Precipitating or prohibiting factor: Coaches’ perceptions of their role and actions in anti-doping

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Coaches are frequently cited as potentially precipitating or preventing athletes’ engagement in doping. However, little is known about coaches’ perspectives. Therefore, the purpose of this study was to examine coaches’ perceptions of their role and actions in athletes’ anti-doping behaviour. Twenty-three coaches (M=17, F=6) working with performance athletes in Scotland participated in semi-structured interviews where topics related to doping and anti-doping were discussed. Thematic analysis, guided by Schön’s [1] role frame and reflective conversation concepts, was used to develop themes. Analysis led to the development of four internal role frame themes: clean sport value, approach to preparation and performance, responsibility to athletes, and knowledge; and five boundary role frame themes: Scottish/British sporting culture, potential for benefit, prevalence of doping and testing, clarity of responsibilities and consequences, and beyond coaches’ control. The coaches’ role frame supported an anti-doping stance, however, it also presented a risk and was insufficient to ensure action. Analysis of coaches’ reflective conversations revealed the issues set by the coaches differed and influenced subsequent actions and evaluations.

Keywords

Role frame, performance sport, social influence, performance-enhancing substances, reflective conversation
Introduction

Coaches are frequently identified as a potential precipitating factor in athlete doping [2, 3, 4, 5, 6, 7, 8]. In their study of the experiences of five elite athletes who had admitted to doping, Kirby [5] found a lack of engagement around doping issues by coaches was a factor that contributed to athletes’ decision to dope. Lentillon-Kaestner and Carstair’s [7] analysis of the team and sport culture experienced by young elite cyclists also found that significant others such as coaches, more experienced cyclists, family and friends, and the wider world of professional cycling contributed to either a protective or risky social context with regard to doping. The beliefs, knowledge, and engagement with doping issues by coaches, support personnel, managers, and governing bodies play a critical role in defining acceptable behaviour within a sport [8]. Coaches as a group, however, are underrepresented in empirical research [3, 4] and coaches’ awareness and role in athletes’ anti-doping is not well understood.

In addition to being viewed as a precipitating factor, coaches also continue to be identified as important agents in doping prevention [2, 3, 5, 9, 10]. Kirby [5] found that, for one of the athletes in their study who had admitted to doping, a coach had been a positive role model and acted as a deterrent for many years. However, the athlete succumbed to the pressures to dope, when the athlete changed training groups and the positive influence of the coach was no longer present. Research with Scottish elite athletes [2, 11] found that athletes’ perceptions of a coach-created mastery motivational climate (i.e., emphasis on effort, learning and personal development) were associated with attitudes more conducive to anti-doping and that they were at ‘low-risk’ of doping [2]. The reasons for this were not entirely clear, as experience of anti-doping education was quite limited [11]. The Scottish sports community is relatively small, so peer and family expectations were perceived to be deterrence factors. Respondents feared the stigma associated with doping. However, it is also the case that many of the athletes had alternative career options so arguably the obsession with sporting success was not so high
that the benefits of doping outweighed the risks and costs. It would also seem that part of the athletes’ broader education underpinned positive attitudes to sport, health and fair play. Nonetheless, it was apparent that the role of close personal relationships, including with their coach, was highly influential [11]. Despite the recognition that coaches have the potential to act as a strong deterrent against doping, little is known about coaches’ perceptions of doping as an issue in sport, or their roles and actions with regard to anti-doping.

A review of research in the area identified only four studies that examined coaches’ perspectives [4]. It revealed that coaches were faced with doping related issues in their work, believed doping could lead to improved performance but was likely to have negative health consequences, and agreed that they had a role to play in doping prevention. A survey of the attitudes and knowledge of anti-doping rules of Australian athlete support personnel, which included coaches, found that for this group, at least, there was variation in knowledge, uncertainty around anti-doping practices, and anti-doping was given a relatively low priority [12]. Whilst this study provides some insight, further research is needed to better understand coaches’ perspectives on their role and actions as either a precipitating factor or deterrent to doping.

Given the lack of research in the area involving coaches, it is useful to turn to general coaching research that has examined coaches’ roles, philosophies, and the connection with their coaching behaviours. This research demonstrates that coaches’, particularly experienced coaches, perception of their coaching role and coaching philosophy guides their coaching behaviours and the issues they identify and act upon [13, 14, 15, 16]. Furthermore, experts in coaching, teaching, and instructing regularly reflect upon their beliefs and coaching philosophy as a means of monitoring their professional practices [17]. Therefore, examining coaches’ awareness and perceptions of their role will provide valuable insight into why coaches do, or do not, act with regards to anti-doping.
An approach that has been employed successfully to examine coaches’ perceptions of their role and actions is Schön’s [1] work relating to the reflective practitioner (e.g., [14, 15]). Central to this work is the concept of role frames. According to Schön [1], a role frame acts as a perceptual filter that influences how practitioners define their professional responsibilities. Role frames are considered to be relatively stable over time and influence practitioners’ reflection and ultimately actions [1]. The way practitioners frame their role determines what information is most salient to them, which issues are identified as ‘problematic’, and what strategies are developed to address them. The influence of role frames is thought to be because only those issues that are consistent with role frame components are addressed.

