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Moral disengagement and associated processes in performance-enhancing drug use: a national qualitative investigation

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Abstract

This study investigated psychosocial processes associated with avoidance of health- and morality-based deterrents to performance-enhancing drug (PED) use. In-depth semi-structured interviews were conducted with 64 English male bodybuilders with experience of doping. Resultant data were content analysed deductively using definitions for the eight mechanisms of moral disengagement (MD; Bandura, A. (1991). Social cognitive theory of moral thought and action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Handbook of moral behavior and development: Theory research and applications* (pp. 71–129). Hillsdale, NJ: Lawrence Erlbaum Associates.), and three further themes from Boardley and Grix (2013. Doping in bodybuilders: A qualitative investigation of facilitative psychosocial processes. *Qualitative Research in Sport, Exercise, and Health*. Advance online publication, doi 10.1080/2159676X.2013.766809). These analyses evidenced six MD mechanisms, and all three of the themes from Boardley and Grix (2013. Doping in bodybuilders: A qualitative investigation of facilitative psychosocial processes. *Qualitative Research in Sport, Exercise, and Health*. Advance online publication). Subsequent frequency analyses revealed six of the eight MD mechanisms, and two of the three additional themes, were common across the sample. Overall, the findings suggest MD may help athletes circumvent health- and morality-based deterrents to doping, describe a process linking supplement and PED use and detail how some athletes may actively avoid social censure for doping by only discussing PED use with other PED users from within their training environment.

Keywords: *deductive reasoning, psychosocial processes, morality, doping*

Introduction

Performance-enhancing drug (PED) use is prevalent in male bodybuilders (Backhouse, McKenna, Robinson, & Atkin, 2007; Litt & Dodge, 2008), placing this group at heightened risk for adverse health consequences associated with their use (e.g. Casavant, Blake, Griffith, Yates, & Copley, 2007). Personal morality is a further potential deterrent to PED use, as doping often requires illegal activity and is considered by many to constitute cheating (Bilard, Ninot, & Hauw, 2011; Probert, Palmer, & Leberman, 2007). Accordingly, bodybuilders have reported terminating PED use due to moral conflict (Olrich & Ewing, 1999), and models of PED use often specify moral variables within them (Donahue et al., 2006; Donovan, Egger, Kapernick, & Mendoza, 2002; Petróczi & Aidman, 2008). As such, further understanding of why the above deterrents do not effectively prevent PED use is needed; the overarching aim of the current work is to investigate psychosocial processes that facilitate PED use

in male bodybuilders with a view to informing prevention efforts.

Bandura's (1991) theory of moral thought and action has the potential to inform understanding on psychosocial processes facilitating PED use. Bandura suggests that moral behaviours are regulated by anticipated personal and social sanctions; people avoid actions likely to result in personal or social rebuke. Regarding personal sanctions, people avoid behaviours they anticipate will result in unpleasant emotions (e.g. guilt and shame). However, Bandura (1991) describes how people can circumvent such emotions while engaging in harmful conduct through conditional endorsement of such behaviour via eight psychosocial mechanisms collectively termed moral disengagement (MD).

Only recently have researchers started to qualitatively investigate MD and PED use. Boardley and Grix (2013) conducted semi-structured interviews with nine bodybuilders with experience of PED use. Interviews centred on how bodybuilders

rationalised their PED use given the potential deterrents highlighted above. Deductive analysis of study data revealed evidence of six mechanisms of MD. Defined later in the results section, these six mechanisms were moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility and distortion of consequences. In addition, through inductive analysis of their data, Boardley and Grix (2013) revealed three further relevant themes. First, *sliding scale* related to descriptions reflecting legal supplement use at one end of a continuum, initial PED use (e.g. experimenting with oral PEDs) in the middle and serious PED use (e.g. progression to injectable PEDs, use of multiple anabolic steroids and/or growth hormone) at the far end. Second, *family and friends* reflected bodybuilders categorising acquaintances into groups with whom they would discuss their PED use and those with whom they would not; PED use being openly discussed with gym friends, but not with non-gym friends and family members. Finally, *routinisation* referred to bodybuilders describing supplement and PED use becoming part of their daily routine.

