

Exploring the psychological attributes underpinning elite sports coaching

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1 *Original Article*

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10 Exploring the psychological attributes underpinning elite sports coaching

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1 **Abstract**

2 The influential role of the coach in athlete performance and development has long been
3 acknowledged, and coaches are now considered “performers”, just like their athletes [1].

4 The purpose of the present study was to explore the psychological attributes elite coaches
5 perceived to underpin their ability to coach most effectively and factors perceived to
6 influence attribute development. Qualitative research methods were implemented where 12
7 elite coaches (8 male, 4 female) participated in semi-structured interviews. Inductive
8 thematic analysis generated 9 higher-order themes related to psychological attributes: (a)
9 attitude, (b) confidence, (c) resilience, (d) focus, (e) drive for personal development (f)
10 being athlete-centred, (g) emotional awareness, (h) emotional understanding, and (i)
11 emotional management. In addition, 3 higher-order themes were generated related to factors
12 perceived to influence attribute development: (a) education, (b) experience, and (c)
13 conscious self-improvement. Findings indicated that several attributes perceived to be
14 essential to coaching effectiveness related to the emotional nature of coaching, where
15 coaches’ abilities to identify, understand and manage emotions in both themselves and
16 others had many positive effects.

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18 **Keywords**

19 Elite coaches, psychological attributes, development, coaching effectiveness

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1 **Introduction**

2 Research conducted across sport science disciplines has strived towards
3 understanding the unique attributes of elite performers in an attempt to uncover what
4 enables them to perform successfully and reach the pinnacle of their careers [2]. In sport
5 psychology, much attention has been given to exploring and understanding the
6 psychological attributes of elite athletes with the aim of influencing athlete talent and
7 development [3,4]. It is widely acknowledged that coaches have an important role in
8 athletes' lives and can influence athletes' performance, behaviour, and psychological well-
9 being [5]. In comparison to athletes, much less consideration has been directed towards
10 identifying and supporting the psychological needs of coaches. Since Giges, Petipas and
11 Vernacchia [6] argued that as much attention should be given to coaches' preparation and
12 performance as has been given to athletes, research has increasingly recognised that coaches
13 are indeed "performers in their own right" [7,1]. Coaches, like athletes, are often required to
14 coach in highly pressurised environments, make critical decisions, deal with adversity and
15 are held to incredibly high expectations [6]. To this end research conducted with coaches
16 has increased and provided insights into key performance areas such as coaches' stress and
17 coping [7], coaches' efficacy [8], and coaches' leadership [9]. However, little attention has
18 been directed towards exploring the psychological attributes that underpin coaches' abilities
19 to perform effectively.

20 Current understandings of the coaching process [10] advocate that coaching is not
21 merely delivered, but rather a complex social system that involves both coach and athlete(s).
22 With each coaching situation argued to involve some degree of novelty, coaching practice
23 has been suggested to hold limited roots in generic rules and structured planning [11].

1 Accordingly, the term “structured improvisation” has been coined in an attempt to
2 characterise coaching practice [12]. Coaching effectiveness is therefore “not dependent upon
3 the efficient application of a sequential process but on the quality of interactions between
4 coach, athlete(s) and the context” (p.88) [13]. In the most simplistic terms, the coaching
5 process involves a coach’s attempt, in various ways, to positively influence the learning and
6 development of their athletes [14] and therefore should be understood and studied in a
7 manner that accounts for this.

8 Traditional coaching research has predominately focused on studying the observable
9 behavioural elements of coaching and the coaching process. Describing a coach’s behaviour
10 through quantitative methods has dominated the research [14]. Although such methods
11 conform to assumptions of traditional scientific methods (e.g., phenomena must be
12 observable, measurable and replicable) it fails to address aspects of the coaching process
13 that are unobservable [15]. Consequently, with such an emphasis placed on behavioural
14 observation there is little understanding regarding the reasoning behind the action. For
15 example, research reveals that expert coaches can, in the main, say the right thing at the
16 right time, yet our understanding into *how* they know *what* to say and *when* is limited [16].

17 A series of studies conducted by Gould and colleagues [17,18] examined factors
18 affecting Olympic performance from the perspective of both athletes and coaches. Findings
19 from this research have demonstrated both the positive and negative influences coaches can
20 have on athlete performance at major competitions. In particular, athletes’ perceptions of
21 how coaches can negatively influence performance included the coach’s inability to handle
22 pressure and avoid distractions, poor coach-athlete communication, coaches changing
23 behaviour, over-coaching, and setting unrealistic expectations. Athletes’ perceptions of how

1 coaches can positively influence performance included coach trust and friendship, coach
2 planning, making fair decisions, and receiving coach feedback [4]. Gould et al., [17] also
3 reported coaches' perceptions of factors that influenced their own coaching performance at
4 the Olympic Games. Specifically, coaches indicated that having the ability to remain calm
5 under pressure and make decisive decisions positively influenced their coaching
6 effectiveness, whereas the inability to deal with crisis situations, and manage stress between
7 athletes and coaching staff were perceived as ineffective. More recently, research has
8 identified several key factors that Olympic coaches attributed to their success at the
9 Olympic Games [19, 20]. For example, Olusoga et al., [20] explored the factors that enabled
10 coaches to perform under pressure (i.e., Olympic environment). A variety of factors
11 emerged such as lifestyle choices, strategic planning, team and athlete preparation, taking
12 time out, and team support. Coaches also identified a number of psychological attributes
13 (e.g., communication, passion, emotional control, perception) and skills (e.g.,
14 rationalisation, routines) highlighting the notion that psychological attributes are important
15 for coach performance. Indeed the authors pointed towards the need to enhance coaches'
16 own psychological skills to develop these attributes.