In their work examining youth sport coaches’ learning through reflection, Gilbert and Trudel [14] found that a coach’s role frame influenced why certain coaching situations were considered an issue worthy of reflection and what strategies were developed. For example, they found that a soccer coach’s role frame components of equity, personal growth and development and winning led to substitutions being identified as an issue which in turn shaped how much playing time the players received.

Gilbert and Trudel [15] described boundary and internal role frame components. Boundary components were ‘situational factors that influence an individual’s approach to coaching’ (p. 29). In contrast, internal role frame components were the personal beliefs about coaching which were influenced by the boundary components. Examining both components of the role frame is useful because it recognises and enables examination of the internal as well as contextual nature of coaching in relation to issues such as doping and anti-doping. The traditions, beliefs, and values within a sport in a given country, what is considered acceptable practice (or not), may be important boundary components that influence how coaches work with athletes and in particular how they engage with anti-doping. Research with Scottish athletes [2, 11] suggests that they perceive British sports to be predominantly anti-doping. A specific factor of Scottish sport culture that contributed to the anti-doping stance was the
close-knit nature of the sports community which led to high risks of stigmatisation should an athlete receive a positive test. Therefore, examining how coaches from one country frame their roles in relation to anti-doping will be useful to not only better understand the extent to which doping is considered problematic and how it is addressed, but also to unpack the relative importance of the cultural context in anti-doping.

Schön’s [1] research with model practitioners in a range of professions (architecture, engineering, management, psychotherapy, town planning) has also demonstrated that, in response to dilemmas they faced in their practice, practitioners engaged in what he termed a ‘reflective conversation’. Gilbert & Trudel’s [14] research with youth sport coaches demonstrated that coaches’ ‘reflective conversation’ involved a repeating spiral of appreciation (issue setting), strategy generation (sources to develop strategy), experimentation (actions implementing the strategy), and evaluation (review of effectiveness).

Applying Schön’s [1] role frame, it is possible to propose that an anti-doping role frame, where coaches have strong beliefs in favour of drug-free sport (internal role frame component) and work within a strong culture of anti-doping (boundary role frame component) will lead to greater awareness of doping as a potential issue in sport and an appreciation that coaches have a role to play in anti-doping. Furthermore, applying Schön’s [1] reflective conversation, it is possible to propose that, coaches with an ‘anti-doping role frame’ are more likely to identify doping as a problem, view anti-doping action as important, act to intervene and prohibit, and therefore reduce the likelihood of athlete doping behaviour. In contrast, if anti-doping is not part of coaches’ role frame, they are less likely to view doping as an issue, may assign anti-doping activities a low priority and may unknowingly precipitate doping behaviour by their ‘in-action’.

In summary, coaches have been identified as both precipitating and prohibiting athletes’ doping behaviour. However, little is known about coaches’ perspectives on their role and actions in anti-doping.
Exploring coaches’ role frame will provide greater understanding of coaches’ beliefs and the influence of contextual factors on them. Furthermore, this study will provide valuable insight into coaches’ awareness of doping, issue setting, and actions in relation to anti-doping. By developing a better understanding of coaches’ perspectives, researchers and practitioners will be better placed to promote and facilitate a prohibiting rather than precipitating role for coaches.

Methods

Research context

Scotland has a strong sporting tradition having been the birthplace of a number of international sports, such as golf and tennis, as well as a wide range of sports rooted in Scottish culture, such as shinty and curling. Scottish coaches do their work in a small, proud, modern country with a range of local regional, national and international influences. The coaches are an integral part of supporting sporting culture. At the same time, sport in small communities can be subject to intensive scrutiny and surveillance for upholding cultural standards. In terms of performance sport, Scottish athletes and coaches compete on the world stage both as part of the network of countries that make up Great Britain and as a stand-alone nation with independent representation at many events. For example, Scottish athletes represent Great Britain (GB) at the Olympic Games, but represent Scotland at other major events, such as the Commonwealth Games and the Rugby and Football World Cups. Britishness is a part of Scottish identity and, although its precise nature is contested, it also plays an important part in determining the nature and style of sporting and cultural life. In sport this is often because so much of international sport is based on British teams that draw athletes from across England, Wales, Northern Ireland and Scotland. This is likely to bring another layer of influence on the sporting norms of Scottish coaches. It also leads to a number of complexities within performance sport...
in the country which include approaches to anti-doping. For example, some sports have a Scottish governing body, while others come under the remit of the UK body. Anti-doping is carried out in partnership with UK Anti-Doping, with English sport being a significantly larger sports environment. It is not always clear how funding for education and testing is allocated. However, it would seem that the Glasgow 2014 Commonwealth Games led to more support for anti-doping, whereas the 2016 Rio Olympics has diverted much of UK Anti-Doping’s attention on to high profile Olympic sports.