Although it provided initial support for the utility of Bandura's (1991) theory in furthering understanding on psychosocial processes that support PED use, Boardley and Grix's (2013) research was limited due to the small sample and single sampling location. As such, it is not known whether the findings are representative of bodybuilders more widely, and whether all uses of MD were captured. Evidence that further applications of MD in this population may exist is seen in the work of others such as Monaghan (2002), who provided evidence of advantageous comparisons not represented in the study of Boardley and Grix (2013). Thus, a much larger study with strategic sampling is needed to provide more generalisable findings on the entire range of the ways in which bodybuilders apply MD to facilitate PED use. Such research would also help determine the widespread stability of the three emergent themes identified by Boardley and Grix (2013). Finally, such a study would permit analysis of which MD mechanisms occurred most frequently, something not appropriate with the restricted data set of Boardley and Grix (2013).

As such, the current project utilised a large sample of bodybuilders sampled from across England to answer the following research questions: (a) Which mechanisms of MD do doping bodybuilders use and in what ways are these mechanisms applied? (b) Do doping bodybuilders consistently evidence the sliding scale, family and friends, and routinisation themes of Boardley and Grix (2013)? and (c) How frequently are mechanisms of MD, sliding scale, family and friends, and routinisation represented in doping bodybuilders?

Method

The study was funded by the World Anti-Doping Agency (WADA), with ethical clearance granted by the host institution as well as WADA. Semi-structured interviews were conducted with 64 male bodybuilders purposefully sampled from the nine government regions of England (referred to as R1 to R9 to protect anonymity) to ensure the sample incorporated bodybuilders from across the whole country. Our aim was to sample a minimum of six athletes from each region to achieve meaningful regional corpuses, but to sample more athletes where possible up to a maximum of 12 athletes per region, thus ensuring no single region dominated the sample; this strategy led to the final sample size of 64. Between 6 and 11 ($M = 7.11$) bodybuilders were sampled from each region. Participants' ages ranged from 19 to 65 years ($M = 32.26$), and they had been strength training for between 2 and 45 years ($M = 13.38$). The PEDs used included stimulants, anabolic steroids, insulin and human growth hormone, administered orally and/or through injection. Forty-five bodybuilders had used PEDs within the last three months; the remaining 19 had previously used PED but had discontinued use at the time of interview. Of the 45 current PED users, two did not use anabolic steroids or hormones, using prohibited stimulants only. Interviews ranged in length from 19 to 114 min ($M = 50\text{m } 19\text{s}$).

As well as being a postdoctoral researcher in sport psychology, the interviewer was also a strength training coach. He was therefore very familiar with – and comfortable in – the environments in which recruitment and data collection took place. His familiarity with this environment and knowledge of strength training helped the interviewer to establish rapport with participants and to be accepted within the “serious” bodybuilding community in these gymnasias. Factors such as class, gender, sexuality and prior sport participation potentially influence status in athletic subcultures and may affect acceptance, as well as the responses of those who occupy the social environment in question (see Woodward, 2008). The interviewer's knowledge and familiarity with “serious” strength training environments allowed him to be more easily accepted and trusted by interviewees and to gain access to research sites and participants who may not normally be available to researchers. Also, this knowledge and familiarity increased the likelihood of participants responding openly and honestly, as well as allowing the researcher to use language common to the specific subculture present in such environments.

Participants were recruited through advertisements placed in gymnasiums or through personal introductions via gym owners or other study

participants. Interviews were conducted by the third author between August 2011 and June 2012. Interviews were based on a protocol aimed at identifying psychosocial mechanisms used to rationalise PED use that fitted with the eight mechanisms of MD, plus the three further themes identified by Boardley and Grix (2013). The interview protocol comprised open-ended questions (e.g. “For what reason or reasons did you start using performance-enhancing drugs?”), which were followed by targeted questions centred on the eleven predetermined categories (e.g. moral justification: “Do you think there are any ways in which using performance-enhancing drugs can benefit others?”). Each interview was audio recorded and transcribed verbatim. Once transcribed, interviews were sent to participants to check the accuracy of the transcription; no bodybuilder requested changes, and a total of 1029 one-and-a-half-spaced pages of transcript were analysed.

