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2	APA 6 th throughout expect headers where article follows journal guidelines
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7	What do Participants Perceive as the Attributes of a Good Adventure Sports Coach?
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24	Abstract
25	This paper presents a mixed-method investigation of client's perceptions of a good
26	adventure sports coach. Semi-structured interviews were analysed thematically, and
27	the findings used to inform a subsequent larger survey that sought to verify the
28	importance of the themes identified in the interviews. The findings draw an alignment
29	between the attributes of good coaches in traditional sports, as reported in previous
30	studies, and those of adventure sports coaches. However, they also identify three
31	additional attributes that are critical for good adventure sports coaches: (1) in-depth
32	knowledge of the adventure sports environment, (2) a very high degree of
33	individualisation, and (3) an explicit focus on developing the participant's confidence.
34	The implications for training adventure sports coaches are discussed.
35	
36	Keywords: adventure sports coaching, coach's attributes, coach's knowledge,
37	individualisation, self-efficacy
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Introduction

41 Adventure sports are growing in popularity (O'Keefe, 2019), consequently there has 42 been an increase interest in understanding coaching practice in this domain. However, much 43 of the research investigating adventure sports coaching has relied upon the self-reporting of 44 highly experienced and qualified coaches (e.g., Christian, Berry, & Kearney, 2017; Collins & 45 Collins, 2015; Collins, Carson, & Collins, 2016). Similarly, Becker (2009) reports that the majority of coaching research explores the effectiveness of coaching rather than the 46 47 characteristics of the coach themselves. Becker reports six dimensions of great coaching; 48 coach attributes, the environment, relationships, the system, coaching actions, and influences. 49 And states 'Great coaches [are not only coaches], but extraordinary people who left lasting 50 impressions on the lives' on those they coach (p. 112). Reflecting the potential impact of 51 coaches and the impact of adventurous environments on individuals (Mackenzie & Brymer, 2018), it seems sensible to extent Becker's investigation into adventure sports coaching. 52 53 Additionally, to understand adventure sports coaching practice from a different perspective, 54 we previously investigated what participants sought from their coaching experience 55 (Eastabrook & Collins, 2019) and reported that participants were unable to separate coaches' 56 attributes from the coaching process. Consequently, there are three aspects of this this study; 57 (1) reflecting on the participants' lack of perceived separation, it seems logical to further 58 investigate what good coaching is in the adventure domain, (2) to continue our original line 59 of investigation into adventure sport coaching from the perspective of participants rather than 60 coach and, (3) to extend and narrow the remit of Becker's investigation into adventure sports 61 coaching. We expand our earlier study to ask a group of adventure sport coaching 62 participants, What are the attributes of a good adventure sports coach? With the aim to inform and improve adventure sports coach training and education. We first explore the 63

attributes of good coaches in both traditional and adventure sports as reported in previousstudies.

66

Review of existing literature

Many authors (e.g., Becker, 2009; Cassidy, Jones, & Potrac, 2009; Côté & Gilbert,
2009; Côté & Sedgwick, 2003; Light & Evans, 2013; Nash, Martindale, Collins, &
Martindale, 2012; Weiss, Barber, Sisley, & Ebbeck, 1991) have discussed the characteristics
of good coaches and offered numerous perspectives of what constitutes good coaches in a
range of sports. Commonly, these characteristics include having excellent subject knowledge
and interpersonal, pedagogic, leadership, and management skills.

73 Coaches' knowledge

74 Côté, Saimela, Trudel, Baria, and Russell (1995) have highlighted the value placed on 75 declarative knowledge by a group of expert gymnastic coaches. This contrasts with Saury and 76 Durand (1998), who suggest that an experienced coach has access to implicit knowledge as 77 'professional know-how' (p. 264). As Sinfield, Allen, and Collins (2019) recognise, the 78 reality entails a synergy of both declarative and implicit knowledge to achieve the adaptive 79 coaching required in the adventure context. This aligns with the findings of Collins and 80 Collins (2016a, 2016b) and Tozer, Fazey, and Fazey (2007) regarding adaptive requirements. 81 Both sets of authors describe adaptability and flexibility as key attributes of high-level 82 adventure sports coaches, and suggest this is a response to the situational demands created by 83 a hyper-dynamic coaching environment and the complexity of the individual being coached 84 (Collins & Collins, 2015; Collins & Collins, 2016a). Fluid notions of knowledge and 85 expertise seem to be integral to the practices of the coach in adventure sports. Collins, Collins, & Carson (2016) exemplify this as 'knowledge made usable and reliable in context 86 87 by it becoming tacit following a period of reflection on extensive experience' (p. 5). Indeed,

knowledge gathered from experience via reflection is critical in this regard and is logically
developed through interaction with clients, understanding their developmental needs and
wants, and a close rapport with them.

