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8 Understanding Elite Youth Athletes' Knowledge and Perceptions of Sport Psychology

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Abstract

The purpose of this study was to examine elite youth athletes' knowledge, perceptions, and understanding of sport psychology, psychological characteristics, and psychological skills. To address this purpose an interpretive description methodology was employed. Data were collected through five focus groups with 34 elite youth swimmers, triathletes, and athletes (aged 13 to 20 years). Following each focus group, the recordings were transcribed verbatim and analysed using thematic analysis. The first theme labelled perceptions, knowledge, and experiences of sport psychology encompassed athletes' current and future perceptions of sport psychology as well as the factors impacting on athletes' perceptions of sport psychology. The second theme was psychological characteristics for success in elite sport, which included athletes' perceptions of the characteristics held by other elite athletes as well as the development of their own characteristics. The final theme accounted for the psychological skills deemed necessary for success in elite sport. Overall, the findings provide an insight into youth athletes' varying perceptions of sport psychology, as well as their limited knowledge and understanding of key psychological considerations for sport.

Keywords: Youth sport, psychological skills, psychological characteristics, perceptions

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Lay Summary

Focus groups were used to explore the perception and understanding of sport psychology of elite youth athletes involved in swimming, athletics, and triathlon. Overall perceptions of sport psychology were varied, with multiple factors impacting upon them including the use and understanding of sport psychology, as well as coaches' perceptions.

Implications for Practice

- Athletes should be provided with the opportunity to be educated on the benefits of sport psychology from a young age, so that as they progress they are aware of what it is, how it can be of use, and when they might choose to use it.
- Athletes would also benefit from being taught about the variety of characteristics that elite athletes possess and the available psychological skills that are commonly used to enhance performance.
- In addition to educating athletes, it could be beneficial for national governing bodies to also educate coaches around the topic of sport psychology given their influence on athletes.

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70 The importance of psychology within sport has become increasingly recognized over
71 time, with continual growth in both research and applied fields (Barker & Winter, 2014).
72 Sport psychology is more readily utilized by elite athletes, with many athletes indicating that
73 they have a positive perception of sport psychology (Anderson, Miles, Mahoney, &
74 Robinson, 2002; Byrne & Cusack, 2015). However, perceptions of sport psychology vary
75 among individuals. For instance, research carried out by Martin (2005) looking at the
76 perceptions of sports people aged 14 – 27 years old revealed that athletes who were male,
77 young (14-18 years old), or involved in contact sports were more likely to possess a negative
78 perception towards sport psychology and were least likely to seeking out psychological
79 support. In contrast, female athletes and those who have had previous positive experiences of
80 sport psychology reported more positive perceptions and appreciation of psychological
81 services and were more likely to seek out support from a sport psychologist (Wrisberg,
82 Simpson, Loberg, Withycombe, & Reed, 2009).

83 Unfortunately, if athletes (or coaches) possess a negative perception of sport psychology,
84 it may reduce the likelihood of them seeking out psychological support during their sporting
85 career, which could have both performance and wellbeing implications (Martin, 2005;
86 Wrisberg et al., 2009). Thus, insights into perceptions of sport psychology are important to
87 help practitioners anticipate behaviors or barriers that may impact on their work. Fortunately,
88 research in this area is growing particularly with college age and adult elite athletes (e.g.,
89 Holland, Woodcock, Cumming, & Duda, 2010; MacNamara, Button, & Collins, 2010a,
90 2010b). However, there is a noticeable lack of research considering the perceptions of youth
91 athletes (cf. Dohme, Piggott, Backhouse, & Morgan, 2019). Given the potential influence
92 that initial experiences of sport psychology can have on subsequent perceptions and
93 engagement, seeking such insights from athletes who are located on an earlier stage on a

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94 performance or talent pathway is warranted. Thus, the first purpose of the current study was
95 to examine youth athletes' knowledge and perceptions of sport psychology.

96 In addition to general perceptions of sport psychology, understanding youth athletes'
97 beliefs regarding the psychological characteristics and skills¹ that are necessary to succeed at
98 a youth and elite adult level may also be useful (Dohme et al, 2019). Specifically, by
99 understanding youth athletes' perceptions of psychological skills and characteristics needed
100 to achieve at an elite level, practitioners may be able to tailor their delivery to align with or
101 challenge such beliefs and maximize the efficacy of sport psychology program/interventions.
102 For instance, in a recent review of psychological characteristics and skills among elite youth
103 athletes, Dohme and colleagues (2019) highlighted the possibility that psychological
104 demands and understanding likely vary depending upon the sport athletes are involved in,
105 with specific differences between team and individual sports. Armed with such information,
106 practitioners may be able to position their work more appropriately for different athletes and
107 maximize the chances of youth athletes having positive introductions to sport psychology.

108 Unfortunately, there is limited research specifically examining youth athletes'
109 perceptions of psychological characteristics and skills that are deemed important for success.
110 A number of papers include retrospective reports from adult elite athletes (e.g., MacNamara
111 et al., 2010a, 2010b) or sport psychologists' suggestions/perceptions of important
112 skills/characteristics for young athletes (e.g., Harwood, Cumming, & Fletcher, 2004).
113 However, such papers do not include the voices of young athletes themselves and thus, the
114 extent to which they account for athletes' views while they are at these younger ages remains
115 unknown. Some initial insights into youth athletes' perceptions of psychological skills and
116 characteristics has been gained from adolescent rugby players (Holland et al., 2010). Overall,

¹ For the purpose of this study, psychological characteristics and skills are defined in line with Dohme et al., 2019; characteristics are considered as predispositions that impact upon athlete development and skills are learned psychological strategies.