The study data were analysed using deductive reasoning through directed content analysis, appropriate when examining a theory with qualitative data (Hsieh & Shannon, 2005). Operational definitions (see results section) for the 11 themes were used to content analyse the data. The first and second author content analysed 50% of the study data each, with content analysis involving reading each transcript and highlighting all text that represented one or more of the 11 themes; highlighted passages were then coded according to the relevant predetermined code/s (see Hsieh & Shannon, 2005). The unit of coding used throughout data analysis was the complete response to a question (open-ended or targeted) in order to prevent loss of context which may have occurred had individual sentences been coded. When presenting the results, numbers that follow exemplar quotes refer to the interviewee (e.g. R2-1) and page and line numbers (7, 16) from the interview transcripts. To clarify certain quotes, square brackets [] have been used to add additional words.

Reliability of coding is a critical concern in content analysis (De Wever, Schellens, Valcke, & Van Keer, 2006). To ensure reliability in the current study, indicators of both intra- and inter-rater reliability were calculated. To assess intra-rater reliability, the first and second authors coded interview R3-4 (selected at random) on two occasions, one month apart. This resulted in 28 of 32 corresponding coding decisions for the first author and 27 of 30 for the second author corresponding across the two time points, giving intra-rater reliabilities of .88 and .90, respectively, for the first and second authors. Inter-rater reliability was assessed by calculating percentage agreement and Cohen’s kappa, following the separate content analysis of R5-1 and R6-2 (selected at random) by both the first and second authors.

These specific indicators of inter-rater reliability were chosen because percentage agreement is a commonly used indicator and because Cohen’s kappa takes into account chance agreement among coders and is appropriate when two coders are used (De Wever et al., 2006). Percentage agreement was .88 for R5-1 and .86 for R6-2, and Cohen’s kappa was .86 for R5-1 and .82 for R6-2. These levels of agreement are considered to be acceptable levels of inter-rater reliability (Banerjee, Capozzoli, McSweeney, & Sinha, 1999).

Results and discussion

Use of MD mechanisms

The first research question sought to determine which mechanisms of MD doping English bodybuilders use and the ways in which these mechanisms are applied. We found evidence supporting six mechanisms: moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility and distortion of consequences. Importantly, MD mechanisms were not only applied by athletes in the ways reported by Boardley and Grix (2013) but also using additional methods, detailed in the following paragraphs in which evidence for each mechanism is presented in turn.

Moral justification involves portraying detrimental acts as serving worthy social or moral purposes to make them socially and personally acceptable (Bandura, 1991). This mechanism was used by experienced PED users, purporting the knowledge gained from doping helped them provide a social service through advice they offered others on safe doping. For instance, R2-1 said:

I need to learn from experience because I’m the man people ask questions, I need to give people the right answers... the safe answers to help them progress in their training, not to ruin them. (7, 2–6)

A further form of moral justification occurred only with professional bodybuilders who justified PED use by suggesting it allowed them to financially support their families. For instance, R8-2 stated, “So the ethics were skewed a bit towards putting food on the table, rather than it is ethically right to take these and to do these things” (7, 4–5).

The forms of moral justification identified here contrast with those in qualitative sport research considering MD with transgressive behaviours other than doping. Such work provided evidence of moral justification, but rather than basing justifications on knowledge gained and money earned as seen here, athletes justified harmful conduct based

on team honour (Corrion, Long, Smith, & d'Arripe-Longueville, 2009), protecting teammates (Long, Pantaléon, Bruant, & d'Arripe-Longueville, 2006) and team success (Traclet, Romand, Moret, & Kavussanu, 2011). Thus, the specific nature of moral justification in physical activity contexts may differ due to specific situational characteristics.

Euphemistic labelling makes detrimental behaviour appear less harmful and/or more acceptable through the selective use of language (Bandura, 1991). This mechanism was evidenced through the frequent occurrence of terms such as *juice*, *roids* and *gear*, which appear to be part of bodybuilding sub-culture (Andrews, Sudwell, & Sparkes, 2005). These terms frequently came up in general conversation: "It's a good gym; that is a good gym... there's a lot of *juice* heads there" (R4-1, 2, 15–16); "...that whole sort of like, 20 to 25, *roided* up..." (R4-2, 11, 23–24); "he plays for the England rugby team... he's used more *gear* than I have" (R1-1, 11, 27–28).

Euphemistic terms such as those reported here are also evident in previous qualitative work with doping bodybuilders. Andrews et al. (2005) conducted an ethnographic study of bodybuilding culture and identified the frequent use of terms such as *juice* and *gear* when participants referred to PED. Similarly, in Monaghan's (2002) analysis of motivation for steroid use in Welsh bodybuilders, the terms *gear* and *juice* were again evident. Thus, evidence from a number of studies suggests that use of euphemistic language may be a deeply embedded aspect of bodybuilding culture. Given use of such language has the potential to weaken emotional responses which should normally deter harmful behaviour, the widespread use of euphemistic language may – at least in part – contribute to the prevalence of doping in this population.

