



Final Report
For
WADA's Social Science Research Grant Program

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Project Title: A National Investigation of Psychosocial Factors Facilitating
Doping in Body Builders

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Summary

Researchers have established a positive link between moral disengagement and doping (e.g., Lucidi et al., 2004, 2008). Moral disengagement is a collective term for eight psychosocial mechanisms that facilitate transgressive activities by preventing the anticipation of unpleasant emotions (e.g., guilt, shame) when engaging in harmful conduct (Bandura, 1991). Recently, researchers investigated the nature of moral disengagement in nine doping bodybuilders using semi-structured interviews (Boardley & Grix, in press). This study identified the consistent use of six mechanisms of moral disengagement that allowed doping bodybuilders to restructure how they conceptualised doping, externalize responsibility for it, and/or diminish the consequences of it; three additional relevant themes were also discovered. However, as this study investigated athletes from just one gym, further research was needed to determine whether these findings apply to the wider bodybuilding population. Thus, the current project aimed to determine whether the findings of Boardley and Grix (in press) extended to doping bodybuilders across England. To address this issue, in-depth semi-structured interviews were conducted with 64 doping bodybuilders sampled from all nine government regions of England, with a minimum of six athletes sampled from any one region.

Project data were analysed deductively using definitions for the nine themes identified by Boardley and Grix (in press). Analyses revealed support for the prevalence – to differing degrees – of all nine themes in this nationally-sourced sample. In addition to those identified by Boardley and Grix (in press), a number of additional ways in which the six mechanisms of moral disengagement may be used to facilitate doping were also identified.

The findings support the utility of moral disengagement in facilitating doping by allowing bodybuilders to cognitively restructure how they conceptualise doping, externalize responsibility for it, and/or psychologically nullify the harmful health implications. They also show how doping bodybuilders restrict knowledge of their doping to those who support its use, provide evidence of the developmental path these athletes often take from supplement use to doping, and how in some athletes doping may be facilitated by its integration into daily routines. Overall, the project contributes important knowledge on the psychological and social processes facilitating doping in bodybuilders.

Objectives

The objective of the current project was to answer the following research questions: (a) does moral disengagement exist in bodybuilders who dope, (b) does moral disengagement facilitate doping in these athletes, (c) is moral disengagement a social phenomena that occurs in a similar way across athletes who train together, (d) which moral disengagement mechanisms are most frequent in bodybuilders who dope, (e) is there evidence of a consistent doping socialization process within strength training environments, and (f) are moral disengagement mechanisms taught as part of the doping socialization process?

Progress

The current project is now complete, although as indicated in the "Implications for Prevention programmes / Translation of Research into Practice" section, further work is needed to progress the current findings to athletes from other sports. In the current project, 64 bodybuilders who admitted to having doped were interviewed across a period of twelve months. These athletes represented all nine government regions of England, with a minimum of six athletes from any one region. Interview data were analysed deductively to answer the stated study aims; further related sub-themes arose inductively (e.g., heavy use of the internet as a source of information).

Results

This section is structured in accordance with the research questions stated previously in the Objectives section.

Does moral disengagement exist in bodybuilders who dope?

Consistent with Boardley and Grix (in press), we found evidence supporting use of six mechanisms of moral disengagement. These six mechanisms are moral justification, euphemistic labelling, advantageous comparison, displacement of responsibility, diffusion of responsibility, and distortion of consequences. The way in which the mechanisms were used

was often similar to the athletes of Boardley and Grix (in press). However, novel forms of use were also present. In the following paragraphs, each of the six mechanisms is defined, and then the evidence relating to it summarised using examples from the study data.