Participants

Performance coaches in Scotland (N=23) participated in the study (male n=17; female n=6) (individual sports n=19; team sports n=4). Sports represented included archery, athletics, canoeing, curling, cycling, figure skating, football, golf, gymnastics, hockey, judo, mountain biking, rowing, rugby union, shooting, squash, swimming, taekwondo, and wrestling. They ranged in age from 30 to 59 years (M=42.9, SD=8.71). Their coaching experience ranged from 5 to 36 years (M=18.85, SD=9.83). To ensure coaches had experience working with athletes subject to anti-doping policy, coaches invited to participate met the following selection criteria: a) currently or recently (last three years) working at the national or international level in Scotland and; b) minimum of three years coaching performance athletes.

The focus on Scottish coaches provided valuable insight into anti-doping beliefs and practices within a devolved performance sport system. As set out above, performance coaches in Scotland not only contribute to the Scottish sport system, but are also part of the GB system through the devolved network of home countries. In order for GB to have a holistic approach to anti-doping, all aspects of the network need to be committed to GB policies and thus this focus is important in understanding the approach to anti-doping in a significant part of performance sport within GB.
Procedure

Access to coaches was gained through the investigators’ established coaching networks and national governing bodies in Scotland. Following approval to conduct the study from the institution’s research ethics committee, initial contact was made via email with potential coaches. The email explained the objectives of the research, that responses would remain confidential and anonymous, and invited coaches to participate in the study. Forty-five coaches were contacted, of which, twenty-three agreed to participate in the study. Interviews were conducted at a time and place convenient for the coach. They lasted between 25 and 90 minutes and were recorded. Interviews were transcribed verbatim and coaches had the opportunity to review the transcriptions for accuracy.

Data Collection

Semi-structured interviews were employed to provide in-depth, rich, thick description of the coaches’ perspectives on doping and anti-doping [18, 19]. The interviews were conversational in nature to allow rapport to be developed between the interviewer and coach and support the expression of the coach’s point of view [18]. To further encourage coaches to share their views, questions were deliberately open and broad initially, with follow-up probes to elicit more detail about the coaches’ responses [18].

The interview guide was developed through a review of the doping and anti-doping literature and with a focus on Schön’s [1] role frame and reflective conversation concepts. The interview focused discussion on topics such as how coaches’ work with athletes (including beliefs and values), awareness of doping prevalence, perceptions of their anti-doping role and actions, and evaluation of anti-doping activities. As little is known about coaches’ perspectives and to allow for examination of commonality and uniqueness in coaches’ views, all coaches were asked to discuss the same topics.

To ensure confidentiality and anonymity each coach was given a code (e.g., C1, C2, C3). When reporting direct quotes, the coaches’ sports were not identified. This was important to protect the
identity of the coaches because due to their roles (e.g., national coach) they might be otherwise easily
identifiable.

Data Analysis

The 280 pages of single-spaced transcribed interviews were coded and thematically organised
using the qualitative research software system NVivo 10 [20]. In line with thematic analysis procedures
[21] each author read and re-read the interview transcripts multiple times to identify meaningful units.
The concepts of role frame and reflective conversation provided a framework for axial coding. However,
as coaches’ perspectives are relatively unexplored we also sought to remain open to new themes. We
discussed the themes, exploring similarities and redundancies and clarifying the meaning of the coaches’
responses.

Through the initial data coding process 1714 meaningful units were identified. These were then
further organised using Schön’s [1] concepts relating to role frame: boundary and internal components;
and reflective conversation: issue setting, strategy generation, experimentation, and evaluation.
Meaningful units were subsequently organised into 47 lower order and nine higher order themes
reflecting the coaches’ role frame and 22 lower order and four higher order themes representing the
reflective conversations of coaches.

In the following section the themes associated with the coaches’ role frames and reflective
conversations are described separately along with illustrative quotations. In addition, through the
analysis it became clear that coaches’ reflective conversations could be further organised into those
coaches who did and those who did not perceive doping as a problem in their sport. In the results
section these reflective conversations are described separately.