141 **Methodology and Philosophical Assumptions**

142 This study drew upon interpretive description methodology (Thorne, 2016).
143 Originating from the work of Thorne, Kirkham, and MacDoald-Emes (1997), interpretive
144 description is an inductive analytical approach used to understand phenomena. The aim of
145 interpretive description is to explore multiple people's knowledge, understanding, and
146 experience of a specific phenomenon and pull out any commonalities, providing useful,
147 applied information (Thorne, 2016). Interpretive description recognises the constructs and
148 contextual experiences of individuals, while acknowledging a shared reality (Thorne,
149 Kirkham, & O'Flynn-Magee, 2004). As such, this inductive analytical approach allows for
150 the researcher and participant to interact and influence each other, which ultimately results in
151 the formation of multiple constructed realities and inevitable individual variations.
152 Interpretive description was chosen as a suitable methodology for this study because it
153 enabled insights to be gained into the overarching phenomena of interest (i.e., sport
154 psychology) as well as the multiple experiences and interpretations from individual athletes
155 (Thorne et al., 2004). Furthermore, this study was carried out with the intent of feeding back
156 applied information to a national governing body, which aligns with interpretive description.

157 **Participants**

158 Participants were recruited through maximum variation purposeful sampling to ensure
159 they had sufficient experience of the phenomena of interest and could draw on a broad range
160 of experiences. The purposeful sampling criteria included adolescent athletes across the ages
161 of 13-20 years who were competing at an elite standard in either athletics, swimming, or
162 triathlon. In the case of this research, aligned with the classifications of Swann, Moran, and
163 Piggot (2014), elite standard was classified as having represented their country at national or
164 international standard or having been selected for a national squad and training program. The
165 decision to include participants across the ages of 13-20 years was based on an understanding

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166 that participants in some sports (i.e., swimming) may have been involved at an elite standard
167 from a younger age than those involved in other sports (i.e., triathlon). Having been exposed to
168 the elite sporting environment for multiple years was important to ensure athletes were able to
169 provide an understanding of their knowledge and perception of sport psychology within this
170 specific setting. For many participants, sharing their insights into the phenomena included
171 demonstrating their lack of knowledge, often exposing the absence of education of sport
172 psychology within elite youth sport.

173 Moreover, including a broad age range enabled the comparison of knowledge and
174 perceptions based upon age and experiences. In the current study, athletes were aged 13 to 20
175 years and were classified as youth athletes. Although it may be argued that athletes aged 18 and
176 above are no longer youth athletes, there is a vast amount of literature that instead demonstrates
177 support for this classification of 18 to 20 year olds as youths. Steinberg (2005) discusses the
178 cognitive and emotional changes within the brain throughout adolescence. The research
179 suggests that adolescents can be classified as youths until the age of 24 years old, based on their
180 brain development and cognition (Steinberg, 2005). Further research on youth cognition was
181 carried out by Gardner and Steinberg (2005), who classify youths in their study as 19 to 22
182 years old. Again, psychological research on the social brain suggests adolescence is still
183 occurring up until the individual is between 22 and 25 years old when they begin to enter
184 adulthood (Blakemore, 2008). This is due to the continued brain development throughout the
185 adolescent period of an individual's life.

186 Overall, the sample consisted of 34 athletes: 19 males and 15 females ranging from
187 13 to 20 years ($M = 16.29$ years, $SD = 1.85$). Participants had been involved in their sport for
188 between four months² and 16 years ($M = 7.27$ years, $SD = 3.95$). See Table 1 for further
189 details.

² Three triathletes had participated in sport for less than three years, however all three had been involved in youth sport, either swimming, athletics, or cycling, prior to transferring to triathlon.

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215 the athletes would have been involved in similar sporting experiences but have differing
216 perspectives and opinions on sport psychology (cf. Kidd & Parshall, 2000). Using focus
217 groups also encourages involvement from participants who may be less inclined to speak or
218 would have been uncomfortable in an individual interview (Owen, 2001).

219 Overall, five focus groups were carried out (one for athletics and two for both
220 swimming and triathlon). These focus groups were conducted by a postgraduate researcher
221 who had previously completed a qualitative study prior to commencing this research,
222 conducted a pilot focus group prior to this study to increase her experience, and engaged in
223 numerous conversations with a broader research team regarding the questions being asked
224 and how to manage different scenarios that may arise (e.g., if certain participants dominated
225 the conversation, if participants did not speak). Additionally, the researcher had previous
226 knowledge and experience both of sport psychology (having engaged with a sport
227 psychologist as an athlete and had both positive and negative experiences and also studied it
228 within her undergraduate and postgraduate degree) and high-level competitive sport (as a
229 swimmer and now coach). These experiences helped the researcher to develop rapport with
230 the participants prior to the start of the focus groups. Following each focus group, the
231 researcher reviewed the questions asked, the information obtained, and her reflections on the
232 running of the focus group with the wider research team. These debriefing sessions enabled
233 tweaks or adaptations to be made for subsequent focus groups if deemed necessary.

234 Before the commencement of each focus groups, each athlete was asked to complete a
235 short demographic sheet and engage in general discussion about their sport to develop group
236 rapport (approximately 30 minutes). The focus groups then started and lasted between 36 and
237 59 minutes ($M = 46.93$ minutes, $SD = 10.26$). The focus group guide was structured using a
238 questioning route developed based upon previous research in a similar area (Holland et al.,

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239 2010). In line with Horner's (2000) suggestion, the initial questions were very broad,
240 becoming more specific over the course of the focus group with a target of five main topics
241 for discussion. Each focus group began with introductory questions, which aimed to relax
242 participants and establish rapport with the researcher. Introductory questions included, "What
243 are the best parts about being an elite athlete?", following this, the focus group moved onto
244 transition questions. The aim of these questions was to direct the focus groups towards the
245 topic of skill use in sport, for example, "Do you use any skills or strategies to maximise your
246 sporting performance?" The main questions involved athletes being asked more specifically
247 about any psychological characteristics or skills they could identify as useful for an elite
248 youth athlete, followed by how the skills were taught and developed. Every time a question
249 was asked or a new topic arose, the researcher ensured all participants were given the
250 opportunity to contribute by asking every athlete if they had anything to add.

251 **Data Analysis**

252 Data were analyzed using Braun and Clarke's (2006, 2013) approach to thematic
253 analysis. The use of thematic analysis aligns with the overall interpretive approach adopted in
254 this study, as it provided an opportunity to examine each individual participant's experiences
255 and subsequently identify similarities and differences in their experiences. Prior to starting
256 the analysis process, the data from each video file were transcribed verbatim. The verbatim
257 transcripts were then read multiple times to ensure the lead researcher was familiar with the
258 data set. Next, by identifying any feature of the data that was relevant and interesting, an
259 initial list of codes was created. Some of the initial codes included positive and negative
260 reactions to sport psychology, any indication of an understanding of sport psychology, any
261 mention of use of sport psychology, and significant others within elite youth sport. Through
262 this process we captured both the group and individual response, highlighting some
263 interesting intra-group differences.