Moral justification occurs when culpable behaviour is cognitively reinterpreted to make it personally and socially acceptable by portraying it as achieving a valued social or moral purpose (Bandura, 1991). This mechanism was evidenced by experienced users who purported the knowledge gained from their doping could provide a social benefit through the advice it allows them to offer others on safe doping practices. For instance, EE1 said "...and then I thought "right, it's time for me to take the plunge". Because I need to learn, I need to learn from experience because I'm the man people ask questions, I need to give people the right answers. I need to give people the right answers and the safe answers to help them progress in their training, not to ruin them". Similarly, WM6 stated "I'd rather test it on myself than have people, go away not aware of what they are taking and if they do come to me and say I've got this, I say just be aware it can, it's not going to happen, it might not happen, but it can, so be aware of that". Although it is unlikely these athletes have any real evidence that the advice they offer can prevent the known health consequences of doping, neophyte users or those considering doping are unlikely to be aware of this and are therefore susceptible to such influences. As a result, bodybuilders should be advised to obtain advice on the side effects of doping from official sources rather than from other bodybuilders who may justify their own doping through the advice they offer. Another less frequent form of moral justification occurred in athletes who made a living from their bodybuilding. Here, doping was morally justified as serving the social purpose of providing for the athlete's family. For instance, SW2 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". Although this form of moral justification was not frequent in the current – largely amateur – sample, it is possible this type of justification is prevalent in professional athletes who dope.

Euphemistic labelling involves the selective use of language to cognitively disguise culpable activities as less harmful (Bandura, 1991). This mechanism was evidenced by a common language among users involving terms that make performance enhancing drugs sound less harmful. Examples of such terms and their use are seen in the following quotes: "It's a good gym, that is a good gym. Great equipment, the guys there are serious, there's a lot of *juice* heads there, I'll tell you that" (L2); "In Australia for example, that whole sort of like, 20 to 25, *roided* up..." (L1); "he plays for the England rugby team he's 16, under 16s, and he's used more *gear* than I have" (WM1). At least some of these terms (i.e., juice, roids, gear) were used by the majority of study participants, with Performance Enhancing Drugs (PEDs) rarely referred to by their correct names. When specifically questioned on use of such terms, many athletes were not sure why they did so. However, WM6 provided insight into the reasons some athletes may use euphemistic language when describing their PED use: "Gear, tac, it's your tac, it's your arsenal of what you using, erm, bits and bobs,

you try and, you try and put a nicety to it...I think it's got that much stigma attached to it, then it's a bad thing, you try and dress up in a way that it's not." Given this purpose fits with Bandura's (1991) theorising, and its apparent prevalence in sub-cultures where doping is common, future researchers should seek to determine whether use of euphemistic language when discussing doping represents an early indication for athletes at risk of adopting PED use, and the degree to which use of such language facilitates doping.

Advantageous comparison entails comparing transgressive behaviours with more reprehensible activities to make the original behaviour appear less harmful (Bandura, 1991). To facilitate such an effect for doping, bodybuilders often made comparisons with members of the general public who are perceived to lead unhealthy lifestyles. For instance, when discussing PED, WM4 said "... I don't drink very much at all, I don't smoke, I don't do drugs, so compared to somebody who does all that, no, I don't think they are that bad". Other athletes exclusively made favourable comparisons between doping athletes and users of illegal recreational drugs. For example, EM1 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". Advantageous comparisons similar to these two examples were described by Boardley and Grix (in press). However, the current project also unearthed additional forms of advantageous comparison involving comparisons with other doping bodybuilders. For example, WM2 compared his own development as an athlete and introduction of doping to young athletes who start doping much sooner than he did, "I was always a very strong person before I took anything. And I see now lads of 18-, 19-years old, they want to achieve this look that's sort of popularised by men's fitness magazines....before their body is even fully developed". Others made comparisons to bodybuilders who take much higher doses. For example, WM1 stated "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". Another form of advantageous comparison was seen when comparisons were made with other sports to make their use appear acceptable. For example, E1 stated "You know, we're talking about bodybuilding, you take a good look at cycling, they make bodybuilders look like choirboys". Although advantageous comparisons are difficult to prevent, coaches and parents should be made aware of the potential meaning of such comparisons, and encouraged to recommend their athletes/children judge doping behaviour in its own right rather than in comparison to other behaviours.