Results: Coaches’ role frames
The coaches’ role frames included both personal values and beliefs (internal components) and situational factors (boundary components) that influenced the coaches’ perceptions of their role in anti-doping. The components and the constituent themes are described and illustrative quotes provided.

**Internal components**

There were four internal role frame components that influenced coaches’ engagement with doping and anti-doping issues. These were: ‘clean’ sport value; approach to preparation and performance; responsibility to athletes; and knowledge. The coaches recognised the potential they had to influence athletes and therefore the importance of their own values and beliefs (internal role frame).

C1 commented,

…it’s the coach’s point of view – if they’re orientated to try and get success through their athletes and if they’re willing to do it at any cost then they’re in that position where they can either exploit them or influence them because they’re seen as... an influential person within their life.

**‘Clean’ Sport Value.** The coaches expressed a clear belief in drug-free sport, ‘I think there are many things that you should portray as a coach and a stance against doping should be one of them’ (C6).

C3 commented, ‘it’s [doping] not got a place within our belief system.’ This stance was part of a wider set of values connected to how they approached preparation and performance with their athletes.

**Approach to Preparation and Performance.** An anti-doping stance was evident in the values coaches’ conveyed and the culture they worked to create. They emphasised a focus on process rather than outcome, hard work, that there were no short cuts to success, staying within the rules, supporting athletes rather than placing pressure on them, and prioritising athletes’ well-being. The following comments illustrate the coaches’ approach:

...what I say with my guys will be stay within the rules ...it’s about the quality of the work they put in at training for me ... if you work hard and you put the quality in and you look after yourself, sleep well, hydrate well... then...you get what you get. (C7).
...you got a medal, if you cheated, really you cheated yourself. So you either do it with what
you can, your God’s given talent and your hard work and skills, or you don’t do it at all. (C15)

Responsibility to Athletes. The coaches’ approach to working with athletes also led to a sense of
responsibility to the athletes. For example, C20 commented, ‘I absolutely see it as part of my role… it’s
certainly not my role to absolve myself of responsibility.’ In some cases, the coaches recognised that
they would be the first person the athlete would look to for advice and they should be able to provide
that advice. C4 commented, ‘...how will an athlete know if we do not give this information... I think we are
the first people because we are close to the athlete.’ However, this responsibility did not sit as comfortably
with other coaches who questioned their own knowledge, ‘whether I'm the expert that they come to for
advice on what to take or not... it probably should be someone else’ (C17).

Knowledge. Most coaches had a strong understanding of the drug testing and control
procedures, and were aware of the risks of inadvertent doping associated with medications. Staying up
to date with regulations and procedures, however, was challenging and time consuming. Some were
concerned about their lack of knowledge, particularly in relation to supplements, ‘I don’t have the
knowledge, background to understand half the things they’re talking about anyway. It’s not my area of
expertise’ (C19). Others openly expressed a lack of knowledge relating to doping and were less
concerned. For example C22 identified limited knowledge about recognising doping in athletes
commenting ‘to be fair I wouldn’t know how to recognise it’ (C22).

The clean sport value, approach to preparation and performance, and responsibility to athletes
themes indicated a strong anti-doping coaching role frame was established. Gaps in coaches’
knowledge, and in some cases limited concern, however, presented a potential challenge to the
effectiveness of this role frame for guiding identification and action in relation to doping and anti-
doping.

Boundary components
There were five situational factors relating to the wider sporting context that influenced the coaches’ role in relation to doping prevention. These were: Scottish and British sporting culture; potential for benefit; prevalence of doping and testing; clarity of responsibilities and consequences; and beyond coaches’ control.

Scottish & British Sporting Culture. A strong anti-doping culture within Scottish national programmes and British sport supported coaches’ efforts to foster an anti-doping environment:

What Britain does is quite strong on this. The rest of the world is not quite at the same level…
the regular checks… I think Britain is much stricter… So I think it’s more of a cultural thing
more than anything else (C15)

Features of the Scottish sporting culture that served as a doping deterrent included a belief that doping was cheating, funding structures, zero tolerance policy, and social stigma associated with cheating. C16 summarised his sport’s culture:
...the fact that money doesn’t drive the sport is probably the biggest reason why drugs are not a problem… [my sport] world is small enough that if an athlete was known to be doping they would be hounded out by their peers… if you’re going to get caught you’re going to be ostracised from the sport then that’s maybe too high a price for people to pay… the culture that surrounds the sport is very much a community… the strength of that community would be a powerful disincentive.