17 Athlete talent development literature has consistently demonstrated that athletes'
18 psychological attributes are malleable and capable of being trained and developed over time
19 [e.g., 21-23]. Such research has informed intervention-based studies concerning the
20 application of psychological skills training to enhance athlete development and performance
21 [e.g., 23]. To date, scant research has attempted to understand how the psychological
22 attributes of coaches are developed, which is not surprising considering the current lack of
23 research concerning coaches' psychological attributes. Based on athlete talent development

research, investigating factors perceived to influence the development of psychological attributes in coaches could hold important implications for the design and implementation of intervention studies aimed to enhance coach development and effectiveness.

Collectively, existing literature provides insight into a broad range of factors perceived to influence coach effectiveness and success. This research highlights the importance of understanding the psychological attributes of coaches and how such attributes are developed. Taking into account the paucity of research regarding the factors expert coaches attribute to their own success [19], a detailed investigation into the psychological attributes of elite coaches and related developmental factors will broaden the breadth and depth of existing literature. This form of investigation has the potential to expose and explain some of the unobservable cognitive contexts that drive coaches' behaviours and positively influence coaching effectiveness. Thus, the purpose of the present study was to explore the psychological attributes elite coaches perceived to underpin their ability to coach most effectively, and how such attributes were perceived to have developed.

Method

Participants

The sample for this study comprised of 12 elite coaches (8 male, 4 female). In line with previous research, the definition of elite athletes was used to define coaches as "those who work with performers on a regular basis who are current national squad members and perform at the highest level in their sport" [24, 1]. A purposive criterion sampling method [25] was employed in line with previous research using an elite coach sample [1, 26]. The criteria for inclusion required coaches to have at least 10 years coaching experience, and to have coached athletes to medal success at major sporting

competitions (i.e., Olympic Games, World Championships). Participants represented a variety of sports including gymnastics, disability table tennis, canoe slalom, judo, lacrosse, field hockey, track and field, rowing, and trampolining.

Procedure

Following institutional ethics approval, all participants were initially contacted via e-mail outlining the aims of the research and the procedure for data collection. Informed consent was gained from all participants before data collection. Given the exploratory nature of the study, in-depth interviews were considered the most appropriate method of data collection [25]. A semi-structured interview approach was applied where all participants were asked the same major open-ended questions, but with further elaboration questions that varied according to the participant's initial responses to opening questions. The interview guide contained three sections, Section one comprised of demographic and coaching background information. Section two focused on psychological attributes where participants were encouraged to discuss their own psychological attributes (e.g., What do you think are your psychological strengths when coaching? How do you display these in your behaviour?), and related developmental factors (e.g., Have you always had these attributes, or have they been developed? How do you think they have been developed?). Section three focused on coaching strategies (e.g., Is there anything in particular you do to manage your thoughts, feelings and behaviours?). The majority of interviews were conducted face-to-face, with one phone interview. The principle investigator who had previous experience in qualitative research procedures conducted all interviews. All interviews were digitally audio recorded in their entirety and transcribed verbatim.

1 *Data analysis*

2 The primary purpose of the study was to understand the psychological attributes
3 of coaches through their own experiences and perspectives; thus, an inductive thematic
4 analysis [27] was adopted to analyse the data. In phase one of the analysis all data
5 underwent a process of initial open coding where data were analysed on a line-by-line
6 basis. Raw data responses (quotes or paraphrased quotes) were organised into patterns of
7 like ideas representing lower-order themes. Lower-order themes were grouped together
8 based on similarities to form higher-order themes.

9 The second phase of analysis involved several measures to enhance the
10 authenticity and trustworthiness of data analysis including analyst triangulation, use of a
11 critical friend and the presentation of thick descriptive quotes [cf. 28]. Analyst
12 triangulation involved three researchers independently reading transcripts and making
13 suggestions for the placement and removal of raw data extracts into themes.
14 Categorisation of the data continued until consensus was reached between all three
15 researchers. Following researcher agreement, an additional colleague with experience in
16 sport psychology research but independent to the research study was used to confirm, or
17 otherwise, the placement of raw data extracts into lower and higher-order themes. As
18 stated by Geertz “The whole point of a semiotic approach to culture is to aid us in
19 gaining access to the conceptual world in which our subjects live so that we can, in some
20 extended sense of the term, converse with them” (p.320) [29]. Therefore, the
21 presentation of results includes descriptive quotes, to share the views of the participants
22 and provide context for the reader.

23 **Results**

The data analysis procedures resulted in the generation of 122 raw data extracts that were categorised into 29 lower-order themes, 12 higher-order themes and 2 general dimensions (see Figure 1). Results are presented in two sections to demonstrate firstly the psychological attributes identified and secondly, factors relating to attribute development.

Psychological attributes

The higher-order themes characterising specific psychological attributes included: (a) attitude, (b) confidence, (c) resilience, (d) focus, (e), drive for personal development (f) being athlete-centred, (g) emotional awareness, (h) emotional understanding, and (i) emotional management.

Attitude. Within this higher-order theme two lower-order themes captured the attitudes displayed by coaches: (a) tough attitude, and (b) focus on the positives. Having a tough attitude was described as being able to “make tough decisions” and being “directive”. Several coaches also demonstrated their tough demeanour towards others, as one coach stated “I’ve always followed the definition of a coach that coaches someone to achieve what they want to achieve by making them do what they don’t always want to do”. Several coaches also referred to how they “always focus on the positives”, which applied to their own personal performance and that of their athletes. The ability to maintain a positive attitude in imperfect situations was demonstrated by not dwelling on mistakes and refocusing attention, as one coach discussed,

The athletes will make mistakes, usually there will be a reason why they have made that mistake. You could say ‘you didn’t do that very well’ when they [athlete] know it already, so there’s no point. We reinforce the bits they’ve done

1 well and then you address it with your angle... So really keeping things positive
2 and not looking too much at massive mistakes.