Displacement of responsibility occurs when people view their actions as the result of social pressure and not something for which they are personally responsible (Bandura, 1991). In this project, bodybuilders perceived an implicit pressure to dope when in an environment in which doping predominates. For example, WM1 said "Obviously a lot of it was who else was doing it because you were looking at people who are 21 and are as strong as Dave and I was thinking hmmm". Similarly, WM8 said "You see people doing what you want to do, and if you know that they are doing certain things, that's the route to get

there, that's the route, definitely". This finding demonstrates the potential detrimental consequences for athletes who change their training environment from one in which doping is not prevalent (e.g., health club) to one in which a high rate of doping occurs (e.g., hardcore bodybuilding gym). As well as through implicit means, displacement of responsibility was also supported explicitly. An example of this was seen in E1, "My mentor, who ran this gym for thirty years, was a bodybuilder, strongman, strength athlete back in the day, and a war hero, he's been my mentor; he's educated me on a lot of the foundations of strength and training. He remembers when steroids first came out, and how everybody looked in disbelief at how a man can get so big and strong by popping a couple of tiny pills". Similarly, WM6 described "...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 onto you and say you've got potential. It happens across the board, they all get taken underhand, by the hand, by someone and they will say "right, you've got potential, we need to maximise that potential"". As well as the gym environment, responsibility for doping was displaced onto the promotion of increased levels of sport performance by the media and in advertising. For instance, WM1 described how "it is immoral but then I would say it is the fault of the media and advertising just pushing better and better sports". This shows the importance of setting personal goals based on one's own natural capacity rather than on the performances of others. This is consistent with research that has shown self-referenced goals are associated with more favourable attitudes towards doping in comparison to other-referenced goals (Sas-Nowosielski & Swiatkowska, 2008).

Diffusion of responsibility can transpire through group decision making or group action (Bandura, 1991). Group decision making occurs when a group collectively takes the decision to engage in injurious conduct whereas group action operates through group engagement in deleterious behaviour. The current data suggest group action is the primary form of diffusion of responsibility at work, as most athletes perceived that the majority of bodybuilders in "hardcore" or "serious" gyms dope. How such perceptions have the potential to remodel athletes' moral cognitions is illustrated by the following athlete statements: "...perhaps I feel I cheated a little bit, in terms of getting where I had, ...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?" (L1); "...because it makes it commonplace. That whole right and wrong argument goes away because if everyone is doing it, it must be right" (NE1). Some athletes – as evidenced by E1 in the following statement – also believed that 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, I can promise you everyone else is". This finding highlights the danger of athletes perceiving others are doping, particularly when they perceive a high percentage of others dope. This finding again points to the potential for certain sport environments supporting doping through moral disengagement.

Distortion of consequences involves avoiding or cognitively minimizing the harm

caused by reprehensible action (Bandura, 1991). Use of this mechanism appears to support doping by allowing bodybuilders to create the belief they can control or prevent the negative side effects associated with doping, facilitated by information gathering via various sources (e.g., internet forums, experienced dopers). As EM3 explained "Obviously there are negative sides to them (PEDs), ... after I'd done all my research, I sort of realised that maybe it's not as bad as people say". Others argue that there is nothing wrong with doping because it doesn't harm other people. For instance, L1 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". Importantly, such beliefs may be supported by observing the effects on others as described here by E1, "You stand back and you watch everybody fly past you. And that's what happens. And suddenly you think, people think to themselves, hang on a sec, he's not dropping dead, he's not hospitalised with extreme liver failure, in fact none of them are. So, surely it can't be that bad. It's not that bad, it's good". The use of doping products in healthcare also appears to be used to convince athletes such substances can be used safely. WM6 provided an example of this, "People give men in their 50s and 60s hormone replacement therapy, they might be given 2 mil of sustenone. If Bupa are giving it out, they give AIDS victims deca, because it boosts their immune system". Thus, even though there is information available that highlights the harmful side effects that can result from doping, these athletes appeared to be very selective in the information sources they used, allowing them to convince themselves they can control or prevent harmful side effects. Future prevention campaigns could potentially target this mechanism through proliferation of clear and categorical information on the side effects of doping through advertising campaigns. Government policies making availability of such information mandatory in all gyms would be another potential way of deterring use of this mechanism.