Potential for Benefit. Only a small number of coaches demonstrated a clear understanding of the potential benefits of doping to performance. In contrast, most coaches believed that, in their sport, the potential performance gains from doping were limited. For some this was related to limited knowledge and perhaps stereotypical views about doping such as, ‘you don’t really need to be big bulky muscle-bound’ (C5). Coaches, however, also suggested that the demands of their sport were such that
the potential benefits were limited, ‘EPO and blood transfusions, they have such a small impact on an
action sport... the potential gains... would be so minor’ (C6).

Prevalence of Doping and Testing. Many coaches were able to provide examples of doping by
athletes from other countries and other sports. They, however, identified relatively few cases in the UK
and especially in Scotland, ‘...we reckon it must go on, but not in Scotland ‘I’ve been involved with [my
sport] for twenty years and I’ve not seen it’ (C19). Coaches’ awareness of doping was influenced by the
international culture, history, and publicised incidences within their sport. In addition, a lack of regular
doping control measures in their sport except at major events further reinforced the coaches’ view that
doping was not a prominent issue for them, ‘they [athletes] were amazed at how few out of competition
test there are’ (C6).

Clarity of Responsibilities and Consequences. For a number of coaches, the role of overseeing
doping and anti-doping was assigned to medical staff or managers. However, this arrangement was
often by default rather than a formalised arrangement and there was a lack of clarity around where
responsibility lay, ‘I think there are a lot of grey areas still – who was responsible for what’ (C8). Only two
coaches were quite clear that there were consequences for coaches if athletes were caught doping,
‘...the buck stops here. If someone fails their test it’s going to be my neck on the line’ (C3). Many of the
coaches were unsure of the consequences for them which identifies a further gap in coaches’
knowledge, ‘I don’t remember reading anything like that in my contract’ (C19).

Beyond Coaches’ Control. Some coaches recognised the limitation of their influence. Identifying
that athletes can spend a significant amount of time outside the national programme environment
where coaches have much less influence and others might influence athletes. Furthermore, the choices
and responsibility ultimately belonged with the athletes, ‘...we are actually very, very dependent on the
athletes making the right choices because we don’t have that much direct control... over what they’re
doing’ (C11).
The national sporting culture boundary component supports the coaches’ internal role frame components which provide for a strong anti-doping stance. The remaining boundary components also generally provided support for the coaches’ role as one of prohibiting doping. However, perceptions of limited potential for benefit and low prevalence of doping and testing contributed to a perception that athletes were ‘safe’ from doping. Furthermore, limited knowledge of consequences for coaches and lack of clarity over responsibility for anti-doping measures also present a risk for, perhaps not systematic, but possibly inadvertent rule violation.

Results: Reflective conversations

It was clear from the role frame analysis that there was a general awareness of a wider issue of doping in sport. Analysis of the reflective conversations, however, revealed that awareness was not the same as problem setting. Although not exclusive, two relatively clear groups of coaches were identified (doping is a problem in their sport and doping is not a problem). Their anti-doping reflective conversations are described separately. The four themes of issue appreciation, strategy generation, action, evaluation are used along with illustrative quotations to analyse the reflective conversations.

Doping is recognised as a problem in their sport

Six coaches clearly identified doping as a problem in their sport internationally. Sports included athletics, cycling, squash, and swimming.

Issue Appreciation. Although none of the coaches suggested doping was a problem in their sport in Scotland, they identified that internationally their sports had a history of doping. C11 stated that ‘[my sport] and doping go together hand in hand, we’ve got a pretty bad reputation.’ In most cases these coaches expressed a belief that doping was more of a problem in the past than in the present. C7 commented that he ‘was criticised quite a lot in the Olympics about how poor the [athletes’] performance was... they were saying that... the coaches aren’t doing a very good job [because of the poor performances] but for me, I think that, the event is a lot cleaner now.’ A second related issue, inadvertent
doping, was also clearly identified. Coaches recognised that inadvertent (unintentional, non-systematic) doping, through medication and supplements containing banned substances by design or contamination, was a potential problem they needed to deal with. C21 commented, ‘it’s quite a dangerous area in terms of when it’s a supplement and whether it’s a banned substance...’ and ‘...if the doctor says, ‘Take this,’ and they forget to look at it. Then it’s... quite easy really to take the wrong thing.’

The clear identification of doping as an issue and inadvertent doping as a secondary issue was an important first step in the reflective conversation because it triggered subsequent strategy generation, action, and to a lesser extent evaluation.

