

**THE INFLUENCE OF PERSONAL AND SPORTING VALUES ON THE
LIKELIHOOD OF ATHLETES DOPING AND COMPETING CLEAN**

by

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ABSTRACT

A value is a trans-situational motivational goal, presumed to be desirable and considerably stable, affecting unethical behaviours and emotions. Changing values is a central goal of societies in order to instigate behaviour change, however value change is yet to be examined in a doping-specific context.

Objectives: The purpose of this research was to investigate the value-doping relationships amongst athletes and to examine whether or not it is possible to manipulate values in relation to doping.

Designs: The research used cross-sectional (Study 1) and experimental designs (Study 2).

Method: In Study 1, 233 athletes completed a questionnaire which assessed demographics, doping and clean likelihood in hypothetical situations, personal, sporting and the spirit of sport values. In Study 2, 162 undergraduate athletes (51% male, 49% female) participated in a persuasive writing intervention across three different value conditions to see if the task could improve the salience athletes gave to specific values, in turn affecting doping likelihood, clean likelihood and anticipated guilt ratings.

Results: In Study 1, correlational analysis revealed that *self-enhancement* values were positively associated with doping likelihood and negatively associated with clean likelihood whilst *self-transcendence* values were negatively associated with doping likelihood and positively associated with clean likelihood. *Conservation* values followed the same relationships as self-transcendence values with the doping variables. The findings showed that

there was no relationship between the spirit of sport values and doping likelihood despite anti-doping legislation currently using the concept as the universal ethical basis for global sporting practice (WADA, 2015).

In Study 2, the self-enhancement writing manipulation was successful in enhancing *self-enhancement* values, whilst decreasing *self-transcendence* values, whilst the conservation manipulation only increased *self-transcendence* values. The results also showed that the writing manipulations were not powerful enough to influence the doping outcome variables.

Conclusions: The findings provide evidence for the value-doping relationships regarding both doping likelihood and clean likelihood but suggest that the place of the spirit of sport in the current anti-doping procedures may somewhat be flawed and should be reconsidered. The research also provides evidence that it is somewhat possible to change some specific values in relation to sport through persuasive writing tasks, however, the extent to which this can be implemented as a value change anti-doping strategy needs more research and is uncertain.

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CHAPTER 1: Doping in Sport: Applying a psychological perspective using the theory of basic human values and the sporting value frameworks within the current literature

1.1. Doping in Sport

Doping, the deliberate use of a banned substance or method to illegally improve performance, remains a difficult and controversial issue threatening the integrity and reputation of modern sport (UKAD.org.uk, 2018). The proliferation amongst elite athletes today has been accelerated as a result of globalisation and the development of the media, which in turn increase the exogenous pressures influencing an athlete's personal decision to disregard the rules and dope, as opposed to competing 'clean' (Grix, 2016). Consequently, many high-profile, controversial cases have been exposed in the media recently, unveiling the long-term use of performance enhancement drugs (PEDs). For example, an investigation into Lance Armstrong, comprising of several testimonies from his former teammates and personnel, unmasked cycling's hidden doping culture (Dimeo, 2014) and initiated multiple discussions concerning the implications of wide scale doping. Furthermore, the exposure of the Russian state-sponsored doping scandal has left organisations such as the World Anti-Doping Agency (WADA) and the International Association of Athletics Federations (IAAF) in turmoil, uncovering a complex system designed to avert attention to any positive doping results for elite Russian athletes (Duval, 2017). The increasingly high stakes of success often overshadow the risks associated, such as long-term health threats, and taint the moral values and standards that individuals hold. For example, anabolic steroids, used predominantly for athletic enhancement can cause irreversible organ damage, severe hypertension and reduced fertility (Maravelias, Dona, Stefanidou & Spiliopoulou, 2005).

The consensus is that doping is common practice (Morente-Sánchez & Zabala, 2013) amongst the athletes who dominate their sports despite the detection rates remaining

surprisingly low with the current system (Ulrich et al., 2018). This presents a clear challenge for the responsible doping control organisations globally as the issue is clearly more problematic than the test results imply. Research also suggests that amateur and junior athletes engage regularly in prohibited doping methods (Locquet et al., 2006; Lentillon-Kaestner and Carstairs, 2009) highlighting the issue and the challenges it presents across the whole spectrum of sport. Whilst the morality of doping has received a lot of academic interest from psychologists aiming to understand the reasons why athletes intentionally use banned methods and substances, both theoretically and empirically, the study of personal values specific to doping has not. This is somewhat surprising given that values as guiding principles have been highlighted as an area of special interest and key to the *spirit of sport* (WADA, 2015) and, moreover, values appear as core components of recent clean sport educational programs, such as TrueSport (USADA, 2012), 100% ME (UKAD, 2018), and Sport Values in Every Classroom (WADA, 2019). It is worth noting that the spirit of sport construct has yet to receive much empirical support with regard to doping from researchers (for reviews see Geeraets, 2017; Mazanov, Huybers & Barkoukis, 2019; Obasa & Bory, 2019; Ritchie, 2013). The current research uses the Personal Values Theory (Schwartz, 1992) and other value literature to try to address the gap in psychological understanding of this area in the context of doping behaviours and staying clean.

1.2. Schwartz' Personal Values Theory

A value is defined as a trans-situational goal or principle guiding the life of a person or group; the importance of each value can vary between individuals or groups but generally values are all presumed desirable and considerably stable (Schwartz, 1992; 2012; Ring, Kavussanu & Gurpinar, UP; Rokeach, 1973). Schwartz (1992) identified a common set of values he believed were recognised across all societies. These basic values when coherently classified

can begin to explain the basis for an individual’s behaviour, attitudes and decision making based upon what Schwartz (1992) described as a social and psychological conflict or congruity that is experienced between values daily. Initially, 10 basic values were outlined (Schwartz, 1992) but this continuum was then partitioned into a ‘finer set of meaningful conceptually distinct’ values, presenting a new total of 19 values (Schwartz, 2012; See Table 1.1.) based upon theoretical rational and multidimensional scaling of empirical research (Schwartz, 1992; 2006; Schwartz et al., 2001). The refined value theory provides a more precise insight regarding the value underpinning of beliefs with each value being found to correlate uniquely with external variables (Schwartz, 2012).

Table 1.1. *10 Basic Values (Schwartz, 1992) and the updated 19 Values (Schwartz, 2012)*

Self-direction	Self-direction-thought, Self-direction-action
Stimulation	Stimulation
Hedonism	Hedonism
Achievement	Achievement
Power	Power-dominance, power-resistance
	Face (added)
Security	Security-personal, security-societal
Conformity	Conformity-rules, conformity-interpersonal
	Humility (added)
Tradition	Tradition
Benevolence	Benevolence-dependability, Benevolence-caring
Universalism	Universalism-concern, Universalism-nature, Universalism-tolerance

The values can be grouped under four higher order value categories (Schwartz et al., 2012), forming a circumplex structure with two ‘dimensions’ where the values are organised according to the conflict and compatibility among the motivations they each express (Schwartz, 1992; Schwartz et al., 2012). The opposing values conflict with one another, whereas those adjacent on the diagram (see Figure 1.1.) can complement each other, helping to link specific values and personalities. Schwartz et al. (2012) theorised the values that lie in the top half of the circular diagram relate to *self-expansion and growth*, whilst those in the bottom half

favour *protecting the self from threat and anxiety*; the values displayed on the left tend to have a social focus and those on the right side have a personal focus. Table 1.2. defines the motivational goals each of the refined 19 values, under the four relevant higher order categories, with table 1.3. depicting and defining the two continuums and the higher order value groups.

Table 1.2. *The 19 refined values, definitions and the motivational goals that they express (Schwartz et al., 2012)*

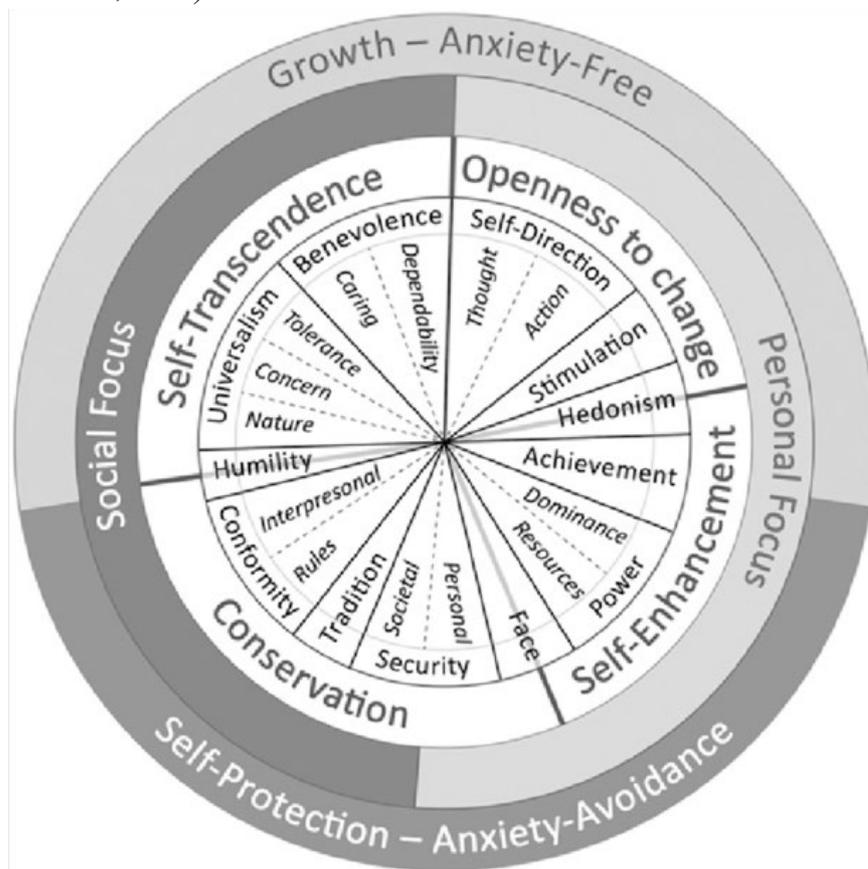
Higher order category	Value	Conceptual definition in terms of motivational goals
Openness to change	Self-direction-action	Determine one's own actions
	Self-direction-thought	Cultivate one's own ideas and abilities
Self-enhancement	Stimulation	Excitement, novelty and change
	Hedonism	Pleasure and sensuous gratification
	Achievement	Success according to own social standards
	Power-dominance	Exercising control over people
Conservation	Power-resources	Control of material and social resources
	Face	Maintaining one's public image and avoiding humiliation
	Security-personal	Safety in the immediate environment
	Security-societal	Safety in the wider society
	Tradition	Maintaining and preserving cultural, family or religious traditions
	Conformity-interpersonal	Avoidance of upsetting or harming other people
	Conformity-rules	Conforming with rules, laws and formal obligations
Self-transcendence	Humility	Realising individual significance in the larger scheme of things
	Benevolence-caring	Devotion of welfare to in-group members
	Benevolence-dependability	Reliable and trustworthy member of the in-group
	Universalism-concern	Commitment to equality, justice and protection of all people

Universalism-nature	Preservation of the natural environment
Universalism-tolerance	Accepting and understanding of those who are different to them

Table 1.3. Definitions of the dimensions as outlined by Schwartz et al. (2012)

Self-enhancement Emphasise pursuing one's own interests, capacities and resources	Openness to change Emphasise the readiness for new ideas, actions and experiences
Self-transcendence Emphasise transcending one's own interest for the sake of others	Conservation Emphasise self-restriction, order and avoiding change

Figure 1.1. Circular motivational continuum of 19 values with sources that underlie their order (Schwartz et al., 2012)



As seen in figure 1.1., *self-enhancement* (power, achievement and hedonism) conflicts *self-transcendence* values (benevolence and universalism) on opposite ends of one dimension. This refers to the contrast of interest in the well-being of others against pursuing one's own interests, capacities and resources. *Openness to change* (stimulation and self-direction) contrasts *conservation* (conformity, tradition and security) on the other dimension, indicating conflict between growth, change and autonomy, maintaining the existing order of matters and control of personal inclinations (Schwartz, 2012). Schwartz et al. (2012) propose that these four dimensions and the updated 19 values form a circular motivational continuum, illustrated above (Figure 1.1). The refined theory allows researchers the choice between using all 19 refined values, combining them and using the original ten or using the four higher order value groupings (Schwartz et al., 2012). Schwartz (2012) implemented his refined model with 15 different samples from 10 countries, using more than 6,000 subjects, confirming the role of values as guiding behaviours within various societies and the predicted motivational order of the refined values (Schwartz, 2012). The theory is widely acknowledged and accepted, with further empirical support found in multiple countries worldwide (Fontaine, Poortinga, Delbeke and Schwartz, 2008; Schwartz, 2006; Schwartz and Rubel-Lifschitz, 2009; Marusic-Jablanovic, 2017). There are similarities between the average value hierarchies across various cultures; 63 nations in total were studied with the authors concluding that there was substantial agreement regarding the relative importance of the basic values (Schwartz and Bardi, 2001). Furthermore, using student populations across 54 nations, Schwartz and Bardi (2001) observed further similarities creating the hierarchy *benevolence, self-direction, universalism, achievement, security, conformity, hedonism, stimulation, tradition, power* descending in importance and desirability. These similarities reflect the 'adaptive function of values in successful functioning of interpersonal relations' in a society (Marusic-Jablanovic,