3 *Confidence.* Coaches were also characterised by their high level of confidence which
4 was categorised into three lower-order themes: (a) confident communication, (b) acting
5 confident, and (c) confidence in ability and knowledge. Being able to communicate with
6 confidence was regarded as a critical attribute affecting coach effectiveness. For
7 example, “clear and confident communication with athletes” and “not being afraid to
8 make decisions” were perceived to positively influence athlete behaviour and
9 performance, as illustrated by the following quote:

10 In the World Championships there was a lot of choices on the course and it was
11 just being clear with the athlete why they should take on this particular choice.
12 I’ve got a good idea it might be the fastest but I couldn’t tell you it would be. So
13 I was very clear... You’ve just got to be clear and confident in what you are
14 saying to them, and it was good to see them [athlete] committing to the moves.

15 Another aspect of confidence found to influence coaching effectiveness was a
16 coach’s ability to act confidently both in practice and competitive environments. This
17 lower-order theme demonstrated how coaches felt the need to display confidence in their
18 behaviour by “exuding as much confidence as possible”. Coaches were mindful that
19 their behaviour could influence athletes both positively and negatively. Acting
20 confidently was perceived to have a positive effect therefore coaches consciously
21 attempted to appear confident for the benefit of others. Several coaches also referred to
22 how their “skills and abilities gave them confidence”, which gave coaches self-belief,
23 “you believe that you can do it”. Such confidence in one’s skills was demonstrated by

1 one coach being very self-assured regarding his ability to positively affect athlete
2 development, “I could take anybody [athlete] on and adapt to meet their needs”.
3 *Resilience*. Several coaches identified resilience as a personal psychological attribute,
4 being categorised into two lower-order themes: (a) handling setbacks and (b) dealing
5 with criticism. Encapsulating a coach’s ability to handle setbacks, coaches described
6 being able to “come out the other side”. In particular, when discussing their ability to
7 come back from setbacks, one coach said “I just have that song in my head, you get
8 knocked down but you get up again”. The following quote illustrates one coach’s ability
9 to persist despite setbacks by continuing to search for solutions:

10 Because of either my nationality or my gender I’ve not actually been able to
11 access some environments, and I would never access them because I wouldn’t
12 be allowed to. But that doesn’t stop me [from] working hard and applying for
13 things... I’m given information back that I’m lacking because I haven’t got ‘x’
14 for example, then I will work harder and I’ll learn ‘x’ because that makes me a
15 better coach.

16 The lower-order theme ‘dealing with criticism’ demonstrated how several
17 coaches emphasised their ability to deal with negative comments directed towards them
18 by others involved in their sport (e.g., other coaches, parents, governing body members).
19 It was made apparent that having “broad shoulders”, “thick skin” and “trying not to take
20 things personally” enabled coaches to handle such comments in a positive manner
21 without having detrimental effects on their coaching effectiveness or psychological well-
22 being.

1 *Focus.* Several coaches discussed how their ability to remain focused influenced their
2 coaching effectiveness. In this higher-order theme coaches highlighted the importance of
3 being both process focused and future-focused. Having the ability to apply oneself to the
4 task at hand and keeping things simple and process focused was perceived integral, as
5 demonstrated by the following quote:

6 “It’s just getting on with the job at hand and focusing on what I need to do, I try
7 and think about it logically and identify all the steps I need to take. If I’m
8 distracted I’m not athlete centric anymore, and if I’m not athlete centric then I’m
9 not doing the best job by my [team]”.

10 Being able to stay focused on future events and focusing on what needed to be done to
11 achieve intended goals was also considered important by several coaches, as
12 demonstrated by the following quotes, “I’m very goal focused, so there’s always three or
13 four things I want to improve on”, and “The times I’ve coached well is when I’m really
14 focused on the job... I’m only thinking about preparing the athlete for competition.

15 *Drive for personal development.* A clear desire to utilise learning opportunities and
16 continue to strive for personal development was evident. This higher-order theme was
17 categorised into two lower-order themes: (a) open-minded, and (b) appetite for learning.

18 Being open-minded was characterised by embracing learning experiences and
19 opportunities such as having the perspective of “I’m not a finished article” as oppose to
20 being “stuck in their ways”. Having an appetite for learning was also identified and
21 several coaches highlighted their constant need for self-improvement by “trying to
22 improve all the time” and “having a hunger for knowledge”. Coaches discussed using a

1 range of resources to enhance their professional development, as illustrated in the
2 following quote:

3 I've learnt a lot from talking to other coaches from other sports. In terms of
4 learning and seeing what's out there it's about looking at business, looking at
5 other sports, looking at other team managers, performance directors...trying to
6 put in what then relates to my sport.

7 *Being athlete-centred.* Being athlete-centred comprised of three lower-order themes: (a)
8 encouraging independence, (b) understanding individual differences, and (c)
9 adaptability. Several coaches in their attitudes toward developing "self-sufficient"
10 athletes illustrated how they encourage independence:

11 The times when I have coached well I don't coach a lot, which in fairness
12 means you have coached well. So everything has been done before and the
13 athlete is self-sufficient...it's not about you, what you are trying to do is build
14 independence...you're trying to make yourself redundant.

15 To promote athlete independence, coaches reported, "asking open questions"
16 and encouraging "athlete directed discussions" to assist athletes in taking ownership
17 over their training and development. One coach referred to using what he termed "the
18 nudge principle" to assist athletes in their decision-making, by guiding rather than
19 directing them towards intended outcomes. Several coaches highlighted the importance
20 of being able to understand the individual needs of their athletes, acknowledging that
21 athlete development and performance is largely influenced by being able to "understand
22 an athlete's personality", "taking the time to understand their moods, their habits" and
23 "using that in a way that gets the best out of them". Having an individualised

1 understanding of athletes needs influenced some coaches' ability to adapt. More
2 specifically, coaches described being able to change coaching behaviours and coaching
3 styles to suit the needs of the athletes. Being aware that certain coaching styles may not
4 be beneficial for all athletes enabled coaches to change their approach to what was
5 considered most facilitative, as one coach stated, "I'm a chameleon... I really try and
6 adapt my colour so to speak to mold myself to the personality traits of the performers
7 that I'm working with".