**Strategy Generation.** Seeking ways to address the identified issues was consistent with the coaches’ anti-doping role frame in that anti-doping was an integrated part of their programmes and approach to working with athletes. C10 commented, ‘It’s an integral part of things as opposed to being something that’s just serviced.’ A common strategy these coaches reported was to utilise the support available from experts such as medical staff, sport scientists, and anti-doping officials to assist with education and efforts to ‘monitor and control’ what athletes were doing. C2 commented ‘we take advice on supplements... the people at the institute [National Institute for Sport] won’t let anyone take anything... that hasn’t gone through the rigorous tests.’ Other strategies came from experiences of anti-doping activities as an athlete or coach and evaluation of their effectiveness. Coaches’ formal education was not identified as a source of strategy generation.

**Action.** The coaches were proactive in their anti-doping actions which were integrated into their everyday activities of facilitating and monitoring athletes’ programmes. Activities typical of these coaches included a detailed education programme for athletes with presentations, scenarios, mock testing using an official UK doping control officer, also researching the benefits and weaknesses of supplements, using the official anti-doping website, checking what athletes are putting into their bodies,
instilling values of quality work and staying within the rules. For example, C21 commented, ‘[Sport Governing Body] is quite good at educating their athletes.’ Furthermore, C7 commented:

we’ve discussed creatine and things like that and we go through the same process – checking the samples and the batch and all that kind of stuff and looking at the results of it... it could be placebo... I raise their awareness, educate them... I’m pretty strict with the guys that there is no tolerance... you need to know what you are putting into your body.

Evaluation. Although not formally evaluating their anti-doping actions, the coaches believed that the actions relating to anti-doping were effective. Having experts delivering workshops and including practical experiences as part of anti-doping education were valued. C12 commented, ‘I think the more practical you can make it, the better... the run-throughs with the anti-doping staff were pretty good. They gave the athletes and coaches a real picture of the process.’ Coaches’ evaluations, albeit subjective, influenced future anti-doping activities. For example C7 explained that ‘in the preparation camp, we’ve had... a mock testing going on... that’s really effective and so we’ve done something similar.’ Only one coach took a more critical stance on the issue commenting that ‘it’s just education about testing and what to expect. It’s not really education on why not to take drugs or anything like that’ (C21).

Doping is not a problem in their sport and anti-doping has a low priority

Issue Appreciation and Strategy Generation. For the majority of the coaches (N=17) doping was not considered to be a problem in their sport internationally and as a result anti-doping had a low priority. The comment of C19 was typical for these coaches ‘it’s not an issue... it’s well down the list... if it became an issue then it becomes a priority.’ The limited appreciation of doping as an issue also influenced the detail in the coaches’ strategy generation, actions, and evaluation. C22 commented, ‘we don’t speak about it a lot... just expect that they don’t take anything.’ A common strategy was to leave actions to the experts such as an anti-doping officer (if one existed in the sport) or a doctor. C14 commented, ‘we have a doctor that is actually one of the athletes... she takes ownership... one less thing
for me to worry about.’ Education of coaches could be used to assist coaches with strategy generation, however, many coaches commented that they had not received any formal anti-doping education and their own education was not a priority. C6 commented, ‘me, as a coach, I’ve never really had any education... but I don’t think it’s an urgent thing.’

All these coaches, however, did identify other doping-related issues, particularly inadvertent doping through medication, supplements, and recreational drugs use. Related to this concern was the recognition by some coaches (N=9) that anti-doping control procedures were now part of high performance sport and therefore an issue that had to be dealt with. C1 commented ‘it’s been established now as the way of life for a professional [sportsperson] because you get drugs tested and that can happen at any time or any place so we deal with it.’ Generally, there was little concern over systematic doping, rather the coaches were concerned that athletes might ‘get caught’ as a result of having done something that unintentionally led to banned substances being present in their bodies.

The coaches’ appreciation of these doping-related issues (control procedures and inadvertent doping) lead to generation of strategies connected to dealing with these issues rather doping per se. Several coaches admitted their approach was not particularly systematic and more reactive to situations where the likelihood of testing increased (e.g., proximity of a significant competition), or if inadvertent doping became prominent (e.g., travelling, taking medication for illness). C9 commented that he was ‘...a bit more of reacting to [it] a little bit rather than being proactive.’ C13 described the approach as ‘a bit ad hoc.’ Two coaches, did however, describe more systematic approaches to address the issue including discussions with other coaches or staff about ‘the reasonable checks and balances that we should be putting in place [and] how we could fit that into the programme’ (C3). For one coach this was a result of awareness that there were consequences for coaches if an athlete failed a test.

Action. Consistent with the issues identified, most of the coaches’ actions focused on raising athletes’ awareness of doping control procedures and the risks of inadvertent use through medications.
C9 explained that ‘we do some stuff, more on the procedures on what would happen, more on just awareness of, you know, you can’t just go and take something without actually checking that it’s ok.’ Informal conversations were commonly used, with coaches preferring to keep the topic ‘low key’. C5 didn’t ‘want folk to think that there’s an oppressive regime, you know, you mustn’t take this, you mustn’t take that, but we generally try and hint.’

