



## **ROLE OF PERFORMANCE ENHANCING DRUGS IN SPORTS**

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### ***Abstract***

*Anti doping laws generally exist in order to provide a safe and fair environment for participation in sport. These laws should prevent and protect athletes from subjecting themselves to health risks through the use of unsafe, but performance-enhancing drugs. Because of difficulties in proving intent to cheat, the World Anti-Doping Agency enforces a principle of strict liability for positive test results for banned substances. An area of major controversy with respect to liability is the "sports supplement" industry, which is poorly regulated when compared with prescription drugs yet is a potential source of doping violations. Medical practitioners can be found guilty of anti-doping violations if they traffic banned drugs, prescribe these to athletes or otherwise assist athletes in taking banned substances. Medical practitioners are also now required to complete paperwork (therapeutic use exemption forms) to enable athletes to take banned substances which are required on medical grounds for specific illnesses.*

**Keywords:** *Anti doping, Cardiovascular diseases, infertility, Anabolic Steroids, Peak Performance, World Anti Doping Agency, Social Drugs.*

### **Introduction:**

Certain drugs have the potential to increase athletic performance, but they carry the risk of side effects, which may include death and life-long morbidity. Examples include a cyclist dying from stimulant misuse during the 1960 Rome Olympics, and deaths from cardiovascular disease and various cancers resulting from use of anabolic steroids, as well as the permanent androgenising effects of these drugs, including infertility, which affect many female Eastern bloc former athletes. Prohibitions on the use of dangerous performance-enhancing drugs have been introduced in almost all elite-level sports over the past 4 decades. Anti doping laws attempt to minimize the numbers of athletes engaging in doping, although the enforcement of anti doping laws is, predictably, not 100% successful. Because there is a

perception that it is impossible to fully enforce anti doping laws, some commentators argue that these laws be relaxed to create an “open” but arguably more “even” playing field. However, sport without anti doping laws would disadvantage further those athletes who wanted to compete at an elite level without risking their health. The recently formed World Anti-Doping Agency (WADA) is responsible for developing and implementing uniform anti doping standards worldwide (both with respect to lists of banned drugs and penalties for misusing them). The World Anti-Doping Code (“WADA Code”) was adopted after consultation with governments, sporting bodies, national anti doping agencies and other relevant parties in 2003 by all Olympic Committees, many nations and many elite sports associations. A substance can be included on the World Anti-Doping Code Prohibited List if it meets two of the three major criteria defined by WADA, or if it is a potential masking agent. The three criteria are that the substance is performance-enhancing, that there are health risks to the athlete with use of the substance and that use of the substance violates the spirit of sport. The need for two out of the three criteria means that the WADA Code can ban “social drugs” such as marijuana (even though they are not performance-enhancing) but can permit the use of a drug such as caffeine (even though low levels of this drugs are performance-enhancing). Anti doping laws do not just relate to positive tests for prohibited substances. Refusing to submit to testing procedures, tampering with samples (before or after they are submitted), possession and/or trafficking illegal substances, and refusal to supply accurate regular whereabouts information to authorities (to allow for regular unannounced out of competition testing) can lead to doping infringements. Therefore, doctors who may potentially prescribe or otherwise assist athletes in taking banned drugs may also be subject to doping sanctions and suspended from involvement in elite sport. Exploring the role of performance enhancing drugs (PED) in sport gives performance psychology an opportunity to look into its ‘dark side’. The psychology of the use of PED in sport moves away from traditional performance psychology aimed at helping people fulfill their potential, to preventing a performance enhancing behavior. What motivates an athlete to use PED given the high stakes of being caught? The obvious answer is ‘to win’, which more likely reflects factors like economic incentives (prize and sponsorship money) and social pressures (national gold medal expectations). However, winning is unlikely to be a complete explanation. Anshel (1991) reviewed a range of factors identified through personal interactions with coaches and athletes to provide advice on intervening in PED behavior based on cognitive (e.g., show concern or discuss ethics) and behavioral (e.g., assist with boredom or goal setting) perspectives. While a useful foundation to build testable grounded theory, the anecdotal nature of the research gives little insight into the underlying psychology. To this author's knowledge, a grounded theory based on Anshel's or other work founded on interactions with coaches and athletes is yet to be formulated.

Donovan, Egger, Kapernick and Mendoza (2002) used principles from social cognition to conceptualize a model for an athlete's decision to use PED. The model explores the effect appraisals of threat, benefit, morality and legitimacy have on attitudes and intentions and subsequent compliance with the World Anti-Doping Code. Importantly, other influences such as reference groups (e.g., coaches), athlete personality, and the affordability and availability of PED are explicitly included in the model. Research on the validity of this elegant model is part of an Australian Research Council Grant that is yet to be reported.

Strelan and Boeckman's (2003) model is based on an application of deterrence theory, explaining athletes' PED use in terms of criminal behavior. The model posits an athlete's decision to use PED as the consequence of an analysis of deterrents (e.g., sanctions) relative

to benefits (e.g., sponsorship) moderated by situational factors (e.g., type of drug or perceived prevalence). The only empirical test of this theory uses AFL players (Strelan & Boeckman, 2006) and shows the model has merit as an explanation of the psychology underlying an athlete's decision making on PED use.