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264 Following the initial coding, analysis was re-focused and initial codes were sorted
265 into potential themes. Relevant codes were collated together and the relationship between
266 codes considered with the aim of producing overarching themes. Next, the themes were
267 reviewed and refined. Through this process it became clear that some themes were not
268 substantial enough on their own and therefore were collapsed into other themes, while others
269 were broken down into multiple smaller themes. This process was carried out at two levels,
270 the initial stage of refinement was to review all coded data extracts followed by a review of
271 the entire data set. After the final review of the data set, themes were defined and named,
272 based on the essence and core meaning of each theme. At this stage, the themes were further
273 collapsed into three main themes, each substantial enough to possess multiple subthemes and
274 provide in depth insights into each phenomenon.

275 **Methodological Rigour**

276 A relativist approach to considering the rigour of this study was adopted (Sparkes &
277 Smith, 2009). As such, in this study, steps were taken to enhance the rigour of this work in
278 line with an interpretive descriptive methodology. According to interpretive description, the
279 evaluation guidelines used to demonstrate and highlight credible research include:
280 epistemological integrity, representative credibility, analytical logic, interpretive authority,
281 and contextual awareness (Thorne, 2016):

- 282 • Epistemological integrity was achieved throughout this study by maintaining
283 methodological congruence, aligned with an interpretive paradigm. Specifically,
284 through the use of focus groups and interpretive thematic analysis, underpinned by an
285 interpretive description methodology, this study was consistent in its attempt to
286 understand the individual experiences of participants.
- 287 • Representative credibility was attained through the use of focus groups with the aim
288 of understanding the individual experiences of the participants as well as shared
289 experiences. Further, the lead researcher took part in regular debriefing sessions with

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290 the co-authors between focus groups to review the data collected and discuss
291 alternative approaches if any flaws were identified. This collaborative discussion also
292 provided an opportunity for any initial interpretations of the data to be identified,
293 facilitating a clear and transparent research process.

294 • Analytic logic was established by drawing on previous research with a similar
295 research area and focus (e.g., Holland et al., 2010) to guide and educate the
296 researchers on the subject area throughout the research process. For instance, it helped
297 to increase the appropriateness of the questions asked and to enhance the quality of
298 the discussion.

299 • Interpretive authority was met through frequent discussions by the research team to
300 ensure clear logical steps of the data analysis process were being followed and to give
301 the research team a chance to discuss the findings and enhance interpretations. The
302 extended research team acted as critical friends during the constant discussions and
303 increased confidence in the findings and awareness in the analysis. As per Smith and
304 McGannon (2018), engagement with critical friends provided an opportunity for
305 critical dialogue between the research team to encourage reflexivity regarding
306 interpretations and construction of knowledge.

307 • Contextual awareness was enhanced due to the lead researcher's previous personal
308 experiences in youth sport, which helped to gain rapport with the athletes, as well as
309 the research team's extensive experience of working within youth sport settings.

310 **Results**

311 Throughout the focus groups, participants discussed their knowledge and application
312 of sport psychology relevant to their experience. Across all of the focus groups there was
313 large variation in perceptions but three key areas were identified: (a) Perception, knowledge,
314 and experience of sport psychology; (b) Psychological characteristics for achieving success

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315 in elite sport, and; (c) Psychological skills for achieving success in elite sport. The shared and
316 individual experiences are discussed below.

317 **Perception, Knowledge, and Experience of Sport Psychology**

318 Participants described mixed views of sport psychology with many apparent
319 conflicting perceptions. It appeared that participants' knowledge impacted perceptions of
320 sport psychology, with those athletes who indicated a limited understanding of sport
321 psychology demonstrating more negative initial perceptions. This theme consists of two
322 subthemes, the first being current perceptions of sport psychology and the second being
323 factors impacting upon perceptions.

324 **Current perceptions of sport psychology.** Some participants displayed extremely
325 negative perceptions of sport psychology and struggled to appreciate why it was beneficial.
326 For example, in FG1 athlete one shared the following thoughts on sport psychology: Seems a
327 bit pointless, some of it seems okay, can work on a bit but I still don't see how there's
328 special jobs for people that like, loads of jobs for those kinds of people, like England
329 employ sports psychologists to help them get over taking penalties and I just don't see
330 why they need it, they just need to do it themselves because they [sports psychologist]
331 can't do it [take the penalties].

332 In contrast to the very strong opinions shared by above, other participants instead offered a
333 much more positive response, as the following dialogue from the same focus group shows:

334 A1: You can't really have like sessions on like "I need to try this, try this." I still say
335 "well try that" and anyone can really tell you that, like a coach can just say "well try
336 talking to yourself positive, believe in yourself" rather than have a specific job [sport
337 psychologist].

338 A4: No I disagree because I think some people actually have like major anxiety
339 before races and stuff like that and that like affects them not in the competition but

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340 outside of the competition and I feel like you need someone who's actually you know
341 got a degree...

342 A2: I can see both sides but I feel it's something I can just do without thinking about
343 it so if I just talk positively to myself I feel like I don't need to think about doing it,
344 do it automatically before the race. It can be taught but in a difficult way.

345 A3: Yeah, I think it can, when it's being taught it's more like guidance and breaking
346 down what's going on in your mind and trying to correct it and set a way forwards to
347 turn the negative into more positives so I think that when people have a degree in it,
348 because they're really knowledgeable on how they can help you...rather than you
349 trying to figure out yourself..

350 Despite some participants having a positive view of sport psychology and identifying
351 the benefits, it was noticeable that it was almost exclusively discussed as a "fix" or something
352 that certain individuals needed when there was a "psychological weakness" or an athlete was
353 "in a bad place." There was limited discussion of the benefits of sport psychology to enhance
354 performance if the participant was doing well. As swimmer four discussed in FG3:

355 Umm I feel like it [sport psychology] can help an athlete when they're in times of like
356 depression...and stuff like that, struggle, it can like, I think it can, you can feel like
357 you can open up to a psychologist and err kind of get things off your chest, just like
358 can help you with your sport.

