

SPARK: Feasible, pragmatic and ecologically valid values-based anti-doping education for athletes

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Abstract

Background: The challenges in providing values-based education for elite athletes are linked to the developmental stage of the learners, the mode of delivery, the content, and the available human resources.

Aims: To address these challenges, we developed and tested an evidence-based 90-minute, in-person workshop for competitive-level athletes called SPARK.

Methods: A feasibility study was conducted with six student-athletes in the Talented Athletes Scheme in the UK. followed by a pilot study with an international sample of 79 elite biathletes, of which 19 contributed to the evaluation with full data. Participants completed a standardised evaluation survey pre- and post-intervention and provided qualitative feedback.

Results: Athletes' assessment showed improvement in self-awareness of value priorities, efficacy in processing and manage personal and societal values and potential value conflicts, and ability to use personal values to analyse options and to guide decisions about sport and performance enhancement. Due to the small sample size, statistical significance was not reached. No change occurred in anti-doping knowledge and self-efficacy in its application.

Conclusion: Results suggest that SPARK is feasible, effective, and well-received by participants. It can be incorporated into any knowledge-based anti-doping education and – if desired - run alongside value-education that promotes the 'spirit of sport'.

Keywords: Anti-doping education, athlete, sport, prevention, values, spirit of sport, sensemaking, identity

Introduction

Sport as a vehicle to demonstrate and teach values deemed desirable by society, such as fairness, respect, integrity, hard work, excellence, and camaraderie has a long history in western cultures. Its salience today manifests in all levels of sport, from physical education curricula and youth sport manifestos to the Olympic movement. In anti-doping narratives, values and doping are positioned as polar opposites, with values and morality holding the power of preventing or protecting against doping use (Ntoumanis et al., 2024). This argument is deeply rooted in the positive societal values that sport can cultivate, convey and demonstrate, and to which doping, as a form of cheating, is fundamentally contrary. VbE, which is now a mandatory element of anti-doping education (World Anti-Doping Agency, 2021), aims to: “instil the spirit of sport and foster a clean sport environment” (World Anti-Doping Agency, p.4). Further, in the International Standard for Education (ISE), VbE is defined as: “activities that emphasize the development of an individual’s personal values and principles. It builds the learner’s capacity to make decisions to behave ethically” (World Anti-Doping Agency, p.10).

Challenges to devising, incorporating, and delivering VbE in anti-doping are rooted in the interplay of multiple factors, including the developmental stage of the learners (i.e., adolescents and emerging adults), the mode of delivery, the content, and the available human resources and expertise. Specifically, athletes' values are already shaped by their upbringing and sports experiences, influenced by coaches and personal networks. These values, which extend beyond the 'spirit of sport,' impact decisions regarding doping. Furthermore, the implementation of VbE throughout an athlete's career calls for successful constant navigation of differing priorities between desirable societal and personally important values. This discrepancy complicates the effective implementation of VbE because National Anti-Doping Organizations (NADOs), national and international Sport Federations (IFs) and other stakeholders may hold different understandings and expectations regarding the values deemed important and relevant to athletes. In addition, with a few notable exemptions, most organisations with anti-doping responsibility (NADOs and IFs) do not have structure, expertise, human resources or opportunities for offering ongoing VbE. Consequently, anti-doping education tend to focus on the must-know rules, and lacks tailored and interactive approaches preferred by athletes (Gatterer et al. 2020). Finally, the ISE guidance on VbE, primarily derived from elementary education practices, lacks applicability in elite sports and anti-doping contexts. Unlike the elementary education setting, where VbE is integrated into various school activities with built-in time and activities for continuous reflection and demonstration of promoted values, athletes receiving anti-doping education in short focused sessions as adolescents and emerging adults.

Aims

To address these challenges, we aimed to develop and test a VbE workshop that is feasible, ecologically valid, meaningful (for both athletes and providers), pragmatic, and promotes responsible decision-making with the educational objectives to increase understanding, awareness, and the application of (one's own) values in decisions about performance and performance-enhancements. Based on empirical evidence (Petróczi et al., 2024; Veltmaat et al., 2023), we propose that VbE must be interpreted in a broad sense where athletes' performance-related values must be acknowledged and explored. Values education or promotion, with a discussion about the importance of values and the spirit of sport is not sufficient, thus VbE should include person-centred approaches and empower athletes to become ethical and responsible individuals not only in anti-doping context but both in their personal and professional lives (Clancy et al., 2022).

