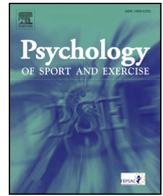




ELSEVIER

Contents lists available at ScienceDirect

Psychology of Sport & Exercise

journal homepage: www.elsevier.com/locate/psychsport

A qualitative investigation of coaches' doping confrontation efficacy beliefs

Ian D. Boardley^{a,*}, Jonathan Grix^b, Nikos Ntoumanis^c, Alan L. Smith^d^a School of Sport, Exercise & Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom^b Business School, Manchester Metropolitan University, Manchester, United Kingdom^c School of Psychology, Curtin University, Perth, Australia^d Department of Kinesiology, Michigan State University, East Lansing, Michigan, USA

ARTICLE INFO

Keywords:

Performance-enhancing drugs
Semi-structured interviews
Coach behavior
Coach-athlete relationship
Coaching efficacy

ABSTRACT

Objectives: To investigate the nature of doping confrontation efficacy (DCE) beliefs – as well as their antecedents and outcomes – through a qualitative examination of Sullivan, Feltz, LaForge-MacKenzie, and Hwang's (2015) DCE model with high-level technical and strength and conditioning (S&C) coaches from athletics and rugby union.

Design: Qualitative, descriptive.

Methods: Semi-structured interviews were conducted with 21 coaches ($n_{\text{male}} = 15$, $n_{\text{female}} = 6$; $n_{\text{technical}} = 11$, $n_{\text{S&C}} = 10$; $n_{\text{athletics}} = 5$, $n_{\text{rugby}} = 13$, $n_{\text{rugby \& athletics}} = 3$), working at a regional, national, or international level in athletics, rugby, or both sports. Study data were analyzed deductively using content analysis techniques.

Results: Data analysis supported the relevance of all five dimensions of DCE (i.e., personal resources, initiation, legitimacy, intimacy, and expected outcomes) to coaching practice in athletics and rugby, identifying key potential antecedents (e.g., coach education) and outcomes (e.g., likelihood of confronting athletes on doping-related issues) of coach DCE beliefs relevant to one or more of the DCE sub-dimensions. Deficits in coaches' anti-doping knowledge were also identified, supporting the need for improved anti-doping education for coaches.

Conclusion: By conducting the first qualitative examination of DCE beliefs, we enriched understanding of the DCE model and identified a range of possible antecedents and outcomes of DCE beliefs in technical and S&C coaches. Based on the results of this study, recommendations are posed for revising and expanding the DCE model. Practical recommendations are also offered for coach education.

1. Introduction

Coaches are important social agents in sport, with significant potential to shape athlete outcomes (Côté & Gilbert, 2009). Conceptual models of coaching suggest coach confidence is an important antecedent of coach behaviors leading to effective athlete development (Boardley, 2018; Feltz, Chase, Moritz, & Sullivan, 1999). A specific aspect of coach confidence relevant to athlete development is confidence in the ability to confront doping (Sullivan, Feltz, LaForge-Mackenzie, & Hwang, 2015). The world anti-doping code (WADC) defines doping as the engagement in any of ten anti-doping rule violations (ADRV; World Anti-Doping Agency, 2015). However, for the purposes of the current research we focus mainly on ADRV 2.2, which relates to the use or attempted use by an athlete of a prohibited substance or method (World Anti-Doping Agency, 2015). Given its potential for facilitating an unfair advantage over opponents and possible negative health effects, doping constitutes a significant issue in sport (Donovan,

Egger, Kapernick, & Mendoza, 2002). As such, it is vital coaches develop the confidence to confront athletes on doping issues. The overall aim of the current research was to investigate the nature of such confidence and factors that may influence and result from it.

Research to date supports the potential role of coaches in regulating doping in sport (e.g., Dodge & Robertson, 2004; Engelberg, Moston, & Blank, 2019; Laure, Thouvenin, & Lecerf, 2001; Ntoumanis, Barkoukis, Gucciardi, & Chan, 2017; Patterson & Backhouse, 2018). For instance, 98% of graduate professional coaches in France believed they have a role to play in preventing doping (Laure et al., 2001). However, of concern is that 80% considered themselves to be inadequately trained in doping prevention. Also, of concern is research reporting athletes at times justify doping based upon coaching behaviors (Dodge & Robertson, 2004). This finding is supported by research demonstrating positive links between perceptions of controlling coach behaviors (e.g., coercive, pressuring, and authoritarian behaviors) and doping intentions and doping behavior (Ntoumanis et al., 2017). It is possible

* Corresponding author.

E-mail address: i.d.boardley@bham.ac.uk (I.D. Boardley).<https://doi.org/10.1016/j.psychsport.2019.101576>

Received 21 December 2018; Received in revised form 12 August 2019; Accepted 12 August 2019

Available online 13 August 2019

1469-0292/ © 2019 Elsevier Ltd. All rights reserved.

coaches who use controlling behaviors may communicate messages (e.g., win at all costs) through their actions or words that potentially promote justification of doping by athletes. Further, recent research interviewing elite-level coaches from a range of sports found many coaches showed evidence of very poor knowledge on key anti-doping control systems (Engelberg et al., 2019). Importantly, Patterson and Backhouse (2018) found similar deficits in knowledge with a sample of football and rugby coaches, also finding such poor knowledge and understanding led to a perceived lack of self-efficacy to work with players on doping related issues. Thus, whilst the extant literature highlights the considerable potential coaches have to influence athlete doping, it also signifies coaches may not have the knowledge or confidence to effectively address doping issues with athletes. As such, there is a need to better understand the key aspects of coaches' confidence to address doping, as well as important factors that may influence the development of these aspects.

A recent model of relevance to coaches' confidence in addressing doping is the doping confrontation efficacy (DCE) model proposed by Sullivan et al. (2015). Two theoretical frameworks were central to the development of this model. The first was the coaching efficacy model proposed by Feltz et al. (1999). Coaching efficacy represents coaches' belief in their ability to impact the learning and performance of athletes. Given this model does not focus specifically on coaches' confidence in doping confrontation, Sullivan et al. (2015) developed a model of coach efficacy directly centered on coaches' confidence to confront doping. The second guiding model was Newell and Stutman's (1988, 1991) social confrontation model, which conceptualizes confrontations as active discussions between the confronter and the confronted (Newell & Stutman, 1991). Effective confrontations should include discussion of not only the problem (i.e., doping in this case), but also possible causes and solutions. The confronter should also present the reasons for behavior change and express concern for the confronted, whilst avoiding personal attacks or criticisms (Malis & Roloff, 2007).

Given the various components of confrontations proposed in Newell and Stutman's (1988, 1991) guiding framework, Sullivan et al. (2015) proposed DCE as an overarching construct reflected in five lower-order dimensions. The first of these is *initiation*, which refers to coaches' beliefs in their ability to confront athletes regarding doping issues and establish the purpose (e.g., understand the athletes' perspective, offer appropriate solutions) for the confrontation. In turn, efficacy regarding *legitimacy* is also important, relating to belief in a coach's ability to establish valid grounds for establishing a confrontation. Such grounds are whether the athlete has violated a rule and whether the infringed rule is relevant. Next, coaches need to be confident they have the *personal resources* (i.e., time, energy, and information) required to cope effectively with the cognitive and emotional demands involved in confrontations (see Reznik, Roloff, & Waite Miller, 2010). The fourth sub-dimension is *intimacy*, pertaining to coaches' confidence in their ability to confront athletes without appearing judgmental, which could threaten the coach-athlete relationship. Finally, *expected outcomes* relate to coaches' beliefs in their ability to confront athletes despite the possibility of both positive (e.g., cessation of intention to dope) and negative (e.g., weakening of the coach-athlete relationship) outcomes. These five lower-order dimensions sit under the overarching DCE construct, which represents the extent to which coaches believe in their abilities to effectively confront athletes regarding doping and offer appropriate solutions (Sullivan et al., 2015).