359 **Factors impacting on perception of sport psychology.** The participants' perceptions
360 of sport psychology appeared to be influenced by two main factors, understanding of, and
361 previous engagement with, sport psychology, and others' beliefs. These are discussed below.

362 *Understanding of, and previous engagement with, sport psychology.* Understanding
363 and knowledge of sport psychology often appeared to be influenced by participants' exposure
364 to sport psychology, which in turn seemed to impact athletes' perceptions. However, it is

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365 important to note that it is not possible to know the direction of influence from experience
366 and knowledge to perceptions (i.e., which came first). Nevertheless, the participants
367 constantly made a link between use and perceptions as illustrated below.

368 Initially, most participants were able to provide a basic description of their thoughts
369 about sport psychology, generally indicating that it was simply the “mental side of sport”.
370 Quotes from participants who had no previous experience working with sport psychologists
371 tended to be shorter and less descriptive when trying to explain what sport psychology
372 involved. For instance: “The way you think before you race” (FG3, S9), “Studying how
373 people think, stuff like that” (FG5, T16), and “How you feel...emotions” (FG4, T11). Such
374 participants indicated that they did not know what sport psychology was because they did not
375 have any experience of it: “But I don’t know because I haven’t really used it yet” (FG5, T16).

376 In contrast, some participants shared slightly more advanced or detailed
377 understanding. Understandably and consistently, those participants who demonstrated a more
378 advanced knowledge of sport psychology had often experienced individual or group sport
379 psychology sessions. For example, a triathlete who worked with a sport psychologist
380 provided the most detailed explanation of why one may engage in sport psychology: If
381 there’s a qualification race and maybe there’s two spots and ten athletes going for it, like
382 some athletes might thrive off that pressure and do really well and others might not do well
383 and not get the qualification that they need and like I guess looking into why that happened
384 and maybe it could have been a result of them being more negative in the race, that’s around
385 like mental processes and stuff (FG5, T14). Importantly, none of the participants who had
386 engaged with sport psychology reported negative perceptions regarding sport psychology.

387 *Beliefs of others.* As well as use and knowledge of sport psychology, another factor
388 that appeared to influence the participants’ perception of sport psychology was the perception
389 others around them had, specifically their coach. Many participants, especially the

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390 swimmers, reported their coach to have a negative perception surrounding sport psychology.
391 For instance, during one focus group the swimmers reported their coaches did not support the
392 psychological side of sport and they had to deal with this on their own. As one participant's
393 said: "He'd [coach] most likely say it's your own problem, sort it out yourself" (FG3, S9).
394 This perception appears to have impacted this swimmer's use of sport psychology as
395 demonstrated in this conversation:

396 S9: I told [name of coach] like I want to see one [sport psychologist] like once every
397 month just for like a check in so if I've got anything to get off my chest I can get it off
398 my chest.

399 I: How seriously do they [coaches] take it when you say that?

400 S9: If he thinks it was that serious he would have sorted something out but as of yet
401 he hasn't sorted anything out (FG3).

402 Here the participant believed that his need for a psychologist was not considered important
403 and did not seek a sport psychologist on his own. This attitude appeared to have arisen
404 because the coach was not perceived to take the request seriously or hold sport psychology in
405 high esteem.

406 **Psychological Characteristics for Success in Elite Sport**

407 Participants were asked to discuss psychological characteristics that athletes may
408 possess for developing excellence. Participants spoke about characteristics that they thought
409 were necessary for success as an elite adult athlete, as well as how such characteristics might
410 change over time, and also what influenced their development.

411 **Perceived characteristics of elite athletes.** Across all focus groups, participants were
412 initially hesitant to recall any psychological characteristics and appeared to doubt their
413 knowledge in this area. Specifically, many participants provided no reply or a short response
414 when asked what psychological characteristics they thought were useful for success in sport.

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415 For instance, one swimmer simply described psychological characteristics as: “The way you
416 process stuff” (FG3, S8). This swimmer expanded his answer when pushed for a further
417 explanation, however still demonstrated doubt and hesitancy: “Yeah the way you approach
418 things like do you take things on in training as a challenge sort of thing or you can bottle it
419 and not, is that sort of the right lines?” (FG3, S8).

420 Although initially hesitant to recall characteristics, when asked to consider these in
421 relation to their favourite athletes or role models, participants eventually listed multiple
422 psychological characteristics. For instance:

423 Interviewer: Ok so think of your role model, what traits do you think they have that
424 you feel you need to have to be a swimmer?

425 S8: Committed, like determined...

426 S13: Positive attitude...

427 S10: Confidence...

428 S13: Yeah like care free

429 S10: Stress free

430 S12: Be passionate towards the sport (FG3).

431 From this list of characteristics, the most commonly discussed were determination,
432 motivation, and positive thinking. For instance:

433 We said, well determination, you’ve got to be able to keep motivated and keep going
434 but also you’ve got to think positively about everything so like you know if
435 something bad happens in training or a race you’ve got to, rather than get upset
436 you’ve got to keep positive and like learn from it (FG4, T5).

437 Some athletes were unable to recall certain terminology, however they were able to
438 demonstrate an understanding of the characteristic instead. This was especially common in
439 the most popular characteristics discussed by athletes, such as determination and positive

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440 thinking. Triathlete 6 explained: “And like if you get knocks back as well you’ve got to like
441 keep...if you get knock backs for some reason like illness and that, you’ve got to, rather than
442 get upset, you’ve got to keep positive” (FG4, T6).

443 **Changes in psychological characteristics over time.** In identifying the
444 characteristics they believed enabled elite athletes to succeed, the participants were keen to
445 highlight that the importance or need for these characteristics might change over time or in
446 different situations. For instance, most participants indicated that when they were younger
447 and participated in sport for enjoyment only, there was no value to psychological
448 characteristics because, “It’s just all for fun of it” (S13, FG3), and “Like you didn’t think you
449 were going to get this far” (S9, FG3).