Developing a psychology of PED use is an opportunity for basic and applied research to work together towards rigorous grounded theory that explains something of human behavior. Australian research into the psychology of PED use is an excellent starting point. The experience of practicing performance and sports psychologists could greatly inform the development of a psychology of PED use among athletes. The key is to tap into that experience and report it so we can learn more about what people are willing to do excel. However, there are two key issues those working towards a psychology of PED use need to keep in mind.

One of the biggest barriers to PED research is the absence of an epidemiology that defines a reliable dependent variable. Put simply, there is no reliable evidence about the prevalence of PED use among athletes of any level (Kayser, Mauron, & Miah, 2007). Of significant concern for psychology is the absence of a psychometrically valid self-report mechanism (Yesalis, Kopstein, & Bahrke, 2001). Perhaps psychology can help address this issue with some rigorous practitioner-based research, finding out prevalence estimates from those helping athletes reach peak performance.

The second issue is that elite athletes are only one group of people to whom PED use models apply. The psychological work outlined above focuses on elite (Olympic or professional) athletes' PED use in high stakes competitions. The psychology of PED use at the elite level may be very different to the psychology at the nonprofessional level. A psychology of non-elite PED use could provide insight into the aetiology of elite athlete PED use. The Victorian Government (2006) has made some progress on this issue with the release of a discussion paper on non-elite athlete PED use.

While models for performance enhancement in elite athletes might be limited to sporting contexts, a model explaining performance enhancement behaviors' among 'weekend warriors' might have more relevance for more common contexts (Mazanov, in press). For example, such a model may explain why some people pursue cosmetic surgery enhancements, why some company directors engage in illegal behavior to boost share performance, or why some students use cognition enhancers. Conversely, research in these fields may help shed light on why some athletes use PED.

### **Success In Policing Of Anti Doping Laws**

Many of the women's track world records from the 1980s still stand. They were set in a period where both drug testing programs and the ability to detect anabolic steroids were nowhere near as advanced as they are today. It is impossible to be certain that a specific world record was only achieved with doping (other than cases where confessions were made). However, the fact that world-class standards have dropped in women's track events over the past 15 years is probably attributable to the decreased use of performance-enhancing agents over that time, as anti doping measures have become more successful. The fact that most records in men's track events and in other disciplines such as swimming and cycling have been broken since the 1980s can be explained with a variety of hypotheses, including that the relative performance advantage in these events for using anabolic steroids is not as great as

for women's track events. There is an expectation that world records will gradually improve over time as training advances are made. It has recently been revealed that many athletes from East Germany in the 1970s and 1980s were regularly prescribed anabolic steroids, yet calls by some commentators to have retrospective changes made to the record books have not been heeded. This is sensible, as it is perhaps counterproductive to rewrite history many years after the event. If an athlete wins an event under the drug-testing regimen of the day, any later declaration that he or she was able to beat the system of the time does not necessarily mean that he or she was the only athlete in that event doing so. It may also be helpful for improving the approach towards drugs in sport that athletes can confess years after an event, without the threat of [potential] retrospective erasing of results.

## **Conclusion**

Exploring the use of PED by athletes is a fertile field for performance psychology to plough. There is scope to think about performance psychology in a non-traditional way by looking at whether the factors that promote performance enhancing behavior are also those which help prevent certain performance enhancing behaviors. Further, in the absence of well defined models there is an opportunity to bring to light an area where very little of the psychology is understood. Bringing light to the 'dark side' of performance psychology may help the sub discipline to explain a little bit more about what drives humans to aspire and excel.

Doping authorities are further ahead than they have ever been, but awareness that doping is prevalent in sport is also greater than it has ever been. With current anti doping policies, authorities greatly decrease the widespread use of dangerous substances in sport. However the difficulties with enforcing prohibitions lead to many areas of controversy. It is planned that subtle ongoing changes will be made to the WADA Code, making it necessary for all medical practitioners who treat athletes to know how to check up-to-date lists of legal drugs and substances.

Physicians involved in professional sport need to fully understand the complexity of performance-enhancing drugs and where we draw the line. To do so, not only must the physiologic and psychotropic properties of each drug be considered, but also the individual characteristics of each sport and, more important, the individual biology of each athlete. A medical system for athletes that ensures a fair and accepted standard for all individuals in a given sport needs to be established. In a world of advancing neuroscience and concomitant psychotropic drug development, the psychiatrist must become an advocate for the appropriate uses of psychoactive medicines. The issues involved are complex and potentially have far reaching cultural effects in how psychotropic medicines are perceived by the public. Unfortunately, the majority of prescriptions given for psychotropic drugs are not given by psychiatrists and probably the world of sport is no exception. If the integrity of the practice of medicine and professional sport are to be maintained, all involved must be more informed and directly involved in the decision making about medication efficacy and appropriateness. To address the issue of where the line is drawn and who draws it, the world of sports is unknowingly calling for physicians who possess expertise in psychopharmacology, psychiatry, and athletics.

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