Sullivan et al. (2015) employed several stages to develop and test a measure designed to examine and represent the DCE model. First, they created a comprehensive list of 64 items designed to assess the five dimensions of DCE represented in the social confrontation model (Newell & Stutman, 1988, 1991), with items based upon those used in existing social confrontation measures. Eight experts then appraised the 64 items for face and content validity. Based on the appraisals the researchers deleted some items and revised others, resulting in a final list of 45 items to take forward for further testing. Sullivan and colleagues

(2015) then collected DCE ratings on these items from five hundred and sixty coaches of high-school athletes, using the responses to examine the dimensional structure and select the final measure items. Factor analyses supported the hypothesized 5-factor structure, and the researchers selected 21 items for use in the final measure. Whilst this work supports the proposed DCE model, it was focused on developing a quantitative measure of DCE and not on capturing in-depth perspectives of coaches. As such, qualitative examination of the model with coaches could further enrich our understanding of it. This could be especially helpful in understanding antecedents and outcomes of DCE.

Based upon the nature of the five sub-dimensions, it is possible to identify some probable antecedents of coach DCE beliefs. For example, coaches are likely to have elevated levels of legitimacy beliefs if they have reliable information on the issue tied to a forthcoming player confrontation (Newell & Stutman, 1991; Sullivan et al., 2015). If a coach has dependable evidence that an athlete has violated an anti-doping rule, it is legitimate to confront the athlete on this issue. Also, coaches' personal resources beliefs are likely to be higher if they are well educated on doping issues, as this should increase their abilities to clearly communicate and defend their position (see Reznik, Roloff, Waite, & Miller, 2010). Further, adequate space within coaches' workloads should underpin the time element of personal resources. A final example of an antecedent to DCE may be empathy, which could be important in bolstering intimacy beliefs. The ability to understand and experience an athlete's possible responses to being confronted should promote coaches' confidence in the ability to provide support for the athlete and avoid the confrontation being viewed as a personal attack (see Malis & Roloff, 2007). Despite the importance of understanding factors that may influence coaches' DCE beliefs, researchers to date have not examined possible antecedents of these beliefs.

There are also several possible outcomes of coach DCE beliefs. For instance, heightened levels of initiation should lead to more effective openings to confrontations, increasing the likelihood that confronted athletes will fully understand the purpose of the confrontation (Newell & Stutman, 1991; Sullivan et al., 2015). Next, coaches with elevated levels of legitimacy should be more likely to initiate a confrontation (Malis & Roloff, 2007; Reznik & Roloff, 2009). Similarly, coaches who are low in expected outcomes may be more likely to avoid confrontations if they anticipate negative outcomes stemming from them (see Caughlin & Affi, 2004). However, as with possible antecedents, researchers have not so far examined coaches' perspectives on possible outcomes of DCE beliefs.

Although researchers have not yet examined direct outcomes of coach DCE beliefs, athlete attitudes towards doping have been examined as a possible outcome of athlete perceptions of coach DCE beliefs. Weak-to-moderate negative associations have been observed between athletes' perceptions of their coaches on all five dimensions of DCE and their attitudes towards doping (Sullivan & Razavi, 2017). Thus, as levels of perceived coach DCE are higher, athletes show less positive attitudes towards doping. Based upon the revised coaching efficacy model (see Boardley, 2018), it is possible athlete perceptions of coach DCE are influenced by observations of relevant coaching behaviors (e.g., coach responses to media reports of doping). For instance, heightened athlete perceptions of coach DCE may result from athletes frequently observing coach behaviors that explicitly deter use of performance enhancing drugs (Sullivan et al., 2015). Such behaviors reflect negative coach attitudes toward doping, attitudes that may come to be internalized by athletes. Therefore, in the absence of more direct evidence, the findings of Sullivan and Razavi (2017) provide indirect support for the possibility that elevated levels of coach DCE may be linked with desirable outcomes for coach behavior.

Whilst Sullivan et al.'s (2015) DCE model has clear potential to inform our understanding of factors influencing coach behaviors relevant to doping, to date researchers have not qualitatively examined this model. As a result, we have little understanding of how coaches perceive the different components of DCE. Thus, one aim of the current

research was to investigate the nature of DCE beliefs from the perspective of coaches. Also, researchers have so far not investigated factors that may influence and stem from DCE beliefs. It is therefore possible there are important factors beyond those proposed by Sullivan et al. (2015) that could inform the model. Therefore, a second aim was to identify and examine possible antecedents and outcomes of DCE beliefs through qualitative interviews with coaches. In doing so, we sought to identify which antecedents are most salient and which outcomes are most prominent, *from the perspective of coaches*. The WADC (World Anti-Doping Agency, 2015) specifies that athlete support personnel should “be knowledgeable of and comply with all anti-doping policies and rules adopted pursuant to the Code and which are applicable to them or the Athletes whom they support” (p. 114). As they work with athletes within testing pools, there is an onus upon high-level coaches to understand and comply with anti-doping policies and rules. As such, we focused our research on coaches working at this level.

A further limitation in current research is that the potential impact of S&C coaches on athlete doping has largely been neglected. Instead, studies designed to investigate the effect of coaching on athlete doping have exclusively focused on technical (i.e., head) coaches. However, S&C coaches may be well placed to influence athlete doping, with some research even suggesting S&C coaches are potential suppliers of doping substances (Engelberg et al., 2019). This is likely due to S&C coaches working predominantly in gymnasia, environments in which doping is often more prevalent (Boardley, Smith, Mills, Grix, & Wynne, 2017; Sjöqvist, Garle, & Rane, 2008). Because S&C coaches generally interact with athletes in environments in which doping is more pervasive than other sport-training environments, S&C coaches may be ideally situated to confront and guide athletes on doping issues. Thus, research investigating coach influences on doping should consider the potential influence of S&C coaches alongside that of technical coaches. When addressing the main aims of the study, we examined the perspectives of both technical and S&C coaches accordingly.

2. Methodology

2.1. Philosophical underpinnings

This research is philosophically grounded in post-positivism. More specifically, whilst adhering to the notion there is some objective reality within the social world, we acknowledge social science is often interpretative which precludes the categorical discovery of such reality (see Fox, 2008). Whilst maintaining there is an objective social reality that could be discerned if sufficiently sophisticated tools were available, we recognize any examination of the social world is inevitably value- and theory-laden, as well as context-dependent. However, we believe through sustained examination of a topic using relevant approaches applied with methodological rigor and scrupulous data analysis, it is possible to derive an approximation to truth. Naturally, it follows that the questions we ask, the way our data is collected and analyzed and the conclusions we draw are inextricably linked to our post-positivist position (see Hay, 2002). Considering our post-positivist position, we use interviews because we believe participant responses provide a window to understanding values of coaches in a context-informed way. Further, our adoption of a primarily deductive approach to data analysis using categories derived from theory also aligns with our post-positivist stance.