Does moral disengagement facilitate doping in these athletes?

Although causal relationships cannot be statistically determined using qualitative data, the results of this study, as well as those of Boardley and Grix (in press) provide support for the facilitation of doping through moral disengagement. The consistent use of the six mechanisms of moral disengagement detailed in the previous sub-section, and the fact that not one participant in the study failed to evidence moral disengagement regarding their doping suggests that moral disengagement is an intrinsic aspect of doping behaviour. As well as the six mechanisms of moral disengagement evidenced, two other themes derived from the work of Boardley and Grix (in press) relevant to facilitation of doping by moral disengagement were supported in the current work.

The first of these was routinization, which refers to supplement and PED use becoming part of an athlete's daily routine. An example of this was seen in WM5, who said "Now I've done it quite a few times (injected), it's just a process isn't it? Getting out, finish, and put it away, and then get on, job done". Describing a similar process, EM2 explained how doping had become a habitual part of his lifestyle "I don't know, steroids become the

norm, three times a week, Monday, Wednesday, Friday, bang, we're on them, do you know I mean? It becomes a habit". E1 also described how doping can be integrated into other aspects of athletes' daily routines, "I know now of people, world champions from across the sphere, when they were starting, out, whether it be wrestlers, or fighters, or bodybuilders, they just were given a handful of pills to take by their coaches, and they took them with breakfast in the same routine as they clean their teeth, they didn't even know what it was, and did it every day for bloody years". The routinisation of transgressive conduct is addressed by Bandura (2002) when he describes how moral disengagement facilitates the process of routinisation. Moral disengagement is thought to facilitate detrimental conduct through its transformative effect on one's perception of the moral self. As moral disengagement allows people to engage in acts that they would normally consider abhorrent, they can then progress to more heinous acts as they become more adept at morally disengaging. At the same time, acts they would not have previously considered are enacted without conscious thought.

The second additional theme supported in the current project is termed family and friends (Boardley & Grix, in press). This theme refers to athletes making distinctions between gym friends, non-gym friends, and family when deciding who to tell about their doping. Consistent with Boardley and Grix, many of the athletes made clear distinctions between people with whom they would openly discuss their doping, and people who are not privy to any such information. For example, E1 said "I don't exactly call round saying but if people ask me, depends on the context, I say yes I do. I wouldn't tell my family". The points to note here are that the athlete states how it depends on the context and that he would not tell his family. Similarly, L2 stated "My parents ...they don't know I'm on them...my best friend in London doesn't know I'm on steroids...some people just aren't willing to accept the truth".

The way these athletes were selective about who they shared information on their doping with may be explained by Bandura (2002) when he makes a distinction between personal and social influences. Moral action is thought to result from the interaction of personal (i.e., moral cognition/emotion) and social (i.e., social sanctioning of transgressive acts) influences. Clearly – as evidenced in the previous section – the bodybuilders interviewed here can rationalise their doping on a personal level. However, Bandura (2002) describes how conflict can occur when personal and social influences do not agree with one another on the acceptability of certain behaviour. Thus, by being open about their doping only with groups who they can be confident will be in agreement with their own beliefs on the acceptability of doping (i.e., gym friends), and not with groups who may disagree (i.e., non-gym friends/family), athletes may be avoiding the potential conflict Bandura (2002) described. Such potential for social conflict is supported by statements made by NW11 and SW3. NW11 described his reasons for not telling his parents "I don't tell my parents, my dad said to me a long time ago, my dad is my number one supporter, if I found you were on that stuff I wouldn't come and watch you anymore", whereas SW3 detailed what

happened when his wife found out about his steroid use, "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". As such, the potential deterrent posed by social influences away from the gym environment suggests that future attempts to reduce doping could attempt to make the opinions of family members/non-gym friends toward doping more salient in athletes' minds.

