

Impact case study (REF3)

Institution: Kingston University		
Unit of Assessment: 4 – Psychology, Psychiatry and Neuroscience		
Title of case study: Creating, informing, and evaluating athlete-centred approaches for anti-doping		
Period when the underpinning research was undertaken: 2009 – 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name: Andrea Petróczi	Role: Professor	Period employed by submitting HEI: Sept 2001 – present
Period when the claimed impact occurred: Aug 2013 – 2020		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact

Fit-for-purpose education of athletes is a necessary component of anti-doping programmes that adequately promotes clean sport behaviour. Working with the World Anti-Doping Agency (WADA), Petróczi's research on doping and clean sport behaviour, development of new measures and novel methodologies, and contributions to evaluations and capacity building, has resulted in overlapping impacts in the education of athletes, including:

- Supporting anti-doping education to over 62,000 athletes in 230 countries, through online educational resources
- Increasing athlete partnership and stakeholders' participation in anti-doping research and programmes
- Implementing an athlete-centred approach in WADA's and other organisations' anti-doping education
- New capacity for WADA, sport federations, event organisers and anti-doping organisations with standardised evaluation of anti-doping outreach activities

2. Underpinning research

The World Anti-Doping Agency (WADA) is an independent international agency with a mission to ensure that athletes from around world can compete in a doping-free environment. Specific to its education provision, WADA promotes a social awareness campaign for familiarising athletes and their entourage with 'clean sport' messages, providing tools to assist with its education programmes.

Since 1999, and coinciding with the creation of WADA, Petróczi has been a forerunner in doping behaviour research. Her research concerns conceptualising doping behaviour into empirically testable models along with developing psychometric measures and novel methodologies. In particular, her research focuses on the behavioural aspects of doping and abstinence [R1, R2], along with developing ways to accurately assess suspected cognitive antecedents of doping [R3, R4]. Highlighting that the constant need for performance-enhancement, the typical pressure points and vulnerability factors for doping are normal elements in a competitive elite athlete's life, Petróczi surmised that anti-doping education must acknowledge and address these issues in a positive and pragmatic way; rather than making athletes feel guilty for experiencing situations where doping is a viable but undesirable option [R5].

The key transformative element of Petróczi's research placed 'doping' in the broader context of mental representations of performance-enhancement activities in sport [R2, R5, R6]. This has provided a theoretical base to underpin a holistic educational approach that connects all levels of the athlete development pathways, from amateur to international elite through the 'Doping Awareness Literacy' concept (SAFE YOU and SAFE YOU+ grants). It moved the discourse on doping away from a purely moralistic view (which is only relevant to competitive elite level), paving the way for the development of an educational framework built on skills and

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competencies ('literacy'), enabling athletes at all levels to make responsible and informed decisions for themselves.

Petróczi also advocated that anti-doping education must move to a more athlete-centred approach, and values-based education must move away from a substance-based approach and address doping as a sport integrity issue. Anti-doping education needs to focus on helping and supporting athletes to 'stay clean' as opposed to 'stopping' doping. Petróczi also called for the development of a sufficient level of literacy for navigating the complex landscape of elite sport. Gradually, and because of her on-going collaboration with WADA on anti-doping education, Petróczi's research has deepened understanding of motives for clean sport behaviour, and shaped anti-doping education. Consequently, this work attracted the interest and further funding from WADA, as well as from the International Olympic Committee and the European Union. The research focussed on the meaning of clean sport, the clean athlete identity, values and value systems underpinning doping and abstinence [R6]; and anti-doping legitimacy [R7] to inform ecologically valid preventive measures and anti-doping education that fits better to contemporary society and elite sport [R5].

In combination with a better conceptual clarity around legitimacy perception [R7], Petróczi's research into doping [R1-R5] and clean sport behaviour [R6] was also instrumental for devising evaluative measures for assessing the effect of anti-doping outreach and education.