**Evaluation.** As a result of the more reactive, less systematic approach adopted, there was only limited evaluation of the efficacy of actions and little evidence that evaluation fed into future anti-doping plans. C17 commented, ‘I might hear, ‘Oh, it was good,’ or, ‘that was a waste of time.’ But that’s probably about it to be honest.’ Those with experience of athletes’ formal anti-doping activities felt they were effective, particularly the interactive workshops, national initiatives (e.g., 100% Me), anti-doping websites, and the use of up to date real life stories and examples. Several coaches also identified challenges such as keeping athletes engaged, especially when repeating workshops during an athlete’s career. C5 commented, ‘you can see them, they’re bored because they’ve heard it all before.’ Questions were raised about the value of written forms of information, ‘it’s in the handbook but I would think that most people don’t actually read it’ (C23). Despite some concerns over effectiveness there was little evidence of changes in the strategies or actions of coaches.

**Discussion**

The purpose of this study was to examine coaches’ perceptions of their role and actions in athletes’ anti-doping. Research examining coaches’ perspectives on doping and anti-doping is scarce [4], therefore this research provides a significant contribution to doping and anti-doping research. By employing Schön’s [1] concept of role frame new insight into coaches’ awareness of doping, beliefs about their role in anti-doping, and their perspectives on the situational factors that influence the coaches’ role in anti-doping has been provided. The use of the reflective conversation [1] has revealed the issues coaches identify in relation to doping and anti-doping, specifically the extent to which doping
is considered a problem and also the issues of doping control procedures and inadvertent doping. The subsequent reflective conversations revealed the extent to which coaches are proactive in planning, acting and evaluating anti-doping activities.

Based on the findings it is clear that the beliefs of coaches in this study (internal role frame) about clean sport are an important foundation for anti-doping. The findings are consistent with the limited research available on coaches [4, 12]. For most of the coaches’ a belief in ‘clean’ sport was part of a broader coaching and programme philosophy. Anti-doping was an implicit part of the immediate social environment they worked to create with their athletes. They emphasised that the way for athletes’ to achieve success was through hard work and challenging oneself rather than taking shortcuts (i.e., doping).

The coaches’ beliefs about how sport should be prepared for and ‘played’ have much in common with the humanistic model of coaching [22, 23]. This approach to coaching is athlete-centred. It focuses on fostering athletes’ self-awareness, growth and development. The coach is a facilitator who encourages and supports athletes rather than controlling them. The humanistic approach to coaching is also reinforced by the perceptions of Scottish athletes who reported that their coaches’ created a mastery motivational climate, which was, in turn, associated with stronger anti-doping attitudes [2, 11]. Furthermore, this research also indicated a low prevalence of a ‘win at all costs’ mentality towards performance. This is perhaps as a result of athletes having alternative career options and the influence of their coaches’ approach to preparation and performance [2, 11].

Recognising the complex, dynamic, and contextualised nature of coaching [23], it was important to consider not only the internal role frame components but also the situational factors (boundary role frame components) that influence coaches [15]. The boundary role frame components generally provided a strong anti-doping foundation but they also presented risk. For example, consistent with previous research with Scottish athletes [11], coaches’ reported an anti-doping culture within Scottish

This culture appears to also influence coaches.

In contrast, however, perceptions of athletes being ‘safe’ from doping may place coaches and athletes at risk through inattention and gaps in knowledge. Potentially negative consequences for coaches, such as sanctions, as a result of athletes being caught doping were not widely identified nor did they appear to act as a significant deterrent. This finding is consistent with Mazanov’s [12] finding with Australian athlete support personnel. Together, this research suggests that coaches are at risk of inadvertent rule violation and a lack of compliance with obligations.

Coaches recognised that they are just one of the myriad of contextual factors that may influence athletes’ attitudes and behaviours and that their influence on athletes is limited to the local ‘culture’ they are able to create. Research examining athletes’ perspective has identified the significance of both the immediate and wider social environment in relation to doping attitudes and behaviours [7, 8, 11, 25]. Although the coach continues to be an influential figure in the immediate sport environment, the influence of the wider global sport environment on coaches and athletes should be examined further.