As stated at the beginning of this sub-section, causal relationships cannot be statistically determined using qualitative data. Further, due to ethical constraints, future experimental studies testing the effect of moral disengagement on doping are unlikely. However, experiments looking at the effect of moral disengagement on other transgressive behaviours in sport do provide support for the causal effects of these mechanisms. For example, recent work by Stanger, Kavussanu, Boardley, and Ring (in revision) has shown that it is possible to manipulate moral disengagement, and that increasing moral disengagement results in reduced negative affective reactions to images of antisocial conduct as well as increases in the likelihood of aggressing. Such findings provide additional support for the potential role of moral disengagement in facilitating doping. To further strengthen the evidence supporting the causal effect of moral disengagement on doping, future studies could look at whether reducing moral disengagement in athletes who already dope reduces their PED use, or whether manipulating moral disengagement in non-doping athletes influences attitudes towards doping.

Is moral disengagement a social phenomenon that occurs in a similar way across athletes who train together?

The consistency in the way in which moral disengagement occurs across a wide range of geographical locations suggests that moral disengagement is a social phenomenon, but that socialisation of moral disengagement is not necessarily constrained by athletes training together. The advent of social media and frequent and common use of the internet to source information on doping appear have created the opportunity for dissemination of moral disengagement techniques that reaches beyond physical boundaries. For example, when asked to explain why people choose to dope, WM1 stated "the internet as well, reading forums and I'd say that is it". Similarly, WM4 identified the internet when asked where he sourced information on safe doping practices "I search for it on the forums, and the Internet, just general things like, it's quite strange". The internet appears to particularly influence athletes' perceptions of the potential health consequences of doping, therefore facilitating moral disengagement through distortion of consequences. WM7 provides an example of this, "So, you know, I think as long as you read up on what you're going to take before you take it, it's not as bad...I'll spend a couple of hours on the Internet googling it, trying to work it out". Interestingly, some of the more experienced athlete were acutely aware of the danger such information sources may pose. For instance, E1 stated "...the

Internet has changed things. The Internet has made things very, very dangerous. Because you have chat sites and forums, and chat rooms, and people spout a load of shit, and you find that a lot of the ones spouting a lot of shit are about 19 years old, living at home and mummy still cuts the crusts off his bloody sandwiches, you know. But suddenly they are all self-declared experts and gurus, that's when the problems start".

Although many athletes were clearly influenced by online sources, others were primarily affected by those around them in the training environment. For instance, when asked whether his training partner influenced his decision to dope, Y8 stated "oh yeah, massively, I think if he hadn't had been using them, I wouldn't have, I wouldn't have gone on them at all. If it was just me and I hadn't known him or I hadn't been around him when he was using them, I wouldn't know or wouldn't have the knowledge or awareness to, to know what I was looking for, or what I would want. So being able to experience him on them, was hugely influential in my decision". Thus, although the internet has clearly changed the way in which athletes source information on doping – therefore creating the potential to influence the moral cognitions of athletes through moral disengagement – influences within the training environment still represent an important source for some athletes. Thus, it is important to consider both local and remote influences when considering the socialisation processes that may promote moral disengagement and doping.

Which moral disengagement mechanisms are most frequent in strength athletes who dope?