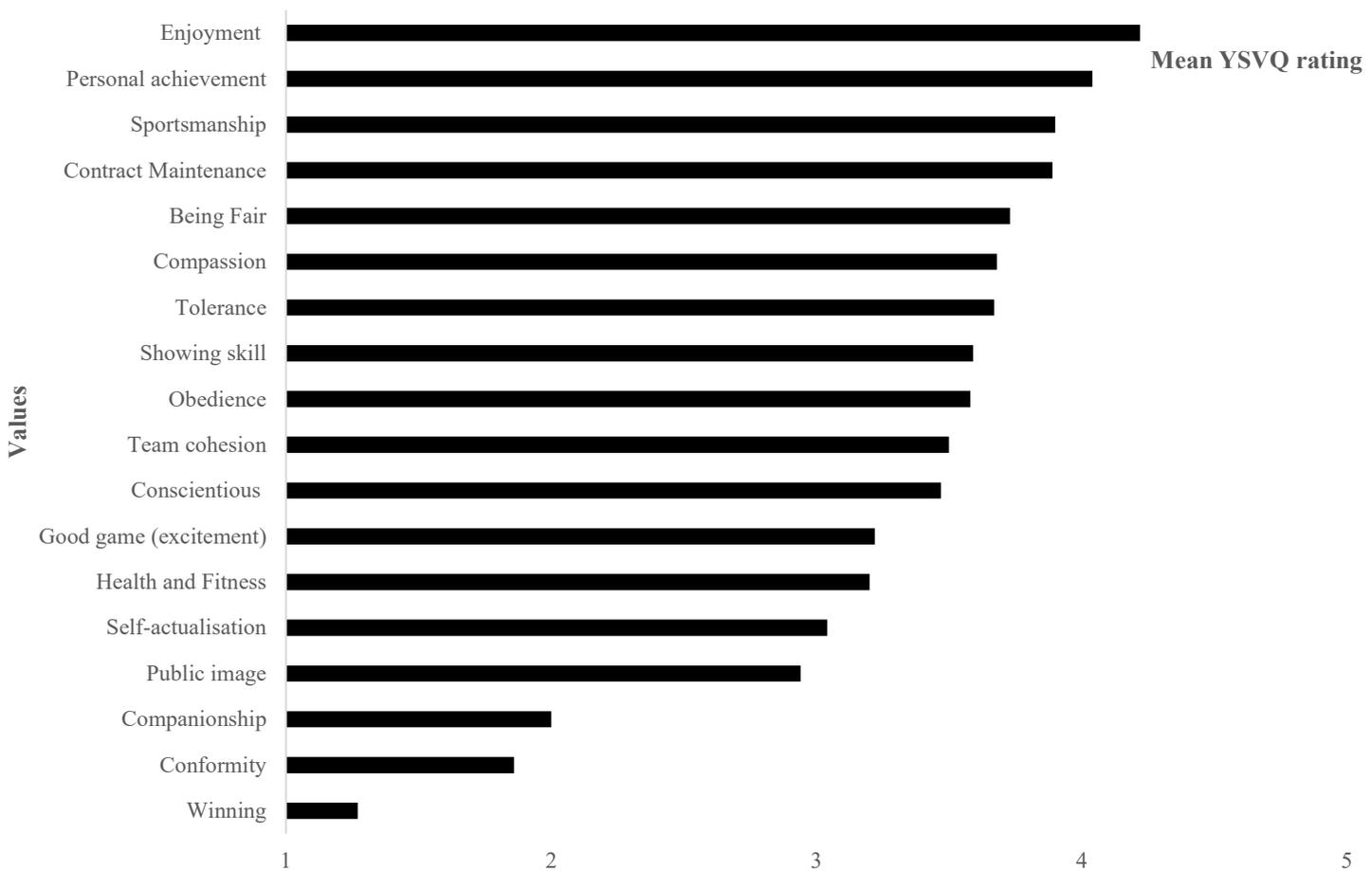
2017, pg. 7; Schwartz & Bardi, 2001). It has also been found that 70-80% of people view self-transcendence and conservation values as moral values too, considerably higher than one in five people who stated self-enhancement and openness to change values were also moral values (Schwartz, 1995). Doping has been studied and tested from a moral perspective and theories such as 'theory of moral thought and action' (Bandura, 1991) have been applied to explain the cognitive justification athletes use when engaging in transgressive behaviours, through *moral disengagement* (Bandura, 1991; Kavussanu, 2016; Lucidi et al., 2008; Ring & Kavussanu, 2017 etc.) but the moral values and higher order categories have not specifically been looked at in this context. Feldman et al. (2015) conducted a meta-analysis on 16 diverse multi-national samples consisting of over 105,000 subjects that revealed the personal values theory circumplex structure predicts the motivation and inhibition of unethical behaviours and cheating. Self enhancement values were positively associated with unethicality whilst self-transcendence and conservation were associated with the inhibition of various types of unethicality (Feldman et al., 2015). It is assumed that the same will be true for unethicality in sport, specifically doping.

1.3. Youth Sport Values (Theory)

This research has supported that values are criteria used to evaluate and select behaviours; although widely researched in mainstream psychology, the role of values in sport psychology is a relatively novel concept as a result of both limited understanding of applying value-related concepts and initially not having an appropriate sport-specific measurement instrument (Lee, Whitehead and Balchin, 2000). Schwartz (1994) outlined that values are transsituational, guiding behaviour in all different life situations. Values serve for both group and individual needs, motivating action through the suggestion of direction and intensity, whilst functioning as standards to be evaluated against. Individuals learn values through their

own experiences and the dominant values esteemed in their social groups and communities (Schwartz, 1994). Considering these characteristics, Lee, Whitehead and Balchin (2000) expressed these values in sporting contexts, influencing one's criteria of success, fair play, sportsmanship, tolerance and the quality of interaction during competition and training. Through providing a theoretical basis, they aimed to create an instrument that could measure the structure and relative priorities of salient value systems throughout youth sport, by adapting a method used by Colby and Kohlberg (1967) that asked athletes to discuss sport-specific moral dilemmas in semi-structured interviews. Eighteen values were then identified (Lee and Cockman, 1995; Figure 1.2.) and after analysing the transcripts of the 93 football and tennis players (aged 12-16 years of age at time of data collection), Lee, Whitehead and Balchin (2000) created the Youth Sport Value Questionnaire (YSVQ). The instrument was suggested to draw more directly on the social-psychological traditions, facilitating the exploration of values in different social contexts and their relationships with other variables such as attitudes, sport attrition and achievement motivation. A rating system like that used by Schwartz (1992; Schwartz and Bilsky, 1990), as opposed to the ranking systems used prior, was implemented.

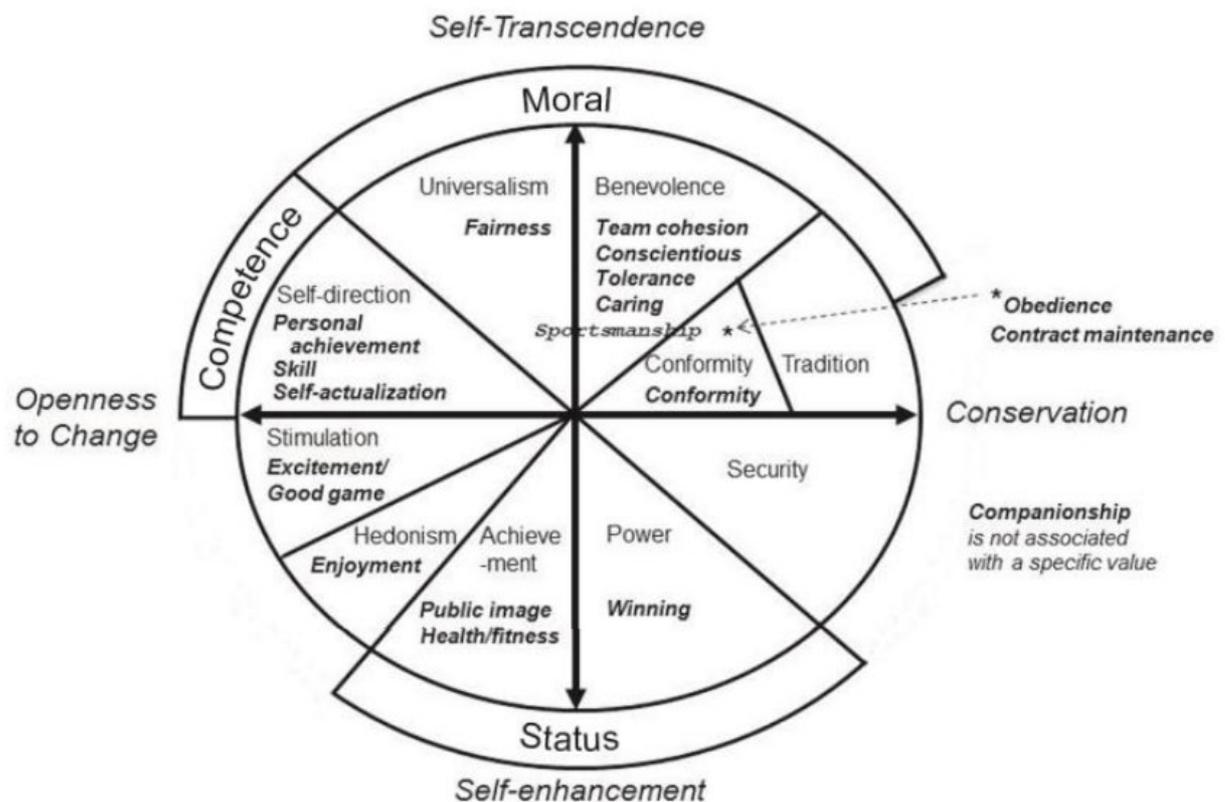
Figure 1.2. Mean YSVQ ratings on a 5-point scale in UK (Lee, Whitehead and Balchin, 2000)



Through 5 studies, Lee et al. (2000) established the ecological validity of the 18 values, tested the reliability of the instrument in measuring youth sport values and further developed questionnaire items. The YSVQ found that *enjoyment* and *personal achievement* were rated the most important and *winning* was ranked the least important (see figure 1.2.), consistent across age and gender (Lee et al., 2000) and in four different European countries (Whitehead and Goncalves, 2013). Some concerns were raised surrounding using single items to assess each value in the YSVQ, leading to examining value groupings with multi-item scales (Lee et al., 2008). The YSVQ-2 was therefore created, measuring *moral*, *status* and *competence*

values additionally as higher order value groups. Moral and competence values have been found to positively predict pro-social attitudes, whilst research has shown that status values can positively predict anti-social attitudes showing the involvement of sport specific values in achievement orientations and attitudes in youth sport; doping is evidently a phenomenon that is concerned with both values and achievement. The structure of both the Personal Value Questionnaire (Schwartz, 1992) and the Youth Sport Values used in the YSVQ-2 (Lee et al., 2000) identify higher order values that organise the discrete values; Whitehead et al (2013) propose that the values in both of these theoretical bases can be loosely aligned on the circular motivation continuum (Schwartz, 2012; See Figure 1.3.). This ‘mapped’ version is show in Figure 1.3. below. It should be noted that this integrated model uses Schwartz’ 10 values (1992) before they were later refined and broken down.

Figure 1.3. Youth Sport Values (Lee et al., 2000;2008) combined onto Theory of Basic Human Values (Schwartz, 1992) circumplex (Whitehead et al., 2013).



1.4. Research: The Sport and Value Relationship

In sport generally, drug-use, cheating and violence are not uncommon practices; research has aimed to understand and explore if this is simply as a result of the behaviour of select individuals or more controversially, because sport normalises their practice as the sport system is shaped by alternative values than the ones esteemed in the anti-doping paradigm and WADA's 'spirit of sport' concept (See Chapter 2.1). In sport-specific contexts, antisocial behaviours, including cheating, have been significantly associated with an athlete's values. Danioni and Barni (2017) administered the portrait values questionnaire to team sport athletes finding that self-transcendence values were rated as the most important and self-enhancement as the least important. Values were then further significantly predictive of anti-social and prosocial behaviours in the adolescent athlete sample. Moral and competence values were also found to predict prosocial attitudes with status values positively predicting (and moral values also negatively predicting) antisocial attitudes of children in sport (N = 549; Lee, Whitehead, Ntoumanis & Hatzigeorgiadis, 2008).

Studies concerning harm reduction have emphasized the role of sporting values in doping (e.g. Smith & Stewart, 2010; Kayser and Broers, 2013; Smith & Stewart, 2015 etc.) and proposed the protective effect of values against doping behaviours. However, these studies predominantly apply the values that constitute the 'Spirit of Sport' (WADA, 2015) as opposed to the value theories outlined above. This research will therefore aim to examine both the value theories and the values stated in the spirit of sport and the role they may have in facilitating clean and doping behaviours. To date, it appears that there is no published evidence on the relationship between personal values and illicit doping use. It is expected that the findings will resemble the studies mentioned above as well as the results Feldman et al. (2015) found for cheating behaviours.

1.5. Clean Sport

Sporting national governing bodies, sport and medical professionals and anti-doping control organisations have invested substantial resources for many years to improve efforts and therefore the efficiency of doping control procedures. Research thus far has focused primarily on the psychological factors that determine the use of prohibited PEDs to improve sporting achievements, aiming to identify the influential factors as a means of preventing future doping behaviours. Surprisingly, only a handful of studies have investigated the motivation and social-cognitive models in a doping avoidance or ‘remaining clean’ perspective (e.g. Chan et al., 2015; Chan et al., 2015, Englar-Carlson et al., 2016, Bowers & Paternoster, 2016 etc.). The construct of clean competition – which has been defined as “*reaching athletic potential through proper training, nutrition and rest, not through powders, pills and energy drinks*” (USADA, 2012) – of keen interest to anti-doping agencies, and this interest is reflected in their current clean sport educational programs (e.g., UKAD, 2018; USADA, 20012; WADA, 2019a). Englar-Carlson et al. (2016) argue that promoting and enhancing healthy behaviour and competition as opposed to simply eradicating maladaptive behaviours provides a more effective approach to eliminating doping in sport. Little is known in sport psychology about mechanisms and value systems that underpin why athletes chose to stay clean, supporting the need for a slight shift in methods and the variables examined in the field. The current anti-doping deterrence system is insufficient to adequately erase doping from sport and using the principles of perceptual deterrence and the development of morality in the athlete communities can further enhance compliance with anti-doping regulations (Bowers & Paternoster, 2016). Instead, anti-doping programs should adopt a positive psychology approach promoting healthy behaviour and competition (Englar-Carlson et al., 2016). A positive approach to prevention is an emerging theme in the anti-doping strategies of national

and international organizations (WADA, 2015). For instance, the *TrueSport* program is a values-based educational program undergirded by three core principles (character building, sportsmanship, clean and healthy performance) and five values (integrity, respect, courage, responsibility, teamwork) that seeks to promote a positive sport experience (USADA, 2012). Only a few studies have looked at both the effects of doping intention and avoidance. For example, self-control has been positively associated with the intention and adherence to doping avoidant behaviours and negatively associated with doping attitude and intention in young Australian athletes (Chan et al., 2015). Surprisingly, there is no known evidence concerning the value systems that underpin why athletes actively choose to compete clean. The present study sought to begin the process of filling this gap in our understanding of clean sport alongside doping likelihood in specific situations.

1.6. Methods used to assess doping behaviours: a change in approach

Understanding and studying doping generally presents implicit challenges as research in the field is essentially asking those who cheat to be honest and truthful, presenting it as a clear moral issue. The consequences of detection will ultimately threaten an athlete's credibility on a global scale alongside the possible risk of lengthy bans or cessation of their fulltime profession (Grix, 2016). Athletes are also subject to self-representation bias (Petroczi & Nepusz, 2011) and evidence has found that participants are more likely to report socially undesirable behaviours or activities when the survey is self-administrated rather than administered by an interviewer (Tourangeau & Yan, 2007). As a result, direct assessment can often be biased, and later research tends to implement more indirect methods to accommodate for this. For example, Huybers and Mazanov (2012) employed an inferred behaviour approach to elicit an athletes own doping preferences on a hypothetical athlete named "Kim", a gender-neutral name in Australia where the research was conducted. Subjects were asked to

view Kim as one of their peers in the same sport, sporting level and career stage in order to minimise social desirability and hypothetical biases. They then examined the likelihood of both doping consideration and then actual engagement that subjects reported Kim would do in a variety of perceived cost and benefit scenarios. Similar methods have been used in other research studies (Ring & Kavussanu, 2017; Ring et al., 2018; Kavussanu & Ring, 2017 etc.).