3. References to the research

R1 – Petróczi, A., & Aidman, E. (2008). Psychological drivers in doping: The life-cycle model of performance enhancement. *Substance Abuse Treatment, Prevention, and Policy*, 3, 7. DOI: [10.1186/1747-597X-3-7](https://doi.org/10.1186/1747-597X-3-7)

R2 – Petróczi, A. (2013). The doping mindset - Part I: Implications of the functional use theory on mental representations of doping. *Performance Enhancement & Health*, 2(4), 153-163. DOI: [10.1016/j.peh.2014.06.001](https://doi.org/10.1016/j.peh.2014.06.001)

- Linked to 2010-2012 WADA social science research grant of GBP23,357.00 (PI)

R3 – Folkerts, D., Loh, R., Petróczi, A., & Brückner, S. (2020). The Performance Enhancement Attitude Scale (PEAS) reached 'adulthood': Lessons and recommendations from a systematic review and meta-analysis. DOI: [10.31236/osf.io/k6gye](https://doi.org/10.31236/osf.io/k6gye)

R4 – Petróczi, A. (2013). The doping mindset–Part II: Potentials and pitfalls in capturing athletes' doping attitudes with response-time methodology. *Performance Enhancement & Health*, 2(4), 164-181. DOI: [10.1016/j.peh.2014.08.003](https://doi.org/10.1016/j.peh.2014.08.003)

- Linked to 2010-2011 WADA grant of GBP18,234.00 (PI)

R5 – Petróczi, A., Norman, P., & Brueckner, S. (2017). Can we better integrate the role of anti-doping in sports and society? A psychological approach to contemporary value-based prevention. In *Acute Topics in Anti-Doping* (Vol. 62, pp. 160-176). Karger Publishers. DOI: [10.1159/000460726](https://doi.org/10.1159/000460726)

- Linked to 2010-2012 WADA social science research grant of GBP23,357.00 (PI)

R6 – Petróczi A, Heyes A, Thrower S, Martinelli L, Backhouse SH, Boardley ID, the RESPECT Consortium. Building cleaner sport together: Community based participatory research with elite athletes and anti-doping organisations from five European countries, *Psychology of Sport & Exercise* (pre-print) DOI: [10.31236/osf.io/7wqbp](https://doi.org/10.31236/osf.io/7wqbp)

- Co-I for RESPECT (590824-EPP-1-2017-1- UK-SPO-SCP); ERASMUS+, €400,000.
- Shared at the Clean Sport Insight Forum, 2020. <https://youtu.be/oBS2FeECfe4>

R7. Woolway, T., Lazuras, L., Barkoukis, V., & Petróczi, A. (2020) "Doing What Is Right and Doing It Right": A mapping review of athletes' perception of anti-doping legitimacy. *International Journal of Drug Policy*, 84. DOI: [10.1016/j.drugpo.2020.102865](https://doi.org/10.1016/j.drugpo.2020.102865)

- PI for WADA Legitimacy; WADA, GBP9,662.00.

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Other grants which supported the research and impact:

Co-I for SAFE YOU (557100-EPP-1-2014-1-EL-SPO-SCP); ERASMUS+, €411708.80.

Co-I for SAFE YOU+ (579828-EPP-1-2016-2-EL-SPO-SCP); ERASMUS+, €398860.16.

PI for the SMART project; International Olympic Committee, \$336,469.00.

Co-I for project LEGIT; International Olympic Committee, \$194,192.30.

4. Details of the impact

Petróczi's research has redefined doping, as well as clean sport behaviour, as a reasoned choice by individuals, shifting WADA's focus of anti-doping from 'preventing doping' to 'protecting clean sport' and thus led to improvements in WADA's anti-doping education, leading to new education materials, the implementation of an athlete-centred approach, improved education capacity, and enhanced harm-protection for athletes.