The most frequent moral disengagement mechanism was distortion of consequences. This mechanism was evidenced by 54 of the 64 athletes, suggesting that the ability to diminish or ignore the potential harmful consequences of doping is of particular importance among this population. The remaining five mechanisms were represented to a similar degree to one another, with the lowest number (i.e., 38) of athletes illustrating diffusion of responsibility, and the highest (i.e., 46) demonstrating displacement of responsibility. Thus, all mechanisms were fairly common in this sample of athletes, ranging from 59% for diffusion of responsibility to 84% for distortion of consequences. Importantly, all participants demonstrated at least one of the six mechanisms of moral disengagement, with a mean average of 4.1 mechanisms per athlete across the 64 participants.

Is there evidence of a consistent doping socialisation process within training environments?

Rather than a doping socialisation process, the study data provide evidence of a common progression that leads to the adoption of doping in strength training environments within which social influences are a key aspect. This overall process is represented by the sliding scale theme identified by Boardley and Grix (in press). Supported in the current dataset, this theme is represented by descriptions that reflect supplement use at one end of a continuum, and injectable PED at the other. The overall process is described well by WM3 when he said "Most people do whatever it takes, it's like a gradual process, initially you will do the supplements, and then your next step is like to take steroids, anabolic steroids, and

then growth hormone and stuff like that. It's an increasing scale". Similarly, E4 stated "Then they start thinking about creatine and see if that works, it works for some people....then the next stage, when you finish the creatine, then people start looking around again". NE1 provides further support for this process "Supplements came first. Erm I think that's just, its natural progressions isn't it? It's almost part and parcel of seeing what you can find will make a difference. You start at the bottom and work your way up".

It appears that when most strength athletes first start training, they focus on the training itself. Then socialisation influences encourage manipulation of diet – particularly through use of supplements – to provide further gains in strength and muscle size. Such influences appear particularly important when training effects begin to plateau. Following this progression, the next key stage in the process occurs when training gains again begin to plateau. This is when socialisation into doping is more likely as athletes are looking for ways in which they can initiate further gains in strength and size. This point in the process is evidenced well by the following quote from E5, " I don't know I suppose, you go down the route of, using supplements and you want to get bigger, and you think, well maybe I'll use this". Similarly, WM5 said "There definitely is a link. I know thousands, well not thousands but hundreds, of guys, rugby teams included, that just go protein, creatine, steroids, well prohormones, steroids. And I think everyone is looking for that next bigger thing to help them progress and get bigger".

Whether athletes step over the line of taking PEDs is also influenced by the goals they set for themselves. Athletes who set goals based on what they can achieve naturally are less likely to be socialised into doping. However, the majority of the athletes interviewed set their goals based on the athletes around them in their training environment and who they read about on the internet and in strength-training magazines. As such, their goals are based on athletes who they strongly suspect or know use PEDs. This knowledge appears to be highly influential in encouraging athletes to cross the line from legal to illicit substance use. Particularly important at this stage is seeing the strength and muscle-size gains others have achieved through doping, whilst being unaware of the negative side effects these athletes may have experienced through use of PED.

The sliding scale does not necessarily stop at the point of adoption of doping practices though, as the nature of PED use appears to continue to progress as athletes look for further ways to increase their strength and/or muscle size. A common path is for athletes to initially use stimulants and/or oral steroids, before progressing on to injectable steroids. Some athletes then progress on to other substances such as growth hormone and insulin. Examples of such progressions are seen in the following quotes: "it's like wanting a bigger hit every time, and again that's kind of, psychological again. It's people not happy with what they've got, at the end of the day, and it just leads on to, you could quite easily just start off with just protein and think it's not really working for me, I want to try protein and Tribulus, and then that's not really working for me, I want to try all of that and insulin injections or whatever else" (WM7); "Most people do whatever it takes, it's like a gradual

process, initially you will do the supplements, and then your next step is like to take steroids, anabolic steroids, and then growth hormone and stuff like that. It's an increasing scale" (WM3). How far athletes progress in this process is likely to be influenced by factors such as the types of goals they set, the training environment they are immersed in, as well as their ability to morally disengage with respect to a particular practice.