91 The high value of knowledge constructed from reflection on experience may, in part, 92 explain why coaches have been found to see little value in formal coach education as reported 93 by Nelson, Cushion, and Potrac (2006). Similarly Sinfield et al. (2019) argue that more 94 experienced coaches may actually benefit from formalised education because their experience brings context to their training. Therefore, and in agreement with Stoszkowski 95 96 and Collins (2012), it seems necessary to include the reflective skills needed to make sense of 97 lived experiences in coach education. Such approaches clearly help to create the 'lifelong learners committed to personal growth' (p. 221) highlighted by Côté (2006) as a key attribute 98 99 of effective coaches. Lifelong learning within the adventure coaching sector aligns with the 100 sophisticated epistemological position high-level adventure sport coaches hold (Christian, 101 Hodgson, Berry, & Kearney, 2019, Collins & Collins, 2016a). This sophisticated position 102 adds a depth and complexity to the adventure sport coaches knowledge.

103 Coaches' interpersonal skills

104 At the heart of the coach-athlete relationship are coaches' interpersonal skills. 105 Lafrenière, Jowett, Vallerand, and Carbonneau (2011) describe the relationship between 106 coaches and athletes as one marked by interdependence. In practical terms and particularly pertinent is this interdependence in adventure sports, adventure sports coaches and clients 107 108 undertake the activity together (Collins & Collins, 2012). Coaching poses an inherent 109 challenge for the coach, who must manage the process with, and for the participant (Buckley, 110 2012; Pomfret & Bramwell, 2016). Coaches must consider, for example, the difficulty of a 111 task (e.g., chosen climbing route), the influence of the environment (e.g., sea state), or

psychosocial factors (e.g., peer pressure) on the participant while measuring the effectiveness of the coaching relationship. This interdependence requires a two-way flow of information and trust, whereby coaches set appropriate goals for clients and support them to achieve those goals. Mageau and Vallerand (2003) have termed such behaviour as autonomy supportive.

116 Additionally, the social aspect of adventure sports is recognised as important by Kerr 117 and Mackenzie (2012) and Mackenzie and Brymer (2018). The coach accompanies the client 118 on the adventure, a friendly demeanour and rapport with the client in challenging situations 119 project a positive attitude toward goal achievement (Ianiro, Lehmann-Willenbrock, & 120 Kauffeld, 2015). Likewise, Gray and Collins (2016) report the interpersonal strategies used 121 by adventure sports coaches, including intuitive social engagement, though they suggest this 122 is not used at a strategic level. In team sports, Gearity (2012) reports how interpersonal skills 123 and social engagement can be used to create a positive coaching environment, highlighting a 124 link to the coach's teaching ability.

125 Coaches' teaching and pedagogical skills

126 Gearity (2012) states that coaches should be 'knowledgeable of the technical, tactical, 127 and mental skills of their sport and also how to facilitate athletes' learning' (p. 91), namely a 128 declarative knowledge of the activity and also the pedagogic and andragogic skills required to 129 facilitate development. Particularly within adventure sports coaching, coaches face the 130 complexities of individual motivations and hyper-dynamic environmental pressures (Collins 131 & Collins, 2016a). Adventure sports coaches have developed multiple approaches to facilitate 132 effective learning in a variety of contexts (Collins et al., 2016), which may be illustrative of 133 the sophisticated epistemological position (Schommer, 1994) that has been identified in high-134 level adventure sports coaches (Christian et al., 2017). This sophistication is reflected in the 135 ability to utilise different approaches rather than a fixed didactic approach.