Material and methods

Development of the workshop

Building on research evidence (Petróczi et al., 2024; Veltmaat et al., 2023) and a set of interconnected theories depicted in Figure 1, we developed a 90-minute workshop called SPARK, which is the acronym for "Sport-specific, Pragmatic and Athlete-centred values-based (anti-doping) education to promote self-awareness, Responsible decision-making and clean sport Knowledge".

Impact & Evaluation

GRADE-IT (Blank et al., 2022; Blank & Petróczi, 2023)

- Self-awareness
- Knowledge
- Decision-making efficacy

Learning Process

- Active Learning*
- Constructivism
 - Learner-centered
 - Scaffolding



Learning Outcomes

Anti-Doping Literacy (Blank & Petróczi, 2023)

- Understand values
- Understand how value priorities change across situations
- Apply values to real-life situations within and outside of sport
- Analyse the consequences of value transgressions

Underpinning Theory

- *Theory of Basic Values* (Schwartz, 2012)
- *Behavioural Reasoning* (Westaby, 2005)
- *Values and Personal Identity* (Hitlin, 2003)
- *Crisis Decision Theory for Anti-Doping* (Petróczi et al., 2024)

Figure 1: Theoretical underpinning of SPARK

Depicted in Figure 2, the workshop includes four key educational goals, which are mapped onto Bloom’s Revised Taxonomy of Learning (Krathwohl, 2002) and centred on (1) the ability to describe their own values (i.e., understanding), (2) explain how value-priorities might change across real-life situations (i.e., understanding), (3) apply values to real-life situations within and outside of sport (i.e., application), (4) use the values to inform decision-making (i.e., application), and (5) evaluate the short- and long-term consequences of value transgression (i.e., analysing).