2.2. Participants

Twenty-one coaches participated in the study ($n_{\text{male}} = 15$, $n_{\text{female}} = 6$; $n_{\text{technical}} = 11$, $n_{\text{S&C}} = 10$). Coaches' ages ranged from 27 to 72 years ($M = 38.1$); they worked at a regional ($n = 8$), national ($n = 7$), or international ($n = 6$) level in either athletics ($n = 5$), rugby ($n = 13$), or both sports ($n = 3$).¹ See Table 1 for details for each coach. Rugby and athletics were selected because they utilize both technical

Table 1
Participant Demographics.

Code	Age	Sex	Coach Type	Sport	Standard
TC1	40	Male	Technical	Athletics	National
TC2	72	Male	Technical	Athletics	International
TC3	45	Male	Technical	Athletics	International
TC4	33	Male	Technical	Rugby	International
TC5	35	Male	Technical	Rugby	International
TC6	38	Male	Technical	Rugby	International
TC7	38	Female	Technical	Rugby	Regional
TC8	40	Female	Technical	Rugby	Regional
TC9	37	Female	Technical	Rugby	Regional
TC10	33	Female	Technical	Rugby	Regional
TC11	36	Male	Technical	Rugby	National
S&C1	27	Male	S&C	Athletics	National
S&C2	41	Female	S&C	Both	National
S&C3	38	Male	S&C	Both	International
S&C4	35	Female	S&C	Both	National
S&C5	25	Male	S&C	Rugby	Regional
S&C6	37	Male	S&C	Rugby	Regional
S&C7	26	Male	S&C	Rugby	Regional
S&C8	45	Male	S&C	Rugby	National
S&C9	43	Male	S&C	Rugby	Regional
S&C10	36	Male	S&C	Athletics	National

and S&C coaches, and relatively high percentages of anti-doping rule violations (ADRVs) have been reported for their athletes (World Anti-Doping Agency, 2019). Specifically, between 2013 and 2016 these two sports were consistently in the top ten sports for number of ADRVs and were above the mean for the samples to ADRV ratio (World Anti-Doping Agency, 2019).

2.3. Interview schedule

Interviews followed a protocol developed by the first and second author based upon relevant theory and past research to identify themes relating to the five dimensions of DCE defined by Sullivan et al. (2015). The protocol opened with introductory comments, definitions of key terms (e.g., performance enhancing drugs, doping) to be used during the interview, and a brief discussion of the interviewee's coaching history. Following this, open-ended questions on doping in general (e.g. “In general, what do you think are the main reasons athletes in your sport use performance enhancing drugs?”; “What are your thoughts regarding the morality of using performance enhancing drugs?”), were posed, followed by more targeted questions regarding DCE beliefs (e.g., “What things are likely to influence a coach's abilities to ask an athlete if they have used performance enhancing drugs?”; “How confident are you in your ability to confront an athlete about doping whilst avoiding personal criticism?”; “How confident are you in your ability to establish the reason for confronting an athlete about doping?”). The interview then closed with an opportunity for the interviewee to discuss any further topics believed to be relevant to the topics discussed during the interview.

2.4. Procedures

Purposeful sampling was used to recruit male and female technical and S&C coaches who had coached in one of the two target sports at a regional level or higher for a minimum of one year. Participants were recruited by contacting UK governing bodies for the two sports, as well as the English Institute of Sport and asking them to provide potential participants with details of the study and the contact details for members of the research team. Existing contacts within the research team were also used to recruit participants. Finally, several clubs were

¹ Although we sampled specifically from these two sports, the study was not designed to make comparisons between them.

contacted directly using publicly available contact information to recruit participants. Once contact was made, all potential participants were fully informed regarding the aims of the research and what participation would involve, as well as what would be done with the data collected. Upon receipt of participant consent, semi-structured interviews were conducted face-to-face and in private by a research associate who followed a pre-determined schedule. Interviews were recorded using a Dictaphone and lasted 28–52 min ($M = 37$ min). Interviews were subsequently transcribed verbatim by the research associate.

2.5. Data analysis

Data were analyzed deductively using content analysis techniques, which are appropriate when examining a specific model using qualitative data (Hsieh & Shannon, 2005). This involved the application of operational definitions (see introduction for definitions) for the five dimensions of DCE when content-analyzing the data. The second author content analyzed the data by reading each transcript and highlighting all text relevant to one of the dimensions of DCE; he then coded each highlighted passage according to the relevant predetermined code (see Hsieh & Shannon, 2005). We also allowed for an ‘other’ category within our data analysis strategy to include any data that we could not code directly into one of the five DCE dimensions. However, this did not lead to the development of any new themes.

2.6. Research quality

Given our post-positivist philosophical position, we appreciate the influence we will have had on our study. For instance, our collective assumptions, knowledge, skills and experiences will have influenced our research aims, the interview protocol, data analysis, and report writing. To maximize the quality of this qualitative research, we were guided by contemporary views on this issue (Smith & McGannon, 2018). Key aspects of our approach follow below.

First, consistent with our deductive approach, we developed a coding frame and set of coding rules to guide data analysis. Specifically, the unit of coding used throughout data analysis was the complete response to a question. This unit of coding was chosen to ensure each response was coded whilst considering the entire response. This was to prevent any loss of context which may have occurred if we had coded individual sentences. Next, an experienced qualitative interviewer with experience in sport as an athlete and anti-doping practitioner conducted all interviews to encourage a strong and trusting relationship between interviewer and interviewee (see Woodward, 2008). Also, early in the coding process, the first author independently coded five of the interviews coded by the second author. Both authors then met to compare findings, and agreed relevant sections were consistently being identified and linked to the relevant definition/s. We employed this process to confirm there was general agreement between the two researchers on how they were identifying sections of text and linking them to definitions, and not for the purposes of establishing inter-rater agreement (see Smith & McGannon, 2018). Finally, the first author presented this work at an international conference attended by leading scholars. This allowed us to share our findings and deliver and defend them through critical engagement with an informed audience. Audience responses supported the credibility and plausibility of our approach and findings.

3. Results

In the following sub-sections, we present the results for each of the pre-determined categories, based upon the DCE model proposed by Sullivan et al. (2015). The numbers that follow exemplar quotes refer to the interviewee number (see Table 1). Within each sub-section, discussion of the sub-dimension itself is followed by any antecedents or outcomes of it. Where appropriate, square brackets [] have been used to

add additional words or phrases to clarify quotes.

3.1. Initiation

Confidence in the ability to effectively initiate a confrontation is considered crucial when confronting someone on sensitive topics, as only when the target recognizes the confronter’s purpose does the conversation become a confrontational episode (Newell & Stutman, 1991). For this reason, it is important that coaches can successfully communicate their intent when confronting athletes regarding issues relating to doping.

In general, coaches were confident in their ability to effectively communicate their purpose when confronting potential doping. For many, one purpose centered on finding out why an athlete would want to dope. For instance, TC3 said, ‘the whole thing with me is what’s driving you [the athlete]’. Although it would be easy to assume what is driving the athlete to dope would be obvious (i.e., performance enhancement), coaches were generally cognizant this was not necessarily the case, showing awareness that some drugs can be taken to enhance image rather than performance. This was evidenced by TC8 when she commented, ‘they might not be doing it for rugby reasons’.

Another key purpose for some coaches was to highlight the risks that doping can pose for athletes. For example, TC6 said his aim would be to ‘highlight the risks of it, the potential consequences ...’. The underlying implication being that, by making salient the potential risks, a coach can deter an athlete from doping. The objectives of other coaches were aligned with this underlying aim. For instance, TC4 explained that for him, ‘that player has to leave the room with an understanding that a) he doesn’t need to go down that route, and b) what the alternatives are’. Consistent with purposes highlighted to this point, S&C4 suggested she would, ‘try to understand why they felt that [the need to dope] and try to sort of convince them that this was not a good idea’.