Advantageous comparisons occur when detrimental conduct is compared with alternative acts perceived to be more damaging, resulting in the behaviour appearing less harmful (Bandura, 1991). Use of this mechanism was evident, with bodybuilders drawing comparisons between PED use and the perceived unhealthy lifestyles of the general public. For instance, when discussing the side effects of PED use, R1-4 stated, "You know, compared to someone who smokes, I don't drink very much at all, I don't smoke.... compared to someone who does all that, no, I don't think they are that bad" (8, 21–24). PED use was also compared with recreational drug use. For instance, one participant stated:

....say a smackhead or a druggie....will go and rob an old lady, or rob someone's house to get the next fix, I don't know any bodybuilders that will go and rob a house or go and mug an old lady to get the next shot of Sus. (R3-1, 12, 32–34)

Additionally, comparisons were also made with the PED use of other bodybuilders who were perceived to engage in practices considered more harmful. For example, R1-2 stated:

I mean I was 25 years old...I always was a strong person before I ever took anything. And I see now lads sort of 18, 19 years old ... they'll start taking steroids at a young age, before their body is even fully developed. (11, 11–18)

Others compared their dosages to bodybuilders perceived to take much higher doses:

People would probably laugh, [I take] about 1500 mg a week going into a major, major competition. A lot of national competitors would take a minimum of 2000 mg a week, I know pros that take 8000 or 9000, 10,000 a week. (R2-1, 12, 3–5)

Favourable comparisons were also made to athletes from other sports: "We're talking about bodybuilding, take a good look at cycling, they make bodybuilders look like choirboys" (R2-1, 15, 31–32).

The current research unearthed four types of advantageous comparison relating to PED use, whereas previous research has only exemplified two. More specifically, Boardley and Grix (2013), Monaghan (2002) and Probert and Leberman (2009) had all provided evidence of athletes making favourable comparisons with unhealthy lifestyles, while Monaghan (2002) also demonstrated how bodybuilders compared PED use to use of recreation drugs. The present data not only provide further support for these two types of advantageous comparison but also identify additional forms incorporating comparisons with early adoption and higher doses of PED use.

Displacement of responsibility occurs when people view their actions as resulting from implicit or explicit social pressure and not something that they are personally responsible for (Bandura, 1991). The current data evidence displacement of responsibility regarding adoption of PED use to implicit pressures within hardcore training environments. Such pressure manifests due to the presence of PED-using bodybuilders whose bodies represent the end goal for bodybuilders entering such environments. For example, R1-8 stated, "You see people doing what you want to do, and if you know that they are doing certain things [using PED], that's the route to get there... definitely" (19, 32–33).

Displacement of responsibility to explicit sources was also apparent, with overt encouragement contributing to athletes' adoption of PED use, with some even describing how explicit pressure to dope is an integral aspect of bodybuilding culture:

...it's a consensus across the whole bodybuilding society that if you get into bodybuilding, you are a young lad at 17 or 18, there is always someone that will latch on to you and say you've got potential... they will say "right, you've got potential; we need to maximize that potential". (R1-6, 6, 20–24)

Implicit and explicit pressures to dope in hardcore training environments are also represented in previous research. Specifically, Olrich and Ewing (1999) interviewed ten male previous steroid-using bodybuilders, who reported how implicit pressure to keep up with PED-using peers as well as explicit encouragement to dope were factors involved in bodybuilders' initiation of PED use. The consistent emergence of these pressures highlights the potential dangers for bodybuilders transitioning to hardcore training environments as such environments clearly have the potential to facilitate adoption of PED use through displacement of responsibility.