136 Closely linked with this possible epistemological stance is the stated aim of high-level 137 adventure sports coaches to individualise the coaching process (Christian et al., 2017; Collins 138 et al., 2015). However, it remains unclear what is being individualised. For instance, 139 adventure sports coaches are expected to make decisions on the teaching approach as well as 140 the technical skills to be taught in response to students' learning needs (Collins & Collins, 141 2016b). A focus on the students' learning needs is, potentially, in contrast to that of 142 traditional sports coaching. Bloom, Crumpton, & Anderson (1999) identified that expert 143 basketball coaches spent 60% of their time teaching the technical and tactical aspects of their 144 game. This difference in focus may reflect the stated aims of adventure sports coaches to 145 develop fully independent performance in their adventure sports students.

146 Management and leadership skills

147 The importance of management and leadership for sports coaches is highlighted by 148 Sage (1973), who suggests that the two are synonymous in this context. While athletes look 149 to each other for social trends and team goals, they seek advice from their coaches for 150 leadership and management relating to physical ability and goal attainment (Price & Weiss, 2013). Both Price and Weiss (2013) and Vella, Oades, and Crowe (2012) propose 151 152 transformational leadership as a structure for achieving good leadership because it fosters 153 confidence and character development. More contextually, however, McElligott (2015) 154 reports the use of both rewards for meeting specific goals, i.e. rest day after summit, and 155 developing their intrinsic motivation to reach the summit. These two approaches are characterised by McElligott as transactional and transformational leadership, hinting at the 156 157 sophisticated epistemology identified earlier with regard to approach.

158 Perceptions of adventure sports coaching recipients

159 The reasons participants seek coaching in adventure sports are important. The motivations to participate in adventure sports are multifaceted (Kerr & Mackenzie, 2012) and 160 161 complex (Collins & Brymer, 2018), and consequently the perceptions of good coaching may 162 also differ, such as those reported by Ojala and Thorpe (2015) in Finnish snowboarders. More fundamentally, however, Black and Weiss (1992) suggest there is a potential inherent 163 164 flaw in investigating client or athlete perspectives. Coaches who are perceived by athletes to 165 give more information and praise following desirable performances scored higher on the 166 measures of perceived success and competence. This may challenge the adventure sports 167 coach who may use bandwidth feedbacking, for instance, in order to develop independence 168 and lifelong learning in a participant. Such approaches may not be considered as good by the 169 participant but do reflect the coach's epistemological position. The potential epistemology 170 misalignment could lead to miscomprehension for both coach and client where the participant 171 perceive they are receiving poor coaching but might actually be taught towards a different 172 motivation for participation. 173 Consequently, understanding what participants perceive as good coaching would

appear critical if adventure sports coaches are to be perceived as competent, professional,effective, and offering value for money.

176

Methodology

A two-part (qualitative and quantitative) mixed-method approach (Robson, 2011) was
adopted. Part 1 was a thematic analysis of semi-structured interviews with a small sample
size (n = 15), which was then used to inform Part 2, a web-based descriptive design survey
(Dunlock, 1993) with a larger sample size (n = 202).

- 181 Part 1: Qualitative phase
- 182 Authors

The primary author conducted all the following data collection and analysis. They are a high-level adventure sports coach with ten years' experience working across the UK and Europe. The second author is a highly experienced adventure sport coach with over thirty years of experience coaching in the UK and Europe. Both authors take a pragmatic and subjective epistemological position, one that acknowledges multiple interpretation of reality rather than a grand single theory as such we seek a probable truth rather than generalizable findings.

190 Participants

The study participants were recruited in a stratified random representative sample (n = 15) against the following criteria: (1) being an adventure sport participant, (2) undertaking a five-day coached adventure sports programme, and (3) openness and willingness to engage in the research. The sample was representative and reflected gender and age (female n = 6, male n = 9, mean age = 43), and predominantly activities (mountaineering and rock climbing; n =11 and canoeing and kayaking; n = 4).

197 Data collection

198 Participants were invited to consider their participation at the start of their coaching 199 programme and were provided with an information sheet. Following agreed consent, semi-200 structured interviews were conducted face-to-face in a comfortable and convenient location at 201 the end of the programme or via Skype (Deakin & Wakefield, 2014) within five days of the 202 programme end. Interviews were conducted over the autumn, winter, and spring of 2017–18. 203 The interviews adopted an informal approach following the interview guide found in Table 1 204 and aimed to expose unanticipated themes and develop a better understanding of the 205 responses to the questions (Zhang & Wildemuth, 2006). Participants were asked to recall 206 their recent coaching experience and encouraged to articulate the characteristics of the

207 particular coach who facilitated that experience. Interviews notes were made during the 208 recording in the form of bracketing (Ahern, 1999), and keep for consideration during later 209 analysis. All interviews were recorded digitally for transcription. This structure was 210 cognitively piloted before use with a smaller representative sample (n = 2) with 2 adjustments 211 made to the structure and 11 changes to language made prior to use (Drennan, 2003).