1.7.Aims of the current research

By applying the Personal Values Theory (Schwartz, 2012) and the theoretical concepts of the Youth Sport Values Questionnaire (Lee et al., 2000), the current multi-study research aimed to investigate the relationships between values and both the likelihood of doping and remaining clean in sport. Study 1 aimed to examine the links between personal values, youth sport values and the spirit of sport values with projected doping behaviours and the choice to compete clean. Study 2 then aimed to test these findings, exploring whether a simple persuasive writing task could manipulate specific value sets and in turn, change the likelihood of doping behaviours based on a detailed value framework and theoretical basis. It is hypothesised that self-enhancement and status values will be positively related to doping likelihood and negatively to clean likelihood, whereas self-transcendence and moral values will predict staying clean in sport and be negatively related to doping likelihood. It is further expected that the results of this study will be similar to that of Feldman et al. (2015) when reflecting on the breakdown of the ten basic values, but instead in a sport-specific context. The self-enhancement value *power* is suggested to be positively associated with doping whilst the self-transcendence values of *universalism* and *benevolence* and conservation value of *conformity* are predicted to be associated with the inhibition of doping behaviours, therefore remaining clean

CHAPTER 2: Study 1: The relationship between doping behaviours, remaining clean and values – a cross-sectional approach.

2.1. Introduction

The current study explored the relative importance that athletes give to personal values (Schwartz, 2012), youth sport values (Lee & Whitehead, 2008) and spirit of sport values (WADA, 2015), examining the relationships with one another as well as doping likelihood and remaining clean across a range of sports.

2.1.1. The Spirit of Sport

The desire to foster intrinsic values associated with participation in sport underpins WADA's anti-doping strategy. The World Anti-Doping Agency (WADA) has published an 11-value 'Spirit of Sport Statement' declaring the universal ethical basis for global sporting practice in the World Anti-Doping Code (WADA, 2015). It states that (p. 14) "*Anti-doping programs seek to preserve what is intrinsically valuable about sport. This intrinsic value is often referred to as the spirit of sport. ... The spirit of sport is reflected in values we find in and through sport, including: ethics, fair play and honesty; health; excellence in performance; character and education; fun and joy; teamwork; dedication and commitment; respect for rules and laws; respect for self and other participants; courage; community and solidarity. Doping is fundamentally contrary to the spirit of sport*". The values are outlined in Table 2.1, conceptualising the 'essence of Olympism [and] the pursuit of human excellence through the dedicated perfection of each person's talents' (WADA, 2016). It is presented as a standard of justice to ensure that all athletes compete clean and have an equal footing (Geeraets, 2018). It is however worth noticing that WADA describes rather than defines the spirit of sport and that the spirit of sport values appear to be more about sport rather than about the athletes who compete in sport. Taken together, these points highlight a need to

improve the conceptual clarity of the spirit of sport as used by WADA in the context of anti-doping.

Table 2.1. *Spirit of Sport Values (WADA, 2015)*

1	Ethics, fair play and honesty
2	Health
3	Excellence in performance
4	Character and education
5	Fun and Joy
6	Teamwork
7	Dedication and commitment
8	Respect for rules and laws
9	Respect for self and other participants
10	Courage
11	Community and solidarity

The spirit of sport can be interpreted to justify the exclusion from sport of those who engage in doping behaviours, as cheating violates some of values. The WADA Code 2015 (p. 30) states “*A substance or method shall be considered for inclusion on the Prohibited List if WADA determines that the substance or method meets any two of the following three criteria*” ... where the third criterion is ... “*use of the substance or method violates the spirit of sport*”. Complying with the Code and therefore adopting the statement as an ethical basis is essential for sporting organisations to practice and receive public funding (Mazanov, Huybers & Barkoukis, 2018), which helps uphold and regulate the required standard across sport. It is unclear whether all values should be assumed to have the same importance, equally contributing to the construct, or if they are listed in a hierarchical format of relative contribution and importance. There has been little empirical evidence to test the concept universally, however variation of what values are considered important has been found across cultures (Mazanov, Huybers & Barkoukis, 2018). Here, participants were instructed to indicate the values that they considered the least and most important in defining the spirit of sport in a variety of choice sets. Whilst this is different to rating the importance of the 11

values generally, it can still indicate how the values are perceived and their relative importance in defining ethical practice. Best-Worst scaling has been used in Greek samples of athletes indicating that *health* stood out as the single most important value, followed by a cluster of *ethics, fair play and honesty, respect for self and others* and *character and education* (Mazanov, Huybers & Barkoukis, 2018). Earlier studies have revealed that Australian populations consistently ranked the value *health* sixth or seventh across three samples (Mazanov & Huybers, 2016) which also shows cultural disparity in value importance and suggests a need for further research into the values that comprise the Spirit of Sport and their influence on doping likelihood and behaviour.

In lay terms, the concept of the ‘Spirit of Sport’ is a sociologically and historically vacuous concept that has often been critiqued for its ambiguity. It has further been critiqued (e.g. Kornberk 2013; Ritchie, 2013) as providing a considerable degree of elasticity to those who administrate anti-doping policy and procedures. This arguably makes reaching unreasonable decisions possible with the justification that they infringe sport’s ethical basis. Forgues, Mazanov and Smith (2017) outline the example of prohibiting human milk as a ‘doping’ substance. The failure to adequately operationalise the statement also increases the risk of athlete exploitation (Loland & Hoppeler, 2012) which further demonstrates the need to understand the values outlined and how athletes regard them in relation to doping likelihood. Empirical evidence is needed to determine a set of values that is deemed more ‘fit for purpose’ (Mazanov, 2017; Mazanov, Huybers & Barkoukis, 2018). The assumption here, using the constructs of the spirit of sport, would be for example that if *health* is regarded as an important value for athletes, they would avoid behaviours such as doping as such methods can jeopardise an athlete’s health. However, this becomes problematic as the same athlete may also value *excellence in performance* which may be accelerated through illicit doping

behaviours; empirical support for this assumption stem from a strong positive correlation between doping intentions and performance-orientated goals in sport (e.g. Barkoukis et al., 2011; 2013). With sport ultimately being a multidimensional microcosm of society, it has various different value systems attached to it (Cleret, 2016) which can make applying value concepts difficult especially when value conflict occurs. Generally, research has shown that all values are esteemed and regarded important promoting conflicting ideas. Furthermore, Mazanov, Huybers and Connor (2012) revealed variance in the spirit of sport value importance (in relation to defining the spirit of sport as a moral basis) across varied demographic categories. For example, people who reported no interest in sport, rated *health* as the second most important value in comparison to placing it seventh overall by those who regularly or occasionally consumed or participated in sport. They also observed differences across elite and non-elite athletes, specifically concerning *fun and joy* and *dedication and commitment*.

The spirit of sport values are assumed to be universal and therefore should guide performance enhancing decision making by operationalising morality in order to tackle doping. As a result of this, the research wanted to further test the relationship between the spirit of sport values and both doping and clean intentions, bringing into question the role it holds in the current anti-doping procedures. It was suggested that all values would be rated highly and important. However, it is not possible to predict based off past research how this will then influence the doping-related variables.

2.1.2 Hypotheses and predictions

Based upon the research and theoretical concepts outlined above, it is hypothesised that self-enhancement values would have a strong positive relationship with doping likelihood and a strong negative relationship with clean likelihood. Self-transcendence values, on the opposite

end of the continuum in the theoretical framework, would have the opposite relationships being strongly positively correlated with clean likelihood and strongly negatively correlated with doping likelihood. It is expected that moral values will have the same relationships as self-transcendence values and that status and self-enhancement values will have the same effects on the hypothetical behaviour outcomes measured. It is also expected that the spirit of sport would be negatively linked with doping intentions and positively associated with clean likelihood, despite the differences in some of the previous research and the current criticisms of the concept.

2.2. Method

2.2.1. Participants and recruitment

In total 233 athletes, both male ($N = 94$, 40.3%) and female ($N = 139$, 59.7%), completed the survey. Athletes had been competing in their 31 different sports for 8.95 ($SD = 7.46$) years on average. Athletes competed in both team ($N = 185$, 79.4%) and individual sports ($N = 48$, 20.6%) with football, netball and basketball being the most popular main competitive sports in the current sample. At the time of data collection, the highest level competed at was 'International' ($N = 17$, 7%), followed by 'National' ($N = 29$, 12%), 'Regional/County' ($N = 69$, 29%) then 'Club' ($N = 101$, 43%) and 'Other' ($N = 17$, 7%).

2.2.2. Procedure

After receiving approval from the research ethics committee, participants were recruited via social media platforms and through contacting sports clubs and athletes directly, including those at universities. Participants were made aware that participation was voluntary and anonymous with the main aims of the study briefly outlined. The importance of honest responses was clearly stated and the option to withdraw from the survey before completion

was explained. Consenting participants then completed the survey, which was distributed both online and as paper copies.

2.2.3. Measures

Demographics

Gender, the number of years competing in main sport, the highest level of competing and the nature of main sport (i.e. team or individual) were asked at the start of the questionnaire.

Doping likelihood

A range of hypothetical scenarios were created asking the athletes how likely they would be to dope in each on a 7-point scale ranging from 1 (not at all likely) to 7 (very likely). The stem read as follows:

“Imagine that you are an athlete who is due to compete in an important sporting event. You are seriously considering using a banned performance enhancing substance but have not made a final decision. We have listed a number of situations you may face. Please tell us what you think you might decide to do in each situation. For each of the situations listed below, how likely is it that you would use a banned performance enhancing substance (i.e. doping) when...”

There were nine different situations measured (see appendix), adapted from research by Ring, Kavussanu and Gurpinar (in press), as these had the highest mean ratings when assessing hypothetical doping likelihood in a similar context. Items included ‘you expect a financial gain of £75,000’, ‘you are encouraged by a coach’, ‘the chance of detection is very low’ etc. The Cronbach’s alpha for the nine items was 0.934 showing excellent scale reliability.

Demand reduction techniques that aim to keep anonymity and confidentiality whilst reminding participants of the importance of honest responses, are considered effective for minimising socially desirable responding (Chan, 2009; Paulhus & Vazire, 2007). Therefore,

by using hypothetical methods athletes may feel less threatened about revealing their true intentions to dope which will help to tackle the global issue of doping in sport through better understanding of the influential factors. The current study has implemented these considerations however it should be acknowledged that in some situations (e.g. illegal activity or assessments), the desire to distort one's responses would take priority over honest responses and still be exceptionally high, irrespective of such reminders (Paunonen & LeBel, 2012; Gucciardi et al., 2017).

Magic Pill/Remaining clean

The likelihood of remaining clean was assessed through a novel hypothetical 'magic pill' scenario as academics have questioned methodology that simply tests doping intention as opposed to resisting pressures and competing without any illicit performance enhancement drugs or methods. The stem read:

“Imagine that you are an athlete who is due to compete in the most important competition in your sport (e.g. Olympic Games, World Cup, Major Tournament etc.). Winning the competition and being recognized as the most valuable competitor at the event will earn you great fame and fortune (e.g. cash, sponsorship, endorsements, TV deals, awards, book deals, publicity, public adoration), making you the most important athlete of your generation. The only way to make this happen is to take a magic pill that will make you perform like a superhuman athlete during the competition. You should also know that use of this illicit drug will never be detected and will never have any health side effects. In this situation, how likely are you to compete clean (i.e. drug free)?”

Participants were then asked three slightly different word variations surrounding the likelihood of remaining clean – 'how likely'/'how probable'/'how confident' that they would compete clean. This was measured on a 7-point scale, anchored by 1 (not at all

likely/probable/confident) to 7 (very likely/ probable/confident). The variations were included to increase the reliability and accuracy of the measurement as it is an original concept. The Cronbach's alpha of the three measures was 0.941 showing excellent internal consistency of the measurement.

Personal Values Questionnaire (PVQ-RR)

Values were assessed, in a general context, using the Portrait Values Questionnaire Revised (PVQ-RR; Schwartz et al., 2012). The PVQ-RR assessing both the 10 basic values and the 19 refined values through 57 different items. The questionnaire was adapted by changing the male and female pronouns used to gender neutral pronouns such as 'them', 'their' and 'they'. The 57 items briefly describe different people and participants were asked to think about how much they thought they were like the person described and rate this on a 6-point scale, ranging from 1 '*not like me at all*' to 6 '*very much like me*'. The items all relate to desired attributes or 'ideal' situations regarding the world and life; for example, '*it is important to them that the weak and vulnerable in society be protected*'. The PVQ-RR was found to have good internal reliability with the Cronbach's alphas reading at 0.79 for *self-enhancement*, 0.840 for *self-transcendence*, 0.82 for *openness to change* and 0.85 for *conservation*. It is recommended that an asymmetric rating scale is used when measuring values because it allows the expression of 'negative values', which is of heightened importance in cross-cultural studies where certain values may not be considered highly in specific cultures (Schwartz, 1992; 1994).

Youth Sport Values Questionnaire Composite (YSVQ-C)

To then examine values in sport specific scenarios, to allow us to draw comparisons with the PVQ-RR, the Youth Sport Values Questionnaire-composite (Lee & Whitehead, 2013) which combines the original YSVQ and the later adapted version, the YSVQ-2 (Lee et al., 2000)

was included. The YSVQ-C version was created to prevent misinterpretation and incorrect analysis previously highlighted (Whitehead et al., 2013). The questionnaire uses 24 items, 13 of which fall into the three categories *moral values*, *competence values* and *status values*. The scale was adapted slightly, ranging from 1 (*not like me at all*) to 6 (*very much like me*), consistent with that used in the PVQ-RR, and added a new item making it 25 in total. The new item read '*it is important to them that they don't spoil the event or competition*' defining the ideas of contract maintenance from the original YSVQ. Once again, athletes were asked to read the statements describing an athlete and decide how much they were like them. The *moral* items were slightly adapted and reworded in line with previous misunderstanding with some of the items and instructions from Jean Whitehead who created the youth sport value measures. The item '*do what you are told*', that seems to conceptualise obedience, was replaced with the new item defining 'contract maintenance'; the Cronbach's alpha for the moral items was 0.78. An additional item assessing the importance of '*looking good to others*' was incorporated in the *status* scale, giving a Cronbach's alpha of .64 and the *competence* scale gave a Cronbach's alpha of 0.75 (See appendix for questionnaire).

Spirit of Sport Values

The final measure created and included in the survey was based upon the Spirit of Sport Values (WADA, 2015). Participants were asked to rate the 11-values from the statement (see Table 2.1; WADA, 2015) on a 9-point scale that assessed how important athletes regarded the values, 'as guiding principles, within competitive sport'. The scale was anchored by 1, *opposed to my values*, to 9, *of supreme importance*, following the rating scale style of Schwartz (2012). The Cronbach's alpha of the measure was 0.82, showing good internal consistency.