New Education Materials

In 2013, Petróczi was invited by WADA to review its new online anti-doping e-learning course - called the 'Athlete Learning Program about Health and Anti-Doping' (ALPHA). Her review identified that athletes were considered targets rather than partners in keeping sport clean. To address these issues, Petróczi was commissioned to develop two new modules (modules 7 & 8) and to write a book chapter for WADA's handbook that would provide guidance for the anti-doping community on how to make anti-doping education fit for the 21st century [R5].

These two new modules demonstrated the change of WADA's traditional normative approach to building positive partnership with athletes for clean sport and to support athletes in this process. The revised ALPHA was launched to the global sport community in March 2014, and 'approaches doping issues from a positive mindset' and 'provides athletes with solutions' [S1]. It was decommissioned in 2020 to make way for new technology and a new course. It was available in 18 languages, in 230 countries, and represented 195 sports. The course was completed by 62,859 athletes, and other stakeholders, in whom that anti-doping education lives on [S2].

Petróczi constructed tailored evaluations (such as the 'attitudes survey') to assess the impact of ALPHA on athletes, including measures identified by her research on doping antecedents. One key component of this set was Petróczi's Performance-Enhancement Attitude Scale [R3], which to date is the only validated doping attitude scale. Since its inception in 2000, the scale has been translated into at least 14 languages and used in over 80 studies and five WADA research grants [R3]. In 2019, Petróczi updated the set of evaluative measures with more recent findings, with the WADA Senior Education Manager stating that her work '*contributed immensely in terms of giving us insight to measures and metrics.*' [S2]

Implementation of an athlete-centred approach

WADA's Senior Education Manager also described how Petróczi is '*heading up the work package around athlete engagement*'. The RESPECT project modelled and increased athlete involvement in WADA's research approach as well as directing future strategic priorities for WADA's social science research. Inspired by athletes such as Jade Johnson from the IOC's LEGIT project (a cross-national study regarding anti-doping policy legitimacy and support among clean athletes), Petróczi brought athletes, stakeholders, national anti-doping organisations and academics together to study and discuss the meaning of 'clean'. Provided with this template, WADA now starts research '*with athletes placed at its center*' [S3] - by considering athletes and influences upon athletes' environments. With 'Be Athlete-Centered' as one of six strategic priorities in the WADA 2020-24 strategic plan [S4], WADA is already investing in a project into athlete vulnerability and doping pressure points, based on Petróczi's research [R5]. Furthermore, in their 2021 Grant Program Guidance [S3], WADA explain how their research priorities going forward were '*informed by a comprehensive Delphi study ... initiated as part of an Erasmus+ collaborative Partnerships funded research project (RESPECT-Clean Sport Alliance)*'. These conclusions were emphasised in WADA's November 2020 webinar [S6], with the sharing of key principles such as 'engaging athletes in the research process', which arose from ALPHA [R5] and the RESPECT project [R6].

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The athlete-centred approach drawn from Petróczi's research has cascaded from WADA to inform the agendas of other organisations. The Anti-Doping Division German Sport Institute shaped their funding agendas towards exploring and relating to the athlete's perspective. The Director of the Argentina NADO explained how the *'research has rethought anti-doping education to centre upon athletes'* and that *'this has allowed us to enrich the education programmes backed by scientific evidence'*. Additionally, they have committed athletes to participate in focus groups and plan to copy the focus group model in Argentina [S5].

Improved Evaluation Capacity

WADA invited Petróczi to collaborate in developing, compiling, and analysing evaluations of WADA's worldwide outreach activities for raising awareness of anti-doping. It was first used at the 2016 Summer Olympics in Rio de Janeiro, and most recently at the Lausanne Youth Winter Olympics in 2020. WADA found it gave them a *'more nuanced insight into athletes' thinking about doping. This informed advice and support provided to stakeholders to start doing this type of evaluation themselves.'* [S2] These activities met and developed WADA's social science strategic priorities, as detailed in the WADA November 2020 webinar [S6], of 'sharing what we know', 'developing research capability', and 'empowering ADOs in research'.