212

Insert table 1 close to this point.

213 Analysis

214 Interviews were transcribed verbatim and reviewed for accuracy by checking against the digital recording (Braun & Clarke, 2012; Fereday & Muir-Cochrane, 2006). The 215 216 transcripts were then 'codified while listening to the original recording' (J. A. Smith, Larkin, 217 & Flowers, 2009, p. 82) and a thematic analysis was subsequently conducted (Fereday & 218 Muir-Cochrane, 2006). Initial coding of responses was conducted in three cycles to gain 219 saturation from different perspectives, before grouping into low-order themes. Once 220 convergence was found, the process was repeated to gain mid-order themes. This procedure 221 allowed the data to be compared with existing concepts while remaining open to the 222 recognition and comprehension of new themes (Braun & Clarke, 2012). The significance of 223 themes was not solely attributed to frequency but also to the emphasis derived from 224 annotations taken during the interview.

225 Part 2: Quantitative phase

Following the interviews, a survey was conducted to assess the views of a larger sample who had received adventure sports coaching. The aim was to improve the reliability of the findings from Part 1. Zohrabi (2016) suggested researchers 'should try to involve most participants in all phases of inquiry' (p. 259) to utilise the benefits of member checking (Lincoln & Guba, 2005). The use of member checking in this matter reflects the concerns of Smith and McGannon (2018) and has the aim of seeking confirmation from the same
population rather than the individual interviewee. The subsequent question was 'How
important are the attributes identified in Part 1 to a broader population?'

234 Participants

235 A convenient, self-selecting sample was utilised with the same criteria as Part 1. Respondents were asked to complete an online survey over the summer of 2018. The link 236 237 was shared across eight outdoor sport communities on social media, for example, Rock 238 Climbers UK and 'Slightly' White Water Kayaking. This resulted in a total of 250 responses, 239 of which 202 were considered acceptable. Incomplete surveys were rejected, with a 240 completion rate of 81%. The self-selecting nature of this sample differed from the 241 demographics in Part 1, with female participants (n = 78, 38%) sampling higher and water-242 based activities (n = 134, 66%) dominant.

243 Data collection

244 The two high-order themes identified in Part 1 informed the questions in the survey 245 design. The mid-order themes acted as the focus for the sub-questions, and alterations to 246 language were made to improve accessibility and understanding. A point allocation method 247 was used as described by Doyle, Green and Bottomley (1997), where respondents were asked 248 to weigh the importance of each mid-order theme by dividing 100 points between all the mid-249 order themes (respondents had to use all 100 points). For example, a question with three sub-250 questions could be 98, one, and one, or 33, 33, and 34, depending on the respondent's feeling. 251 This allocation of points had two advantages. Firstly, it encouraged the respondents to 252 consider the mid-order themes carefully, addressing survey fatigue (Sinickas, 2007) by 253 utilising an alternative to the commonly used Likert scales. Secondly, Part 2 aimed to 254 understand the *relative* importance of the mid-order themes to inform the comprehension of

255	the high-order themes. Doyle et al. discuss the advantages of ranking and points allocation
256	and, although Doyle et al. report ranking as preferred by users because it required less
257	cognitive effort, this is the reason points allocation was used here: to make the respondents
258	think. A cognitive pilot was also applied to a representative sample $(n = 6)$ (Drennan, 2003)
259	and the language refined as a result. An incentive in the form of a chance to win a shopping
260	voucher was offered for completing the survey with the winner being randomly selected.
261	Analysis
262	A simple descriptive statistical analysis was applied to show the mean, standard
263	deviation, and skew for each question.
264	Results and discussion
265	Part 1
266	The thematic analysis of the transcripts found 243 codified units. These were
267	subsequently grouped into ten mid-order themes and two high-order themes, as shown in
268	Table 2. The two high-order themes are coaching behaviours and the capacity to adapt.
269	Insert table 2 close to this point.
270	Part 2
271	The descriptive analysis of the survey is reported in Table 3. This survey identified
272	the relative importance of each mid-order theme within each high-order theme. To give the
273	results the most meaning, the two parts have been integrated within the discussion to give
274	each mid-order theme a sense of relative importance within the two high-order themes.
275	Insert table 3 close to this point.
074	