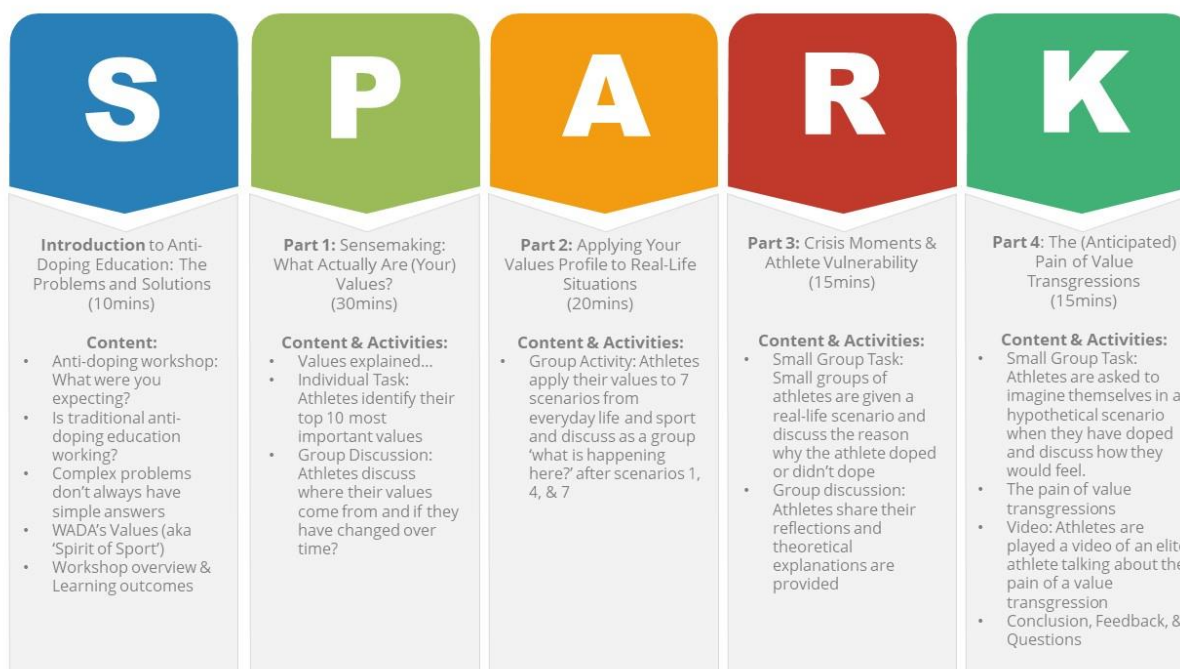


Figure 2. SPARK Workshop Structure and Content

The interconnection between values (Schwartz et al., 2012), personal and social identity (Hitlin, 2003), and sensemaking or meaning-making (Park, 2019) is central to SPARK. Values are both unique to individuals and shared socially, expressed through personal identity (*unique values*) and social identities (*shared values*), whereby the sensemaking process helps individuals align global values with situational priorities, reducing internal conflicts and cognitive dissonance (Park, 2010). Westaby's (2005) Behavioural Reasoning Theory brings values into planned behaviour and reasoned actions and shows how values shape decisions and behaviour by influencing the reasons for actions and omissions, affecting attitudes, social norms, and perceived control.

Inspired by community-based public health interventions, SPARK engages athletes with their existing values rooted in upbringing and early socialization (Petróczi et al., 2024). In SPARK workshops, athletes explore their values, value priorities, and conflicts through guided exercises, allowing them to balance personal values with societal expectations while managing situational demands. This athlete-centred approach emphasizes reflective learning (Ryan and Ryan, 2013) and active learning principles, where educators facilitate rather than instruct, supporting athletes in their self-discovery and personal growth. Consequently, SPARK aims to initiate athletes' journeys, equipping them with the tools for ongoing self-improvement. It focuses on inter-temporal decision-making, guiding athletes to understand how current choices impact their future selves, emphasizing the cumulative effect of their identities (Maglio & Hershfield, 2021).

Evaluation of the workshop

During phase 1, SPARK was pre-tested with six university students in the talented athlete scheme in the UK and qualitative feedback was collected. Following this, in phase 2, to evaluate the workshop in view of its feasibility, ecological validity and meaningfulness as well as potential effects on the understanding, awareness, and the application of (one's own) values in decisions about performance and performance-enhancements, a quantitative small-scale pilot/feasibility study was conducted during the IOC development camp of the International Biathlon Union (IBU) including biathletes, ranging from 16 and 22 years, from 20 different countries. All athletes participated in national competitions and were ranked at the top of their countries. Seventy-nine athletes participated in the workshop. A subset of 19 fluent English-speaking athletes (aged 17.3 ± 1.4 years) provided informed consent and completed pre- and post-intervention surveys to evaluate intervention effectiveness. In total, 38.9% competed at national, 50.0% at international and 11.1% at Olympic level. In line with the anti-doping literacy approach, the effectiveness of the SPARK workshop was assessed in terms of knowledge, awareness, and decision-making efficacy (Blank & Petróczi, 2023).

Results

Quantitative results

Following the values-based workshop, pre- and post-intervention survey results indicated improvement in all four values-related self-efficacy assessments. Specifically, athletes expressed a higher efficacy to process and manage personal and societal values

($M_{pre}=4.21\pm0.78$; $M_{post}=4.42\pm0.86$; $d=0.39$, $p=0.10$; 5% increase) and potential value conflicts ($M_{pre}=3.95\pm1.0$; $M_{post}=4.26\pm0.81$; $d=0.47$, $p=0.06$; 8% increase). In addition, athletes were more confident in their ability to analyse options regarding performance enhancement using their value priorities ($M_{pre}=4.16\pm0.90$; $M_{post}=4.32\pm0.95$; $d=0.32$, $p=0.19$; 3.8% increase) and to use their values to guide decisions about sport and performance enhancement ($M_{pre}=4.26\pm0.81$; $M_{post}=4.58\pm0.861$; $d=0.66$, $p=0.01$; 7.4% increase). In addition, self-awareness of value priorities also improved ($M_{pre}=4.26\pm0.81$; $M_{post}=4.42\pm0.77$; $d=0.42$, $p=0.05$; 3.7% increase). Functional anti-doping literacy (i.e., anti-doping knowledge and self-efficacy in its application) did not change but in the absence of targeted educational activities about anti-doping rules, change was not expected (Blank & Petróczi, 2023). When we designed SPARK, we anticipated that participating athletes already had information-based anti-doping education and are knowledgeable about the anti-doping rules, regulations, and their responsibilities. Therefore, making improvement in these was not a goal for the SPARK workshop, rather it was solely focused on values.