8 *Emotional awareness.* This higher-order theme was governed by coaches' abilities to not
9 only demonstrate emotional awareness within themselves but also an awareness of
10 others' emotions, thus the lower-order themes included: (a) emotional awareness of self
11 and (b) emotional awareness of others. Having an awareness of one's own emotions was
12 illustrated in the ability to accurately appraise different emotions and also recognise
13 physiological and behavioural changes related to specific emotions, as one coach
14 demonstrated:

15 It's being able to say what are you feeling right now, because the feeling
16 ultimately will control how you think. To describe your emotion, and it's
17 not I feel great or I feel [profanity] it's to actually go into what it is that you
18 are actually feeling... My feelings are that I normally get sweaty palms, I
19 get this feeling in my stomach and I know that I'm going to explode.

20 The acknowledgement and recognition of others' emotions provided key
21 information that coaches utilised to inform their decisions and behaviours, to be most
22 effective. Emotional recognition was demonstrated in various ways, such as paying
23 attention to body language, communication style, and behaviours. This recognition

1 allowed coaches to assess an athlete's emotions without gaining explicit information.

2 One coach demonstrated the ability to evaluate an athlete's emotional state through

3 means of communication:

4 Depending on when you debrief depends on what they will get out of it... more

5 than the distance from competing to the debrief it was more around when I felt

6 they [athlete] were in the right state to actually be reflective. So we would watch

7 other people and I would say 'they are good at this' and if they are able to

8 critically analyse somebody else without reflecting back on themselves or

9 whatever it shows that they are starting to think logically and not emotionally. So

10 it's almost how emotional are they? How raw is it?

11 *Emotional understanding.* The higher-order theme of emotional understanding captured

12 how coaches were able to comprehend how emotions related to one another, how they

13 progress and change over time, and foreseeing the potential implications of various

14 emotions. Lower-order themes included: (a) influence of emotions, (b) athletes'

15 emotions, and (c) consequence of negative emotions. The lower-order theme 'influence

16 of emotions' was characterised by coaches' abilities to understand how their own

17 emotions can change over time and influence not only themselves but also others around

18 them, both positively and negatively. Such an understanding informed coaches'

19 decisions on how and when to act (or perhaps not to act) depending on what was

20 perceived to be most facilitative within a given context:

21 It's just understanding how I am feeling... what value can that add to the

22 situation, can it help, will it add to the situation? Do I show it, do I not show it?

23 It's that kind of thing, knowing what you will do in the moment... If somebody's

1 had a poor performance [identifies sport] do you debrief straight away or do you
2 wait? What influence am I going to have when both people are potentially
3 disappointed?

4 Being able to understand the emotions of others, particularly athletes' emotions,
5 and how such emotions can affect an athlete's performance, was also considered an
6 integral part of coaching effectively by the majority of coaches, as demonstrated by the
7 following quote:

8 When I've coached the best it's again linked to me understanding what's going
9 on, so I'm not just being too focused on tactics and trying to see where the
10 opponent is making mistakes. Because you can give the player, your player, all
11 the tactical advice in the world but if they're not in control of what they are
12 doing, their emotional control, they're not going to take any notice of it anyway.

13 In addition, understanding how certain emotions could affect an athlete's
14 performance allowed coaches to behave in certain ways to purposely trigger an
15 anticipated emotional response from their athletes, as one coach stated "I can be quite
16 matter of fact or I can ball them out, it's whatever has an impact". Several coaches also
17 demonstrated the ability to reason about the consequences of negative emotions.

18 Preempting how specific emotions would have a negative impact on a given situation
19 allowed coaches to engage in specific behaviours to purposely avoid triggering such
20 emotions in either themselves or others. In particular, one coach highlighted how this
21 was important to avoid unwanted emotions at competitive events:

22 One [athlete] that went to the Olympic Games...he'd developed his own sort of
23 style for doing his warm up and I knew very clearly that this particular [athlete]

1 didn't want any involvement from me...during the competition I'd leave him to
2 do his stuff because I knew interfering would be detrimental...It's an
3 understanding on the coaches part that every [athlete] is different and will all
4 want different behaviours and responses in competition...so I think recognising
5 that is an important quality to have.

6 *Emotional management.* The higher order theme of emotional management was
7 discussed by all coaches, which exemplified how coaches perceived the ability to
8 manage their own emotions and those of their athletes to be integral aspects of their
9 coaching. The lower-order themes included: (a) emotional control, (b) emotional control
10 in others, (c) emotional expression, and (d) encouraging emotional expression. All
11 coaches demonstrated their ability to remain "in control of their emotions", particularly
12 in situations governed by pressure and ambiguity. Having the ability to remain calm and
13 address the situation logically rather than emotionally was perceived to have positive
14 effects on coaching effectiveness in terms of athlete performance:

15 I remember talking to my assistant coach on the radio and he just said 'I've got
16 nothing to say' and considering the intensity of the game and it being extra time I
17 felt very isolated... I wasn't getting any external information and I remember
18 then asking someone for some stats...I had some good instincts with what I
19 needed to do but I knew it was a bit of a risk and a gamble, so I asked for the
20 stats to confirm. And in the second half of extra time I had changed the tactical
21 play and we had scored a goal, and we won. So that was a time where I kept
22 calm, I didn't get stressed and I knew I could solve it... In the heat of the moment
23 and decision-making under pressure I coped well with that.

1 The majority of coaches reported the ability to aid athletes in their emotional
2 control by knowing "how to help someone emotionally". Strategies such as situational
3 reappraisal, refocusing, positive reinforcement and open communication were frequently
4 used to help athletes manage their emotions most effectively. The following quote
5 demonstrates how one coach intentionally removed an athlete from an emotionally laden
6 situation to avoid triggering a host of emotions that were deemed debilitating to
7 performance.

8 When she got to the final she was mobbed by 100 people backstage... it was not
9 won at all but all these people were celebrating like it was a carnival, and you're
10 [athlete] just about to [compete] and try and win the biggest [competition] of
11 your life. I went in and I pulled her out, took her to the other side 'forget about all
12 these people' and I talked her through it 'it's just exactly the same as
13 practice'...and by the time she went on she did a good job in getting her head
14 back in the right place, so it worked.