2.3. Results

2.3.1. Schwartz' Personal Values

The first purpose of the study was to examine the value-doping relationship, specifically looking at the relationships between personal values and both doping and clean intentions. Pearson correlations showed that *doping likelihood* was positively correlated with *self-enhancement* values and less strongly negatively associated with *self-transcendence* values and *conservation* values (See Table 2.2). *Clean likelihood* was positively associated with *self-transcendence* values and *conservation* but negatively with *self-enhancement*. *Self-enhancement* values had the strongest relationships with the doping variables, followed by *conservation* and then *self-transcendence*. *Openness to change* was not related to both *clean* and *doping likelihood*.

Self-transcendence values were rated the most important, followed by *openness to change*, *conservation* and then *self-enhancement* values which were rated the lowest (Table 2.2). The results support the Personal Value Theory in that the opposing values on the dimensions were strongly negatively correlated, with adjacent values either less so or not correlated at all.

Further analysis, expanding these value sets to the ten basic values showed that generally all values were desirable and rated positively. An analysis of variance on the ten basic values yielded a main effect of dimension on importance ratings, $F(9, 224) = 125.39$, $p < 0.01$, $\eta^2 = .83$. *Benevolence* was rated the most important value, followed by *Hedonism* with *Power* and *Tradition* rated the least important in the current sample (See Figure 2.1). All ten values were significantly different from every other value apart from *achievement* and *self-direction* and then *stimulation* and *security*.

Table 2.2. Descriptive statistics and Pearson's correlations for doping/clean variables, personal values and sport values.

Variable	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8	9.
1. Doping likelihood	2.77	1.45									
2. Clean likelihood	5.01	1.86	-.52**								
3. Self-enhancement	3.75	0.78	.35**	-.31**							
4. Openness to Change	4.74	0.59	-.05	-.08	-.20**						
5. Self-transcendence	4.83	0.57	-.18**	.15*	-.73**	.04					
6. Conservation	4.00	0.74	-.21**	.30**	-.38**	-.66**	-.01				
7. Moral	5.03	0.67	-.34**	.25**	-.58**	-.07	.55**	.27**			
8. Competence	5.01	0.68	.01	-.01	-.05	.32**	.03	-.25**	-.26**		
9. Status	3.96	0.79	.29**	-.22**	.55**	-.18**	-.51**	-.06	-.70**	-.51**	
10. Spirit of Sport	7.16	0.90	-.06	.18**	-.21**	-.01	.05	.21**	.09	.03	-.10

** = $p < 0.01$, * = $p < 0.05$ (2-tailed)

All PVQ and YSVQ-C value scores are iptized (means centred), whereby each score's grand mean was subtracted from their category score (refer to Schwartz {2009} article where he explains the importance of iptized scores).

Note. Doping likelihood and Clean likelihood scales ranged from 1-7, Schwartz' value scales and YSVQ value scales ranged from 1-6 and the Spirit of Sport Scale ranged from 1-9.

Figure 2.1. Mean ratings of the ten basic values.

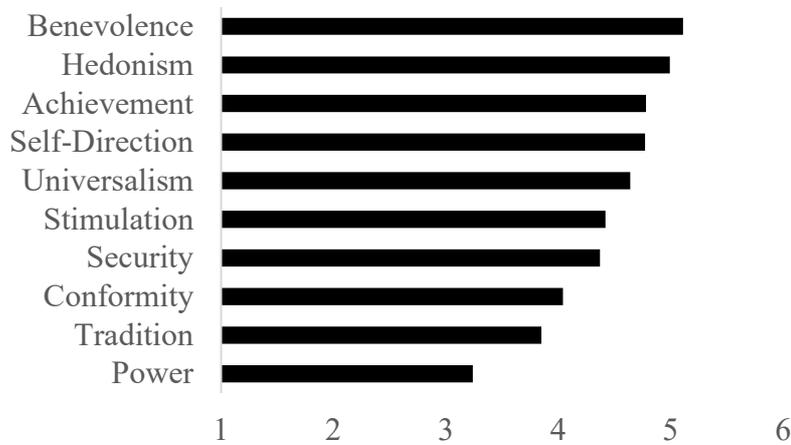
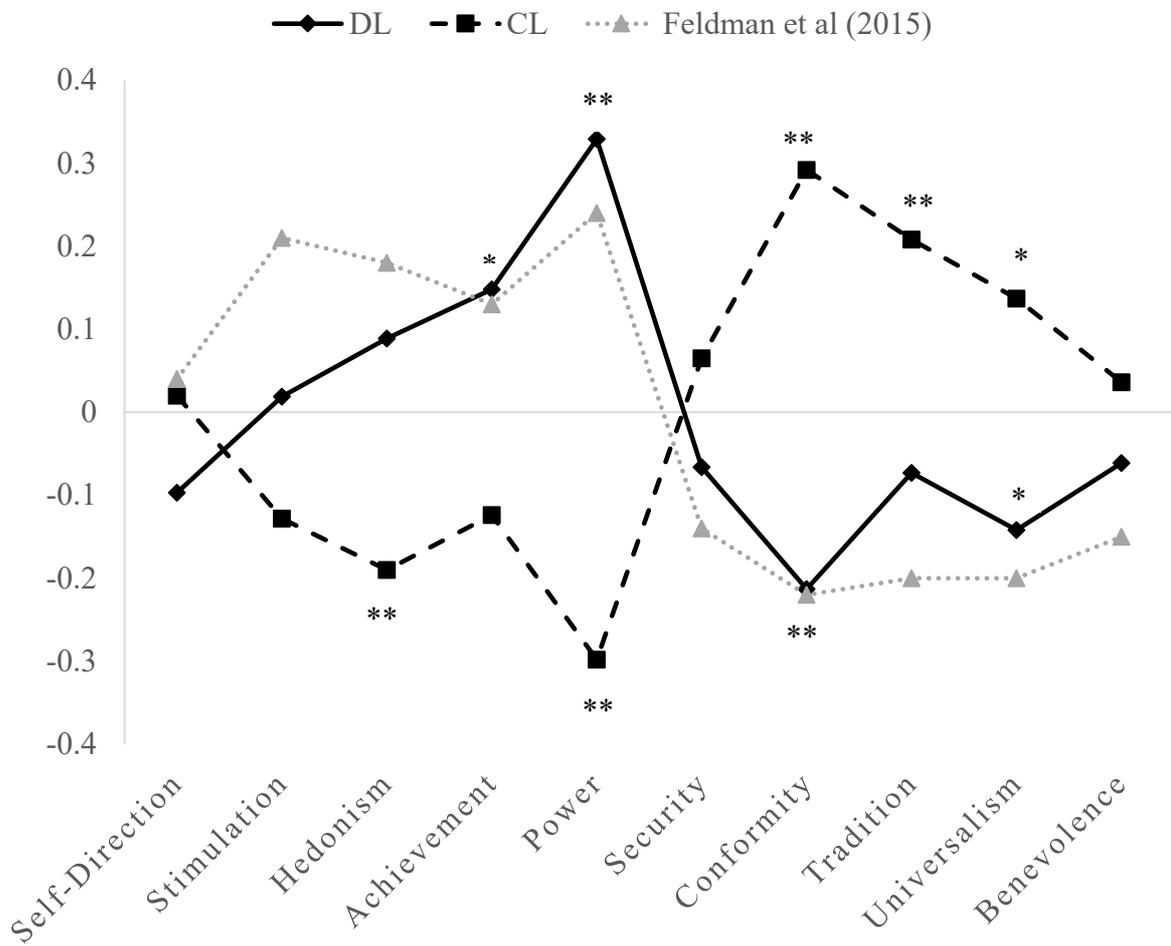


Figure 2.2 shows the ten basic values and their correlations with doping likelihood plotted against the results of Feldman’s study (2015), in which he looked at the basic values and unethicity. The graph also displays the clean likelihood correlations for the individual values; it is interesting to note that the majority of the values seem to mirror one another. For comparison purposes, the results of Feldman’s study (2015), which looked at the basic values and unethicity, are shown.

The results indicate that the value *Power* had the strongest correlations for both doping and clean likelihood, positively correlated with doping intentions and negatively correlated with clean intentions. *Achievement*, which also falls under *Self-enhancement* with *power*, was associated with doping likelihood but not clean likelihood. *Universalism* and *Conformity* were found to both be significant for both clean and doping likelihood and fall under *Self-transcendence* and *Conservation* respectively.

Figure 2.2. Correlations between personal value and both doping likelihood and clean likelihood. **. = $p < 0.01$, * = $p < 0.05$ (2-tailed)



The values on the horizontal axis are arranged in the order displayed on the original circular motivation so it is interesting to note that the values that have significant correlations are in similar locations on the model developed by Schwartz (see general introduction). The values that fall under the *openness to change* category in the theory, seem to have no or insignificant effects on both doping and clean likelihood apart from *hedonism* which is sometimes placed here and sometimes under *self-enhancement* (Schwartz et al., 2012).

2.3.2. Sport-specific Values

The second purpose of the study was to examine the sport value-doping relationship, specifically looking at the relationships between sporting values (Lee and Whitehead, 2008), the spirit of sport and both athlete's doping and clean intentions. Pearson correlations showed that *doping likelihood* was positively correlated with *status* values and negatively associated with *moral* values. *Clean likelihood* was positively associated with *moral* values and *spirit of sport* values but negatively with *status* values (See Table 2.2).

An ANOVA on the three YSVQ higher order value scores yielded a main effect of dimension $F(2, 231) = 193.93, p < .001, \eta^2 = .63$. *Moral* values were rated the most important, closely followed by *competence* values and then *status* values rated the least important (Table 2.2). *Moral* and *self-transcendence* values seem to have similar importance and relationships with the doping and clean variables; this also seems to be the case for *status* and *self-enhancement* values, having the opposite effects again in support of the theory and the use of value dimensions.

An ANOVA on the 11 *spirit of sport* values yielded a main effect of $F(10, 223) = 34.12, p < .01, \eta^2 = .61$. When exploring the spirit of sport values on their individual level as opposed to the general concept, the results show again that all values are desirable and rated highly in competitive sport (see Figure 2.3.). *Health* was rated the most important value, followed by *Respect for Self and Others* with *Community and Solidarity* and *Performance* rated the least important within the current sample. *Health* was the only value found to be significantly different to every other value.

Figure 2.3. Mean rating scores for the 11 Spirit of Sport Values (in order of highest to lowest).

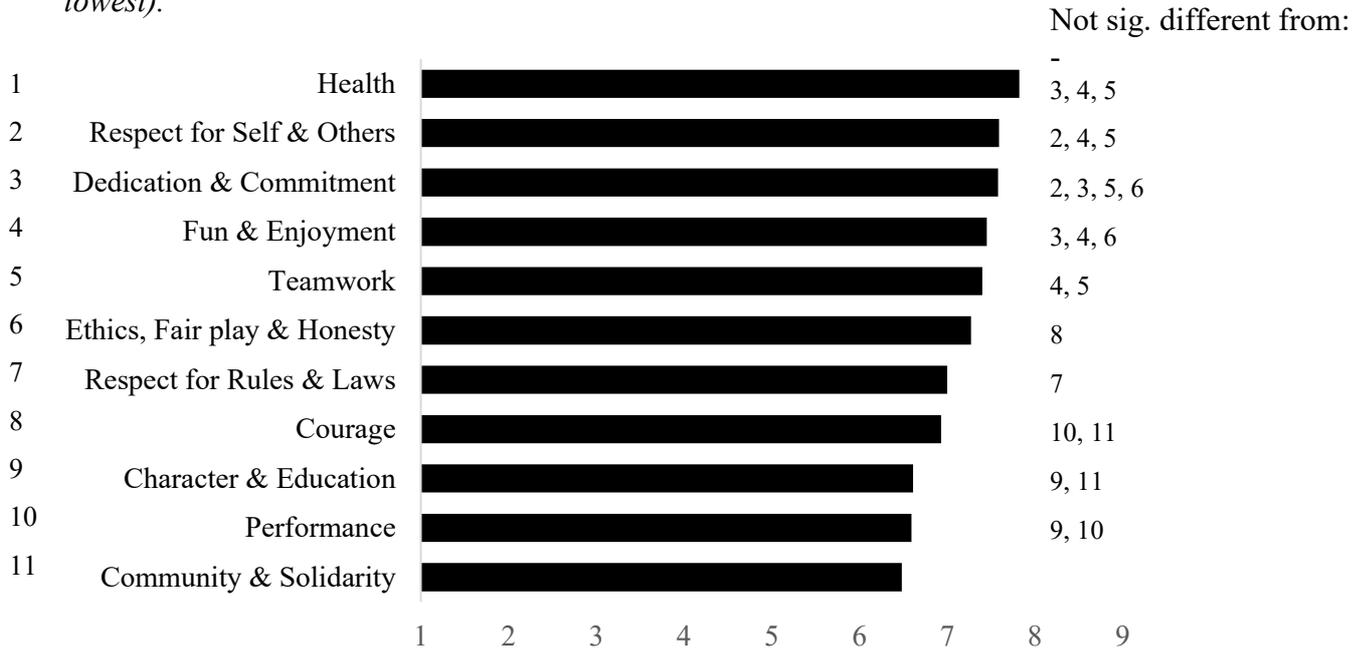


Figure 2.4. Spirit of Sport Values, Doping Likelihood and Clean likelihood. **. = $p < 0.01$, *. = $p < 0.05$ (2-tailed).

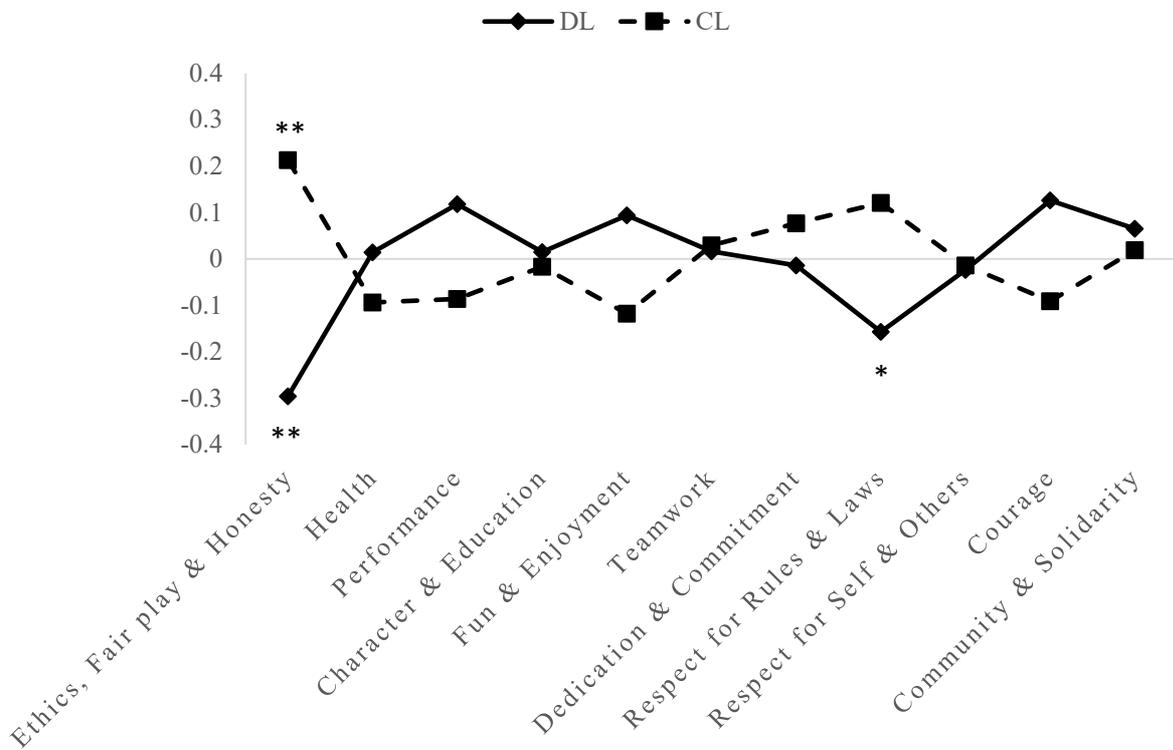


Figure 2.4 highlights that, only ‘Ethics, fair play and honesty’ was significantly associated with doping likelihood and the other ten values that make up the construct were not significant. For clean likelihood, again ‘Ethics, fair play and honesty’ and ‘Respect for rules and laws’ were the only significant predictors. The shape of the graph lines for both variables seem to mirror one another for the majority of variables, however for in general the relationships between the variables are relatively weak. The values that have the most impact load heavily on the factor that refers to ideas of the *moral* group from the sport values outlined by Lee et al. (2000), suggesting these are the important and influential values.