The anti-doping role frame of the coaches in the current study, whilst important, was not sufficient to ensure action. This may have been because the boundary components also contributed, in some cases, to complacency and anti-doping being assigned a low priority. It may also be due to issue setting, an important first step in the reflective conversation [14]. Issues identified as problematic depend on the information deemed salient and the way coaches’ frame their role [1]. When the coaches’ strong anti-doping role frame included awareness of doping as a problem in their sport internationally, doping was identified as a clear problem and the reflective conversation components of strategies, actions, and, to some extent, evaluation were evident. This finding is consistent with research examining the practices of model practitioners in a range of disciplines [1] and youth sport coaches [14]. The coaches’ proactive engagement and specific examples of coaches’ actions has not been
documented previously. It provides insights into ‘good anti-doping practice’ that could be useful for practitioners. It also identifies areas where further support may be beneficial such as how to evaluate the effectiveness of anti-doping actions.

All coaches also identified and acted on issues, not related to systematic doping, but rather focused on dealing with doping control procedures and avoiding inadvertent doping. Therefore, doping-related issues were ‘set’ but they generated different reflective conversations. Identifying and acting on these related issues may be explained only in part by the coaches’ anti-doping role frame. Perhaps more salient were the role frame components that reflected a sense of responsibility to the athletes and awareness of a wider international sporting landscape where doping control measures are considered normal. For these issues, the coaches’ reflective conversations were more instrumental, focused on negotiating this sporting landscape rather than combatting systematic doping per se. The limited engagement of these coaches compares with others’ findings [5, 26]. Furthermore, only one coach sought to query the situation of the international sport landscape by questioning why athlete education did not address the ‘why athletes should not use performance enhancing substances’ question. The uncritical acceptance of the nature of international sport could be attributed to the belief that, for many coaches and sports, systematic doping is not a problem and therefore little time is given to considering and acting on the problem. In comparison, however, control procedures generate associated issues that must be dealt with.

Limitations and Future directions

Whilst no research is without limitations, it is important to recognise that the coaches who participated in this study volunteered. When dealing with value-laden topics of a sensitive nature such as doping it is reasonable to consider that those who volunteer either hold or will convey a view that reflects the socially desirable answer. In this case an anti-doping stance. The fact that coaches were
willing to discuss the topic and happy to disclose, in some cases, limited knowledge and/or involvement
in doping prevention suggests the coaches were providing a ‘true’ account of their beliefs and actions.

Consistent with research examining experienced coaches’ perceptions of their role and coaching
philosophy [13, 14, 15, 16], the coaches in the current study were able to provide detailed accounts of
their approaches to working with performance athletes and influential situational factors. This provided
a valuable authentic account of how the coaches framed their role and their perceptual filters relevant
to doping and anti-doping. For those coaches who acknowledged doping as a problem internationally in
their sport, this depth of account was also evident in their reflective conversations, particularly their
description of anti-doping actions. In contrast, however, detailed strategy generation and evaluation of
effectiveness were less well articulated by most coaches. This appeared to be largely due to a reality of
limited engagement with these components of the reflective conversation rather than an inability to
articulate what they did. Although a relatively large sample for a qualitative study, only 23 coaches were
interviewed. Therefore, our findings are representative of this group and it would be inappropriate to
extrapolate our findings to all performance coaches. Future research should seek to understand how
coaches in other countries and coaches who support doping activity frame their role and engage in
problem setting and actions in relation to anti-doping.

The coaches in this study were to a greater and lesser extent actively involved in anti-doping
activities with their athletes. However, their interest in anti-doping education specifically for coaches
was limited. Role frames, like belief systems, are tacit and therefore coaches’ may not always be
conscious of them [1]. Therefore, exercises that raise coaches’ awareness and enable them to review
and analyse their role frames may be beneficial in critically examining the underlying components that
shape their anti-doping behaviours. Recent developments in coach education include WADA’s Coaching
Toolkit and Coach True online learning tool. None of the coaches in this study had knowledge of these
resources. Therefore, future research should seek to understand the most effective means by which to
engage coaches in anti-doping education and examine the impact of coach-focused tools such as these to ensure they are a prohibiting factor in athlete doping.

**Conclusion**

Research examining athletes’ perspectives in relation to doping and anti-doping identifies coaches as a potentially precipitating and prohibiting factor [2, 3, 5, 6, 9, 10, 11]. Research examining coaches’ perspectives on doping and anti-doping is, however, scarce and little is known about the nature of coaches’ role in doping prevention [4]. Our findings begin to fill this gap. There were strong anti-doping foundations evident in the coaches’ role frame which were partly cultural and contributed to anti-doping reflective conversations. The actions of some coaches, at least, suggested proactive efforts to foster ‘clean’ sport. For others, however, an anti-doping role frame was insufficient to ensure action. Role frame boundary components, although largely supportive of an anti-doping stance also contributed to perceptions that athletes are ‘safe’ from systematic doping. Instead athletes’ ‘being caught’ as a result of actions that unintentionally led to banned substances being present in their bodies was a greater concern and triggered instrumental efforts to deal with inadvertent doping and control procedures.


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