15 Emotional expression was found to be an effective management technique utilised
16 by the majority of coaches. Being able to express both positive and negative emotions
17 were perceived to have a positive impact on coaching effectiveness as it allowed coaches
18 to handle situations coherently without being overly emotional. On most occasions this
19 involved coaches physically removing themselves from an emotional situation, as one
20 coach stated, "I think coaching is emotional and sometimes it can override logical
21 thoughts. Sometimes you need to take the emotion out of it, and you can't take the
22 emotion out of it while you are still in the environment". The following quote illustrates

1 how one coach expressed their emotions away from their athlete to be able to handle the
2 given situation most effectively:

3 I try not to get particularly angry with athletes, I go and do my anger
4 management in the corner somewhere...If you've got frustration, fair enough
5 'I'm just going to the toilet' which is usually a complete fabrication. I take the
6 long walk round... I'll go round the whole loop going '[profanity], argh', 'Okay,
7 I feel better so lets try and have a sensible conversation'. So I try and take the
8 emotion out of myself.

9 Social support systems were also identified as key resources used to express
10 emotions; such support networks were evident both within and outside of the sporting
11 environment "It's just using the people around you, don't keep it bottled up, don't let it
12 get worse, be open with someone". This expression of emotion and being open and
13 honest to others appeared to help coaches manage the evidently stressful nature of
14 coaching by preventing the accumulation or prolongation of negative emotions. Several
15 coaches also referred to the importance of being able to encourage emotional expression
16 within their athletes, which was depicted as an important aspect of being able to aid
17 athletes in their emotional management. Telling athletes "not to fight their anxieties"
18 and "getting their [athlete] view on what's happening if it is something emotional" were
19 described as useful strategies to help athletes express their emotions. In particular, one
20 coach referred to the Chimp Paradox analogy [cf. 30] when discussing the importance of
21 letting athletes express negative emotions "it's just their chimp bouncing around, fair
22 enough let their chimp bounce around a bit... go and just vent your frustration. I suppose

1 it's a tactical thing in knowing, is there something that I need to do today that means
2 when we come back tomorrow we are going to be cleansed of this”.

3 *Attribute development*

4 In addition to the nine psychological attributes identified, coaches also identified
5 factors they believed had influenced the development of their attributes throughout their
6 professional coaching careers. The three higher-order themes representing
7 developmental factors included: (a) education, (b) experience, and (c) conscious self-
8 improvement. These higher-order themes were coalesced under the general dimension of
9 *attribute development* (see Figure 2).

10 *Education.* Several coaches discussed how coach education had positively influenced
11 the development of their psychological attributes in two discrete manners: (a)
12 professional coach development courses, and (b) mentors. Many coaches discussed the
13 importance of professional coach development courses where greater emphasis was
14 placed on courses that coaches were either currently involved in or had more recently
15 completed in terms of the length of their professional career. Such courses were
16 discussed in relation to addressing coaching needs and helping coaches to identify areas
17 of personal development, as noted by one coach “It was the UK Sport elite coach
18 programme... a lot of the focus was also looking at ourselves. So what do we need? How
19 do we see ourselves? What are our strengths and weaknesses? What should professional
20 coaches look like?” These courses were regarded as highly beneficial considering the
21 main focus was directed towards assisting coaches in their own personal development:

22 We did some psychology courses and I thought it was going to be mental
23 imagery and that kind of stuff but it was actually quite a lot of self-reflection

1 stuff and mindfulness. So I think I try and use that on myself... what can I do to
2 improve myself?

3 Having a mentor to direct, advise, and provide support was also considered a key
4 factor in developing psychological attributes by several coaches. In particular, it was
5 apparent that having regular meetings with mentors provided coaches with opportunities
6 to discuss coaching issues and formulate potential solutions. This form of discussion
7 provided confidence in the coaches' ability to effectively deal with such issues.

8 *Experience.* The higher-order theme of experience revealed ways in which coaches
9 believed that their psychological attributes had developed over time through a multitude
10 of experiences throughout their career. Such experiences were categorised into two
11 lower-order themes: (a) competition, and (b) critical incidents. Many coaches believed
12 that their psychological attributes had developed through experiences within competition
13 environments. In one respect, gaining repeated experience at high profile competitions
14 caused a "desensitisation" to the status associated with the event, which in turn affected
15 how coaches' appraised and behaved in competitive environments, "I've learnt very well
16 that when I'm standing there there's actually absolutely nothing that I can do, it really is
17 down to the athlete". In another respect coaches felt that they learned a lot about
18 themselves when in highly pressurised environments in terms of their psychological
19 strengths and areas of development. This then provided the foundations for actively
20 developing specific areas such as emotional control, confidence, and focus.

21 Several coaches discussed the importance of critical incidents that instigated a
22 change in coaching practice and caused a "catalyst" for personal development. Such
23 incidents tended to be eye-opening experiences that resulted in the conscious

1 development of specific psychological attributes that developed over a prolonged period
2 of time. For example, one coach described how one situation in a competitive
3 environment resonated with him for causing him to learn how to effectively manage and
4 display his own emotions in front of his athletes:

5 In terms of being on the competition floor I'm completely calm, your heart
6 does race a little but you learn to mask it. I remember he [athlete] looked
7 scared and I looked scared and I think I learnt from that. It was a bit of a
8 catalyst of change really because I thought 'actually he's completely read me'.

9 My mentor coach said 'you look terrified out there, your athlete will pick up on
10 that' and that was the best piece of information I was given.

11 *Conscious self-improvement.* The majority of coaches emphasised the importance of
12 conscious self-improvement when discussing how they had developed their
13 psychological attributes over the course of their coaching careers. This higher-order
14 theme was categorised into three lower-order themes: (a) reflective practice, (b)
15 identifying and improving areas of development, and (c) observation.