2.4 Discussion

The present study is the first to explore the role of both personal and sport-specific values in regard to doping behaviours in competitive athletes. The study aimed to examine the extent of the cross-sectional relationships between the values and both doping likelihood and clean likelihood, which is also a novel concept of the study design in the current doping literature, directly testing both anti-doping and pro-doping variables. Schwartz’ theory of personal values (Schwartz, 1992), the youth sport values questionnaires (YSVQ and YSVQ2; Lee et al., 2000; 2008) and the spirit of sport (WADA, 2015) make up the theoretical framework that was then assessed in the current sample.

2.4.1. Personal values and doping

The primary purpose of the research was to examine the relationship between personal values, outlined in the personal values theory (Schwartz, 1992; 2012) and doping and clean intentions. The theory highlights ten basic values structurally rearranged on a circumplex continuum, organised under two sets of motivationally conflicting higher order value sets. In support of the model, *self-enhancement* and *self-transcendence* and then *openness to change* and *conservation* were all very strongly negatively associated with each other. The data also

supports the theory as doping likelihood was positively correlated with *self-enhancement* values and negatively correlated with *self-transcendence* values which are found on opposite sides of the motivational value continuum. Clean likelihood was negatively correlated with *self-enhancement* but positively associated with *self-transcendence* values. *Conservation* values also appear to influence doping intentions, as they are positively linked with clean likelihood but negatively with doping likelihood, like *self-transcendence* values which are adjacent on the model.

When comparing these findings with Ring, Kavussanu and Gurpinar (in press), it is interesting to see that the correlations found with doping likelihood and personal values are extremely similar; Table 2.3. shows these findings. The study also used college athletes (N = 190), and self-report methods in hypothetical scenarios, which are likely to all be influential factors in the similarities observed but this demonstrates the reliability of the current data.

Table 2.3. Comparison of findings for the higher order value categories and doping likelihood from the study with Ring, Kavussanu & Gurpinar (in press). ** $p < 0.05$.

Higher order categories	Current study	Ring, Kavussanu & Gurpinar (in press)
Self-transcendence	-.18**	-.21**
Conservation	-.21**	-.22**
Self-enhancement	.35**	.29**
Openness to change	-.05	.11

Furthermore, in line with the findings of Danioni and Barni (2017), the current study also found that athletes attributed the greatest importance to *self-transcendence* values and the least importance to *self-enhancement* values. This specific study investigated prosocial and antisocial behaviours in adolescent athletes and again supported the idea that *self-enhancement* values were significantly positively associated with antisocial behaviours. Values are generally important across different situations but generally those that capture

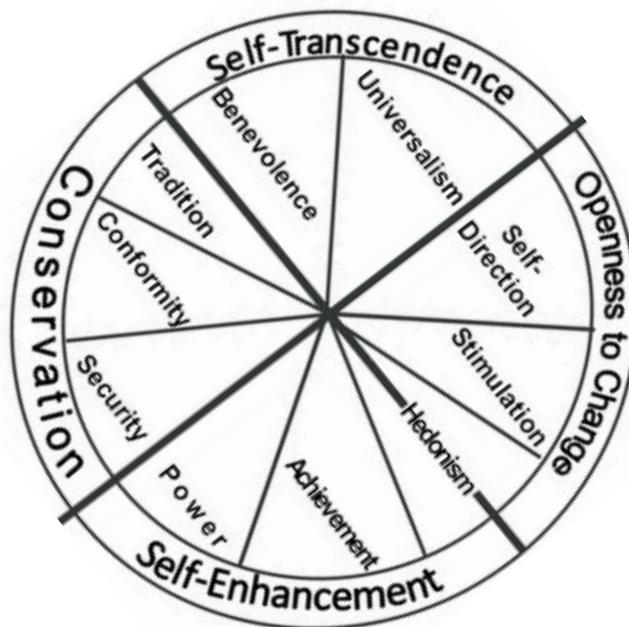
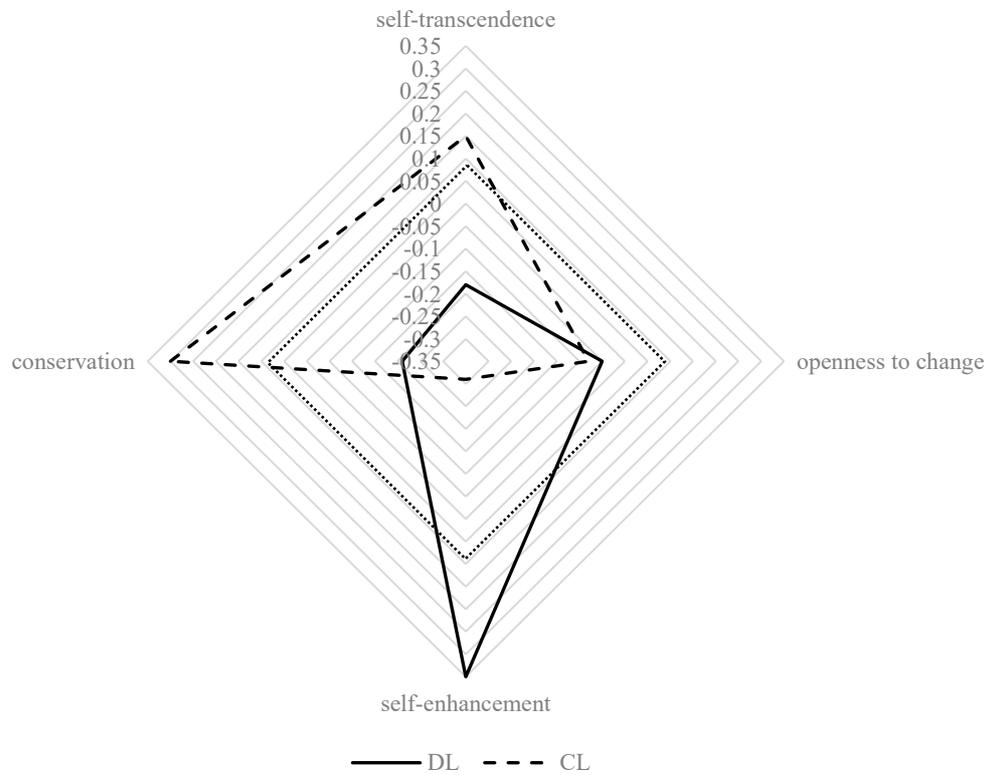
helping others and acknowledge the greater good are seen to have more importance than those fulfilling more selfish needs.

As reported in the results, when plotting the results for the ten basic values against that of Feldman et al.'s (2015) study, the pattern for unethicity and doping behaviours was again very similar; this was initially expected as doping is ultimately an unethical, deceptive and unfair behaviour likely to be facilitated by similar values to other antisocial and unethical contexts. The *openness to change* values appear here to have slightly more influence in general unethicity (Feldman et al, 2015) and antisocial behaviours in young players (Danioni and Barni, 2017), where they had a significant positive relationship, but had no influence on doping behaviours which is again supported in research by Ring, Kavussanu and Gurpinar (in press). Figure 2.5 presents the correlations for values pictorially according to the circumplex theoretical model to create a visual representation of the values in the theory alongside the doping behaviour variables to infer the influence they have.

The value *power* was found to be the strongest predictor of both doping likelihood and remaining clean which supports the idea of athletes using exogenous substances to enhance performance for personal gain (McHugh, 2005). *Power*, however was rated the lowest in terms of importance when participants were asked to indicate the level of similarity between themselves and statements on the PVQ-RR, out of all the ten basic values potentially implying that values rated less positively are more predictive of anti-social behaviours, like doping in sport. Building upon these findings, it could be clarified in further research whether these findings can be generalised to athletes who have different levels of experience, competition level (e.g. only elite athletes) and across different sports and measurements of doping to examine the extent of values and their influence on doping across sport. The effects

of value manipulations could also be investigated in a doping specific context to test whether activating or changing values that are related to specific intentions can in turn alter behaviour. This could also create the fundamental basis for value change interventions in order to tackle doping using Schwartz' value complex.

Figure 2.5. Personal values and doping likelihood correlation plots in line with the theoretical model



2.4.2. Sport Values and Doping

The current study confirms the association between doping related variables and sport-specific personal values, developed and defined by Lee et al. (2000, 2008), that partially overlap and can be arranged on the Schwartz' circumplex model (Whitehead et al., 2013; See Figure 1.2). This is confirmed as *self-transcendence* values were highly positively correlated with Lee's *moral* values (2000) and again *self-enhancement* values were highly positively correlated with *status* values ($r = .55$ for both). Openness to change values were positively related to *competence* values, but there was no correlation between these variables and any of the doping-related variables.

It was also evident from the findings that *doping likelihood* was significantly positively related to *status* values and negatively to *moral* values. The opposite was observed for *clean likelihood* as *status* values were negatively correlated and *moral* values positively correlated as previously hypothesised. This is again strongly supporting the link and overlap between the personal and sport values as they are observed to have similar effects on the doping variables, suggesting that they conceptualise and operate on the same value complexes as outlined in the theoretical models. This highlights that understanding moral reasoning is a key factor in values research, specifically in regard to doping and efforts to tackle doping incidences in sport. Whitehead, Telfer and Lambert (2013) suggest applying these values as a different explanation in the examination of moral decision making as values force athletes to consider and prioritise what they want to achieve and how they will do it. Goggins (2015) also observed that the moral scale is relatively broad covering obedience, compassion and being fair, which could further explain the results observed as elements of the scale may be more related and influential in doping behaviours than others; individual moral elements may provide slightly stronger observed

correlations. These findings were in line with my current expectations as morals are concerned with the principles of right and wrong behaviours and doping is ultimately a dishonest, unhonourable and unvirtuous practice; within sport psychology, morality is agreed to hold a central role (Mazanov and Huybers, 2016). Moral disengagement (Bandura, 1991), outlined in the *Theory of Moral Thought and Action* conceptualises the disregard for an individual's morals resulting from psychological mechanisms within specific contexts. Moral values are therefore likely to protect against doping behaviours and support the likelihood of staying clean in sport. Status values are more likely to promote immoral behaviours, rationalising them on the basis of success and power, disengaging from the moral values that we have even though as observed in this study, they are regarded the most important. Within the doping literature, there is a lot of empirical support for these assumptions (e.g. Hodge et al., 2013; Lucidi et al, 2013; Ring and Kavussanu, 2018, Kavussanu and Ring, 2017). It should also be noted that this is different from the moral stance that the athlete will hold which could be consistently abstaining from doping, but the athlete morally disengages moving away from this stance dependant on the sport-specific situation they are in.

The importance of the YSVQ-C values as indicated by the mean values was in line with previous findings, using the YSVQ-2 (Lee et al., 2008; N = 491). *Moral* values were rated the most important, very closely followed by *competence* values and then *status* values clearly assumed the least important overall; the collective interest is often valued greater than power-related values defining individual gain at face value. The YSVQ-2 is praised for broadening competence and status values that were said to be underrepresented in the original YSVQ (Lee et al., 2008) and this is also assumed to be the case with the adapted scale used in the present study. This study was the first to my knowledge to explore the relationship between sport

specific values alongside personal values with doping and clean likelihood and provides useful and valid evidence within the athlete sample used.

2.4.3. Spirit of Sport and doping

The present study investigated the *spirit of sport* statement values alongside doping variables in greater depth than in the literature previously, by analysing the concept as a whole as well as implementing the values individually regarding doping and remaining clean. The statement (WADA, 2015) has become the universal ethical basis when justifying the anti-doping system in place and therefore the banning of athletes. The importance of each value was also ranked. *Health* was considered the most important, significantly different to all other ten values. This is in line with the Greek student samples studied and referred to previously (Mazanov, Huybers & Barkoukis, 2018), who rated the value as the most important when implementing best-worst scaling regarding the definition of the spirit of the sport. This was not found to be the case for the Australian samples as they rated *health* sixth and seventh out of the eleven given values. It should be noted that all the Greek samples were presented with performance-enhancing drug questions prior to the scaling instruments which could have had a priming effect; part of the questions instructed participants to consider *health* specifically in regard to doping, potentially implicating the given responses (Mazanov, Huybers & Barkoukis, 2018). Rating *health* amongst the other values ultimately tests the viability of harm-minimisation as the basis of drug control in sport, separating it from performance enhancement. The variation in relative importance can suggest for the samples analysed, which are suggested to be representative of the general and athlete population, harm-minimisation is unlikely to reduce doping prevalence, improving drug control in sport. This is further empirically supported in

the findings as no correlation is observed between the value *health* and doping or clean likelihood.

Respect for self and others was also rated second most important in line with the findings of their study, as it was consistently rated highly amongst the Australian and Greek samples, but to a lesser degree in the Greek students. Contrastingly, *Ethics, fair play and honesty* was found to be ‘universally important’ (Mazanov, Huybers & Barkoukis, 2018) but in the current study was ranked sixth overall. Considering this study used an athlete sample, the *health* rating is surprisingly more consistent with their demographic group who reported no interest in sport (rated second most important) than those who engaged with sport (rated seventh). This reaffirms the assumption that the spirit of sport is not only culturally bound but that there is often disagreement on the values included and their importance in sport. Separate to this idea of ambiguity in defining the values, the extremely limited relationship between the doping variables and the spirit of sport again undermines its place in the anti-doping legislation and procedures.

