

## **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

## Psychological attributes underpinning coaching

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

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

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

### 15 **Method**

#### 16 *Participants*

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

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

4 *Procedure*

5       Following institutional ethics approval, all participants were initially contacted  
6 via e-mail outlining the aims of the research and the procedure for data collection.  
7 Informed consent was gained from all participants before data collection. Given the  
8 exploratory nature of the study, in-depth interviews were considered the most  
9 appropriate method of data collection [25]. A semi-structured interview approach was  
10 applied where all participants were asked the same major open-ended questions, but  
11 with further elaboration questions that varied according to the participant's initial  
12 responses to opening questions. The interview guide contained three sections, Section  
13 one comprised of demographic and coaching background information. Section two  
14 focused on psychological attributes where participants were encouraged to discuss their  
15 own psychological attributes (e.g., What do you think are your psychological strengths  
16 when coaching? How do you display these in your behaviour?), and related  
17 developmental factors (e.g., Have you always had these attributes, or have they been  
18 developed? How do you think they have been developed?). Section three focused on  
19 coaching strategies (e.g., Is there anything in particular you do to manage your thoughts,  
20 feelings and behaviours?). The majority of interviews were conducted face-to-face, with  
21 one phone interview. The principle investigator who had previous experience in  
22 qualitative research procedures conducted all interviews. All interviews were digitally  
23 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**

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

6 *Psychological attributes*

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

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

21           The athletes will make mistakes, usually there will be a reason why they have  
22 made that mistake. You could say ‘you didn’t do that very well’ when they  
23 [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*

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

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

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

23 *Strengths and limitations*

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

### 16 *Concluding remarks*

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

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

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# Psychological attributes underpinning coaching