16 Nearly all coaches identified regularly utilising reflective practice within their
17 coaching which was perceived to have a positive effect on the development of
18 psychological attributes. Having "self-reflection moments", "being really receptive to
19 thoughts" and "being critical of yourself" allowed coaches to accurately and honestly
20 identify and appraise both their strengths and areas of development. Being able to
21 identify areas of development and put in place action plans was considered highly
22 important as it allowed coaches to engage in constant self-progression and, over time,
23 gain increased self-understanding. Three coaches referred to using video analysis to

1 observe their own coaching performance to identify what was perceived as effective
2 coaching behaviour and potential areas of improvement that could enhance coaching
3 effectiveness if addressed:

4 I watched a video back and I thought that I was not really showing that I was
5 nervous but when I watched the video back and the camera kept on going to
6 me... I can see that I'm trying not to look nervous... I'm not a serious person
7 whereas my face was so serious and that's a sign that I'm nervous because I
8 wasn't my normal self. So that was an issue I wanted to address.

9 Regularly observing other coaches' behaviours particularly in competition
10 environments, enabled coaches to distinguish between what was considered effective
11 coaching and that considered detrimental to athlete performance and wellbeing. Such
12 observations enabled coaches to assess their own coaching practice and evaluate ways in
13 which they felt they could be most facilitative to athlete performance and development.

14 I will watch them [other coaches] and I'll think 'that's really poor coaching
15 behaviour'... So I think by watching other coaches' behaviour that enabled me
16 to see, to step away and think 'actually what is good coaching behaviour and
17 what is going to help people succeed?' And by watching what didn't succeed
18 and what I perceived as poor coaching helped me sort of learn that's how I
19 need to approach it on the competition floor.

20 **Discussion**

21 The purpose of the present study was to provide a comprehensive insight into the
22 psychological attributes elite coaches perceived to underpin their ability to coach
23 effectively and how such attributes were considered to have developed. Overall, findings

1 from the data presented nine key psychological attributes and three primary factors
2 related to the development of the identified attributes.

3 While knowledge on coaches' own psychological attributes for performance and
4 effectiveness are still relatively thin compared to athletes, research is now starting to
5 build a body of knowledge in this area. To date, previous findings have indicated that
6 psychological attributes such as confidence, focus, communication and emotional
7 control [17, 20] are important for coaches to perform in pressured situations (e.g.,
8 Olympic Games). Findings from the present study identified psychological attributes
9 such as confidence, resilience, focus, emotional awareness, and emotional management
10 demonstrating some consistency and contribution to existing research. These findings
11 also support the notion that coaching is more than the simple transmission of knowledge
12 and extends beyond the teaching of skills and tactics [31].

13 Coaches in the present study advocated the importance of being resilient, and
14 thus, possessing the ability to handle setbacks and deal with negative criticism. The
15 construct of psychological resilience in sport has received increasing investigation in
16 recent years [e.g., 32-34] but has primarily focused on athletes. Research to date is yet to
17 investigate the construct of psychological resilience in relation to sports coaching. As
18 highlighted by Galli and Gonzalez [35] sport is a particularly unique domain to study
19 resilience given the fact that athletes (and coaches) often willingly subject themselves to
20 highly evaluative situations where the consequences of winning and losing (being
21 successful and unsuccessful) are clear. Findings of the present study support the need for
22 further research in this area.

1 Unique to the findings of the present study, a large proportion of psychological
2 attributes identified by coaches (i.e., 9 lower-order themes) related to the emotional
3 nature of coaching. More specifically, having the ability to recognise, understand and
4 manage emotions in oneself and others, influenced how coaches both perceived and
5 responded to various situations in training and competition environments. Such findings
6 provide an insight into the emotion related cognitive mechanisms coaches utilise, to
7 consciously act in a manner perceived to be most effective. The emotional abilities
8 identified (i.e., emotional awareness, emotional understanding, and emotional
9 management) demonstrate similarities and overlap with Mayer and Salovey's [36]
10 ability model of emotional intelligence (EI). Salovey and Mayer proposed a definition of
11 EI as "the ability to monitor one's own and others feelings, to discriminate among them,
12 and to use this information to guide one's thinking and action" (p.189) [37]. This
13 definition was later refined to a hierarchy of four distinct yet related abilities, including
14 the ability to: (a) accurately perceive emotions in one-self and others, (b) use emotions
15 to facilitate thinking, (c) understand emotions, and (d) manage emotions as to attain
16 specific goals [38]. It has been argued, "the challenges, tensions, and dilemmas faced by
17 coaches are not just cognitive or social in nature, but are emotional phenomena and need
18 to be understood as such" (p. 66) [39]. Yet emotionality research within the coaching
19 domain is scarce, with recent calls for research investigating emotions in sports coaching
20 [40].

21 To gain a comprehensive understanding of the role of emotions in sporting
22 performance, the construct of EI has received increasing research interest. To date, this
23 limited existing literature has primarily focused on the relationship between EI and

1 athlete performance [e.g., 41, 42]. In relation to coaching, Thelwell et al., [43]
2 investigated the relationships between EI and coaching efficacy. Collectively, results
3 demonstrated significant relationships between the two constructs and provided insight
4 into how EI relates to coaching efficacy, reinforcing the need for EI in coaches. Taking
5 into account the findings of the present study, it is apparent that coaches at the elite level
6 are very much attuned to the emotional nature of coaching and it is with a distinct set of
7 emotional abilities that a coach is able to comprehend and effectively manage the
8 emotional aspects of the sporting environment.

9 In this study, coaches identified three primary factors (i.e., experience, education
10 and conscious self-improvement) perceived to have contributed to the development of
11 their psychological attributes. Such attributes were reported to have developed over
12 time, and were not considered to be present (or as refined) within the earlier stages of
13 their careers. The present findings are consistent with previous literature demonstrating
14 the significant role psychological attributes play in talent development within sport [e.g.,
15 44, 21, 22]. In relation to the development of emotional abilities, several coaches
16 specifically noted that their ability to attune to the emotional side of coaching had
17 developed throughout the later stages of their careers. Only in recollection could
18 coaches' recognise and understand the importance of such abilities in relation to
19 coaching effectiveness. In retrospect, coaches believed that educational and
20 developmental opportunities addressing the emotional side of coaching in the earlier
21 stages of their careers would have been highly beneficial. This finding further aligns
22 with Mayer and Saloveys' [36] conceptualisation of EI, which states that EI is a
23 dynamic and malleable capacity (i.e., state) that people can learn and develop over time.