The spirit of sport, measured as a collective of the 11 values, was significantly positively related to *clean likelihood* but no relationship was observed with the *doping likelihood* variable. It was also significantly negatively related to *self-enhancement* values and positively correlated with *conservation* values. There were no other significant relationships with any of the other observed variables for the current athlete sample. Given that the spirit of sport is suggested to operationalise morality and provide the moral basis for the prohibitionist legal approach to sport’s drug control (Mazanov and Huybers, 2015), the findings from this study question the validity and use of the concept concerning doping, as one would expect to see not only strong relationships with *moral* ($r = .09$) and *self-transcendence* ($r = .05$) values but

also a clear correlation with the doping likelihood measures included. *Ethics, fair play and honesty* and *Respect for the rules and laws* were significantly associated with and therefore predictive of doping likelihood whereas all other 9 values were not. This reaffirms the belief that the implementation of the spirit of sport as a whole cannot assume doping behaviours and even more generally morality in sport as the spirit of sport values revealed different relations with doping and clean likelihood.

The spirit statement has previously indicated that the 11 values are ‘example’ values (WADA, 2015) however, these are the 11 that are universally acknowledged and published in the value literature and consistently referred to when exploring the concept. The idea of the spirit of sport being a unidimensional construct doesn’t hold, supported as they all relate differently to *doping likelihood* and *clean likelihood*; the ‘spirit of sport’ statement cannot be used generally to predict *doping likelihood* therefore its justification as the moral basis for the international efforts to prevent doping and the exclusion from sporting societies if caught using specific substances or methods are somewhat flawed. The significant relationship reported with the whole concept and *clean likelihood* could justify the implementation of the construct to educate athletes on competing clean, operationalising morality. Mazanov (2015) has argued previously the need for a shift from the ‘ethically ambiguous’ spirit statement to a social responsibility model, deeming the current statement unfit for purpose from his research findings. The current study supports his ideas and therefore, in the research series outlined in this paper and the introduction of value manipulations alongside doping measures, the spirit of sport is no longer implemented or measured under sporting values.

2.4.4. Conclusions: building upon the findings

The current findings show that the personal value systems act based according to a circumplex structure enabling me to predict the doping behaviours of athletes and the likelihood of them engaging with prohibited substances to facilitate performance. *Self-enhancement*, *self-transcendence* and *conservation* values were the influential motivational goals for doping and clean behaviours whereas *openness to change* was not relevant in a sport-specific doping context. The research identified that from the Schwartz values (1992), *power* was the most relevant and predictive factor of *doping likelihood* and *clean likelihood* for the current sample of athletes. The results also support the overlap and combined model of the Schwartz values (1992) and the sport values (Lee et al, 2000), whereby *self-enhancement* and *status* values and then *self-transcendence* and *moral* values conceptualise and operate on similar value patterns, consequently predicting doping behaviours similarly. The study has therefore established the extent to which doping and clean likelihood are associated with sport-specific values. Through establishing these cross-sectional relationships, the data has revealed the value sets that need to be targeted in educational interventions and potentially manipulations to change values, to encourage a stronger anti-doping approach. Future research should aim to examine the effects of value manipulations of particular values in order to construct the evidence base for important future interventions. It is suggested that initially only the 3 relevant higher order categories (Schwartz et al., 2012) should be manipulated and in turn this should also affect the sport-specific value measures.

It can also be concluded from the research that the *spirit of sport* concept (WADA, 2015) fails to operationalise morality successfully and in turn, predict doping behaviours, questioning the validity and place of the concept in the anti-doping legislation. It is suggested that the

personal and sport-specific values provide a more robust and empirically established basis for future interventions and research into doping behaviours, protecting the right to confidently participate in clean sport for all athletes.

CHAPTER 3: Study 2: Experimental manipulation of values in athletes': Can moral values be enhanced to protect against doping intention?

Building upon the findings from the preceding study and moving forward, the aims of the research shifted to examining the effects of value manipulations that could prime and change the higher order value categories, increasing the salience of the doping related values identified previously in Study 1. This would be important, helping to thereby establish a value basis founded upon empirical evidence for athlete anti-doping interventions in the future, advocating a clean sport approach. As this would be the first study, to my knowledge, to try to change values in a doping context, the aims were to examine if increasing self-transcendence and conservation values would reduce doping likelihood and increase clean likelihood and if increasing self-enhancement values would increase doping likelihood, reducing clean likelihood.

3.1. Introduction

According to Schwartz (1992), values that concern *self-transcendence*, which express the motivations to transcend selfish concerns and to connect with others (e.g. *universalism* and *benevolence*), are on the opposite end of a continuum to *self-enhancement* values that reflect the motivation to promote one's own interests, even at the expense of others (e.g. *power* and *achievement*). These categories of values therefore reflect opposing motivational concerns, specifically conceptualising self-regulation values (Schwartz et al., 2012; Tamir et al., 2016). The findings from Study 1 support the conflicting ends of the continuum in regard to doping likelihood as they have opposing significant effects on the doping-related variables. Whilst it appeared that *openness to change* had no influence on doping likelihood, *conservation* on the opposing end of the second continuum was significantly predictive of doping behaviours and remaining clean. The current study therefore focused on these three relevant higher order

categories, manipulating them based upon relevant value change techniques adapted from previous empirical research. The main focus is to determine whether the promotion of selfish interests alongside prioritising moral good can be manipulated and can impact an athletes' doping behaviour and consequently the guilt they feel.

Generally, values are assumed to be stable (Rokeach, 1973; Schwartz 1992) as they play a central role in the self and have a trans-situational nature, whereby they transcend different aspects of life. Several researchers support the idea of values changing (e.g. Rokeach 1973; 1975) but the psychological mechanisms and processes that influence value change have been less frequently explored. The research studies that have succeeded in changing values have often been critiqued for using fictitious feedback (e.g. concerning social 'norms'; Maio & Thomas, 2007) or alternatively for presenting the real social norms producing social comparisons and therefore consequent value change. Self-persuasion, through active steps like adjusting the dimensions along which an individual makes a judgement, can lead to value change when the individuals are sufficiently motivated and have the required ability (Maio & Thomas, 2007). This can also lead to the reinterpretation of one's judgments and is deemed to be as a result of more deliberate epistemic processes. Contextual features that are associated with values in memory, may prime specific value schemas consequently producing associated behaviours (Bardi & Goodwin, 2011); this can lead to more automatic value change as the automaticity of this process reduces any resistance to value change.

Other studies (e.g. Arieli et al., 2014) have used multiple activities to encourage value change through both effortful and automatic psychological processing. Arieli et al. (2014) focused specifically on the self-transcendence value of *benevolence*, reflecting the motivation to care and help others, through self-persuasion, consistency maintenance and priming and were able to change values. However, to my knowledge, there are no published studies to date that have

tried to manipulate an individual's values and the higher order values in a sport specific or doping-based scenario.

3.1.1. *Direct persuasion and value change*

As a result of the desirable nature values generally hold, reflecting on these values and bringing them into conscious thought is suggested to promote the importance of the named values and allows the participant to convince themselves to care more about the value sets. Bardi and Goodwin (2011) suggest that through deliberate consideration of what they consider important, individuals can consciously change their values. Direct persuasion is proposed as one of five facilitators for value change and suggested to be the most persuasive and effective (Bardi & Goodwin, 2011; Knafo & Schwartz, 2001). Arieli et al. (2014) introduced a novel approach to empirically test the assumption, proposed by Bardi and Goodwin (2011), that self-persuasion is an effective tool for changing values due to values' place in the self-concept. The method entailed asking participants to write a 10-minute persuasive essay to convince reviewers of the importance of values related to *benevolence*. They found that their tasks were effective in increasing benevolence through considering and advocating the importance of the associated values. Using this method again, Tamir et al. (2016) instructed American participants to write a 5-minute essay designed to persuade others of the importance of attributes and goals related to *self-enhancement*, *self-transcendence*, *openness to change* and *conservation*, specifically examining their effects on desired emotions. They supported the casual role of values in shaping the desirability of value-consistent emotions, suggesting that through increasing the value categories and their importance, it was possible to enhance the associated emotions.

Prior research has indicated that when people are aware they are being subject to persuasion attempts, they can display defence and resistance strategies (Arieli et al., (2014) affecting the

outcomes of the manipulation tasks. In order to prevent this, the studies outlined used self-persuasion methods, asking people to reflect on issues and generate ideas which helps to address any limitations as individuals generally view themselves as credible and authentic. There is no social influence or comparison involved and therefore the true intentions of the task were also somewhat distorted or not directly implied.

3.1.2. *Hypotheses and predictions*

The present study therefore aimed to use a persuasive writing task to enhance and bring into consciousness values associated with the Schwartz' (1992) higher order categories that were previously found (see Study 1) to significantly correlate with doping and clean likelihood (*self-enhancement, self-transcendence, and conservation*). The present research will use a similar approach to that of Tamir et al. (2016) but in reference to being a competitive athlete. The study was designed to explore whether through manipulating values, it could exert a subsequent casual effect on doping likelihood and clean likelihood. It was predicted that a simple 10-minute persuasive writing task would augment *self-enhancement, conservation and self-transcendence* values and therefore change the projected likelihood of both doping behaviours and remaining clean. As outlined in Chapters 1 and 2, due to the overlap and similarity of the Schwartz higher order categories with the sport specific value categories (Lee & Whitehead, 2000), it is further predicted that the value change intervention may affect these. It is suggested that self-transcendence and moral values when enhanced will reduce doping likelihood and increase the likelihood of stay clean and that self-enhancement and status values will increase the doping likelihood measures and reduce the chances of remaining clean in this context. As this type of task is yet to be used in a sport-specific context, my predications are based on the findings in the general literature with the hope that

the results can be replicated in a simple, single exercise, ameliorating the importance of given values in regard to sport and doping.

3.2. Method

3.2.1. Participants

Once receiving approval from the research ethics committee, participants were informed of the procedure of the research study through the university portal. All 162 participants were sport science, undergraduate students at the University of Birmingham. Participants were both male ($n = 82$, 51%) and female ($n = 80$, 49%) athletes competing in a range of 32 different sports. At the time of data collection, the highest level competed at was 'International' ($N = 16$, 10%), followed by 'National' ($N = 35$, 22%), 'Regional/County' ($N = 47$, 29%) then 'Club' ($N = 64$, 39%).

Participants were asked to visit the laboratory on two different occasions. To conceal their identities, allowing their results to remain anonymous, whilst still being able to match their individual responses and data, a code system was devised and implemented. The code was created by participants entering the last four digits of their phone number, the first two digits of their door number and the second and third letters in their surname (e.g. '342012OR'). This helps to reduce any concerns about social desirability and helps the pursuit of honest responses, concerning the sensitive nature of doping. Research has suggested that the nature of the question concerning incidents of dishonesty can result in respondents answering inaccurately (Bradburn & Sudman, 1979; Ong & Weiss, 2000)

3.2.2. Procedure and measures

Pre

Initially participants were asked to complete an online survey at least a week before the main manipulation. The survey included demographic variables, the PVQ-RR, and YSVQ-C (see

Study 1 for details). Doping variables were not included to avoid priming participants making the aims of the study more apparent, to avoid influencing the ratings given to the personal and sport specific values.

Manipulation

The main research aim was to be able to enhance one of the previously significant higher order value sets that group the 19 refined values, outlined in Schwartz Personal Value Theory (2012), through a simple writing task manipulation. Participants were randomly allocated to one of three different groups balanced by gender, controlling co-founding variables as it is suggested gender differences can influence doping behaviours and variables; *Self-enhancement* ($n = 53$; 26 male and 29 female), *Self-transcendence* ($n = 53$; 27 male and 26 female), and *Conservation* ($n = 54$; 29 male and 25 female). Participants sat in front of a computer and were given 10 minutes to write a persuasive essay adapted from materials created by Tamir et al. (2016).

In order to avoid priming the athletes, the study stated that it was looking at ‘*several goals that are common among young athletes*’ with athletes asked to ‘*convince other athletes of the particular importance of this goal in a written essay*’. Athletes were instructed to write an essay to persuade another athlete why striving to achieve different sets of values is necessary and important both in general, and to them, personally (*see appendix*). The wording of the stem for each group is shown below:

Higher order values	Wording in Stem
Self-enhancement	<i>Influential, wealthy, dominant and powerful</i>
Conservation	<i>Stable, obedient, careful and respectful</i>
Self-transcendence	<i>Tolerant, generous, co-operative and helpful</i>

Participants appeared to be continuously writing for the whole length of time given, suggesting they understood the task and could execute it without difficulty. After completing the writing task, participants completed measures to assess value and doping related variables (outlined in table 3.1); the scales used were similar to the versions used in the previous study (see Chapter 2).

Table 3.1. *Variables assessed in post-manipulation questionnaire and how they were measured.*

Variable	Measurement used
Doping likelihood	9 different hypothetical doping situations on a 7-point scale ranging from 1 (not at all likely) to 7 (very likely). As used in Study 1.
Clean likelihood	Hypothetical magic pill scenario (as per Study 1) asking athletes the likelihood of competing clean on a 7-point scale ranging from 1 (not at all likely) to 7 (very likely).
Anticipated guilt	The 5 guilt items from the State Shame and Guilt Scale (SSGS; Marshall et al 1994) on a 7-point scale ranging from 1 (not at all likely) to 7 (very likely). The scale asks participants to imagine they have used banned performance enhancing substances and indicate how they would then feel; an example statement is “I would feel remorse, regret” (<i>see Appendix</i>).
PVQ-RR	The same version was used as in Study 1 (adapted from Schwartz et al, 2012); participants were asked to what degree they were like the person described through 57 statements that measured the 19 values (Schwartz et al., 2012). These were measured on a 6-point scale, ranging from 1 ‘not like me at all’ to 6 ‘very much like me’.
YSVQ-C	The same version was used as in the preliminary study (adapted from Lee & Whitehead, 2013). Participants were asked to again indicate to what extent the athlete described was like them for 24 items which fall into the three categories <i>moral values</i> , <i>competence values</i> and <i>status values</i> . These were also measured on a 6-point scale, ranging from 1 ‘not like me at all’ to 6 ‘very much like me’.

3.3. Results

Firstly, it was examined whether the manipulation task was effective in changing the specific higher order value category for each different condition. Using a manipulation check to verify whether the experimental manipulation had a preliminary effect on the values, it was expected that only the value rating linked with each group would change significantly with some lesser

change in adjacent categories on the circumplex model (see General introduction, Figure 1.1). To test this, a series of 2 time (pre-manipulation, post manipulation) x 2 gender (male, female) ANOVAs on all of the higher order category value sets from both the Schwartz et al. (2012) and Lee et al (2008) theories were conducted. The findings are presented in Table 3.2, where the adjusted means, controlling for gender, are reported.

The self-enhancement writing task increased self-enhancement value ratings whilst decreasing the ratings of self-transcendence on the opposite end of the continuum (Schwartz, 1992) as well as the moral value ratings (Lee et al., 2008), which conceptualise similar values and ideas. Whilst not significant, this condition did also tend to increase the ratings for status values slightly which overlap with self-enhancement on the integrated sport and personal value model.