Regarding possible antecedents, there was evidence that for some coaches personal morality was a key factor motivating the desire to initiate a confrontation. Specifically, TC2 explained ‘I think you’ve got a moral obligation to yourself haven’t you [to initiate a confrontation]’. That doping was viewed as morally abhorrent by some coaches was also evidenced by TC11 and TC6, respectively, who stated ‘I genuinely detest it ... I just can’t stand cheats’ and ‘I’m totally against it ... it’s cheating isn’t it’. Aligned with these views, the unfair competitive advantage stemming from doping would encourage confronting possible doping for TC2, ‘... because I think of the boys who lost medals as a result of it [others doping]’. Thus, being morally opposed to doping may be a strong motivating factor for developing confidence in the ability to initiate doping confrontations for some coaches.

3.2. Legitimacy

As well as being confident in their ability to effectively initiate a confrontation, it is also important coaches believe they can establish legitimate grounds for a confrontation. Given there is only really a single basis for initiating a doping confrontation (i.e., evidence of potential doping), discussion of this sub-dimension centered largely on antecedents and outcomes of the belief, rather than the belief itself. In terms of antecedents, the primary contributor to this belief appeared to be the degree of evidence relating to possible doping. Highlighting its perceived importance, one coach went as far as to make a clear distinction between situations in which an athlete is suspected of a doping violation and a situation where someone is known to be doping, with legitimacy beliefs likely to be far stronger in the latter situation than the former. When making this distinction, S&C9 suggested that when doping was only suspected, ‘I dunno how I’d approach that conversation I’m not sure that it’ll be something I feel comfortable confronting an athlete about ...’, whereas in the latter situation [known to be doping] he ‘... wouldn’t have any problems ...’. As such, coaches’

legitimacy beliefs may be stronger when they have clear evidence of an athlete doping, and a key outcome of such legitimacy beliefs may be the likelihood of the coach initiating a confrontation.

3.3. Personal resources

Beyond legitimacy, confidence in having the personal resources (i.e., time, energy, and information) to cope effectively with the cognitive and emotional demands involved in confrontations may also be important for coaches' DCE beliefs. There were clear differences among coaches on the degree to which they believed they possessed such resources. Again – as with legitimacy beliefs – the main foci during interviews were the likely antecedents and outcomes of the belief rather than the nature of the belief itself.

In terms of antecedents relating to informational resources, anti-doping education was important for several coaches. Such education allows coaches to learn information about anti-doping (e.g., different types of doping rule violations) that may be critical during doping confrontations. However, whilst several coaches identified the importance of anti-doping education, there was clear evidence this did not necessarily translate to coaches engaging with sufficient education to develop adequate knowledge on doping. For instance, when questioned on them, coaches were not consistently aware of important resources for coaches and athletes (e.g., Informed Sport or Global DRO), mixed up the two, or did not know where to source or find out about such information, let alone direct others to their whereabouts. It would seem questionable whether coaches lacking in such basic information would have the informational resources necessary to cope effectively with a challenging doping confrontation.

Some coaches acknowledged a desire to enhance their knowledge on anti-doping, but then implicated a lack of time to sufficiently engage with relevant education programs to satisfy this desire. For instance, when discussing informational personal resources he would like to develop, S&C3 said, '... nutrition is something that, from my personal perspective I need to know more about and obviously the whole banned substance thing, I mean that's continually evolving as well.' However, despite acknowledging the importance of developing such knowledge, he then indicated he may not be able to develop such knowledge because of the danger of 'spreading yourself too thin', suggesting 'it's a time constraint type thing'. Thus, it seems a perceived lack of time may inhibit effective engagement with anti-doping education for some coaches. Related to this, some coaches who had received anti-doping education demonstrated limited continued engagement with it, which may again limit their informational resources. For instance, S&C1 described '... we took umm, the ... was it the UK Anti-Doping Agency test?' before going on to admit '... I need to do it again actually'. The implication here being engagement with anti-doping education was not viewed as a priority.

Providing another possible explanation for inadequate anti-doping education in coaches, TC3 suggested a lack of financial investment was also an issue,

I don't think there is enough money invested in education in the UK; I certainly don't think it's in athletics ... I think more money needs to be invested in the education of coaches ... There should be almost like CPD [continued professional development]; it should form part of your license to be able to be involved in that world.

Therefore, whilst some coaches appeared to have the informational personal resources to confront athletes on doping issues, this was not consistently the case across the sample of coaches we interviewed. Responses from some coaches suggest that a lack of financial investment may explain this.

For those coaches who did feel suited to confront athletes on doping issues, personal experience also appeared to be an important source of personal resource beliefs. For instance, TC10 believed her international career in rugby would make her the obvious choice to confront athletes

on doping issues, stating '... I think that's why it would be me [the one to speak to athletes] ... because I used to play internationally'. The implication being that her background as an international-level player gave her skills that would help her cope effectively during a doping confrontation. Similarly, S&C10 suggested he possessed the knowledge and expertise to cope effectively during doping confrontations, stating 'I feel comfortable enough that if the situation did come about ... the correct course of action would be taken'. Here, having established networks was of importance, ensuring 'you know the right connections and the people'. Thus, past experiences as an athlete and established networks may also be important antecedents of coaches' beliefs around personal resources.

In terms of possible outcomes, coaches with weak personal resource beliefs described a tendency to outsource responsibility for confronting athletes on doping issues to other members of staff. For example, a technical coach from rugby reported 'I'd pass the buck. I'd just get the S & C Coach in' (TC11). Similarly, another technical coach – TC6 – said, '... I'd have to go through the S&C'. Interestingly, despite some technical coaches suggesting S&C coaches are best placed to confront doping, several S&C coaches themselves described how they would pass the issue on to others. For example, S&C10 explained that if he was told of someone who was considering doping, he would 'probably go through the channels that are appropriate, direct to my line manager' Therefore, lack of belief in the personal resources required to cope effectively with doping confrontations may increase the likelihood a coach will pass doping-related issues on to others rather than deal with them personally.

3.4. Intimacy

As well as feeling capable of coping with the demands of confrontations, coaches' belief in their ability to confront an athlete without appearing judgmental and the confrontation being viewed as a personal attack is also potentially important. For instance, elevated intimacy beliefs are thought to increase the likelihood that coaches will look to assist athletes regarding doping issues, regardless of whether such assistance is requested or not (Sullivan et al., 2015). This is because the abilities that likely underpin such beliefs should ensure coaches feel able to confront an athlete without fear of threatening the coach-athlete relationship.

Levels of intimacy efficacy were generally high, and those who had strong intimacy beliefs openly discussed some of the approaches and interpersonal skills that may underpin such beliefs. This was seen with TC10, who explained how 'it's just the environment that you create ... I would definitely bring it up with a player just to say, "can I help in any way?"'. Going on to provide actual examples of how she would approach confrontations, TC10 stated how she would ask questions such as 'What can we do or put in place to help you get over it [the desire to dope]?' Similarly, TC11 stated he'd '... probably approach it from a personable side', and S&C4 pointed out how she would, 'help them and try to understand why they felt that'. Along similar lines, TC8 suggested, 'I think you gotta open up a two-way communication with the person ...'.