1 More specifically, findings lend support to Olusoga et al., [20] identifying
2 developmental factors (e.g., coach interaction, structured career professional
3 development, personal coaching experience) Olympic coaches perceived to influence
4 their ability to perform within the Olympic environment. Coaches in the present study
5 specifically highlighted that experience within competitive environments, using video
6 feedback to observe coaching performance, and being reflective on a regular basis all
7 contributed to the development of their psychological attributes. Research [e.g., 45] has
8 consistently demonstrated that the competitive sporting environment can be just as
9 pressurised and demanding for the coach as it is for the athlete. Thus, combining
10 planned pressurised situations with opportunities to incorporate video feedback into
11 debriefing sessions could provide a safe environment to expose coaches to relevant
12 pressurised environments and positively influence psychological attribute development.

13 Regarding the findings on reflective practice, the majority of coaches in this
14 study referred to using cognitive processes of self-reflection (e.g., self-talk, memory
15 recall, self-appraisal) and reflective conversations with others. Despite the fact that
16 coach education programmes typically utilise structured forms of reflective practice
17 (e.g., reflective journals) [46], findings of the present study offer support for Dixon, Lee
18 and Ghaye [47] in their call for a more expansive view of reflective practice that moves
19 beyond traditional techniques. Accordingly, it has been advocated that there is a need for
20 innovative approaches (e.g., critical analysis, shared reflection, emotional reflection) that
21 can better equip coaches to deal with the problematic and dynamic nature of their role
22 [48].

23 *Future research and applied implications*

Based on the findings of the present study, future research is warranted to explore the emotional abilities of coaches. Specifically, gaining an in-depth understanding of how and when coaches use these emotional abilities within their coaching practice will further enhance knowledge in this area. Another avenue for future research would be to explore the role of psychological resilience in coaching effectiveness. Exploring positive adaptation to adversity and protective factors of psychological resilience could enhance current understandings of how coaches are able to positively handle both the day-to-day and acute stressors they encounter.

The present study has provided useful information for researchers and practitioners on how they can work with coaches to impact their own performance and development. Sport psychology practitioners designing effective coach development programmes should consider the development of specific psychological attributes (e.g., confidence, resilience, focus, emotional awareness, emotional management). Providing development for coaches' psychological attributes in the earlier stages of their professional career, particularly the development of emotional abilities, is encouraged.

The present findings demonstrate that being aware of, and utilising emotional information within coaching environments is perceived to influence coaching effectiveness. From a practical perspective, coaches of all levels are encouraged to consider how emotions influence their coaching practice. Addressing personal abilities to recognise, understand and manage emotions through self-assessment could provide coaches with information regarding personal strengths and outline potential areas of development, which, if addressed, could enhance coaching effectiveness.

Strengths and limitations

A strength of this study was the sample of elite coaches investigated. In particular, 10 of the participants were actively coaching at the elite level, and thus, reducing potential memory bias limitations often associated with retrospective studies [49]. The sample in this study included coaches from a variety of different sports to enhance the generalizability of findings. However, future research may wish to examine the psychological attributes of coaches from individual sports to gain more detailed evaluation of the psychological attributes required in particular sports. Further, while the sample consisted of 4 female coaches, it is important to note that an equal representation of male and female coaches was unable to be obtained. It is well recognised that elite coaching networks tend to be male dominated with higher representation of females coaches found at grass roots, club and regional levels. Reports from the International Olympic Committee (IOC) database [50] demonstrated that only 11% of the 3225 coaches at the 2012 London Olympic Games were female. This provides some explanation to the difficulties presented when recruiting the sample for the present study.

Concluding remarks

This study has both supported and extended existing literature by providing a detailed understanding into the key psychological attributes perceived to underpin coaches abilities to coach effectively at the elite level. These attributes were found to have developed throughout coaches' professional careers through education, previous experience and conscious self-improvement. Findings suggest that coaches would benefit from coach education and development programmes specifically tailored toward their own development of psychological attributes in the earlier stages of their

professional careers. Existing literature in sport psychology offers limited understanding on the role of coaches' emotional abilities, yet clearly, based on the findings in this study, they are important for coaches to develop.

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Psychological attributes underpinning coaching