The conservation group showed increases in the self-transcendence value groups, adjacent on the circumplex model (Schwartz et al., 2012), and for moral values which again operate on similar values. Although manipulating sport-specific values directly was not the aim, in turn through manipulating personal values, the similar and corresponding values were enhanced, and the ratings given to them significantly increased. There were some significant changes however for the conservation values, this method was ineffective in enhancing these values through an athlete specific persuasive writing task. This implies that this is not an effective method of changing conservation values.

Table 3.2. The *F* values, significance, mean change and 95% confidence intervals for the personal and sport higher order value categories for each group.

	Group														
	<i>Self-enhancement (n = 55)</i>				<i>Conservation (n = 54)</i>				<i>Self-transcendence (n = 53)</i>						
	<i>F(2, 156)</i>	<i>p</i>	<i>M Δ</i>	<i>CI</i>	<i>F(2, 156)</i>	<i>p</i>	<i>M Δ</i>	<i>CI</i>	<i>F(2, 156)</i>	<i>p</i>	<i>M Δ</i>	<i>CI</i>			
<i>Higher order categories</i>															
Self-enhancement	7.16	0.01	0.14	0.04	0.25	1.23	0.27	-0.05	-0.13	0.04	5.04	0.03	-0.11	-0.21	-0.01
Conservation	0.32	0.57	-0.02	-0.04	0.09	0.36	0.55	-0.02	-0.09	0.05	0.17	0.68	0.02	-0.07	0.10
Self-Transcendence	15.38	0.01	-0.14	-0.21	-0.07	4.88	0.03	0.07	0.01	0.14	3.42	0.07	0.07	-0.01	0.14
Openness to change	0.38	0.54	-0.02	-0.09	0.05	0.01	0.93	0.00	-0.06	0.05	0.47	0.50	0.03	-0.05	0.11
Status	3.49	0.06	0.11	-0.01	0.23	3.18	0.08	-0.10	-0.22	0.01	1.63	0.20	-0.08	-0.20	0.04
Moral	4.40	0.04	-0.10	-0.20	-0.00	12.27	0.01	0.18	0.08	0.28	2.87	0.10	0.08	-0.20	0.18
Competence	0.05	0.83	-0.01	-0.12	0.10	2.51	0.11	-0.07	-0.16	0.02	0.02	0.88	-0.01	-0.10	0.09

Displaying adjusted means controlling for gender.

The increase observed in the self-transcendence values was not quite significant but a significant decrease in the self-enhancement values was observed here.

Univariate 3 group ANOVAs run on the change scores (calculated by subtracting pre-manipulation value ratings from post-manipulation value ratings) of the 10 personal values confirmed a group effect for power $F(2, 156) = 7.69, p < 0.05, \eta^2 = .89$, universalism $F(2, 156) = 4.14, p < 0.05, \eta^2 = .05$, and benevolence $F(2, 156) = 6.46, p < 0.05, \eta^2 = .08$, values (see Table 3.3). As displayed in Table 3.3. for these values, the self-enhancement condition was significantly different from both conservation and self-transcendence groups when examining the values that had a group effect. There were no differences between conservation and self-transcendence.

Table 3.3. Mean value change (SD) for each experimental condition with F and partial eta squared values. ** $p < .01$, * $p < .05$. (in **bold** = significantly different to all other groups).

Value	Condition						$F(2, 156)$	η^2
	Self-enhancement		Conservation		Self-transcendence			
	$M\Delta$	SD	$M\Delta$	SD	$M\Delta$	SD		
Self-direction	0.02	0.42	0.05	0.31	0.02	0.37	0.32	0.01
Stimulation	0.03	0.37	0.04	0.55	0.05	0.46	0.11	0.01
Hedonism	-0.09	0.34	-0.17	0.42	-0.01	0.54	1.82	0.02
Achievement	0.03	0.54	0.36	0.48	-0.05	0.46	0.53	0.01
Power	0.21	0.57	-0.09	0.51	-0.16	0.64	7.66**	0.09
Security	-0.03	0.41	-0.08	0.35	0.02	0.37	1.16	0.02
Conformity	0.13	0.51	0.07	0.42	0.03	0.54	0.54	0.01
Tradition	-0.29	0.42	-0.03	0.40	-0.01	0.31	0.62	0.01
Universalism	-0.17	0.35	-0.03	0.33	0.01	0.03	4.14*	0.05
Benevolence	-0.06	0.33	0.21	0.42	0.12	0.42	6.46**	0.07

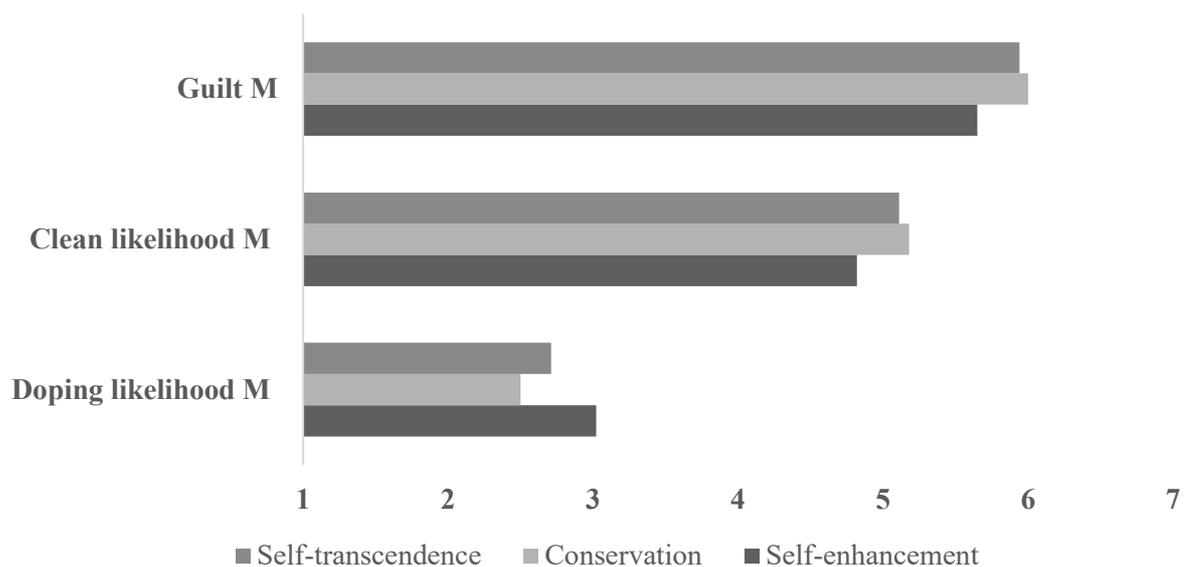
The second aim of the study was to compare the 3 value manipulation groups in terms of the doping variables of *doping likelihood*, *clean likelihood* and *anticipated guilt* about doping. A 3 group x 2 gender ANOVA was run separately on each of the doping variables. The findings are outlined in table 3.3. The interactions were not significant suggesting that even where the manipulations were effective in changing values, the effects within the current sample were not powerful enough to significantly affect the doping outcome variables.

Table 3.4. *Between subject analysis for doping variables.*

Doping variable	<i>F</i>(2, 156)	<i>p</i> (sig.)	<i>ep</i>²
Doping likelihood	1.64	0.20	0.08
Clean likelihood	0.69	0.50	0.01
Anticipated guilt	1.39	0.25	0.02

The descriptive statistics for each of the outcome variables are presented in Figure 3.2. The self-enhancement group, on average, had the highest doping likelihood score and the lowest clean likelihood and guilt ratings out of the three conditions. The conservation group showed the opposite pattern, displaying the highest clean likelihood and guilt scores and the lowest doping likelihood scores. With this being said, the differences between the mean ratings were very narrow and statistically insignificant.

Figure 3.3. *Mean (SD) ratings for the three experimental value groups on doping-related outcome variables.*



**Significantly different to the other conditions.*

The self-enhancement group was significantly different to both the self-transcendence and conservation conditions, but there were no observed differences between self-transcendence and conservation when looking at doping likelihood.

3.4. Discussion

The currently study was the first to introduce existing value manipulations (Tamir et al., 2016) to the sporting context of doping with the aim of examining firstly whether the manipulations were effective in changing values for athletes and then secondly whether this impacted their reported likelihood of doping, remaining clean and associated anticipated guilt. The values were manipulated according to the higher order groups from Schwartz' personal value theory (1992).

The findings from the study support the idea that certain values can be altered through simple and short persuasive writing activities supporting the findings of Tamir et al. (2016) and Arieli et al. (2014). Values enhancing self-enhancement were significantly changed through the task, however those classified under conservation and self-transcendence had no significant group effect. Tamir et al. (2016) also found difficulty in their value manipulations for conservation where their original hypotheses were not supported by their findings and the linked emotions, with comparisons proving statistically non-significant. They proposed that originally the manipulation style they implemented favoured and was developed to change self-regulating values and this could suggest the limited effectiveness when applying it with change-regulating values; similar assumptions could be made with the current set of findings with no mean value change, however more research would be needed to determine this. The conservation manipulation task was able to effectively enhance the importance given to self-transcendence values suggesting that this is because they fall adjacent on the theoretical model suggestion an association in the mechanisms they operate on.

The basic individual values that had significant effects fall into the wider categories that also appeared to change effectively. Power is in self-enhancement and benevolence and

universalism fall under self-transcendence which are on opposing ends of the dimension that is reflective of pursuing one's interests and capacities, conflicting with transcending selfish interests for the sake of others (Schwartz et al., 2012). The current available literature seems to suggest that persuasive writing tasks to promote altering values are only effective and act on this continuum. Benevolence, the main focus of Arieli et al. (2014), is also categorised on this dimension. This brings into question whether certain values and higher-order value groups are more stable across varied contextual situations than others, and therefore resilient to short-term change attempts. An alternative explanation could be that these types of manipulations simply temporarily shift perceptions of values, bringing them forward into conscious consideration, as opposed to enhancing them long term. In other words, the manipulations activate rather than change values. The short timeframe would suggest this too. However, this would need to be confirmed with longer-term follow-up assessments. It could also be possible that these values are easier to manipulate as generally, within society they are the most esteemed as they describe moral good; this is supported as they were rated the most important in Study 1 (see Table 2.2). With regard to doping and potential value manipulations, alongside the non-significant findings on the doping variables, this could suggest that this value manipulation style is ineffective and questionably too simple to alter unethical behaviours.

It should also be noted that the current study used a relatively small sample with between 53-55 participants in each manipulation condition. Further research into these persuasive methods and value change could consider using more varied and bigger samples. For example, Arieli et al. (2014) used a total of 142 undergraduates for her benevolence writing task which could alternatively explain the findings.

As this was a novel intervention in the doping literature, whether it would be successful in impacting projected doping likelihood was unknown. Both doping likelihood and clean likelihood showed no significant change within the current athlete sample despite finding, in the cross-sectional research previously conducted, strong relationships between values and these variables (see Study 1). Ultimately, this implies that either the implementation of the methodology is not powerful enough to consequently change projected behaviours or that simply the current study was underpowered. Future directions within this area could aim to look at the persuasive writing scripts, grouping specific value related words and counting the frequency they are referred to or mentioned; this would test whether participants are actually focusing on the value sets that were directly manipulated.

A strength of the present study was that participants completed a pre-questionnaire around a week before the writing manipulation task assessing both personal and sporting values. This allowed a relatively long period of time, considering the scale of the study, to make sure there were no priming and cross over effects, preventing bringing values and their importance into athlete's consciousness directly before the task. Priming has been found to impact values through automatic processing routes (Bardi & Goodwin, 2011) meaning can subsequently affect values due to situational cues. The methodology used in this study allowed direct comparison of the scores from the same participant to observe any value change which would then be attributed to the task; the exact same questionnaires were employed both prior and after the manipulation, suggesting good reliability of the measures. Previous research, like that of Tamir et al (2016), had instead given the manipulation task and then observed differences in the extent to which participants claimed they wanted to experience and also currently felt specific emotions, namely that of trust, anger, fear and excitement. Whilst, their research suggested that some in some cases altering values can increase the desirability of

value-consistent emotions, their methodology did not allow them to directly see value change from baseline as a result of the persuasive writing task. Arieli et al (2014), also adopted writing tasks into their value manipulations amongst varied other exercises, using both pre and post-manipulation indicators, however they solely focused on the value of benevolence and then the resulting willingness of participants to volunteer. They also used different measurements to test personal values before and after their manipulations which could result in subsequent change.

Chapter 4

CONCLUSIONS

Values are abstract goals, said to guide behaviours through what an individual views as desirable (Schwartz, 1992; Schwartz and Bilsky, 1990), creating a standard influencing an individual's actions. The findings from Study 1 support the personal value system and its application in predicting athletes' decisions to engage in doping behaviours or to choose to actively remain clean. The model acts in a circumplex manner and this has been shown through the different relationships observed across the values. Some values contrast one another on different ends of the continuums whilst others adjacent on the model appear to operate on similar psychological elements creating similar outcomes when examining doping variables. Self-enhancement values were strongly linked with doping intention with self-transcendence and conservation values reducing the chances of doping and promoting remaining clean. Openness to change values seemed to have no influence in the context of doping. The study was also the first to examine the values and their associations with remaining clean and explore any differences against doping likelihood. The findings from the study also further support the combined model of sport and personal values (Whitehead et al., 2013), demonstrating that self-enhancement values relate to status and that self-transcendence relate to moral factors. The research suggests what values should be targeted in order to tackle the issues of doping and suggests that the spirit of sport is not an appropriate construct, as most values it is comprised of and the construct as a whole show no relationship with doping likelihood.

The findings from Study 2 have suggested that through simple value change manipulations, it is possible to increase the importance athletes give to specific values however, the current study showed no significant changes on the doping variables. More research is needed to

determine effective methods for more substantial value change and the influence on doping behaviours. This specific task seemed to favour the manipulation of self-enhancement values as the results showed differences regarding doping likelihood for this condition. The other conditions had no significant effects on doping and clean likelihood or the associated anticipated guilt. Future research in this area should seek to replicate with bigger groups yet extend the methods to ensure that specific values are being targeted more explicitly in order to help create interventions that can be implemented in anti-doping education, promoting clean sport for all.

STUDY LIMITATIONS

The current findings provide novel insights into the nature of values in sport and their links with clean sport. Nonetheless, our findings should be interpreted in light of potential study limitations. Firstly, the importance of the personal, sport and spirit of sport values were measured in college athletes. Although some of these athletes competed at international and national levels, it would be informative to replicate the current findings in a broader spectrum of top-level competitors, such as elite athletes in professional and non-professional sport, in a variety of countries and cultures (Mazanov et al, 2019). Secondly, a broad range of values in both sport and general contexts were examined, however many of the values that have been adopted by sport organizations were not examined. It would therefore be interesting to examine the values of other sporting organizations, such as national anti-doping organizations (e.g., UKAD, USADA,) and international sporting agencies (e.g., WADA, IOC), to determine the extent to which their values relate to the spirit of sport and clean competition. Third, the current study employed a cross-sectional design that excludes the ability to infer causation. Accordingly, research studies using cross-lagged panel and experimental designs are now required to assess causal relationships. Indeed, it would be most informative if interventions

and programs were conducted to examine whether value change manipulations and activities (Bardi & Goodwin, 2011) can promote clean sport. Finally, collecting information through self-report methods has limitations. These include both the conscious and unconscious influence of social desirability, issues regarding honesty and introspective ability as well as the interpretation of specific questions and scenarios.