276 Coaching behaviour

277 The participants reported that they utilised the coaches as sources of confidence. 278 Gemma spoke about 'feeling that the coach gives you the confidence to explore', referring to 279 the exploration of new experiences as well as her abilities. This attribute of coaching 280 behaviour is the most prominent, with 141 respondents in Part 2 giving it the highest value 281 (m = 24.9). The coaches' role in supporting the development of their clients' confidence took 282 three forms - verbal reassurance, personal accomplishments, and vicarious experiences - and 283 possibly reflects the risks associated with adventure sports participation. Bandura's (1977) 284 work on self-efficacy supports the existence of these roles, noting that personal 285 accomplishments are a stronger source of information, while vicarious experiences are less 286 dependable. Alfie recalled a mountaineering experience and said that 'having reached the 287 summit by the North Ridge is good for [my] confidence', because his personal goal had been 288 achieved. Dorothy reported that her coach 'is here telling us it's fine', giving a clear example 289 of verbal reassurance. Reuben highlighted the value of vicarious experiences and stated that 290 the coaches 'recounted their own tales...that no matter what you are trying to do, you feel 291 that they have done it before'. Dorothy gained her confidence through reassurance, Alfie via 292 his accomplishments, and Reuben by engaging with his coach's prior experiences. Thus, each 293 client seemed to be able to source the information and confidence-building support they 294 needed from their coach.

The participants valued interpersonal skills highly, in common with perceptions of good coaching found outside the ambit of adventure sports (Becker, 2009; Black & Weiss, 1992; Côté & Sedgwick, 2003; Curran, Hill, Hall, & Jowett, 2015). Sixty-nine respondents ranked this aspect of coaching behaviour as the most important (m = 23.5). Rachael highlighted the link between rapport and trust in the coaches' judgement and stated that a 'good relationship or rapport with the instructor [coach] is vital because you got to be able to trust their judgement'. Pearce linked rapport with his learning and explained that 'rapport is so important for the development of skills', while Griff said that the coaches are 'making sure
everyone is getting what they want from the course'. Griff highlighted the relationship
between rapport and achieving the client's goals and their desired coaching experience
(Eastabrook & Collins, 2019). The coaches appear to be strategically using their rapport with
their clients in a more sophisticated manner than previously reported by Gray and Collins
(2016)

308 Participants in this study valued high levels of enthusiasm in their coaches, and it was 309 the third-ranked aspect of coaching behaviour (m = 20.4) in Part 2. Dennis broadly asserted 310 that his coach had 'got a really positive outlook on life coming through'. More specifically, 311 Kristian linked the coaches' enthusiasm to their coaching practice, stating that such 312 'enthusiasm for coaching was infectious', while Gemma declared that her coach 'loves being 313 outside'. This highlights that coaches were enthusiastic about their coaching and the given 314 adventure activity, demonstrating commitment and emotional investment in their clients' 315 development. Such attitudes affect both goal setting and client support in adventurous 316 contexts.

317 The coach's credibility as a coach and also a respected practitioner of adventure 318 sports appears to be a unique aspect of adventure sports coaching practice, as this was not 319 reported in the literature of traditional sports coaching. While this aspect was implicit in 320 Collins and Collins' findings (2012, 2016a), it was explicit in this study and was ranked 321 fourth by the respondents in Part 2 (m = 15.8). Alfie would only receive coaching from 322 someone if 'they have credibility' in his terms. While credibility is desirable, it is unclear 323 what makes a coach credible to clients, and thus, how it could be enhanced. Consequently, 324 this is an area that requires further investigation.

325 Linked closely to credibility is the coaches' capacity to inspire participants. Tommy, 326 for example, stated that 'a highly qualified coach can inspire you to continue learning'. The 327 coaches' ability to be inspirational was ranked fifth (m = 15.5) by the respondents. There are 328 two aspects to being inspired in this context. Firstly, the client is inspired by the coach's 329 performance, both as a coach and as a performer, a unique aspect of adventure sports coaches 330 (Collins & Collins, 2012). The clients want their coach to genuinely enjoy their job as this 331 enhances the coaching experience for the client (Eastabrook and Collins, 2019). The second 332 is routed in the developmental goals of the coaching. Inspired clients may be more likely to 333 practice and thus to continue their development independently.