450 However, participants reported that the importance of psychological characteristics
451 increased as their sporting involvement became more serious. When discussing the point at
452 which psychological characteristics became important to participants, one of the swimmers
453 reported: “I think you just kind of like start to realize when you start qualifying for bigger
454 events, meets like British nationals and your kind of like the best, you’re better than
455 everybody else” (FG3, S10). Similarly, participants reported that as sport became more
456 important to them, they started to develop key psychological characteristics. For instance,
457 one of the participants from FG3 described how his commitment developed: “I think from 13
458 I started to realize that I had to sort of commit myself to it, like I had before but from that
459 point I realized it was either commit yourself to it or give up” (S4).

460 Participants further indicated that psychological characteristics developed as a result
461 of their training or competition experiences. For instance, one athlete spoke about developing
462 motivation as a result of training on his own during his early athletic career:

463 So I trained a lot when I was younger by myself so I’d be the only one in the group so
464 that’s how I learnt self-motivation because I knew well if I just give up now I’m not going to

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465 get there so I started to motivate myself during the sessions and then I also became focused
466 so I was focusing, well I thought if I do this I'll improve and then motivated myself into
467 doing to and it's just led on from there (FG1, A1). Another athlete reported the development
468 of motivation and determination as a result of success in their sport:

469 I think when people start to notice me more like other athletes knowing who I was
470 that would give me more motivation then when I started getting all the titles and
471 [Country] Champion then I started to like become more determined to keep on having
472 like successes so I'd say gradually like first year of under 17's and now this year
473 starting to become more motivated on my own (FG1, A3).

474 **Factors influencing possession or presentation of characteristics.** Participants
475 perceived that psychological characteristics were constantly changing rather than a stable
476 trait. For instance, one participant shared: "You don't possess them all the time though" (S9,
477 FG3). Such changes in psychological skills could relate to the competition they were engaged
478 in, for as one swimmer explained:

479 I think I'm like more confident when it's a race like I know it isn't a big deal, I'm a
480 lot more confident but it's just like when I go into a big race like I don't feel like as
481 confident that I'm going to do well and stuff (FG5, T16).

482 Another situational factor discussed by participants that was seen to particularly impact upon
483 motivation was competition frequency. For instance, participants indicated that they often
484 struggled to maintain motivation during a large block of training with no competitions:

485 I feel like you feel a lot more motivated coming up to an event, like a long time out
486 from an event and you're in a massive like training block and it's all hard work, you
487 find it hard to motivate yourself to keep like pushing through it (FG3, S10).

488 Factors external to sport, such as school issues, were also perceived to influence their
489 display of psychological characteristics, specifically confidence and self-esteem:

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490 It just varies, not necessarily just with sport, there could be other factors. So like in
491 school or something if you haven't done so well that can make you feel a bit down
492 and that can affect your sport so it's not just with the races or anything (FG4, T5).

493 **Psychological Skills for Success in Elite Sport**

494 Participants recalled a range of psychological skills they thought were important for
495 success in elite sport and discussed their experiences of using and developing these skills.

496 **Understanding and use of psychological skills.** In general participants found it
497 easier to recall psychological skills than characteristics. However, similar to their views on
498 psychological characteristics, participants perceived that psychological skills would become
499 more important as they progressed in their sport, for example one triathlete shared: "Yeah, I
500 think they'll get more important as we get older, maybe more than now" (FG5, T17).
501 Specifically, participants indicated that it was only in the last few years that they felt they had
502 needed to use any psychological skills to help their performance, as a swimmer explained:
503 It's only been the last couple of years [I've used psychological skills] because when you're
504 younger you just kind of jump in and think "oh it's a race, swim it" and you don't really think
505 about anything else or how you could do better ...because you're younger, but as you mature
506 and grow up a bit you do seem to do a bit more (S5).

507 The most commonly discussed skills were goal setting, visualization, positive selftalk,
508 and reflection. However, participants who had previously participated in individual sport
509 psychology sessions were clearly able to list the most skills during the focus group.

510 **Goal setting.** Nearly every participant was aware of and believed they had a strong
511 understanding of goal setting. Overall the older participants seemed to have a better
512 appreciation and knowledge of a complete goal setting process, including understanding the
513 use of process as well as outcome goals and the reasons behind the practice of goal setting.
514 This was demonstrated by one of the older triathletes in focus group four:

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515 Um like so I use it to like calm my nerves so instead of focusing purely on the
516 outcome so like at the start of the race like working hard, fast turnovers, sprinting at the
517 start and focusing on things like that instead of like worrying about the other people
518 around me. So like focusing on the stuff that you can control and thinking about your
519 technique and not stuff that other people are going to influence (T3). In general, the
520 younger participants talked a lot about short, mid, and long-term goals and occasionally
521 mentioned the SMART principles. However, the descriptions they provided when asked to
522 explain things further were often quite brief, for example:

523 I've always set goals, it's just I've never known short term, long term, medium term
524 so I've always had, well this is my long-term goal but more recently I've started
525 saying well to reach that I need to do this (FG1, A1).

526 Some participants also worried about engaging in goal setting due to a fear of failing to meet
527 their goals or because others might subsequently expect too much from them:

528 Because I don't like putting like too much pressure on myself so expectations is just
529 one of them, where if I don't meet it [the goal] then I feel like I've put myself down
530 and probably give up so I just go with the flow (FG4, T11).

531 Participants who used goal setting spoke about the importance increasing in the last
532 few years due to the step up of international competitions: "I think it motivates me more now
533 than it used to because now it's more important the goals I want to achieve because it will get
534 me to more like international standard" (FG1, A3). However, not all participants felt goal
535 setting was a beneficial process with some placing little or no value on it. For instance,
536 multiple swimmers reflected that they sometimes found goal setting to be tedious, especially
537 when they had too many goals to think about:

538 S3: It's a bit tedious

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539 S2: Having one or two minor ones I find because you can like think about it when
540 you're swimming and like we're always told to stay positive but like too many can
541 get like...