Several approaches described above highlight the potential importance of a possible antecedent of intimacy beliefs that came up during some interviews, that of empathy. In particular, the ability to demonstrate empathy during a doping confrontation seemed of importance, as showing understanding of the factors that could lead an athlete to consider doping was thought to prevent the coach-athlete relationship being undermined during a confrontation episode. For instance, S&C2 suggested 'I think it's important to empathize about their reasoning [why they wish to dope], try and understand what they want to gain from it'. As far as we can generalize from our respondents, it did seem female coaches described the need for empathy and understanding more than males did. However, this was also seen with some male coaches. Thus, empathy appeared to be an important antecedent

of intimacy beliefs.

One further antecedent of intimacy beliefs was the strength of pre-existing coach-athlete relationships. This was seen with both technical and S&C coaches believing that having established strength in coach-athlete relationships means you can discuss sensitive topics more easily with an athlete without the confrontation being seen as a personal attack. For instance, S&C6 put forward that '... a big part of the role is creating relationships with the players ... we've got good, strong relationships with them'. Similarly, a female coach (TC10) related how she knows many players inside out, including their personal lives and following them on social media, 'I think it's knowing your players ... you create that personal relationship'. Thus, it is possible having existing strength in the coach-athlete relationship may bolster intimacy beliefs in advance of a confrontation because it makes it easier to maintain a strong connection during the confrontational episode.

3.5. Expected outcomes

Finally, expected outcomes relate to coaches' beliefs in their ability to confront athletes regardless of the possible outcomes, be those positive or negative. Such outcomes can include cessation or persistence of doping, strengthening or weakening of the coach-athlete relationship, and improved understanding of the viewpoints of both partners within the coach-athlete dyad (Sullivan et al., 2015). Across the sample levels of expected outcome beliefs fluctuated markedly, and perhaps unsurprisingly it was primarily the possible negative outcomes stemming from confrontations that had the potential to undermine such beliefs. For instance, S&C2 illustrated a degree of reticence around initiating a doping confrontation if there was potential for trust to be undermined. Specifically, she suggested if this occurred, 'they're not gonna confide in you again about anything'. That is, confrontations could lead to athlete trust in the coach being undermined, leading to a weakened coach-athlete relationship associated with a lack of openness in the future. Similar in some ways, TC3 expressed concern that doping confrontations could negatively impact the coach-athlete relationship by undermining the coach's trust in the athlete. Specifically, he described how following a confrontation he may remain suspicious of the athlete, '... the problem for me is if that conversation isn't an open conversation ... isn't open and honest ... I would be pretty wary, and I will be having a very close watch on those people ...'. Thus, the degree of potential damage to trust within the coach-athlete relationship appears to undermine expected outcome beliefs.

An associated but distinct theme also came up during interviews with S&C coaches exclusively, expressing how negative outcomes may also stem from not confronting suspected doping. Such possibilities only strengthen their resolve to confront suspected doping. Specifically, several S&C coaches described how not addressing doping could have negative implications for the coach and/or team in terms of employment and reputation damage. For instance, S&C7 described,

... we don't want to be affiliated with anybody that's either doping or had got the stigma around them in terms of you know being caught for something ...

Consistent with this view, S&C5 expressed how, '... it puts your job on the line, puts the club you know and everyone else's job on the line as well ...'. Further, and along similar lines, S&C8 explained, 'I wouldn't on a professional level allow myself to be put in a position where I was seen to be condoning the use of [drugs] ...'. Finally, in terms of possible reputation damage, S&C2 described how, 'I have a good reputation as a coach. I have no reason to compromise that ... why would I want to be working with somebody that would ultimately bring that down?'. Thus, although several coaches expressed reticence around expected outcome beliefs because of the potential for damage to the coach-athlete relationship, others considered potential negative outcomes stemming from doping confrontations were worth the risk when compared against the possible detrimental outcomes stemming from

not acting. In general, preserving the coach-athlete relationship was of greater importance to technical coaches, whereas avoiding potential reputation damage was a priority for S&C coaches.

4. Discussion

The current study provided an in-depth investigation of the DCE model in 21 high-level technical and S&C coaches from rugby and athletics, contributing important information on coach perceptions of DCE as well as potential influences and outcomes of DCE sub-dimensions. In doing so, this work makes several important contributions to the literature. First, our findings support the relevance of all five dimensions of DCE to coaching practice in athletics and rugby. Next, we identified key antecedents and outcomes of coach DCE beliefs relevant to one or more of the DCE sub-dimensions. In doing so, we have identified possible ways that coach DCE beliefs can be enhanced and highlighted the potential importance of doing so given the important behavioral outcomes that appear to stem from such beliefs. For instance, coach education was viewed as a key antecedent of DCE, and lower levels of DCE were linked with a reduced likelihood of confronting athletes on doping-related issues. Finally, we identified several aspects of the DCE model that could potentially be developed and/or improved. Each of these contributions is discussed in more detail over the ensuing paragraphs.

4.1. Strength of DCE beliefs

In terms of the levels of coaches' efficacy beliefs, beliefs relating to initiation and intimacy were most consistent, which may be because the foundations for such beliefs are less situation dependent than for the other three beliefs. Regarding initiation, most coaches were generally confident they could clearly articulate the purpose/s they would outline when initiating confrontations. The main purposes espoused included understanding why athletes may be considering doping, highlighting the risks of doping, and changing athletes' minds about choosing to dope. Consistent with these findings, research has found coaches have an aspiration to influence athletes' doping-related decisions (Ntoumanis, Brooke, Barkoukis, & Gucciardi, 2015), and view negative health consequences as a strong deterrent to doping (Backhouse & McKenna, 2012). With respect to coaches aspiring to influence athletes' doping related decisions, this may be motivated by feelings of disdain towards doping or – for S&C coaches in particular – a desire to protect the coach's/club's reputation. Coaches in the present study reported such feelings, as have coaches in previous studies. For example, coaches have described how they are against doping, considering it cheating, unfair, and disadvantageous toward others (e.g., Engelberg & Moston, 2016; Mazanov, Hemphill, Connor, Quirk, & Backhouse, 2015; Patterson & Backhouse, 2018).

With respect to intimacy, most coaches recognized and felt confident in the interpersonal skills that underpin intimacy beliefs. Such skills include the ability to communicate effectively, and form and maintain positive bonds with athletes both inside and outside of sport (Bowes & Jones, 2006). Given the coaches interviewed were of a high standard, it is perhaps unsurprising that most coaches felt confident in their interpersonal skills given such skills are considered a key component of effective and expert coaching (see Côté & Gilbert, 2009). The potential importance of coaches having strong intimacy beliefs is highlighted by research that has shown that strong personal relationships between coaches and athletes may be an important protective factor against doping (Dimeo, Allen, Taylor, Dixon, & Robinson, 2012).

In contrast to initiation and intimacy, levels of expected outcomes beliefs (i.e., coaches' confidence in their ability to confront athletes regardless of possible positive or negative outcomes) were more variable. A potential negative outcome that concerned several coaches was the potential for a damaging effect on trust within the coach-athlete relationship. As a result, some coaches expressed a degree of reticence

regarding confronting athletes because of such potential consequences. However, countering this were the possible negative consequences that could stem from not confronting possible doping. Namely, these related to the stigma attached to doping, and the damaging effect of not addressing doping for a coach's or club's reputation. Such reference to the stigma of doping was a sub-theme that came up in many interviews and one that has also arisen in previous qualitative research with athletes (Dimeo et al., 2012). Presently, this stigma appeared to serve a positive self-regulatory function, as some coaches felt confident they would confront possible doping despite possible negative consequences because the repercussions of not doing so may be worse. However, at times there was a suggestion that clubs were likely to try and deal with any instances of suspected doping 'in-house', rather than risking reputational damage by reporting such instances to the anti-doping authorities. Patterson and Backhouse (2018) reported similar responses to suspected doping in past work with football and rugby coaches. As such, coaches' expected outcome beliefs might ultimately result from a cost-benefit analysis regarding the possible consequences of confronting doping versus those stemming from not doing so.