334 *Capacity to adapt*

335 The coaches' capacity to individualise the whole coaching experience was a key 336 factor in the perception of good coaching by the participants in this study. Individualisation 337 was ranked highest by 168 respondents in Part 2 (m = 24.5). Individualisation in this context 338 was multifaceted and extended beyond the teaching of individual aspects of a sport, as 339 reported by Ives (2008). For example, Dorothy highlighted the coaches' ability to identify the 340 correct starting point of the coaching process via observation and questioning and stated that 341 'the coaches are so great at building on where you are as an individual'. Alfie said that his 342 coach was able to give him 'space to work it out, so I'm not just remembering something 343 they've said, I'm actually understanding'. This latter point from Alfie highlights his desire for 344 the coach to align their teaching with how Alfie wants to learn at that point. Jack linked 345 individualisation to risk tolerance, stating that '[I] achieved something I wouldn't have done 346 if he [the coach] hadn't been there', thus linking individualisation back to the development of 347 confidence highlighted earlier. Jack would not otherwise have attempted the activity because 348 of his perception of the involved risk and level of challenge that creates. Additionally and 349 uniquely, individualisation was extended to the participants' conceptualisation of adventure

(see Mackenzie & Brymer, 2018) by the coaches. Dennis explained that the coaching he
received allowed him to no longer be 'at the behest of other people's plans', giving him the
freedom to make his own decisions regarding his own participation and adventurous
experiences.

354 Jack 'wanted to be imparted knowledge by someone who has been there, done it and 355 knows what they are on about'. The coaches' depth of knowledge was clearly linked with 356 credibility, as cited earlier, and it was ranked as the second most important factor in Part 2 (m 357 = 23.5). Such a desire is common in cases of good coaching within other sports, as identified 358 by multiple authors (Côté et al., 1995; Light & Evans, 2013; Nelson et al., 2006). Two 359 additional aspects of the adventure sport coaches' knowledge could be identified: (1) the 360 desire for more knowledge stems from a desire to be independent of coaches, and (2) the 361 coaches are expected to have knowledge of the hyper-dynamic context of their coaching. 362 Tommy exemplified the former: 'when you are doing that on your own, you have to dig from 363 your own experience and knowledge base in order to make that decision'. Moreover, Kristian 364 noted that a good coach has 'been there and can take you to interesting places'. Lori 365 highlighted that participations expect the coaches to have knowledge regarding the 366 environment and coaching, building on their own experiences. This echoes the assertions of 367 Collins et al. (2016), that a coach's knowledge gathered from experience and reflection is 368 critical.

The coaches' ability to observe and analyse was ranked third within the high-order theme (m = 19.9) and was an integral aspect of the individualisation of the coaching process. Alfie expected his coach to observe with 'a critical eye and analyse what you are doing and be able to pick up what you are doing wrong'. The participants wanted their coach to act as a critical friend. This highlights the need for coach and client to be in alignment with regard to the client's long-term goals. 375 Participants valued coaches with a broad range of coaching strategies, ranking this 376 aspect as fourth in Part 2 (m = 17.3). Dennis appreciated his coach as he 'explained 377 something in multiple different ways' and stated? the rest of the group also valued this. 378 Meanwhile, Alfie noted that his coach was able to offer a more difficult route up to the 379 summit that was their goal 'rather than picking an easier route' for the whole group. Clearly, 380 in this case the coach sought to employ several practical strategies to achieve the same goal 381 while also maintaining client security, demonstrating highly individualised and sophisticated 382 judgement.

383 Dennis expected his coach to find out 'what are his aspirations, what can he do, [then] 384 modify the course' to suit him, and a flexible programme was ranked fifth in terms of importance by the respondents in Part 2 (m = 17.1). Indeed, flexibility is required both on the 385 386 part of coaches and their employers/organisations. To meet the aspirations of participants, 387 coaches need to be adaptable within a flexible infrastructure. Additional resources such as 388 transport, extra coaches, or indoor facilities may also be required to this end. However, 389 highly qualified coaches and logistical support for the desired flexibility may have cost-390 related implications for coaches and their employers, and such options may not always be 391 feasible during a single-course programme.