Qualitative feedback

Qualitative feedback on the workshop indicated that it was well received by the participants. For instance, one athlete appreciated that the focus of the workshop was on values rather than the typical discussions about doping solely focusing on the negative aspects and consequences: “Excellent, great to have a workshop based around values and not around the standard doping talks”. Another athlete found the workshop to be highly effective and engaging when wrote: “Brilliant workshop overall. Some key take home messages and engaging activities”. Collectively the feedback suggests that athletes appreciated the opportunity to actively participate in the activities during the workshop and found valuable insights and practical skills that they can apply to their own athletic career or personal life.

The apparent positive and enriching experience for the athletes was emphasized in what one IBU spokesperson said:

“For us as an international organization, it was the first time that we’ve had a workshop like this. I was really surprised how well the workshop worked. Athletes were fully engaged in discussing their values and how they might be affected in different situations. [...] I am convinced that athletes – and especially young athletes – gain more in a values-based workshop compared to a more standard knowledge-based lecture. This is the way forward to support our athletes stay clean!”.

The opportunity to offer a more holistic approach to athlete development and education that emphasise the importance of ethical behaviour and character building within the sporting community with SPARK was recognised. One observing representative of the Slovenian National Anti-Doping Agency reflected on the challenging requirement of incorporating VbE into anti-doping education and praised SPARK for its exemplary approach and outcomes when said:

”This program is an excellent example of how it can be done. While observing the session, I was not only impressed with the content of the session itself but especially with the active participation from the athletes. The content of the session encouraged interesting discussions among athletes, they were honest and showed high level of critical thinking. This program is a great example of best practice from which many ADO from around the globe could (and will) benefit.”

Discussion

The success of this program demonstrated in the feasibility and pilot applications, coupled with the positive feedback from anti-doping organisations, suggest that this approach could be replicated and adapted by ADOs and IFs globally to enhance athlete education and promote responsible behaviour in sports. To facilitate this, our ongoing work involves further developing SPARK with a rich collection of educational materials for educators (e.g., presentation slides, case studies, and exercises) and athletes (e.g., short videos, infographics, interviews, interactive quizzes). We stress that values-based education, especially an athlete-centred variety such as SPARK must be adapted to cultural differences, and locally delivered. This is an initiative we actively support. We will develop a self-directed and self-paced education programme to train athletes and athlete support personnel, including coaches and parents, to facilitate SPARK workshop delivery to athletes. To do so, we aim to develop an online SPARK Facilitator Training Module for anti-doping educators, coaches and athlete ambassadors as well as parents. Using a peer-to-peer approach could benefit both the athlete learners and athlete educators, through more relatable discussions and shared experiences for vicarious learning and continued engagement and sense of purpose after retirement from competitive sport, respectively.

SPARK resonates with community-based interventions in public health because it acknowledges and takes athletes’ personal as well as performance-related values into account whilst promoting societal values associated with sport. SPARK also has the potential for societal impact beyond its direct goal of promoting clean sport behaviour and preventing anti-doping rule

violations. Via developing transferable life skills such as value consciousness, sensemaking, critical thinking about present actions and future consequences, athletes will be better equipped to make navigate the demands and challenges of competitive sport, manage the often-clashing demands of personal and sporting life, making responsible decisions and fulfil their 'duty' as role models.

Conclusion

SPARK has shown potential as a feasible and effective form of VbE that can be incorporated into any knowledge-based anti-doping education and – if desired - run alongside value-education that promotes the 'spirit of sport'. Well-received by participants and education providers alike, SPARK can meet WADA's ISE requirement in a way that goes beyond tackling doping in sport.

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Ethics statement: This pilot/feasibility study was approved by the institutional ethics board of the third author.

Competing Interest Statement: The authors declare no cFompeting interests.

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