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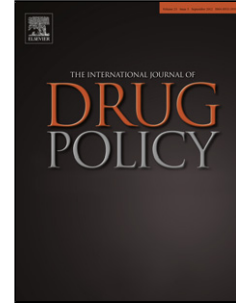
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## Accepted Manuscript

Title: Science 1, Religion 5: A Reply to Petróczi et al. (2015)  
'A Call for Policy Guidance on Psychometric Testing in  
Doping Control in Sport'

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**Science 1, Religion 5:****A Reply to Petróczi et al. (2015) ‘A Call for Policy Guidance on Psychometric Testing in Doping Control in Sport’.**

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**Science 1, Religion 5:****A Reply to Petróczi et al. (2015) 'A Call for Policy Guidance on Psychometric Testing in Doping Control in Sport'.**

The article by Petróczi et al. (2015) sets out a call for policy guidance on the misuse of psychometric testing in doping control. While well-intentioned, the article flounders on the question of whether the 'problem' actually exists.

The article essentially charges that various - unspecified - forensic types, probably forensic psychologists, are misusing psychometric tests, trying to identify athletes who are *guilty* of doping. Given such a bold claim, it is curious that these forensic types are not identified in any discernible way. For example, the word 'forensic' appears 15 times in the text, but there is only one citation to an article published in a forensic science journal, an article which does not at any stage mention psychometrics or even psychology. As a point of comparison, there are five direct citations to articles in religious studies journals. In some ways this is symbolic of an article that asks us to take its claims ("... there is a growing and thus worrying trend to employ forensic intelligence to doping" p.10) on faith, not science.

The absence of relevant citations is a recurring concern and it is surprising that an article calling for a new policy, mentions the relevant policy document (WADA, 2015) only once (on page 10) and neglects to examine either the standards of evidence detailed in that document, or the content of other highly relevant policy documents detailing how the investigation of doping can be conducted using forensic intelligence (e.g., WADA, 2011).

In the article forensic psychology is the bogeyman that will falsely accuse athletes of doping, damage their reputations and cause all manner of problems. Having argued, though scarcely proven (*some* evidence would be required) that forensic types might be falsely accusing innocent athletes of doping, the dire consequences of this problem are described as

“the start of something problematic” (p.19). The anti-forensic tone of the article is thus essentially based on a *straw man* argument (forensic work is incorrectly described and then attacked for having those non-existent characteristics), followed by a slippery slope argument (“If this commercial enterprise gains momentum, we fear that....” p.20).

The logical fallacies present in the article become even more apparent when one considers the core rationale for the article, namely, an attack on commercial company *Clean Protocol*. It should be noted here that while the forensic types are accused of *falsely accusing* athletes (something which, according to this article, has never happened), the core problem with Clean Protocol is that it *falsely exonerates* athletes. These are two very distinct problems. Proving that someone hasn't done something (i.e., proving a negative, in this case *not doping*), is an almost impossible proposition. Proving that someone *has* done something is a proposition that can be critically evaluated based on the evidence.

The core business of Clean Protocol centres on providing evidence, from psychometric tests and a lie detector, that athletes are clean. The essential silliness of this proposition is tacitly acknowledged in the article: “anti-doping organisations with sanctioning power distanced themselves from this initiative” (p.5). Quite which anti-doping organisations are referred to is not specified, nor is the nature of how they “distanced themselves”. Given this apparently healthy dose of skepticism by the relevant authorities, the rationale for the article is clearly called into question.

It is extremely easy for an unscrupulous consultant to set up a business selling psychological profiling in anti-doping and other forensic contexts. For example, only this morning we set up a company, *Conman and Hustler*, which offers a psychological profile that identifies whether or not an athlete is doping. We expect to make quite a bit of money as the accuracy rate of our profiles is at least 98% correct. “How do I buy shares in your company?” you might ask. Well, first we should explain how our profiles work.

Imagine there are 100 athletes to be profiled. We administer our “pshychology” test (that is how it is spelt on the Clean Protocol website) and declare that *all of the athletes are clean*: None of them have doped in the past, nor will they dope in the future. We now sit back and wait.

Anti-doping statistics (there are lies, damned lies and anti-doping statistics) suggest that between 1 and 2% of athletes are doping, so we expect that about 2 of the athletes we profiled will at some stage be identified as dopers. Clearly we got our profile wrong for those two athletes (no you can't have your money back), but we were clearly right about the other 98 athletes, the ones we correctly identified as ‘clean’. There you have it: 98% accuracy!

This new company is clearly fraudulent and would only be a tempting proposition to a person or organisation with absolutely no critical faculties. This is not a description that easily applies to anti-doping organisations who are described in the article as “cautious and conservative” (p.9), nor forensic scientists. The scientific status of forensic work is tested in courts of law, where evidential claims based on forensic analysis are critically examined. This process, barring a few errors (National Academy of Sciences, 2009), is reasonably robust and the consensus is that lie detection tools are essentially unreliable (e.g., National Research Council, 2003). The quest for a lie detection tool that produces evidence that would be accepted in court is an ongoing process and no reputable forensic psychologist would dare to suggest that psychometric tests could be used as evidence to establish that an athlete is doping.

In sum, Petróczy et al. (2015) offer a solution to a problem, however they do not actually prove that the problem exists. An absence of evidence does not prove that the problem does not exist, but it is an accepted convention in scientific writing that the burden of proof falls on the person making a claim. Their solution, an “expert group” to vet the use

of psychometric tests (presumably the seven authors are offering their services?) is unnecessary and clearly open to accusations of a self-serving agenda.

Finally, we should acknowledge that one of the attacks in the article was directed at a thesis written by one of our students. Based on a summary of the student's work taken from a newsletter which had been written by another one of our students, and a university press release, the student's excellent and innovative scientific work is lumped in with the Clean Protocol. Here, the seven authors criticise a study that (a) won an award from the World Anti-Doping Agency, which on the face of it sounds like a good thing, and (b) that they have not even read. As expert groups go this is not an auspicious start.

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