4.2. Antecedents of DCE beliefs

For some dimensions of DCE, data themes related more to antecedents and outcomes of beliefs rather than on the belief itself. This was the case for legitimacy beliefs, for which coaches tended to find it hard to categorically determine the strength of their beliefs. This was largely because they perceived their efficacy beliefs for this dimension to be very situation dependent. In particular, coaches felt the degree of evidence they had to suspect an athlete was doping would heavily influence the degree to which they would feel confident in their ability to establish strong grounds for a confrontation. Given legitimacy relates to whether the target (i.e., athlete) has broken a rule (see Newell & Stutman, 1991), it is perhaps not surprising that levels on this dimension would be highly dependent upon the degree of evidence supporting an anti-doping rule infringement in any particular case. However, given coaches may still find themselves in situations where they are required to speak with an athlete about suspected doping without strong evidence, it may be useful to develop interventions that help coaches deal effectively with such situations. For example, guidance could be offered on what constitutes a sufficient degree of evidence to support moving forward with a confrontation, and the best approaches to gathering such evidence. Based upon our findings, effective evidence gathering would help bolster legitimacy beliefs before a confrontation is initiated. Maximizing legitimacy prior to a confrontation is likely important, as these beliefs have been positively linked with greater use of direct support mechanisms (Reznik & Roloff, 2009) and positive resolutions following confrontations (Newell & Stutman, 1988).

Consistent with one of our presuppositions, several coaches expressed how the coach-athlete relationship could be maintained more effectively (i.e., therefore supporting intimacy beliefs) if coaches have high levels of empathy. Specifically, several participants suggested that when coaches can demonstrate their empathy and understanding of the athlete's situation, athletes are less likely to view the coach as being judgmental and to consider the confrontation a personal attack. In concert with these views, empathy reflects the ability to share and experience someone else's feelings and has been associated with increased likelihood of engaging in helping behaviors (Eisenberg, Eggum, & Di Giunta, 2010). The present finding adds to a burgeoning literature highlighting the potential importance of empathy for engagement in appropriate and desirable coaching behaviors (e.g., Matosic et al., 2017).

Data analysis also identified strong themes relating to possible antecedents for personal resource beliefs (i.e., whether coaches have the personal resources [i.e., time, energy, and information] required to cope effectively with the cognitive and emotional demands involved in confrontations; Newell & Stutman, 1991). Interestingly, whilst most

coaches acknowledged the importance of coaches having a good knowledge and understanding of anti-doping, many also suggested they did not have the time to achieve or maintain such knowledge. Thus, it seems limitations in one personal resource (i.e., time) may be contributing to deficits in another (i.e., information). This finding adds to a burgeoning literature base that suggests coaches lack the time to develop their knowledge on doping prevention (Engelberg & Moston, 2016; Mazanov et al., 2015; Patterson & Backhouse, 2018). Our findings here correspond with research showing that whilst coaches acknowledge the potential importance of being knowledgeable regarding anti-doping, they do not see it as a high priority (e.g., Engelberg & Moston, 2016; Mazanov, Backhouse, Connor, Hemphill, & Quirk, 2014; Patterson & Backhouse, 2018), do not see it to be of personal relevance (Patterson, Duffy, & Backhouse, 2014), and may even view anti-doping education as a 'box-ticking exercise' that is largely a waste of time (Dimeo et al., 2012). Further, research considering aspects of coaches' knowledge on anti-doping have identified deficits in knowledge relevant to prohibited substances/methods and their effect on performance (Blank, Leichtfried, Fühapter, Müller, & Schobersberger, 2014; Engelberg & Moston, 2016; Patterson & Backhouse, 2018), as well as on key anti-doping control systems such as the biological blood passport and the whereabouts system (Engelberg et al., 2019). Therefore, governing bodies may need to place an increased organizational emphasis on anti-doping education to highlight its importance and relevance and encourage coaches to prioritize anti-doping education over other responsibilities by ensuring they have the requisite time, energy, and financial support.

4.3. Outcomes of DCE beliefs

Data analysis also identified several possible outcomes of DCE beliefs. One of the most positive of these was for the athlete to cease doping or desist from considering doping. This finding provides strong support for Sullivan et al.'s (2015) model given cessation of doping was one of the primary outcomes proposed in the model. For many coaches, the way in which they would seek to achieve such outcomes would be to provide athletes with information on alternatives to doping, such as improved training techniques, appropriate use of nutritional supplements, and improved dietary support. This was an encouraging finding given the evidence supporting the efficacy of such approaches. Specifically, effective anti-doping education programs often include alternatives to doping (Backhouse, McKenna, Robinson, & Atkin, 2007). An example of this is a school-based anti-doping intervention that incorporates a module on *nutrition as an alternative to doping* which was found to be effective in weakening attitudes towards doping in Greek high-school children (Barkoukis, Kartali, Lazuras, & Tsobatzoudis, 2016). As such, ensuring coaches are adequately educated on the most effective alternatives to doping could be an effective means of improving DCE outcomes.

Not all the proposed outcomes were positive though. Coaches who feared confrontations may lead to a breakdown in the quality of the coach-athlete relationship described being unlikely to confront an athlete if this was an anticipated outcome. This finding is consistent with the propositions of Sullivan et al. (2015). This is also consistent with research findings in parent-child and dating relationships, which have shown people tend to avoid confrontations if they have the potential to result in negative outcomes (Caughlin & Affii, 2004). Similarly, regarding personal resource beliefs, coaches who didn't feel they had a good level of knowledge on anti-doping were the ones most likely to 'pass the buck' to others rather than address doping issues themselves. Furthermore, coaches low in initiation and intimacy beliefs also reported being less likely to confront athletes regarding potential doping. Regarding intimacy, this is consistent with research investigating peer interventions and communication that has shown people are more likely to look to intervene to help others when intimacy between the potential confronter and confronted is high (Malis

& Roloff, 2007; Reznik et al., 2010). Thus, optimizing coaches' DCE beliefs across the different sub-dimensions of DCE could increase the likelihood coaches will take personal responsibility for confronting possible doping.

4.4. Theoretical and definitional considerations

Whilst the findings discussed to this point highlight the important contribution of the DCE model, given the model's infancy it may be worthwhile to consider some possible revisions and/or additions to the model that may heighten its potential contribution in future work. First, given several coaches questioned our use of the term *confrontation*, it is worth considering adopting a different term to represent coach attempts to engage with athletes on issues relating to doping. Using this term with coaches may implicitly suggest that coaches should be confrontational in their style, which is likely to detract from the empathic approach coaches considered most effective (see also Ntoumanis et al., 2018). Accordingly, any future revisions of the DCE model could potentially include an alternative term, potentially one more reflective of the empathic and supportive coaching style considered most effective by the coaches interviewed presently. A more appropriate term may be akin to doping intervention efficacy, as this still reflects confidence in the ability to intervene, but without the possible negative connotations of the term *confrontation*.

Along similar lines, another area of the model for possible revision relates to the term *legitimacy*. When discussing this sub-dimension during interviews, coaches largely focused on the evidence base available to establish valid grounds for a confrontation. In contrast, within the existing doping literature this term relates to whether anti-doping rules and their implementation are viewed as desirable, proper, and appropriate (e.g., Eferström, Ahmadi, Hoff, & Bäckström, 2016). As such, retaining this term within the DCE model could lead to confusion amongst coaches and researchers given it has an existing meaning in the doping literature. Researchers looking to develop the DCE model may therefore consider adopting an alternative term (e.g., evidence base, valid grounds) for this sub-dimension.