Diffusion of responsibility can transpire through group action, group decision making or division of labour (Bandura, 1991). However, only group action was represented presently, evidenced by the perception of bodybuilders that most bodybuilders in hardcore gyms use PED. For example, R5-1 stated, "... because it makes it commonplace. That whole right and wrong argument goes away because if everyone is doing it, it must be right" (12, 7–8). Such perceptions were not always restricted to bodybuilders either, with some believing doping is prevalent in all sports at high-performance levels:

If you want to break world records these days, whether you're running 100m, whether you're weightlifting, if you aren't using drugs you are out of the game because I can promise you... everyone else is. (R2-1, 4, 25–28)

These findings highlight the danger of environments in which athletes perceive high prevalence of doping due to increased potential for diffused responsibility. This is supported in other sport environments through autobiographical accounts in which professional cyclists who have doped suggest environments in which PED use was perceived to be common practice facilitated doping by creating the belief that it was morally acceptable if everyone was doing it (Hamilton & Coyle, 2012; Millar, 2011).

Distortion of consequences involves avoiding or minimising the harm caused by reprehensible action (Bandura, 1991) and was evidenced by bodybuilders believing they could control or prevent the potential negative health consequences associated with doping, facilitated by information gathering through sources such as internet forums and other dopers. As R3-3 explained, "Obviously there are negative

sides to them... after I'd done all my research, I sort of realized that maybe it's not as bad as people say" (10, 8–10). The delayed onset of many side effects and lack of external indicators of harm may make it easier to cognitively minimise the potential for harm. For example, R2-1 stated, "People think to themselves, hang on a sec, he's not dropping dead, he's not hospitalized with extreme liver failure... surely it can't be that bad" (6, 19–21).

Others saw use of doping products in healthcare as evidence they could be used safely. R1-6 commented, "People give men in their 50s and 60s hormone replacement therapy, they might be given 2 mil of Sustanon... they give AIDS victims Deca because it boosts their immune system. There are benefits" (9, 18–20). Clearly, bodybuilders who hold such beliefs are being selective in the information they source or recall, as rather than citing evidence highlighting the harmful side effects that can result from doping, they recount use of doping products in medical practice. That bodybuilders often use doping products at supraphysiological doses significantly beyond those used for medical interventions (Casavant et al., 2007) and that inherent side effects are often considered acceptable in healthcare when administration brings about an overall improvement in patient health appears to be largely – and conveniently – ignored.

Some also argued there is nothing wrong with doping because it does not harm other people. For instance, R4-1 suggested, "... for a gym rat who just wants to go to the gym, puts on weight, doesn't hurt anyone, you can't even say it hurts someone..." (13, 3–4). Such a position clearly ignores the potential psychological harm friends and family may suffer if a bodybuilder's PED use results in ill-health and the harm caused to others due to steroid-induced aggressive behaviour often referred to colloquially as "roid rage" (e.g. Copeland, Peters, & Dillon, 2000). Consistent with the current findings, doping bodybuilders have previously been found to downplay potential adverse effects of PED use to themselves and others (Boardley & Grix, 2013; Monaghan, 2002).

Sliding scale, family and friends, and routinisation

The second research aim was to investigate further the themes of sliding scale, family and friends, and routinisation (Boardley & Grix, 2013). The data provided evidence that all three themes are inherent aspects of doping culture among English male bodybuilders. The following subsections present evidence for each theme in turn.

The sliding scale notion relates to descriptions reflecting progression from legal supplement use, to initial use of PEDs often in the form of tablets, and

finally to serious PED use such as progression from oral to injectable steroids, use of multiple steroids and/or other substances such as growth hormone. Examples include R2-4, who suggests, “Up your protein, get your carbs balanced, and you can put on the size... then they start thinking about creatine and see if that works... then people start looking around again” (20, 28–31). Similarly, R1-5 stated, “hundreds of guys... just go protein, creatine, steroids... I think everyone is looking for that next bigger thing to help them progress” (8, 28–31), and R1-3, “It’s like a gradual process, initially you will do the supplements, and then your next step is like to take steroids... then growth hormone” (4, 17–19).

These descriptions suggest that a plateau in training effects may motivate bodybuilders to consider progressing further along the sliding scale towards PED use. As such, bodybuilders may be particularly susceptible to external influences encouraging adoption of PED use at such times. Researchers conducting work in other sports have identified periods such as when athletes are on the cusp of winning a sponsored place at an academy or are suffering from acute (e.g. injury) or chronic (e.g. ageing) performance decrements (see Kirby, Moran, & Guerin, 2011; Mazanov, Huybers, & Connor, 2011) as periods during which athletes may be more likely to consider doping. As such, it has been suggested that such periods are appropriate for targeted interventions aimed at preventing doping. Importantly, the current data suggest that plateaus in training effects may be an additional period for such targeted interventions.