Athletes often described a process whereby they progressed from initially using only oral steroids, to then using injectable steroids or a combination of oral and injectable substances. Whilst the adoption of PED use was often motivated by social influences that promoted goals towards further increases in strength and muscle size, the initial use of oral – as opposed to injectable – steroids appeared often to be based upon an initial fear of needles. This is evidenced by EM4, "...yeah, I was scared to death of needles. ... It's a tablet, it's easier to do...". WM6 described getting over a similar fear, "...people are scared to inject, but once you get over that initial fear, then it becomes as integral as the normal". Others were initially dissuaded from using injectable steroids due to the association of needles with use of street drugs such as heroine. WM4 illustrates this association well, "it is taboo because it has connotations of injections and heroin, I find that absolutely horrid. I mean, the same place you go to pick up your free needles there are people sitting there scratching at the walls waiting for their heroine, it's not very nice". Although athletes are initially put off injecting for the reasons articulated above, most appear to progress to using injectable steroids in time, either exclusively or alongside oral steroids.

One of the reasons athletes state for their progression from oral steroids to injectables is also the reason some athletes move straight to use of injectables. This reason is the belief that injectable steroids are less damaging to the liver than oral steroids. EM4 described how his father encouraged him to switch for this reason, "I didn't really want to use injectables, my old man, he was saying, you are using them anyway, it's far less harsh on your system". NW4 also describes how social influences encourage such progression, "...so you are thinking "I can't do that, I'll take some of these", even though the tablets are probably more harmful to your kidneys and your liver because of the toxicity of them and all the rest of it. So that would probably be it I would think, you would go down the oral route. And then after a while you kind of get to a certain point, "I wonder, ooooh, ahh", and then you kind of find somebody that does a shot for you, and there you go". The negative health connotations associated with oral steroids was also the reason E5 moved straight to injectable steroids, "No I started on injectables. To be totally honest with you, I don't like the idea of orals because you have to take a lot more, it puts more strain on your liver and kidneys, because your liver and kidneys are like a filter". Thus, it would appear personal opinions on needle use and beliefs regarding the relative health implications of using oral versus injectable steroids may determine the specific route individual athletes take through this part of the process.

Some participants also suggested use of supplements and the advertising used by supplement companies may facilitate athletes' progression to PED use. For instance, WM5

stated, "I think you get hooked as a teenage boy on the stuff that is force fed to you from the supplement companies, and I heard a horrible stat actually, at the gym back home, that CNP one of the biggest supplement companies, is also the largest importer of anabolic steroids into the UK. So I think that, you know, they know that there is a link, and there definitely is a link". NW7 described how supplement manufacturers may intentionally label their products so athletes associate them with steroids, "...a couple of weeks ago when I opened Muscle and Fitness magazine, and a lot of the supplements in there now have got steroid-like names...the names that people would know the steroids by on the street, Dbol, stuff like that...what spotted me was the fact that they were making something that looked like a pharmaceutical product and giving it names that people would associate with steroids, that's bad advertising, there is going to be a link there...if you've been using an over-the-counter supplement called Dbol, and you get talking to the dealer down the gym and you say "I've been using Dbol", and he says "I can do you them cheaper", you could move onto steroids without even knowing it, and believe me, that ignorance exists". EM4 described how he creates similar links when developing names for the products in his range of supplements, "my range is called Alphabolics, as in anabolics". Thus, advertising and naming of legal supplements that make much clearer distinctions between legal supplements and banned substances may be a potential area for future interventions aimed at preventing athletes progressing from legal supplements to PED use.

Are moral disengagement mechanisms taught as part of the doping socialization process?