THE BIGGER PICTURE AND FUTURE DIRECTIONS

Doping is evidently a widespread and serious issue in the world of modern sport today. The implementation of the biological passport system for professional athletes estimates a doping prevalence of around 14%, compared to an estimated 2% from blood and urine sampling annually (Ulrich et al., 2018). The present studies and other similar studies in the field that assess doping likelihood hypothetically also often yield low estimates on the scales implemented, even when encouraging doping behaviours through unrealistic scenarios (e.g. no side effects or the guarantee of remaining undetected; Ring et al., *in press*; Kavussanu and Ring, 2017 etc). Whilst acknowledging the nature of self-reported measures and their reliance on participants' honesty and ability to provide accurate responses (Boardley et al., 2017), under reporting appears to remain a clear issue in the doping statistics (de Hon et al., 2014). Ulrich et al. (2018) used a randomised response technique, to ensure the anonymity of athletes, unveiling that 43.6% of athletes admitted to doping engagement at the Pan Arab Games (2011) for the previous year where official anti-doping procedures on 670 athletes at the same competition reported a mere 3.6% positive samples in total. This highlights the severity of the issue and the need for understanding the underlying mechanisms that encourage doping behaviours whilst also implying alternative educational approaches could be more beneficial in the future of doping control. The findings here suggest values indeed have a central role in unethical and doping behaviours but the methods of enhancing them to

impact behaviour still remains a challenge in order to tackle the issue. A global combined approach, collaborating psychologists, physiologists, analytical chemists and ethicists is suggested to be the best method of reducing doping in sport (Delanghe, Maenhout, Speeckaert & De Buyzere, 2014). This study helps to understand motivations and situations that may facilitate doping, aiding the development of prevention techniques moving forward.

APPENDICES

1) Participant consent form

Dear Athlete,

We are inviting you to participate in a research study that we are conducting in the School of Sport, Exercise and Rehabilitation Sciences at the University of Birmingham. This study aims to explore the psychological factors that can influence athletes' attitudes in sport. You have been invited as you are aged sixteen years or over and compete in sport. There are no other criteria for participation.

Participation in this study involves completing a questionnaire that asks some questions relating to your thoughts, feelings and actions in sport. The questionnaire will take about ten minutes to complete. All answers will remain anonymous. In other words, you cannot be identified at a later time. This means that once you complete the questionnaire you are no longer able to withdraw from the study. We will ask you to create a code, comprising of digits from your phone number, door number and letters from your name; this is simply to match your questionnaire responses pre and post the lab but will not allow us to identify you. The results of this study may be used in future reports such as academic journals and conference presentations. Participation in the study is entirely voluntary.

The information gained from this study may go some way to helping us understand how athletes control their behaviour. For this research to be useful, it is important that you respond honestly to all questions. Many thanks for your cooperation. If you have any queries regarding this research, please feel free to ask us.

Thank you for your time. If you understand the purpose of the study and would like to participate, please go ahead and complete the survey. By completing it you are giving your consent to participate in our study. Please remember that participation is voluntary, and you can stop at any time without having to give an explanation.

Yours Sincerely,
Christopher Ring - Professor
Hannah Mortimer - Researcher

2) Study 1 (cross-sectional) questionnaire:

Demographics

Gender *

- Male
- Female
- Prefer not to say

Your main competitive sport *

Number of years competing in your main sport *

Highest level you have ever competed in your sport *

- International
- National
- Regional / County
- Club
- Other

Nature of your main sport *

Individual

Team

DL

Imagine that you are an athlete who is due to compete in an important sporting event. You are seriously considering using a banned performance enhancing substance, but have not made a final decision. We have listed a number of situations you may face. Please tell us what you think you might decide to do in each situation. For each of the situations listed below, how likely is it that you would use a banned performance enhancing substance (i.e., doping) when... *

	not at all likely			some what likely			very likely
you expect a financial gain of £75,000	<input type="checkbox"/>						
you are encouraged by a coach	<input type="checkbox"/>						
the chance of detection is very low	<input type="checkbox"/>						
it will lead to accelerated career advancement	<input type="checkbox"/>						
there is no fine, even if prosecuted	<input type="checkbox"/>						
the chance of being banned is very low	<input type="checkbox"/>						
there is no negative health side effect	<input type="checkbox"/>						

	not at all likely			some what likely			very likely
it will help you recover faster from an injury	<input type="checkbox"/>						
it will help you overcome bad form	<input type="checkbox"/>						

CL

Now imagine that you are an athlete who is due to compete in the most important competition in your sport (e.g., Olympic Games, World Cup, Major Tournament, etc). Winning the competition and being recognized as the most valuable competitor at the event will earn you great fame and fortune (e.g. cash, sponsorship, endorsements, TV deals, awards, book deals, publicity, public adoration), making you the most important athlete of your generation. The only way to make this happen is to take a magic pill that will make you perform like a superhuman athlete during the competition. You should also know that use of this illicit drug will never be detected and will never have any health side effects. In this situation, how likely are you to compete clean (i.e., drug free) ? *

	not at all likely			some what likely			very likely
How likely you'd compete clean?	<input type="checkbox"/>						

In this situation, how probable is it that you would compete clean (i.e., drug free) ? *

	not at all probable			some what probable			very probable
How probable you'd compete clean?	<input type="checkbox"/>						

In this situation, how confident are you that you would compete clean (i.e., drug free) ? *

How **confident** you'd compete clean?

not at all confident	□	□	□	some what confident	□	□	□	very confident	□
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PVQ-RR

Here we briefly describe different people. Please read each description and think about how much they are or are not like you. For each of the descriptions below, how much is the person described like you? *

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them to form their views independently	□	□	□	□	□	□
It is important to them that their country is secure and stable	□	□	□	□	□	□
It is important to them to have a good time	□	□	□	□	□	□
It is important to them to avoid upsetting other people	□	□	□	□	□	□
It is important to them that the weak and vulnerable in society be protected	□	□	□	□	□	□
It is important to them that people do what they say they should	□	□	□	□	□	□
It is important to them never to think they deserve more than other people	□	□	□	□	□	□
It is important to them to care for nature	□	□	□	□	□	□
It is important to them that no one should ever shame them	□	□	□	□	□	□

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them always to look for different things to do	<input type="checkbox"/>					
It is important to them to take care of people they are close to	<input type="checkbox"/>					
It is important to them to have the power that money can bring	<input type="checkbox"/>					
It is very important to them to avoid disease and protect their health	<input type="checkbox"/>					
It is important to them to be tolerant toward all kinds of people and groups	<input type="checkbox"/>					
It is important to them never to violate rules or regulations	<input type="checkbox"/>					
It is important to them to make their own decisions about their life	<input type="checkbox"/>					
It is important to them to have ambitions in life	<input type="checkbox"/>					
It is important to them to maintain traditional values and ways of thinking	<input type="checkbox"/>					
It is important to them that people they know have full confidence in them	<input type="checkbox"/>					
It is important to them to be wealthy	<input type="checkbox"/>					
It is important to them to take part in activities to defend nature	<input type="checkbox"/>					
It is important to them never to annoy anyone	<input type="checkbox"/>					
It is important to them to develop their own opinions	<input type="checkbox"/>					

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them to protect their public image	<input type="checkbox"/>					
It is very important to them to help the people dear to them	<input type="checkbox"/>					
It is important to them to be personally safe and secure	<input type="checkbox"/>					
It is important to them to be a dependable and trustworthy friend	<input type="checkbox"/>					
It is important to them to take risks that make life exciting	<input type="checkbox"/>					
It is important to them to have the power to make people do what they want	<input type="checkbox"/>					
It is important to them to plan their activities independently	<input type="checkbox"/>					
It is important to them to follow rules even when no-one is watching	<input type="checkbox"/>					
It is important to them to be very successful	<input type="checkbox"/>					
It is important to them to follow their family's customs or the customs of a religion	<input type="checkbox"/>					
It is important to them to listen to and understand people who are different from them	<input type="checkbox"/>					
It is important to them to have a strong state that can defend its citizens	<input type="checkbox"/>					
It is important to them to enjoy life's pleasures	<input type="checkbox"/>					
It is important to them that every person in the world has equal opportunities in life	<input type="checkbox"/>					

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them to be humble	<input type="checkbox"/>					
It is important to them to figure things out themselves	<input type="checkbox"/>					
It is important to them to honor the traditional practices of their culture	<input type="checkbox"/>					
It is important to them to be the one who tells others what to do	<input type="checkbox"/>					
It is important to them to obey all the laws	<input type="checkbox"/>					
It is important to them to have all sorts of new experiences	<input type="checkbox"/>					
It is important to them to own expensive things that show their wealth	<input type="checkbox"/>					
It is important to them to protect the natural environment from destruction or pollution	<input type="checkbox"/>					
It is important to them to take advantage of every opportunity to have fun	<input type="checkbox"/>					
It is important to them to concern themselves with every need of their dear ones	<input type="checkbox"/>					
It is important to them that people recognize what they achieve	<input type="checkbox"/>					
It is important to them never to be humiliated	<input type="checkbox"/>					
It is important to them that their country protect itself against all threats	<input type="checkbox"/>					
It is important to them never to make other people angry	<input type="checkbox"/>					

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them that everyone be treated justly, even people they don't know	<input type="checkbox"/>					
It is important to them to avoid anything dangerous	<input type="checkbox"/>					
It is important to them to be satisfied with what they have and not ask for more	<input type="checkbox"/>					
It is important to them that all their friends and family can rely on them completely	<input type="checkbox"/>					
It is important to them to be free to choose what they do by themselves	<input type="checkbox"/>					
It is important to them to accept people even when they disagree with them	<input type="checkbox"/>					

YSVQ-C

Here we briefly describe different athletes. Please read each description and think about how much they are or are not like you. For each of the descriptions below, how much is the athlete described like you? *

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them that they don't let people down	<input type="checkbox"/>					
It is important to them that they get a buzz or feel really good when they are competing	<input type="checkbox"/>					
It is important to them that they show a good image to others	<input type="checkbox"/>					
It is important to them that they go along with everybody else	<input type="checkbox"/>					

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them that they show that they are better than others	<input type="checkbox"/>					
It is important to them that they try to be fair	<input type="checkbox"/>					
It is important to them that they win or beat other people	<input type="checkbox"/>					
It is important to them that they improve their performance	<input type="checkbox"/>					
It is important to them that they do what they are told (i.e. follow their coach's instructions)	<input type="checkbox"/>					
It is important to them that they do sport to get fit	<input type="checkbox"/>					
It is important to them that they do the skills or techniques well	<input type="checkbox"/>					
It is important to them that they show good sportpersonship	<input type="checkbox"/>					
It is important to them that they are a leader in the group	<input type="checkbox"/>					
It is important to them that accept other people's weaknesses	<input type="checkbox"/>					
It is important to them that they enjoy themselves and have fun	<input type="checkbox"/>					
It is important to them that they become a better athlete	<input type="checkbox"/>					
It is important to them that we all stick together	<input type="checkbox"/>					
It is important to them that they look good (i.e., positive public image)	<input type="checkbox"/>					

	Not like me at all	Not like me	A little like me	Moderately like me	Like me	Very much like me
It is important to them that they always compete properly (i.e., in line with the spirit of the sport)	<input type="checkbox"/>					
It is important to them that they do things with their mates/friends	<input type="checkbox"/>					
It is important to them that they use their skills well	<input type="checkbox"/>					
It is important to them that it is an exciting contest	<input type="checkbox"/>					
It is important to them that they help people when they need it	<input type="checkbox"/>					
It is important to them that they set their own targets	<input type="checkbox"/>					
It is important to them that they don't spoil the event or competition	<input type="checkbox"/>					

SoSV

1. Here we list different values in sport. Please read each value and think about how important it is to you in competitive sport. Please rate the importance of each of the following values as a guiding principle in your life as an athlete. *

	opposed to my values	not important			important			very important	of supreme importance
Ethics	<input type="checkbox"/>								
Fair play	<input type="checkbox"/>								
Honesty	<input type="checkbox"/>								

	opposed to my values	not important			important			very important	of supreme importance
Health	<input type="checkbox"/>								
Excellence in performance	<input type="checkbox"/>								
Character	<input type="checkbox"/>								
Education	<input type="checkbox"/>								
Fun	<input type="checkbox"/>								
Joy	<input type="checkbox"/>								
Teamwork	<input type="checkbox"/>								
Dedication	<input type="checkbox"/>								
Commitment	<input type="checkbox"/>								
Respect for rules & laws	<input type="checkbox"/>								
Respect for self	<input type="checkbox"/>								
Respect for others	<input type="checkbox"/>								
Courage	<input type="checkbox"/>								
Community	<input type="checkbox"/>								

	opposed to my values	not important			important			very important	of supreme importance
Solidarity	<input type="checkbox"/>								
Fairness	<input type="checkbox"/>								
Inclusion (sport for all)	<input type="checkbox"/>								

3) Study 2 (manipulation) questionnaire and writing stems:

Code

1. What are the LAST 4 digits of your MOBILE PHONE number *

2. What are the FIRST 2 digits of your DOOR number? (if your door number is below 10, please include a 0. e.g. if Door number is 8, please write '08') *

3. What are the SECOND and THIRD letter of your SURNAME? (If not applicable, please use an X) *

Persuasive Essay

In this study, we randomly chose one of several goals that are common among young athletes, and we will ask you to convince other athletes of the particular importance of this goal in a written essay. It is important that you make the essay as persuasive as you possibly can. After you write the essay, we will also ask you questions regarding your thoughts and feelings related to the writing process. At the early stage of their athletic career, athletes identify the kind of athlete they would like to become and work toward the kind of future they wish to have. There are several prominent goals that young athletes tend to pursue at this stage. In this task, we would like you to try to convince other athletes that specific types of goals are particularly important. The specific type of goals you will write about were selected at random from a list of goals that other athletes identified as personally relevant in past research. In your essay, you should provide logical reasons for the benefits of pursuing these goals. To promote persuasion, we recommend that you also elaborate on why the goal is important to you, personally, and how you try to achieve it. You will have 10 minutes to write your essay. Finally, we would like to remind you that essays should be as persuasive as possible. Please write an essay to persuade other athletes why it is important for them to strive to become (DIFFERENT WORDING FOR EACH GROUP, see below). In your essay, please do your best to convince other athletes that

striving to achieve such goals is necessary and important both in general, and to you, personally. Please use all the time at your disposal to write the most persuasive essay you can. *

- 1) **Self-enhancement** = *influential, wealthy, dominant and powerful.*
- 2) **Conservation** = *stable, obedient, careful and respectful*
- 3) **Self-transcendence** = *tolerant, generous, cooperative and helpful*

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