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## **Doping in young athletes: incidence and antecedents**

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Type: Scientific

Category: C: Drugs in Sport - Current Issues and Challenges for Sport Management

### **Abstract**

#### **1. AIM**

If anti-doping campaigners can identify dopers before they engage in such behaviour, then it may be possible to prevent future misconduct. However, one of the biggest challenges for anti-doping administrators is how to deter young athletes from doping. Whilst anti-doping interventions should be targeted at all athletes, it is possible that the limited resources given to such efforts, could be more effectively utilised if those athletes most at risk of doping could be identified and anti-doping efforts tailored to such individuals. The study aims to assess the incidence of PED use in a large sample of young elite athletes (aged 12 to 17 years at the commencement of the study) and to identify the antecedent demographic and psychological characteristics that underpin such behaviour.

#### **2. THEORETICAL BACKGROUND**

Despite widespread recognition that prevention, rather than detection, remains the best strategy for eliminating drug use in sport (Morente-Sanchez & Zabala, 2013), anti-doping research has typically studied only elite adult athletes. The importance of studying young athletes has been highlighted by the frequency with which drug use in young athletes has been observed (Lucidi et al., 2008). There is evidence suggesting that athletes as young as 12 years of age use performance enhancing drugs (Johnston, O'Malley, Bachman, & Schulenberg, 2013). Research has also suggested that individual characteristics of athletes (such as level of moral development) and the social environment are possibly important predictors of both usage of, and attitudes towards, performance enhancing drugs (Gucciardi, Jalleh, & Donovan, 2011).

#### **3. METHODOLOGY AND SAMPLE**

Previous research on attitudes towards drugs in sport has typically suffered from a number of recurring methodological and theoretical limitations (Backhouse, McKenna, Robinson, & Atkin, 2007). The current study utilises a cohort-sequential method (also called a longitudinal-sequential design). In this design each participant completed a

questionnaire three times (once each in 2011, 2012 and 2013). A key advantage of this design over a cross-sectional design is that changes in attitudes and behaviours can be tracked within individuals, rather than inferring change between groups.

There were 697 participants in wave 1, 606 were retained for wave 2, and 538 for wave 3, giving an overall retention rate of 77.2%. A total of 938 unique participants were included in the study.

#### 4. RESULTS AND DISCUSSION

The study found that 3.8% of young elite athletes are using PEDs. Users see such drugs as highly prevalent in sport and that their teammates and coaches support their use. Only one of the PED using athletes had taken an anti-doping test. About a third (35.1%) of all athletes (PED users and non-users) are using sports supplements, which Rees et al. (2007) had suggested may be a precursor of steroid use.

PED users and non-users, showed few differences in terms of demographic characteristics, but several strong psychological differences were observed. These psychological differences, which centred on aspects of morality (both moral functioning and moral disengagement), were also found to distinguish between those intending and those not intending to use PEDs. The results showed remarkably few differences between the attitudes and opinions of the youngest and oldest participants. At age 12 the athletes expressed views that were essentially the same as their older counterparts.

There were several changes across the waves of the study, with marked changes in views on the disadvantages of PEDs and a much greater awareness of ASADA. This undoubtedly reflects the intensive media coverage of PEDs in the period between waves 2 and 3, when the Australian Crime Commission (2013) report of performance and image enhancing drug use in sport was released, Lance Armstrong confessed to doping, and major investigations of drug use at rugby league and AFL teams were initiated.

Overall, the study shows that PED and supplement use are now relatively prevalent amongst young elite athletes. Both anti-doping education and detection efforts must be expanded to incorporate such populations. Given that young athletes are only rarely subject to anti-doping testing, the potential proliferation of PED use is largely going unchecked. In order to be effective, anti-doping education must acknowledge and address the prevailing perceptions about the widespread use of such drugs. Sports where doping is perceived to be common and also feature large numbers of junior participants (e.g., cycling, athletics, and rugby league) should probably be targeted first. It is also possible that education campaigns that focus on moral education might positively impact on subsequent doping behaviours, although any such messages would need to be reinforced throughout the sporting industry, including support personnel such as administrators and coaches.

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## References

- Backhouse, S.H., McKenna, J., Robinson, S., & Atkin, A. (2007). International Literature Review: Attitudes, Behaviours, Knowledge and Education – Drugs in Sport: Past, Present and Future. Leeds, UK: Leeds Metropolitan University.
- Gucciardi, D.F., Jalleh, G., & Donovan, R.J. (2011). An examination of the Sport Drug Control Model with elite Australian athletes. *Journal of Science and Medicine in Sport*, 14(6), 469-476. doi: 10.1016/j.jsams.2011.03.009
- Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Schulenberg, J.E. (2013). Monitoring the Future National Results on Drug Use: 2012 Overview Key Findings on Adolescent Drug Use. Ann Arbor: Institute for Social Research, The University of Michigan.
- Lucidi, F., Zelli, A., Mallia, L., Grano, C., Russo, P.M., & Violani, C. (2008). The social-cognitive mechanisms regulating adolescents' use of doping substances. *Journal of Sports Sciences*, 26(5), 447-456. doi: 10.1080/02640410701579370
- Morente-Sanchez, J., & Zabala, M. (2013). Doping in sport: a review of elite athletes' attitudes, beliefs, and knowledge. *Sports Med*, 43(6), 395-411. doi: 10.1007/s40279-013-0037-x