392 Attributes of a good adventure sports coach

393 Participants in this study valued the coaches' ability to enhance the coaching 394 experience (Eastabrook & Collins, 2019) by utilising a range of nuanced behaviours. The 395 respondents had an expectation of a thorough coaching process distinct from a guided or led 396 experience. People seeking coaching in any sport want their coaches to have the capacity to 397 adapt in response to their learning needs and the environmental demands. However, the high-398 order themes indicate that three aspects specifically characterise good adventure sports coaches: knowledge of the environment, the extent and nature of individualisation, and the
coach's ability to act as a source of confidence. These aspects extend beyond the descriptors
for good coaching in other sports and given the importance placed on these attributes by the
participant mean that these could be considered unique to adventure sports coaching.

403 Knowledge of the adventure environment

404 It seems critical that coaches possess in-depth knowledge of the adventure sports 405 coaching environment. There are three aspects to the coaching environment. The coaches 406 need to understand the practicalities of coaching in adventurous environments, including 407 where to go, the impact of the weather and its impact (see Aadland, Vikene, Varley and Moe 408 (2017) as an example). Coaches need to be sensitive to the social and cultural environment 409 that is desired by participants of adventure (see Lorimer and Holland-Smith (2012) as an 410 example). This goes beyond merely understanding the dynamic environment as an adventure 411 sport participant and includes how the environment interacts with a task and the individual. 412 The participants expect this knowledge to stem from a coach's extensive experience of the 413 activity and environment. This environmental knowledge extends beyond simple situation 414 awareness as described by Endsley (1997) into the comprehension of the factors causing the 415 situation and an ability to project its implications on the students' learning, however specific 416 research into this is required to more fully understand this aspect of the adventure sport 417 coaches knowledge.

418 *Expansive individualisation of the coaching and adventure experience*

The notion of individualisation in adventure sports extends beyond the teaching of technical skills and encompasses the client's perception of good teaching. This involves being able to coach in a way that aligns with clients' perceptions of good teaching to gain their trust and build rapport before exploring more sophisticated approaches to improving 423 their performance. Closely linked to this is the coaches' tolerance of risk, which allows them 424 to manage the risk-versus-benefit decisions lying at the heart of coaching in this sector 425 (Collins & Collins, 2013) by comprehending the concomitant potential benefits to students' 426 and clients' conceptualisation of participation: specifically, how they want to participate. The latter aspect might include, for example, whether clients are more interested in developing 427 428 their technical abilities to deal with more challenging environments or in reaching a technical 429 level that satisfies their desired engagement with the wilderness (Eastabrook & Collins, 430 2019).

431 An explicit development of confidence

Participants expect coaches to act as a source of confidence, with an appropriate level
of challenge is required for the activity to feel authentic enough to achieve goal
accomplishment. This level must be judged carefully by the coach, similar to the risk-versusbenefit decision cited above. The participants in this study reported their coaches' use verbal
reassurance in their abilities, vicarious experiences lived via the coach, and the coaches'
personal accomplishments are helpful for achieving their goals and aspirations. These
strategies develop self-efficacy (Bandura, 1977).

439

Limitations and future research

As reported by Weiss et al. (1991), there is an inherent issue with clients' perceptions of good coaching: namely, coaches who say nice things to participants might make them feel good, but that is not necessarily good coaching. Similarly, 'good' coaching is a subjective term. This subjectivity raises the question of whether what is perceived as good coaching within a commercial setting, i.e., happy, repeat clients, is the same as what is perceived as good coaching in a developmental context. Both contexts are valuable but are not separated in this study, thereby presenting the contentious issue of commodification in adventure sports 447 (see Beedie & Hudson, 2003; Loynes, 1998; Varley, 2006). The commodification of 448 adventure sports opens a further line of enquiry to understand how commodification affects 449 coaching practice. Additionally, these findings only reflect a sample of British people's 450 perception of good coaching. Therefore, to further understand the perceived attributes of 451 good adventure sports coaches, it seems logical to extend the study size and location. It is a 452 further point of inquiry as it is not clear how coaches develop these attributes, as they do not 453 appear to be aspects of national governing adventure sports coach education. If national 454 governing bodies recognise the need for the attributes detailed in this study, then it seems 455 logical that a further study may be required to determine how these can be developed in 456 novice coaches.