As described by Boardley and Grix (2013), a common path involves initial use of oral steroids, before progressing on to injectables or a combination of the two. This path was also supported here for many athletes, with initial use of oral steroids often driven by a fear of needles, “...people are scared to inject, but once you get over that... it becomes as integral as the normal” (R1-6, 14, 12–14). In addition, others were dissuaded from using injectables due to their association with street drugs, “It has connotations of injections and heroin... the same place you go to pick up your free needles there are people sitting there scratching at the walls waiting for their heroin” (R1-4, 5, 25–28).

Importantly, not all bodybuilders in the current sample started on oral steroids. Negative health connotations associated with oral steroids were often central to this divergent route as R2-5 demonstrated, “I started on injectables... I don’t like the idea of orals... it puts more strain on your liver and kidneys” (7, 4–6). Thus, although many athletes in the current study initially used oral PEDs before progressing on to injectables, some bypassed the use of oral PEDs and favoured immediate adoption of

injectables when progressing from legal supplements. Thus, although the progression from supplements to initial PED use to more serious use of PEDs was strongly supported, the current data suggest that not all bodybuilders go through a stage that involves use of oral steroids.

The family and friends theme relates to bodybuilders making clear distinctions between gym friends, non-gym friends and family when describing who they share knowledge of their PED use with. Consistent with this theme, most bodybuilders made clear distinctions between people with whom they openly discuss their doping and those they do not. For example, R4-2 stated, “My parents ...they don’t know I’m on them...my best friend in London doesn’t know...” (20–21, 28–5). Such selectiveness regarding who was made aware of bodybuilders’ PED use were commonplace in the current data, suggesting that this is fairly routine among doping bodybuilders.

It is likely bodybuilders are selective regarding who they tell about their PED use to proactively avoid social censure (see Bandura, 2002), with information on PED use only discussed with those perceived as supporting it. This is seen in the following example where R8-3 describes his attempts to hide his PED use from his wife:

I didn’t know how she would take it, but she caught me red-handed because she came up into the bathroom one day and the needle was in, I was squeezing away, she snuck up and opened the door and called me everything under the sun. (3, 11–14)

Bodybuilders’ apparent awareness that certain significant others may not support their PED use suggests that future initiatives aimed at reducing doping could highlight potential effects on relationships with family and friends if significant others discover bodybuilders’ PED use.

Routinisation refers to supplement and PED use becoming part of a bodybuilder’s daily routine. Limited evidence of this theme was apparent here. For instance, R3-2 stated, “Steroids become the norm, three times a week, Monday, Wednesday, Friday, bang, we’re on them” (12, 30–32). Bandura (2002) describes how such routinisation of harmful conduct can be facilitated by a transformative effect of MD on one’s perception of the moral self. As MD becomes more frequent, people become adept at recognising situations in which they are able to morally disengage. Detrimental conduct then becomes automated, occurring without the need to consciously morally disengage. In such circumstances, PED use may occur without conscious

rationalisation of the act, thus making it a more natural part of the bodybuilders' day-to-day routine.

Frequency of the nine themes

The third research aim centred on the frequency of each theme. As seen in Table I, the most frequent MD mechanism was distortion of consequences. This mechanism was evidenced by 54 bodybuilders, suggesting that diminishing or ignoring potential harmful consequences of doping is particularly prevalent in male bodybuilders. The frequency of athletes evidencing the remaining five mechanisms ranged from 38 for diffusion of responsibility to 46 for displacement of responsibility. Importantly, all participants demonstrated at least one ($M = 4.1$) mechanism of MD across the sample.

Integration of the current findings with those from past MD sport research reveals some common findings. Consistent with the current findings, Corrion et al. (2009) and Traclet et al. (2011) found displacement of responsibility to be one of the most frequent mechanisms when athletes described their reasons for transgressing in their sport. Also, as seen here, dehumanisation has been evidenced infrequently (Corrion et al., 2009) or not at all (Boardley & Grix, 2013; Traclet et al., 2011) in past studies.

Consistent with the findings of Boardley and Grix (2013), we found no evidence of dehumanisation and attribution of blame in the current sample. One commonality between these two mechanisms is that they both target the victim of harmful acts (Bandura, 1991). Importantly, in bodybuilding, victims of athletes' PED use are not as obvious as they are for other forms of detrimental conduct in sport

such as foul play, where the victim (i.e. the player being fouled) is clearly apparent. As such, it is possible that these two victim-centred mechanisms are not appropriate in this context (cf. Boardley & Grix, 2013).