542 S3: Put you under pressure (FG2)

543 **Visualization.** Visualization was the other psychological skill that most participants
544 discussed. It became apparent that most of the younger participants who spoke about
545 visualization had gained their knowledge through group sessions at national training camps
546 and in turn had a basic knowledge. However, they did not demonstrate the ability to apply it
547 to their sporting situation and perform it themselves, for example:

548 Yeah, we had a talk on that [visualization] so it's the visual, thermal, is it? I don't
549 know finger imagery, so you can feel the...so if you open a fridge and you can feel
550 the cold air rush out on you, yeah, umm you can visualize where it is, visualize how
551 big it is, what it looks like (FG1, A1).

552 In contrast, older swimmers had a very good understanding of visualization and seemed to be
553 able to apply it in specific situations:

554 I think I was like taught when I was, a couple of years ago when I was at like one of
555 the younger camps and they sat us down and like told us we were all doing like the
556 same event and you got to swim it how you'd want to do it and they like put a
557 stopwatch on it and you had to figure out like how many strokes and that and then
558 you had to later on try and go in the pool and replicate it to see how far off (FG3,
559 S13).

560 Overall, participants generally highlighted the value of visualization prior to or during a
561 competition: "I normally like in the day building up to a competition just start to visualize
562 yourself doing well and yeah visualize yourself doing the correct techniques" (FG1, A4).

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563 Although identified as a key psychological skill, compared to goal setting,
564 visualization was perceived to be less important and participants indicated they were less
565 likely to use it. One of the reasons for the lack of use was that participants felt it increased
566 their feelings of pressure leading up to competitions and were worried that the race outcome
567 might differ to what they hoped. This was discussed in focus group two:

568 S2: I never like actually just imagine myself in the race but like I think about it and
569 like where I want to be and like what I want to be doing but I never like picture it.

570 S3: Yeah neither do I, I feel too under pressure

571 S2: Because like if you picture it and then it doesn't like go the way you want it to
572 then like you're like stressed even though you might still be doing well.

573 ***Positive self-talk.*** Generally, participants indicated that they did not consciously
574 engage in positive self-talk. However, as participants were discussing their races it was
575 apparent they did use this skill and when encouraged to further talk about this they realized
576 that they did use it. For instance, one swimmer explained: "You kind of do it without
577 thinking in training but then like when you come to a race it's just part of the process, you
578 want to get yourself psyched up and do it" (FG3, S13). Participants perceived that perhaps it
579 was a skill they need for longer events. For instance, one swimmer explained:

580 Sometimes, during races but like I've used it during really long races like in open
581 water where I'm swimming like 3km 5km, it's just like really long and tedious so
582 singing to yourself, talking to yourself can like make the race feel shorter (S1).

583 ***Other psychological skills.*** A range of other skills were discussed but with limited
584 indication of how or why they were used. For instance, reflection was another skill that
585 multiple participants talked about using, with some participants being required to complete a
586 formal reflection process. As the triathletes explained:

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612 older athletes (e.g., Wrisberg et al., 2009). It is somewhat surprising that the youth athletes'
613 perceptions of sport psychology were so consistent with previous literature given that this
614 work has focused on adult athletes who grew up in a period when sport psychology was less
615 common and accepted. However, in line with previous literature (cf., Martin, 2005; Wrisberg
616 et al., 2009), the participants in the current study had various experiences of sport
617 psychology. Such experiences subsequently appeared to impact on their perceptions.
618 Additionally, in line with work such as that by Fortin-Guichard, Boudreault, Gagnon, and
619 Trottier (2017) who indicated that personal characteristics such as gender and age influenced
620 perceptions of sport psychology and Martin (2005) which revealed that athletes who were
621 male, young, or involved in contact sports were more likely to possess a negative perception,
622 age (but not gender) appeared to be an influencing factor on athletes' perceptions of sport
623 psychology.

624 There are many other factors that may have influenced the athletes' perceptions of
625 sport psychology, one being the recruitment of athletes from many different sports clubs.
626 Consequently, athletes may have provided more honest opinions due to being away from
627 their close peers and not feeling they had to share the same views as others in the group.
628 Having a mix of male and female athletes from different clubs added to the diversity of the
629 focus groups, which has previously been shown to increase the likelihood for more varied
630 knowledge and perceptions to be shared (Stewart, Shamdasani, & Rook, 2007). Further,
631 recruiting athletes from different clubs and teams will have resulted in the participants most
632 likely having different coaches. Therefore, we have to consider the coaches' perception of
633 sport psychology given that previous research has supported the idea that coaches are in a
634 position to have a remarkable influence over the athletes they coach (Buning, 2016;
635 Zakrajsek, Steinfeldt, Bodey, Martin, & Zizzi, 2013).

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636 Although a number of the participants in the study had positive or negative experiences,
637 a large group of athletes also indicated having relatively limited views on sport psychology.
638 Surprisingly this neutral or apathetic view of sport psychology has not often emerged in
639 previous research, potentially because adult athletes are more likely than the youth athletes in
640 this study to have been exposed to sport psychology and consequently formed opinions on it.
641 As previous literature has reported, athletes' perceptions of sport psychology can be impacted
642 by their prior experience or knowledge (Wrisberg et al., 2009; Zakrajsek et al., 2013). However,
643 many of the youth athletes in the current study had never had that prior exposure and really just
644 did not appear to know what it was.

645 A consistent pattern emerged indicating that athletes with a positive perception of sport
646 psychology appeared to have a deeper knowledge and understanding of it, as well as often
647 having previous experience of sport psychology. Although the direction of influence between
648 these factors can only be speculated, it is consistent with previous research with adult athletes
649 (e.g., Gee, 2010; Wrisberg et al., 2009). For instance, previous research has shown that athletes
650 who had a poor understanding of the sport psychology process were more reluctant to seek out
651 psychological services because of their lack of knowledge (Gee, 2010). This suggests that if
652 athletes know and understand more about the sport psychology process and the benefits they
653 may be more inclined to participate and potentially have a more positive perception. Supporting
654 this, Wrisberg and colleagues (2009) also discovered that athletes who possessed a negative
655 perception of sport psychology often had no prior sport psychology experience or education,
656 potentially meaning they were lacking in knowledge and understanding of sport psychology.