Another example of increasing programme capacity took place with the Oceania Regional Anti-Doping Organisation (ORADO). The Director of the ORADO explained that Petróczi *'led an orientation and equipped us (with questionnaires and focus groups) so that we could progress, and also made our team feel confident and empowered. We were able to actually see whether our current anti-doping education programmes are making a difference, as we covered the sixteen member countries at the 2019 Pacific Games. We are now able to back up why we have different actions in education and how we approach different target groups because we can quantify the reality, mindset or attitude of our target group. The research, in line with WADA's new strategic priorities, has shown us the importance of knowing our athletes and the influences on them.'* This revealed *'the need to revamp and refocus ...training'* for educators; with a third draft of the new curriculum already complete. Better educators *'will deliver more meaningful and relevant anti-doping messages to athletes and their support personnel'* [S7].

Partly as a rapid response to Covid-19-related challenges, and to address the need for at-distance implementation, in 2020 a dedicated online platform was developed which allows organisations to collect prevalence data without the need for personal contact or a sporting event. The WADA Senior Education Manager explained how *'Petróczi has been innovative in developing online tools and a tablet-based survey for outreach events. It has been an interesting insight into the viability of doing this type of research online in the future.'* [S2]

Harm-prevention in young athletes and exercisers

Through the SAFE YOU Education Programme, under the leadership of Petróczi and others, an anti-doping educational framework and resources were developed with young people aged 14-25 years. Selected as a Success Story by the European Commission Directorate-General for Education, Youth, Sport and Culture, it has increased international awareness and been adopted by at least three anti-doping agencies. Since 2015, the SAFE YOU YouTube Channel has had over 8300 views, with individual videos each watched hundreds of times. The videos, in English but with German, Greek, and Italian subtitles promote informed responsible decision-making by individuals [S8].

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The SAFE YOU educational programme and its materials were adopted by the German Anti-Doping Agency to tackle doping at the sub-elite and amateur level. The agency adapted its strategy and expanded its education programmes *'by partnering with gyms and with two very big fitness companies'* through *'developing materials, hosting workshops and implementing strategies'*. This has resulted in increased awareness of the issue at a higher political level. The then-Director of Education and Prevention admired how they *'were able to transfer Petróczi's research into the practical world of the German NADO and then directly into the practical world of gyms. We established a number of feedback and learning loops between different organisations, including the Safe You team'* [S9].

A selection of the Safe You materials (thematic education videos) have been used by the British Association of Sport & Exercise Medicine as CPD materials, for teaching by the ORADO [S7] and in Aruba. The Argentina NADO are *'currently analyzing the Safe You videos'* [S5] to inform their national strategy. The then-Executive Director of the Aruban Olympic Committee, and now Chairman of the Caribbean RADO, has written that *'These materials [the Safe You+ videos] filled a content gap in our anti-doping education plan'*. Using the Safe You+ video series with 13-18 year olds athletes, followed by discussions, they found that the videos were *'more attractive to young people than our previously-used, dry presentation'* and that *'they encouraged more active learning and engagement'*. He concluded by noting that *'most of the athletes will remember the message and the Aruban Anti-Doping Commission will continue to use the materials'* [S10].

5. Sources to corroborate the impact

S1 – [WADA Press Release](#) regarding the ALPHA Modules, September 2014

S2 – Testimonial by the WADA Senior Education Manager

S3 – [WADA's 2021 Social Science Research Grant Program Guidance](#)

S4 – [WADA's 2020-24 Strategic Plan](#)

S5 – Testimonial by the Head of the Argentina NADO

S6 – WADA Webinar: [Role in Social Science Research – Making an Impact](#)

S7 – Testimonial by the Oceania RADO Director

S8 – [Safe You Resources](#) and [YouTube Channel](#)

S9 – Testimonial by the ex-Director of Education at the German NADO

S10 – Testimonial by the Chairman of the Caribbean RADO