping or stressing the prevalence of PED usage.

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671 Table 1.

672 *Participant Information*

Participants	Level of competition 673
Rugby (n = 8**;** 8 male)	International (n = 5; age 21 – 31 years) Premiership Club (n = 3; age 20 – 26 years)
Football (n = 5; 5 male)	International (n = 5; age 21 – 32 years)
Judo (n = 8; 3 female, 5 male)	International (n = 5; age 22 - 29) Development (n = 3; age 18 – 21 years)
Endurance sports (n= 8; 2 female, 5 male)	International (n = 6; age 22 – 29 years) Development (n = 2; age 18 – 20 years)
Track and field athletics (n = 7; 2 female, 5 male)	International (n = 5; age 21 – 28 years) Development (n = 2; age 18 – 19 years)
Coaches (n = 10; 10 male)	Football (n = 2) Rugby (n = 1) Judo (n = 2) Endurance (n = 2) Track and field athletic (n = 3)

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Table 2.

Themes and sub-theme with example data extracts from interviews

Super-ordinate Theme	Sub-ordinate Theme	Data exemplar
Personal Ethical Standards	Cheating yourself and others – gaining an unfair advantage	"I was never tempted…the fact that when I go to competitions and stand at the side of the mat, I like to know that I have done everything right to get there and I couldn't have that feeling if I cheated"
	Complexity of decision making about 'legal' substances	"I would say with testosterone, if it was to bring them up to a healthy level then I would say that is acceptable. But if it was specifically targeted to get them to the limit then I would say that is cheating"
		"even if something isn't banned but they are pretty close to what is banned and you know I wouldn't morally take them…other

		things like protein and vitamins, they have scientifically tested and everyone is allowed use them so that we all know that is acceptable"
	Personal decision guided by moral values	"Some things are legal and some things aren't but I have my own line that goes 'that's okay and that isn't' and that is pretty much it"
	Actions guided by what is 'within the rules'	"I don't think punching, or diving, or shirt pulling is really cheating, it's just part of the game and if I do it and get caught my team will get punished but doping is different, that isn't within the spirit of the game"
Psycho-social Environment	Letting others down	"I was thinking about my family you know, and if I was to be caught, the shame of it…the thought

		of my mother having to survive that, I was a shining star in our little neighborhood and if I caught you would be letting all those people down"
	Shame and guilt	"I would be mortified, embarrassed, shameful in terms of my family, my children"
	Anti-doping culture within 'their' sport / culture as a protective mechanism	"I don't feel like it is even a thing in my environment, I don't know if that is my group, my sport or even Great Britain but it just isn't part of what we do"
Role of significant others	Influence of family and parents	"I think certainly my parents are important, the way I was brought up was to try and if you are going to do something do it to the best of your ability but to do something to the best of your ability means to do

		it right"
	Influence of Peers and Coaches	"I came into judo as a skinny 17 year old by watching [name of judo player] and people like that, when they would go off to the world championships I was thinking that is what I want to do. So I learned everything from [name of athlete] and [name of coach] and they would have told me that it [doping] is the wrong thing to do"
Anti-doping testing and education	Getting caught was not a significant factor	"I don't think that the testing is a deterrent in my decision not to dope"
		"I think that people who dope are smart about it and you know I'm sure the testing procedures make them nervous but I think a lot of people know how to

		beat the rules"
	Education not a significant factor	"I don't think the anti-doping education stuff was that important…by the time I had been given the information I had already decided that I wasn't going to do that sort of stuff anyway"