657 Given such a relationship, ensuring that athletes' initial experiences of sport psychology
658 are positive is critical to ensuring long-term engagement with the field. Opportunities for
659 positive early experiences of sport psychology will be largely influenced by the quality of
660 delivery from practitioners. Thus, rather than practitioners "using" young athletes as a stepping

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661 stone to working with elite athletes, there is a need for practitioners to have a genuine desire to
662 work with young athletes, to have a thorough understanding of child and adolescent
663 development, and creatively adapt approaches to working with these individuals (Gould &
664 Szczygiel, 2017; Knight, Harwood, & Gould, 2017). Integrating specific developmental
665 training within sport psychology education would seem pertinent.

666 Moreover, ensuring that individuals around young athletes have a thorough
667 understanding of the benefits and uses of sport psychology seems particularly important,
668 which will again require specific consideration and training among practitioners. Some of
669 athletes in the current study had a positive perception of sport psychology, however when
670 they spoke about when psychological services would be used they reported it as a ‘quick fix’
671 solution that was useful only when something had gone wrong. A similar perception has
672 previously been reported among coaches (Pain & Harwood, 2004) and, interestingly, within
673 this study, this deficit view of sport psychology to address problems or limitations appeared
674 to be largely influenced by athletes’ coaches. Such findings highlight not only the influence
675 of others on young athletes, but also the importance of earlier sport psychology education to
676 young athletes to minimise misconceptions developing.

677 **Psychological Characteristics for Success in Elite Sport**

678 Initially most of the athletes in the current study were very hesitant to report any
679 psychological characteristics they thought were necessary to achieve success at an elite
680 standard or that they possessed themselves. This hesitancy may have occurred due to the
681 participants’ lack of familiarity with the focus group moderator and a desire not to be
682 perceived as giving the “wrong answer”, or a result of the age/developmental trajectory of
683 the athletes (cf., MacNamara et al., 2010b). However, once athletes got into conversation and
684 moved beyond their initial hesitation, they were able to discuss a number of characteristics
685 they felt were important for success at elite standard. The characteristics that were reported

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686 for both success at elite standard and that they currently possessed were focus, determination,
687 and motivation. Compared to the insights shared by rugby players in Holland and colleagues
688 (2010) study, this list is extremely short. Such differences may, to some extent, be reflective
689 of a team sport versus individual sport environment as many of the characteristics
690 highlighted by rugby players were directly related to being part of a team (e.g., team
691 strategies, team support and climate, and leadership (Holland et al., 2010). Similarly,
692 compared to research with elite adult athletes, knowledge of psychological characteristics is
693 clearly lacking (cf. Gould, Dieffenbach, & Moffett, 2002). Such a difference may be an
694 indication that some youth athletes really do have a limited knowledge of psychological
695 characteristics, which may limit the extent to which they believe they can develop in this
696 area.

697 In the current study, the athletes also thought that psychological characteristics
698 developed over time during their youth sporting career and were built on throughout
699 adolescence. For instance, some of athletes discussed how the importance of the
700 psychological characteristics increased during some of the transitions they encountered in
701 sport. Initially this appears to be consistent with the research carried out by MacNamara and
702 Collins (2013) in that psychological characteristics of developing excellence (PCDE) are
703 used in assisting athletes through the challenges of development, contributing to everyday
704 life as well as sport. However, when PCDEs were first researched, it was suggested that
705 psychological characteristics helped adolescents to negotiate their path and overcome the
706 challenges they face within and outside of sport. In the current study, the participants
707 explained this relationship differently. Specifically, rather than the characteristics helping
708 them to manage challenges within and beyond sport, the participants indicated that external
709 factors would actually influence their development and display of characteristics. For
710 instance, when the athletes were facing a difficult time at school or with peers, they thought it

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711 influenced the psychological characteristics they displayed or needed. Overall, rather than
712 seeing psychological characteristics as stable or trait-like, the athletes in the current study
713 generally saw these as unstable and situation-specific. Such a view may mean that athletes
714 would be more amenable to developing these characteristics. However, it could also be an
715 indication that they see them as fallible and thus a threat to achieving on an elite stage

716 **Psychological Skills for Success in Elite Sport**

717 In general, the athletes in the current study knew more about psychological skills than
718 they did psychological characteristics. However, as with the characteristics, there were
719 differences between athletes. When the athletes discussed psychological skills they felt were
720 important for success, it soon became apparent that some of the older athletes, specifically
721 the swimmers, knew more than the younger athletes. Specifically, many of the younger
722 athletes failed to acknowledge the differing types of goals one might set, with a range of
723 perceptions and understanding surrounding the goal setting process. An explanation for such
724 a difference can again be speculated based on MacNamara et al.'s (2010b) research.
725 MacNamara and colleagues reported that athletes involved in team sports tend to specialize
726 around the age of 16 years in the UK; in contrast athletes involved in individual sports may
727 specialize when they are younger in age and development. As a result, athletes who are
728 engaged in sport from a younger age may 'self-deploy' psychological skills earlier due to
729 their development, or have been taught these skills earlier by coaches and practitioners
730 meaning they may have a better understanding of the skills by the time they reach late
731 adolescence. Another explanation for the difference in knowledge could also be due to
732 different athletes' exposure to certain training camps and environments. In the current study
733 the older athletes spoke about training and competition camps where they had been
734 encouraged to carry out goal setting, often learning about the types of goals and the reasons
735 behind it. In comparison, although some of the younger athletes reported having used goal

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736 setting, they had only gained their knowledge verbally from a coach and as such had a more
737 limited understanding and knowledge of the topic as they had not experienced a formal goal
738 setting process.

739 A new finding from the current study was the misconception of skills that certain
740 athletes had. A number of athletes reported that they did not like to use psychological skills,
741 such as goal setting, because they thought it would negatively impact their performance or
742 wellbeing. For instance, athletes discussed that if they did not meet their goals they would be
743 disappointed and have 'failed' and therefore it was better to not set goals. This misconception
744 of the purpose of goal setting is something that is generally not discussed in previous
745 research, with the vast majority of studies highlighting the acceptance and importance of goal
746 setting across a range of sports (Fournier, Camels, Durand-Bush, & Salmela, 2005). This
747 finding once again emphasises the lack of understanding some of the athletes had around this
748 area. If the athletes were educated in goal setting, they may have understood the process
749 better and focused upon setting achievable goals and avoiding disappointment of not reaching
750 their goals.