457

Conclusion

458 The findings demonstrate that many of the participants' perceptions of good coaching 459 are common to both adventure and traditional sports. However, importantly this study also 460 provides evidence for three key attributes that are particularly critical for and pertinent to 461 adventure sport coaches: (1) a rich and in-depth knowledge of the dynamic coaching 462 environment and how it interacts with the individual; (2) an explicit, highly individualised 463 approach that includes clients' conceptualisation of their participation in adventure sports; 464 and (3) an ability to act on and develop participants' confidence. These perceptions present 465 challenges for the adventure sport coach. Clearly the coach must fully comprehend the 466 learners' needs and motivations. To meet them, be able to employ a range of technical and teaching strategies, and significantly, to have a full understanding of the adventurous setting. 467 468 These findings offer a different perspective on adventure sport coaching and the way in 469 which coaches might be trained and evaluated. Specifically, measuring coaching beyond the 470 measurement of performance in a traditional sense. Which in turn does demonstrate a need 471 for further research regarding performance in adventure sports. Furthermore, these findings

472	strengthen the need for further research to investigate how adventure sport coaching
473	knowledge, adventure sport individualisation and confidence is developed for future explicit
474	inclusion in coach education and development.
475	Disclosure statement
476	No potential conflict of interest was reported by the authors.
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670

Table 1

673 Semi-structured interview guide sheet

Initial Question	Secondary Question	Prompts
Administration		
	Questions	
	Signed consent	
	Remind interviewee they are free to withdraw at any time	
Can you tell me about your most recent coaching session?	When did it take place?	Location
	Where did it take place?	Location
	Who was it with?	Duration
	What was the best part?	Commercial operator
What did you expect from the overall experience?	Any learning objectives? Experiencing any specific issues? New challenge or environments?	TTPP Enjoyment Culture of adventure
How did the coach meet your expectations?	How friendly was the coach or their warmth of welcome? Was there a personalised plan for the course? What activities did you undertake?	Quality of resources Teaching ability The technical ability of the coach
How important was it that the coach took you on a <i>real</i> adventure?	Where did the coaching take place?	Challenge

	Did you feel comfortable in the places you went to?	Learning opportunities
	Do you feel more able to re-	Self-belief
	visit those places post- coaching?	Self-efficacy
	couoming	Adventure
What did the coach do to aid your long-term learning		
aspirations?	Do you have a specific action	Independence
•	plan to follow?	Self-directed learning
	What do you still need to practice?	Environments
	What adventures can you now	Challenges
	have?	Venues
		Community of practice

676 Table 2

677 Thematic analysis of the semi-structured interviews

High-Order	Mid-Order Themes (10)
Themes (2)	
Coaching behaviour	Coach is the source of confidence
	Interpersonal skills
	Coach's enthusiasm
	Coach was inspirational
	Coach has high credibility
Capacity to adapt	Individualised approach
	Adaptive course programme
	Observation and analysis
	Coach's depth of knowledge
	Range of coaching strategies

679

680 Table 3

Mid-Order Theme	Mean	SD	Skew
Coach is the source of confidence	24.9	11.2	0.7
Interpersonal skills	23.5	10.3	1.8
Coach's enthusiasm	20.4	7.2	0.6
Coach has high credibility	15.8	8.9	0.6
Coach is inspirational	15.5	7.9	0.7
Individualised approach	24.5	9.9	1.3
Coach's depth of knowledge	21.2	9.7	1.9
Observation and analysis	19.9	7.6	0.7
Range of coaching strategies	17.3	7.2	-0.4
Adaptive course programme	17.1	7.3	0.2
	Coach is the source of confidence Interpersonal skills Coach's enthusiasm Coach has high credibility Coach is inspirational Individualised approach Coach's depth of knowledge Observation and analysis Range of coaching strategies	Coach is the source of confidence24.9Interpersonal skills23.5Coach's enthusiasm20.4Coach has high credibility15.8Coach is inspirational15.5Individualised approach24.5Coach's depth of knowledge21.2Observation and analysis19.9Range of coaching strategies17.3	Coach is the source of confidence24.911.2Interpersonal skills23.510.3Coach's enthusiasm20.47.2Coach has high credibility15.88.9Coach is inspirational15.57.9Individualised approach24.59.9Coach's depth of knowledge21.29.7Observation and analysis19.97.6Range of coaching strategies17.37.2

681 Descriptive data analysis of the survey, displaying relative importance of mid-order themes

682