Frequencies varied for the three additional themes. Sliding scale and family and friends were both common, with almost three quarters providing evidence for each. In contrast, routinisation was fairly uncommon, with only around a quarter providing accounts reflecting this theme. High frequency of the sliding scale theme resonates well with studies that have linked supplement use with doping (e.g. Martinez & Bilard, 2003; Papadopoulos, Skalkidis, Parkkari, & Petridou, 2006). Interestingly, the frequency of the family and friends theme suggests the presence of a veil of secrecy around PED use in bodybuilding similar to that seen in professional cycling (Hamilton & Coyle, 2012; Lentillon-Kaestner, Hagger, & Hardcastle, 2012; Millar, 2011). Such secrecy may serve to prevent social censure for PED use.

Practical implications

Our findings show how environmental conditions and psychological processes may combine to nullify the effects of some of the main deterrents to PED use. More specifically, they suggest that through MD male bodybuilders appear able to circumvent the preventative effects of personal moral standards and the potentially detrimental consequences for health associated with doping. Thus, future doping prevention programmes could target the environmental factors (e.g. training environments in which a high

Table I. Thematic count of athletes evidencing the nine themes represented ($N = 64$).

Theme	Number evidencing theme	Exemplar quotes
Moral justification	42	"I'd rather test it on myself than have people, go away not aware of what they are taking..." (R1-6, 18, 6-7)
Euphemistic labelling	41	"Gear, tac, it's your tac, it's your arsenal of what your using, erm, bits and bobs, you try and, you try and put a nicety to it..." (R1-6, 17, 18-19)
Advantageous Comparison	43	"So you can see my dose, even though, people consider it high, he was on 2g when he was blasting and 500 mg when he was cruising" (R1-1, 7, 17-18)
Displacement of responsibility	46	"It is immoral but then I would say it is the fault of the media and advertising just pushing better and better sports" (R1-1, 8, 29-30)
Diffusion of responsibility	38	"...I feel I cheated a little bit...you look around and say 'well he has, he has, he has', and you think 'well I'm not the only one here am I?'" (R4-2, 11, 8-10)
Distortion of consequences	54	"Steroids are not designed or manufactured to make well people ill. They are made to make help sick people get better!" (R2-1, 3, 2-3)
Sliding scale	46	"You can get a certain look from supplements... to take that one stage further... he'll have to do that if he wants to look like Jay Cutler." (R9-7, 21, 18-21)
Family and friends	44	"I think their [family] initial response would be pretty bad, they wouldn't be happy, so I sort of think, if they don't know it won't hurt them." (R9-8, 9, 9-10)
Routinisation	17	"Now I've done it, quite a few times, it's just the process isn't it? Get it out, finish, and put it away, and then get on, job done." (R1-4, 12, 22-23)

percentage of athletes dope, availability of material questioning the side effects associated with doping, experienced athletes offering advice on safe doping practices) that facilitate MD in bodybuilders. In addition, key figures such as parents and coaches could be made aware of the potential consequences of athletes entering into environments conducive to MD and doping. This latter implication is particularly pertinent with young athletes who may look to important others for guidance on appropriate training environments.

Limitations and future directions

The current study used a large heterogeneous sample of English male bodybuilders to generate important knowledge on factors that may facilitate doping. However, the study does have some limitations. First, distinctions were not made between competitive and non-competitive bodybuilders, which may have influenced the study findings. Also, we did not differentiate bodybuilders based upon the specific PEDs the bodybuilder had used. Further, although we have presented evidence supporting a series of psychosocial mechanisms that may facilitate the use of PEDs in bodybuilders who dope, we accept that there may be other factors involved in the adoption of doping practices in this population that we have not identified. Researchers are encouraged to address these limitations in future work.

Conclusion

Using a large geographically diverse sample of English male bodybuilders with experiences of PED use, we demonstrated that six mechanisms of MD – as well as the environmental factors that support them – are an integral part of English bodybuilders' narrative regarding the psychosocial processes that facilitate doping. Three further related themes from Boardley and Grix (2013) were also supported to differing degrees. As such, anti-doping agencies are urged to incorporate these findings into their educational materials, and researchers encouraged to determine whether MD causally affects PED use.

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