The project findings support the presence of implicit – rather than explicit – social transmission of moral disengagement mechanisms. More specifically, as most athletes are open about their doping with others within the training environment, in rationalising their own PED use, they are likely to implicitly encourage moral disengagement with respect to doping in others. An obvious example of this is the use of euphemistic language. The use of such language in doping sub-cultures is likely to encourage the adoption of sanitising language by those new to such environments. Also, by distorting or ignoring the consequences of their doping, athletes already using PEDs are likely to create the perception that doping can be done safely in those considering crossing the line from supplement use to PED use. Morally justifying doping by passing on information on "safe" PED use by experienced users is also likely to facilitate such perceptions. Diffusion and displacement of responsibility are also both promoted through the presence of other PED users in the training environment as high numbers of PED users facilitates diffusion of responsibility through group action, and the presence of highly muscled PED users creates an implicit pressure to adopt PED use, therefore promoting displacement of responsibility in others. Finally, the similarity of the advantageous comparisons (i.e., doping versus smoking, alcohol use, unhealthy eating, and use of street drugs) made by athletes suggests athletes may adopt use of such comparisons as a result of social interactions. Given the potential social transmission of moral disengagement, and the potential facilitation of doping

through moral disengagement, it is important future researchers investigate ways in which to deter social facilitation of moral disengagement.

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Effect of Research on Professional Development

This project has aided the professional development of Dr Andrew Dewar, the research associate employed to collect the data for the current project. As a strength and conditioning coach, working on this project has brought together Andrew's sporting interests with his academic career. As a result, the investigation of doping is now one of his major research interests, one which he hopes to pursue further through a follow-on project which has recently been submitted to the July 2012 call for the WADA Social Science Research Programme.

Implications for Prevention Programmes / Translation of Research into Practice

The research results show how environmental conditions and psychological processes may combine to nullify the effect of some of the main deterrents applied in the fight against doping. More specifically, the results suggest that through moral disengagement athletes are able to circumvent the preventative effects of personal moral standards, knowledge of potential sanctions, and the 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 percentage of athletes dope, availability of material questioning the side effects associated with doping, experienced athletes offering advice on safe doping practices) that facilitate moral disengagement in bodybuilders, as well as

making key figures (i.e., parents, coaches, teachers, sport psychologists) aware of the potential consequences of athletes entering into environments that appear to be conducive to moral disengagement and doping. This latter implication is particularly pertinent with young athletes who may look to important others for guidance on appropriate training environments. Currently these findings are restricted to bodybuilders, but future work aims to extend the present findings to a range of Olympic sports. Such work would have clear implications for the development of education programmes and interventions targeting a broad range of sports. Such programmes could include modules for coach-education programmes so that coaches are alert to athletes who may evidence moral disengagement with reference to doping.

Partnerships

The project did not receive 3rd party funding or involve collaboration for the purpose of bringing together research and practice.

Publications

Dr Boardley is currently preparing a paper for the Journal of Sport & Exercise Psychology detailing the findings of the project with colleagues (Dr Jonathan Grix, Dr Andrew Dewar) at the University of Birmingham. A policy paper is also planned for the International Journal of Drug Policy as well as a further paper on psychosocial processes facilitating doping in a journal that is yet to be determined.

Seminars

Preliminary results from the study were presented by Dr Boardley in a 15-minute oral presentation as part of a symposium titled "Moral Disengagement in Sport and Beyond: The Gym, the Pitch, and the Classroom" at the 2010 North American Society for the Psychology of Sport and Physical Activity Conference in Honolulu, HI held June 7–9, 2012. The title of the presentation was "A qualitative investigation of moral disengagement in English bodybuilders".

Further Dissemination

Further dissemination of the study's findings will take place through the University of Birmingham's media centre. This will include a generic press release, as well as an article in The Birmingham Brief, the University's policy-relevant outlet for articles providing intelligent thought on policy issues. Through this article, the main study findings will be disseminated, as well as initial implications for doping policy. Key stakeholders will also be sent the study's key findings, including UK Sport – the UK's key elite sport funding

agency – and the Sport and Recreation Alliance, the umbrella organisation for all National Governing Bodies of Sport in the UK.