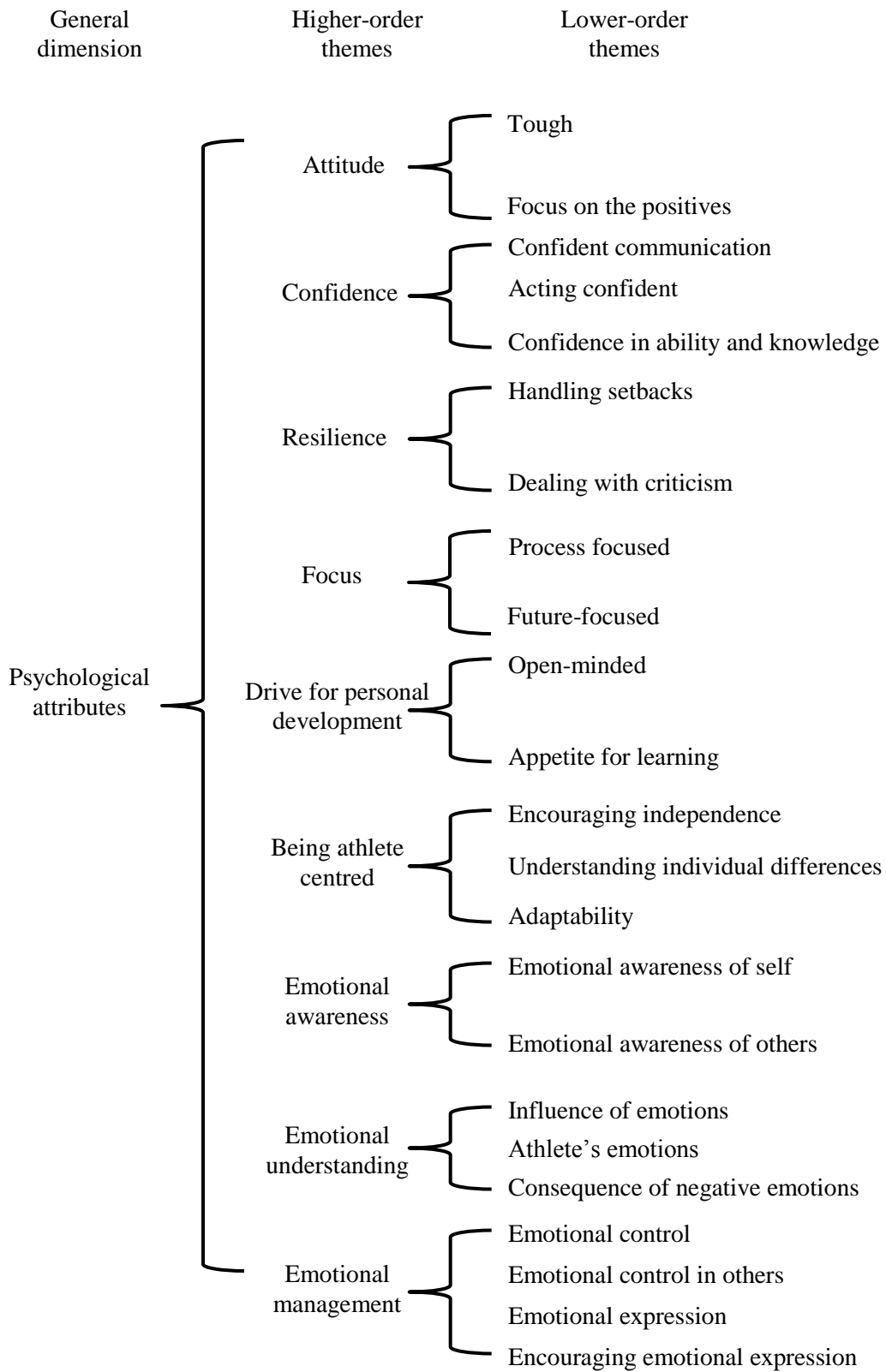


Figure 1. Psychological attributes perceived to underpin coaching effectiveness at the elite level

Psychological attributes underpinning coaching

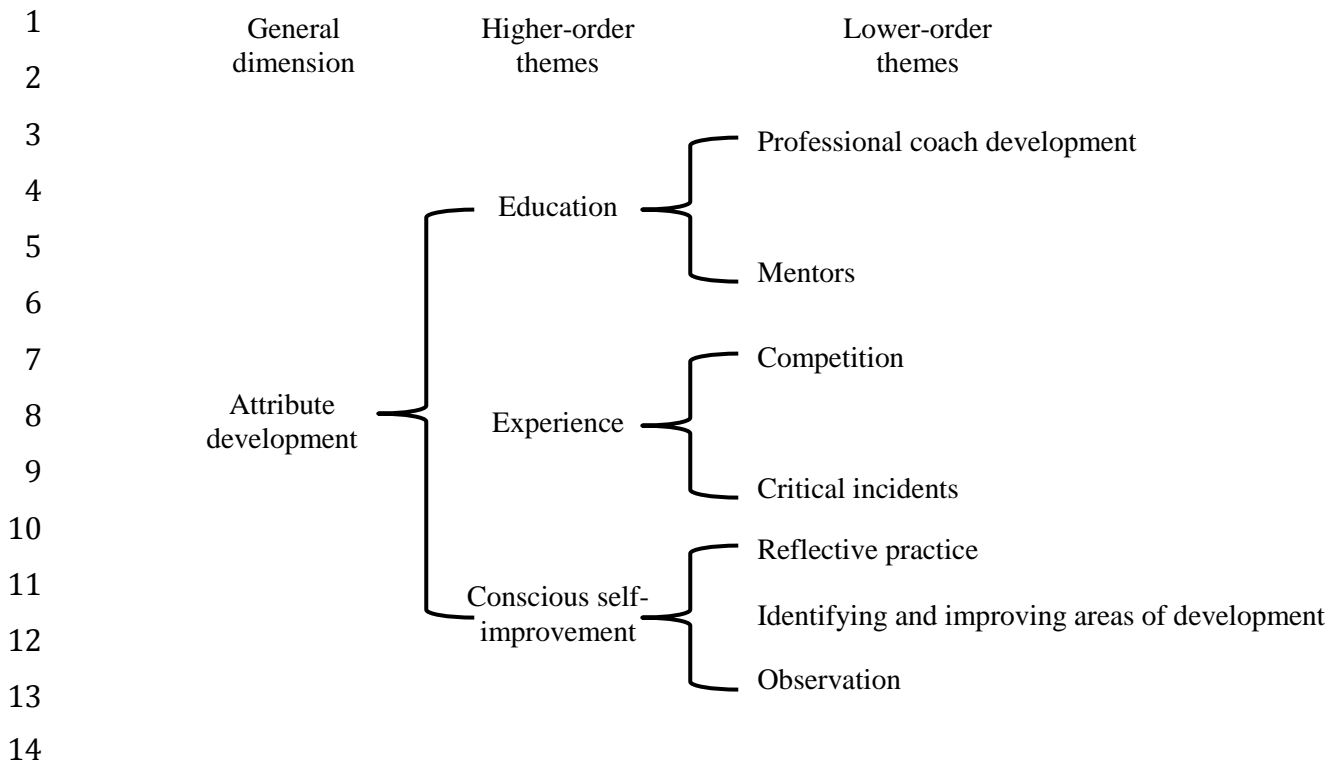


Figure 2. Factors perceived to influence psychological attribute development