751 The key psychological skills that were reported by the athletes in the current study
752 included goal setting, visualization, positive self-talk, and pre-performance routine. This list
753 is very similar to previous literature that has reported the four traditional psychological skills
754 that are most commonly employed by athletes, namely goal setting, visualization, self-talk,
755 and relaxation techniques (Vealey, 2007). Seemingly, the popularity of these skills with adult
756 athletes is filtering down to younger athletes and perhaps the accessible nature of these skills
757 is increasing their use within younger populations. However, one caution with this is the
758 extent to which athletes might be learning psychological skills in isolation of characteristics.
759 That is, the athletes appeared more confident in talking about specific skills than
760 characteristics and they did not appear to link skills to the development of characteristics. As

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761 such, the athletes may not be aware of exactly when or why they would utilize different
762 skills, or how they can use skills to foster the necessary characteristics to succeed in their
763 sport. Further research examining the link between these two areas and the extent to which
764 athletes recognise the role of skills in enhancing characteristics would likely be beneficial.

765 **Applied Implications**

766 From the findings of the current research there are multiple considerations that should
767 be taken into account by sporting organisations that are attempting to improve or restructure
768 their psychological support provided to their athletes. Firstly, athletes should be provided
769 with the opportunity for education in sport psychology from a young age, so that as they
770 progress they are aware of what it is, how it can be of use, and when they might choose to use
771 it. Another potential consideration could simply involve exposing youth athletes to a group or
772 individual sport psychology session(s) at a younger age, due to the consistency in research
773 showing that athletes who had previous experience with psychology sessions were also more
774 likely to have a positive perception. However, such exposure must be of an appropriate
775 quality, which may require changes in the training and education available to sport
776 psychology practitioners to ensure it is appropriately tailored to youth athletes. Further, it
777 may also be beneficial to educate coaches around the topic of sport psychology. The aim of
778 educating coaches should not be for the coaches to then deliver psychological intervention
779 but more importantly to understand the benefits themselves and potentially relay their
780 positive perceptions back to the athletes.

781 The broad range of research carried out surrounding psychological characteristics and
782 skills demonstrates the importance of these areas within sport psychology and therefore,
783 understanding both the meaning and terminology could potentially be another way to
784 enhance youth athletes' perceptions and use of sport psychology. A common mistake among
785 athletes in the current research was the lack of knowledge of the characteristics, skills, and

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786 terminology. Athletes could be educated at a young age on a variety of characteristics that
787 elite athletes possess and the available psychological skills which are commonly used to
788 enhance performance.

789 **Limitations and Future Directions**

790 The findings of the current study must be considered within the study limitations.
791 Firstly, the research was conducted with athletes only, meaning there was no opportunity to
792 compare and contrast their results to significant others in their sporting career such as their
793 coach or parents. Future research should seek to include the perceptions and experiences of
794 athletes' significant others. Secondly, the current research was conducted on athletes
795 competing in athletics, swimming, and triathlon, all of which are individual sports. Although
796 there has already been previous literature researching team sports (Holland et al., 2010), it
797 has only focused on male rugby. Given the differences in the findings of the current study
798 and Holland and colleagues' work, it may be interesting to explore the perceptions of athletes
799 in other team sports. Additionally, there would be great interest in further examining
800 perceptions of sport psychology among athletes competing in individual sports such as golf
801 or tennis, which have embraced sport psychology for a number of years and are recognised as
802 having a substantial psychological/mental component. Finally, only one form of data
803 collection was employed, from one time point. As such, the findings provide us with a one
804 off snap shot of insights, which may not necessarily be reflective of the athletes' views at
805 different stages of their seasons. A consideration for future research would be to introduce
806 multiple data collection methods, over an extended period of time. This would enable
807 researchers to develop a further understanding of whether athletes' perceptions or
808 understanding develop over time, for example an athlete's perceptions of psychological
809 characteristics may change over the course of a competitive season depending on how close
810 they are to a competition.

811 **Conclusion**

812 In conclusion, the present study demonstrates the lack of knowledge and
813 understanding many elite youth athletes have surrounding sport psychology. The study has
814 provided insight into the variety of perceptions of sport psychology among athletes, often
815 underpinned by their understanding and use of sport psychology. The athletes in the study
816 also illustrated their awareness of, or lack thereof, psychological characteristics and skills.
817 Overall, the current study has offered new and further insights into how youth athletes
818 perceive sport psychology and factors that are important to improve perceptions of young
819 athletes entering into and already within the elite sporting world.

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Table 1. Demographic Information

Focus group	Sport	Number of participants	Ages (years)	Sporting standard	Years involved in sport (mean)	Training frequency (Mean hours/week)	Competition frequency (Mean comps /month)	Self-declared experience of Sport psychology
FG1	Athletics	4: A1, A2, A3, A4	15-17 <i>M</i> =16.25	International	7.75	7.13	2.25	2 had experienced group sessions during national training camps. 2 had no experience
FG2	Swimming	6: S1, S2, S3, S4, S5, S6	14-16 <i>M</i> =15.17	National	9.17	18.70	1.00	1 swimmer had regular individual sessions to improve pre and postrace mentality. 1 swimmer had experienced multiple group sessions at national training camps. 4 swimmers had no previous experience.
FG3	Swimming	7: S7, S8, S9, S10, S11, S12, S13	18-20 <i>M</i> =19	International	12.29	23.14	0.60	5 swimmers had experienced multiple individual sessions offered by their national governing body on training camps. 2 swimmers had no previous experience.
FG4	Triathlon	11: T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11	13-16 <i>M</i> =14.82	National	4.05	13.82	2.18	None of the triathletes had any previous experience.
FG5	Triathlon	6: T12, T13, T14, T15, T16, T17	16-18 <i>M</i> =17	National	5.13	16.83	1.83	1 triathlete had experienced regular individual sessions to improve confidence following time out from the sport. 1 triathlete was provided with individual sessions through her swimming national governing body prior to starting triathlon. The other 4 triathletes had no previous experience.