One final possible revision to the DCE model relates to the development of a broader model that encapsulates more completely the likely antecedents and outcomes of DCE beliefs. Although Sullivan et al. (2015) proposed some initial precursors (e.g., information on a forthcoming player confrontation) and consequences (e.g., effective openings to confrontations) of DCE beliefs, these were largely hypothetical and based upon research investigating confrontations outside of sport and doping (e.g., Malis & Roloff, 2007; Reznik & Roloff, 2009). The current findings now provide a starting point for future research working towards the development of a more complete and empirically supported model. A worthy aim for such research may be to develop a model more akin to the coaching efficacy model itself, which includes much broader coverage of the likely antecedents and outcomes of coaching efficacy (see Boardley, 2018; Feltz et al., 1999) than is currently the case for the DCE model. For instance, antecedents within the DCE model have tended to focus on personal influences on coach DCE such as doping knowledge, doping education, evidence of athlete doping, and empathy. In contrast, the coaching efficacy model includes broader social and environmental influences such as community support and competitive success (Boardley, 2018; Feltz et al., 1999). A revised DCE model that included both personal and social/environmental influences on DCE would provide a more holistic picture of the contributory factors influencing coach DCE beliefs. Similarly, within the DCE model the proposed outcomes predominantly focus on coach behaviors such as the effectiveness of openings to confrontations and the likelihood a coach will initiate a confrontation. In contrast, the revised coaching efficacy model considers how changes in coach behavior may then have consequent impacts at the team and athlete level, including athlete competence and collective efficacy (Boardley, 2018). Thus, future iterations of the DCE model could benefit from inclusion of

both proximal (i.e., coach-focused) and distal (i.e., athlete- and team-focused) outcomes.

4.5. Limitations and future directions

The current research contributes important knowledge on potential coach influences on doping in sport. As with all research though, there are limitations that should be acknowledged and considered when interpreting the findings and that indicate potential avenues for future research. For instance, because only one side of the coach-athlete dyad was examined the analyses may not have captured further relevant outcomes of DCE sub-dimensions. Given that research has highlighted the importance of athlete perceptions in mediating effects of coach efficacy beliefs on athlete- and team-level outcomes (see Boardley, 2018), there may be downstream effects of coach efficacy beliefs that couldn't be identified through coach interviews. As such, future qualitative research that considers athletes' perceptions of their coaches' DCE could help paint a more complete picture of the outcomes stemming from DCE beliefs. Such research could add depth of understanding on possible processes explaining quantitative links between athletes' perceptions of coach DCE and athletes' doping attitudes (see Sullivan & Razavi, 2017). Also, as our sampling strategy focused specifically on coaches working in rugby and athletics within the UK, our findings are delimited to coaches working within these sports in this country. As the prevalence, nature, and acceptance of doping are likely to differ based upon the physical demands of specific sports as well as cultural influences, future research examining DCE beliefs in coaches working within sports with differing physical demands and unique cultural influences is warranted. Such work could provide evidence that supports or refutes transferability (see Smith, 2018). Upcoming work could also examine whether DCE differs across diverging levels of coaching and coach experience.

5. Conclusion

By collecting and analyzing qualitative data from high-level technical and S&C coaches working in rugby and athletics, the current research made several important contributions. Foremost, the coach interviews identified key antecedents and outcomes for sub-dimensions of DCE. As well as revealing key antecedents and outcomes, data analyses unearthed some complexities around them. For example, analyses revealed how at times coaches must weigh the potential costs (e.g., eroding trust in the coach-athlete relationship) and benefits (e.g., protecting the reputation of the coach/club) before deciding whether to initiate a confrontation. Also, the current work showed that S&C coaches and technical coaches possess unique perceptions tied to their DCE beliefs. Accordingly, a full understanding of external influences on doping likely requires examination of the broader athlete-support network rather than focusing on technical coaches as has largely been the case to date. Finally, the findings highlight the importance of coach education on anti-doping, in that coaches view such education as important yet often find other priorities to supersede it. As such, anti-doping organizations and sport governing bodies are encouraged to support the development and evaluation of coach-based anti-doping interventions in ways that overcome barriers to broad coach participation.

Conflicts of interest

My co-authors and I do not have any interests that might be interpreted as influencing the research, and APA ethical standards were followed in the conduct of the study.

Acknowledgments

This research was supported by a grant from the International

Olympic Committee 2015 Anti-Doping Research Fund.