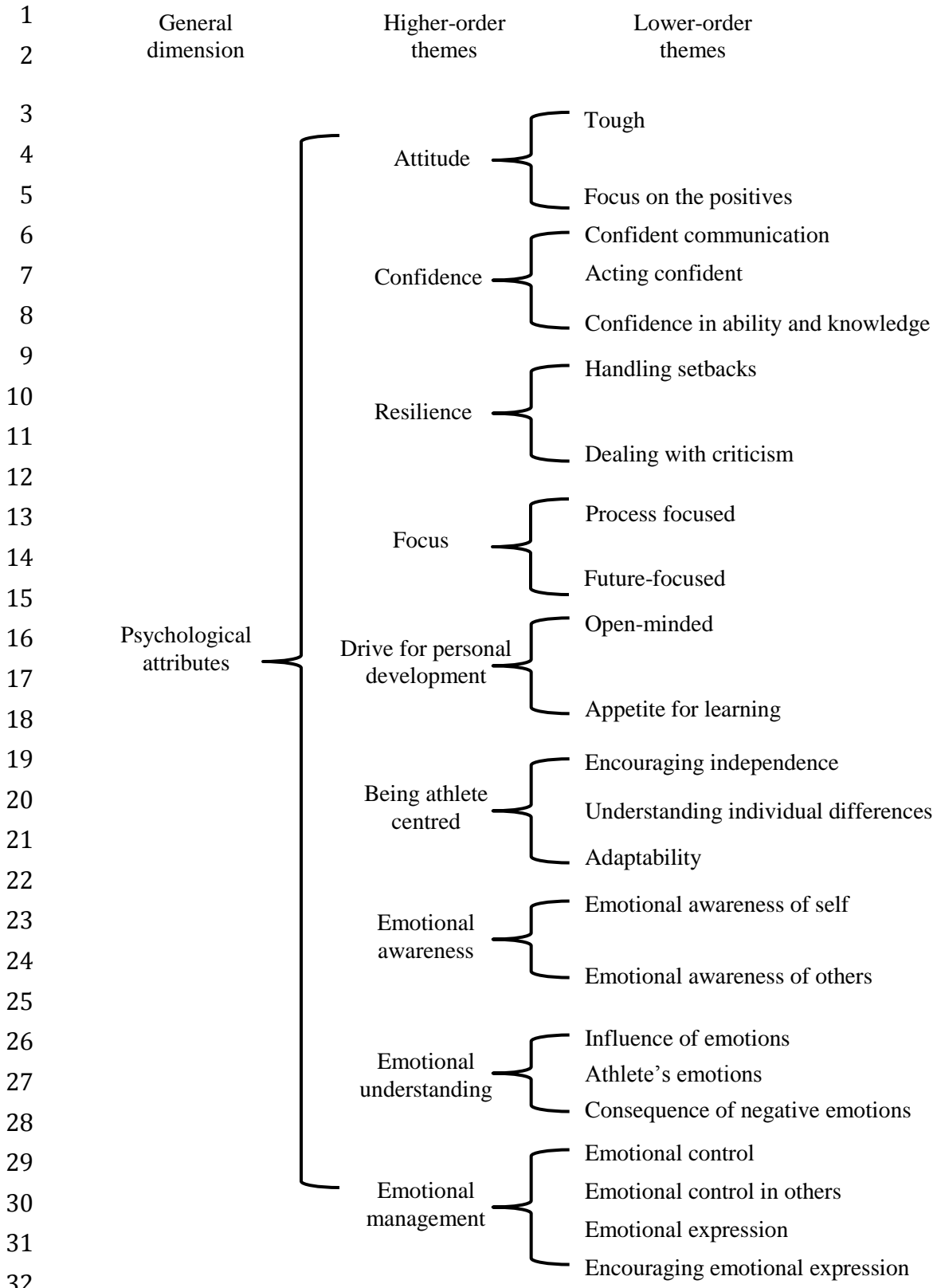
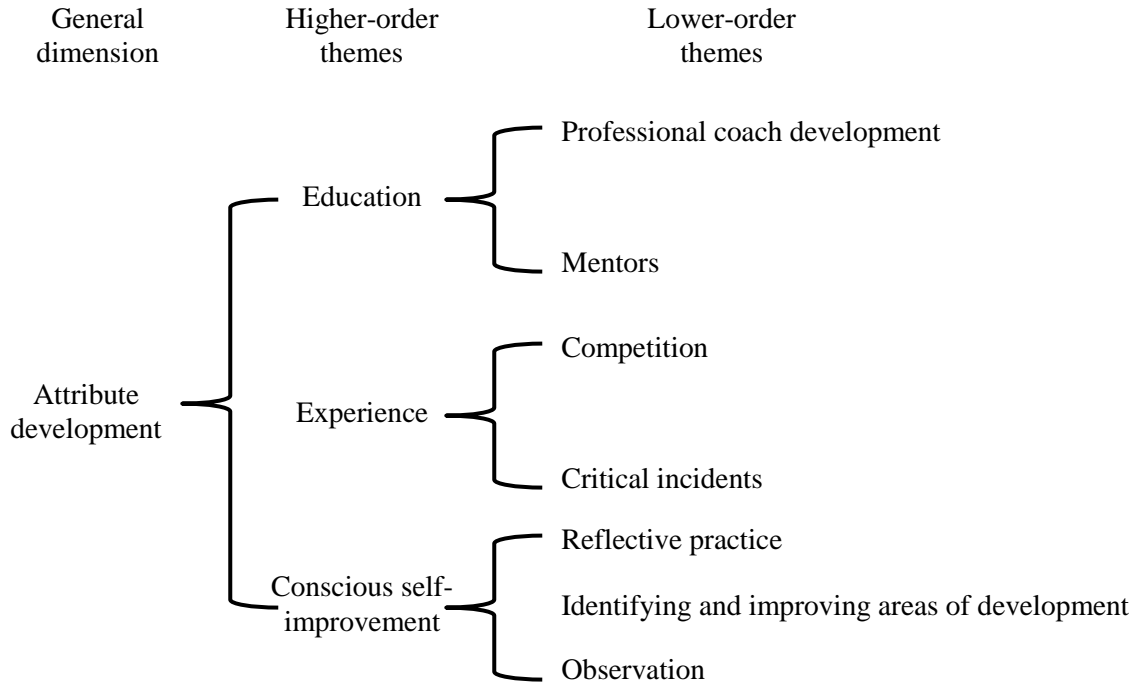


Figure 1. Psychological attributes perceived to underpin coaching effectiveness at the elite level

# Psychological attributes underpinning coaching

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**Figure 2.** Factors perceived to influence psychological attribute development