References

- Backhouse, S. H., & McKenna, J. (2012). Reviewing coaches' knowledge, attitudes and beliefs regarding doping in sport. *International Journal of Sports Science & Coaching*, 7, 167–175. <https://doi.org/10.1260/1747-9541.7.1.167>.
- Backhouse, S., McKenna, J., Robinson, S., & Atkin, A. (2007). *Attitudes, behaviours, knowledge and education – drugs in sport: Past, present and future*. Canada: World Anti-Doping Agency.
- Barkoukis, V., Kartali, K., Lazuras, L., & Tsorbatzoudis, H. (2016). Evaluation of an anti-doping intervention for adolescents: Findings from a school-based study. *Sport Management Review*, 19, 23–34. <https://doi.org/10.1016/j.smr.2015.12.003>.
- Blank, C., Leichtfried, V., Fühapter, C., Müller, D., & Schobersberger, W. (2014). Doping in sports: West-Austrian sport teachers' and coaches' knowledge, Attitude and Behavior. *Deutsche Zeitschrift Für Sportmedizin*, 65, 289–293.
- Boardley, I. D. (2018). Coaching efficacy research: Learning from the past and looking to the future. *International Review of Sport and Exercise Psychology*, 11, 214–237. <https://doi.org/10.1080/1750984X.2017.1290816>.
- Boardley, I. D., Smith, A. L., Mills, J. P., Grix, J., & Wynne, C. (2017). Empathic and self-regulatory processes governing doping behavior. *Frontiers in Psychology*, 8, 1495. <https://doi.org/10.3389/fpsyg.2017.01495>.
- Bowes, L., & Jones, R. (2006). Working at the edge of chaos: Understanding coaching as a complex interpersonal system. *The Sport Psychologist*, 20, 235–245. <https://doi.org/10.1123/tsp.20.2.235>.
- Caughlin, J., & Afifi, T. D. (2004). When is topic avoidance unsatisfying? A more complete investigation into the underlying links between avoidance and dissatisfaction in parent-child and dating relationships. *Human Communication Research*, 30, 479–513. <https://doi.org/10.1093/hcr/30.4.479>.
- Côté, J., & Gilbert, W. (2009). An integrative definition of coaching effectiveness and expertise. *International Journal of Sports Science & Coaching*, 4, 307–323. <https://doi.org/10.1260/174795409789623892>.
- Dimeo, P., Allen, J., Taylor, J., Dixon, S., & Robinson, L. (2012). *Team dynamics and doping in sport: A risk or a protective factor?* Montreal, Canada: WADA.
- Dodge, A., & Robertson, B. (2004). Justifications for unethical behaviour in sport: The role of the coach. *Canadian Journal for Women in Coaching*, 4, 1–17.
- Donovan, R. J., Egger, G., Kapernick, V., & Mendoza, J. (2002). A conceptual framework for achieving performance enhancing drug compliance in sport. *Sports Medicine*, 32(4), 269–284. <https://doi.org/10.2165/00007256-200232040-00005>.
- Efverström, A., Ahmadi, N., Hoff, D., & Bäckström, Å. (2016). Anti-doping and legitimacy: An international survey of elite athletes' perceptions. *International Journal of Sport Policy and Politics*, 8, 491–514. <https://doi.org/10.1080/19406940.2016.1170716>.
- Eisenberg, N., Eggum, N. D., & Di Giunta, L. (2010). Empathy-related responding: Associations with prosocial behavior, aggression, and intergroup relations. *Social issues and policy review*, 4, 143–180. <https://doi.org/10.1111/j.1751-2409.2010.01020.x>.
- Engelberg, T., & Moston, S. (2016). Inside the locker room: A qualitative study of coaches' anti-doping knowledge, beliefs and attitudes. *Sport in Society*, 19, 942–956. <https://doi.org/10.1080/17430437.2015.1096244>.
- Engelberg, T., Moston, S., & Blank, C. (2019). Coaches' awareness of doping practices and knowledge about anti-doping control systems in elite sport. *Drugs: Education, Prevention & Policy*, 26, 97–103. <https://doi.org/10.1080/09687637.2017.1337724>.
- Feltz, D. L., Chase, M. A., Moritz, S. E., & Sullivan, P. J. (1999). A conceptual model of coaching efficacy: Preliminary investigation and instrument development. *Journal of Educational Psychology*, 91, 765–776. <https://doi.org/10.1037/0022-0663.91.4.765>.
- Fox, N. J. (2008). Post-positivism. In L. M. Given (Ed.). *The SAGE encyclopaedia of qualitative research methods* (pp. 659–664). London: Sage.
- Hay, C. (2002). *Political analysis: A critical introduction*. Basingstoke: Macmillan International Higher Education.
- Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15, 1277–1288. <https://doi.org/10.1177/1049732305276687>.
- Laure, P., Thouvenin, F., & Lecerf, T. (2001). Attitudes of coaches towards doping. *The Journal of Sports Medicine and Physical Fitness*, 41, 1–4.
- Malis, R. S., & Roloff, M. E. (2007). The effect of legitimacy and intimacy on peer interventions into alcohol abuse. *Western Journal of Communication*, 71, 49–68. <https://doi.org/10.1080/10570310701199186>.
- Matosic, D., Ntoumanis, N., Boardley, I. D., Sedikides, C., Stewart, B. D., & Chatzisarantis, N. (2017). Narcissism and coach interpersonal style: A self-determination theory perspective. *Scandinavian Journal of Medicine & Science in Sports*, 27, 254–261. <https://doi.org/10.1111/sms.12635>.
- Mazanov, J., Backhouse, S., Connor, J., Hemphill, D., & Quirk, F. (2014). Athlete support personnel and anti-doping: Knowledge, attitudes, and ethical stance. *Scandinavian Journal of Medicine & Science in Sports*, 24, 846–856. <https://doi.org/10.1111/sms.12084>.
- Mazanov, J., Hemphill, D., Connor, J., Quirk, F., & Backhouse, S. H. (2015). Australian athlete support personnel lived experience of anti-doping. *Sport Management Review*, 18, 218–230. <https://doi.org/10.1016/j.smr.2014.05.007>.
- Newell, S. E., & Stutman, R. K. (1988). The social confrontation episode. *Communication Monographs*, 55, 266–285. <https://doi.org/10.1080/03637758809376172>.
- Newell, S. E., & Stutman, R. K. (1991). The episodic nature of social confrontation. In J. A. Anderson (Vol. Ed.), *Communication yearbook*: 14, (pp. 359–413). Thousand Oaks, CA: Sage. <https://doi.org/10.1080/23808985.1991.11678796>.
- Ntoumanis, N., Barkoukis, V., Gucciardi, D. F., & Chan, D. K. C. (2017). Linking coach interpersonal style with athlete doping intentions and doping use: A prospective study. *Journal of Sport & Exercise Psychology*, 39, 188–198. <https://doi.org/10.1123/jsep.2016-0243>.
- Ntoumanis, N., Brooke, L., Barkoukis, V., & Gucciardi, D. (2015). A qualitative investigation of doping intentions in sport. *Paper presented at the 14th European congress of sport psychology, bern*.
- Ntoumanis, N., Gucciardi, D. F., Backhouse, S. H., Barkoukis, V., Quested, E., Patterson, L., Smith, B., Whitaker, L., Pavlidis, G., & Kaffe, S. (2018). An intervention to optimize coach motivational climates and reduce athlete willingness to dope (CoachMADE): Protocol for a cross-cultural cluster randomized control trial. *Frontiers in Psychology*, 8, 1–12. <https://doi.org/10.3389/fpsyg.2017.02301>.
- Patterson, L. B., & Backhouse, S. H. (2018). “An important cog in the wheel”, but not the driver: Coaches' perceptions of their role in doping prevention. *Psychology of Sport and Exercise*, 37, 117–127. <https://doi.org/10.1016/j.psychsport.2018.05.004>.
- Patterson, L., Duffy, P. J., & Backhouse, S. H. (2014). Are coaches anti-doping? Exploring issues of engagement with education and research. *Substance Use & Misuse*, 49, 1182–1185. <https://doi.org/10.3109/10826084.2014.912469>.
- Reznik, R. M., & Roloff, M. E. (2009). The role of legitimacy and communal orientation on the use of health influence strategies. *Communication Research Reports*, 26, 167–173. <https://doi.org/10.1080/08824090902861671>.
- Reznik, R. M., Roloff, M. E., & Waite Miller, C. (2010). Communication during interpersonal arguing: Implications for stress symptoms. *Argumentation and Advocacy*, 46, 193–213. <https://doi.org/10.1080/00028533.2010.11821730>.
- Sjöqvist, F., Garle, M., & Rane, A. (2008). Use of doping agents, particularly anabolic steroids, in sports and society. *The Lancet*, 371, 1872–1882. [https://doi.org/10.1016/S0140-6736\(08\)60801-6](https://doi.org/10.1016/S0140-6736(08)60801-6).
- Smith, B. (2018). Generalizability in qualitative research: Misunderstandings, opportunities and recommendations for the sport and exercise sciences. *Qualitative Research in Sport, Exercise and Health*, 10, 137–149. <https://doi.org/10.1080/2159676X.2017.1393221>.
- Smith, B., & McGannon, K. R. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology*, 11, 101–121. <https://doi.org/10.1080/1750984X.2017.1317357>.
- Sullivan, P. J., Feltz, D. L., LaForge-MacKenzie, K., & Hwang, S. (2015). The preliminary development and validation of the doping confrontation efficacy scale. *Psychology of Sport and Exercise*, 16, 182–190. <https://doi.org/10.1016/j.psychsport.2014.04.011>.
- Sullivan, P., & Razavi, P. (2017). Are athletes' doping-related attitudes predicted by their perceptions of coaches' confrontation efficacy? *Substance Use & Misuse*, 52, 1098–1103. <https://doi.org/10.1080/10826084.2016.1272613>.
- Woodward, K. (2008). Hanging out and hanging about: Insider/outsider research in the sport of boxing. *Ethnography*, 9, 536–560. <https://doi.org/10.1177/1466138108096991>.
- World Anti-Doping Agency (2015). *World anti-doping code*. Montreal: Author.
- World Anti-Doping Agency (2019). *Anti-doping rule violations report* https://www.wada-ama.org/en/resources/search?f%5B0%5D=field_topic%3A135.