A demographic analysis of UK Adventure Sports Coaches

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Introduction

Participation in adventure sports has increased significantly in recent years. In 2018 nearly 2.6 million people in the UK regularly participated. In fact, adventure sports were one of the few categories of activity that saw increases in participation between 2017 and 2018; with notable decreases in other activities such as cycling, swimming, team and racket sports (Sport England, 2018). British Canoeing, the national governing body for paddlesport, reported that in the decade between 2006 and 2016 participation in canoeing rose by 42%, with 1.5 million people taking part in 2016 (British Canoeing, 2016). Additionally, the Association of British Climbing Walls (ABC) state that participation in rock climbing doubled to 1.5 million participants between 2017 and 2019 (ABC, 2019). Evidently, at present, there is a healthy appetite for physical activity through adventure sports in the UK.

Collins and Collins (2012) state that increased participation in adventure sports has generated a demand for quality coaching. Based within this premise, these authors have pioneered research related to coaching in adventure sports (Collins & Collins, 2013, 2015, 2016, 2017; Collins, Collins & Grecic, 2014). They proposed that adventure sports coaching (ASC) is a compound role of guide (i.e. facilitator of personal experience), teacher (i.e. facilitator of personal development) and coach (i.e. facilitator of performance/skill development). Moreover, the role requires authoritative knowledge of, and competencies in, risk management and safety, as well as a high level of personal technical skill. For example, before a sea kayak coach can decide what technical or tactical skills to develop, they must first make a judgement of tides, wind and sea states, launching and landing sites and logistics to inform where the coaching will take place. In this respect, the decisions that the ASC must make are largely influenced by the highly dynamic adventure environment (Christian, Hodgson, Berry and Kearney, 2019). Christian, Berry and Kearney (2017) propose that the nature of adventure sports coaching places different and additional situational demands on the ASC (i.e. issues around the variety of roles, personal competence and health and safety considerations).

Areas of investigation in ASC research include professional judgement and decision making (PJDM), coach-participant interactions, developmental experiences, pedagogic and leadership strategies, and epistemic beliefs. Early research in to ASCs has principally employed interpretive designs on small (between one and eight), selective, homogenous samples of coaches. Furthermore, this research relied heavily on purposive sampling of male British Paddlesport coaches (Collins & Collins, 2015; Collins, Collins & Grecic, 2014; Gray & Collins, 2016). Subsequently, recent research has employed more diverse approaches to sampling and methodology. For example, Christian, Berry & Kearney (2017) deliberately sampled male and female ASCs from a range of sports including: mountain biking, sailing, skiing, climbing and surfing. Collins, Carson, Amos and Collins (2018) expanded ASC research by employing a large sample (331) of ASCs in a mixed method design to investigate PJDM in mountain leaders. In a novel approach, Eastabrook and Collins (2020) focussed on the participants experiences of seeking out and receiving adventure sports coaching. Equally innovate was Mees, Sinfield, Collins & Collins' (2020) study of adaptive expertise between different levels of outdoor instructors. Despite these encouraging advances in the ASC literature, we would contend research in the field is still in its infancy. We propose that one way to advance our understanding of area is to explore and describe the basic demographics of ASCs as a workforce.

In contrast to the ASC literature, the coaching workforce in 'traditional' sports has been subject to extensive, systematic investigation. Over the last 15 years, UK Sport (now UK Coaching) has been routinely reporting trends in the demography of UK coaches. This data provides a useful insight into the change and development in the demographic of the coaching workforce over time. For example, between 2008 and 2017 there was a substantial increase in active coaches in the UK, rising from 1.1 million to over 3 million (Sports Coach UK, 2011; Thompson & Mcilroy, 2017). This data also reveals that 42% of the coaching workforce are aged between 18 and 34 years old, reflecting a generally youthful population. A notable finding was a significant increase in female coaches whose numbers rose from 31% of the workforce in 2008 to 46% in 2017. Whilst this is an encouraging statistic, it has been previously documented that women are underrepresented in sports coaching positions. Within

the UK, only 17% of qualified coaches are women (Sport England, 2016), and at the global level women account for only 10% of accredited Olympic coaches (Norman, 2014).

As opposed to traditional sports, there is a distinct lack of research on gendered trends within adventure sports coaching. Although research has explored the experiences and challenges of women in outdoor leadership, this is distinct from adventure sports coaching (Collins &Collins, 2012) in that it is 'the practice of leading individuals and groups into natural settings via a variety of modes of transportation' (Martin et al., 2017, p. 19). Statistics on gender representation within outdoor leadership in the UK are not widely available. However, a recent survey conducted in the US with a leading outdoor education association found that only 25% of Directors and Assistant Directors on higher education outdoor programmes identified as women (Rogers, Taylor & Rose, In Press, as cited in Bond Rogers & Rose, 2019). Moreover, where women are course leaders in outdoor leadership, they often lead courses that are less technical, such as hiking as opposed to rock climbing or whitewater kayaking (Bond Rogers and Rose, 2019). Given the disparity between male and female coaches in the traditional sports literature and a complete absence of literature relating to female ASCs, this study will prioritise gender as a key consideration.

Therefore, the aims of the current study are:

1. To extend the scope of sampling beyond the existing research;
2. To describe the demographic profile of UK ASCs, with an emphasis on gender;
3. To use demographic analysis to speculate on the extent to which ASCs are a distinct subset of coaches

Method

Participants

A targeted sample of 524 participants were recruited via word of mouth, professional association databases and social media. Inclusion criteria were that participants: 1) self-identified as an ASC, 2)

were active in coaching adventure sports, and 3) were in possession of at least one coaching qualification in an adventure sport. Following inspection of the initial data set, 20 participants who did not meet one of the three inclusion criteria were excluded from the analysis.

Procedures

The present study was part of a larger project that included collecting data about ASCs' demographic information as well as their epistemological beliefs and personality type. Following ethical approval, participants were approached via email and asked to provide online informed consent after reading information about the study. An online survey was developed using a commercially available software package. An internet-based survey was considered appropriate as it allowed data from a large sample to be collected in a relatively short period of time (Tourangau, Conrad & Couper, 2013; Singh, Taneja & Mangalraj, 2009). The survey was piloted on seven ASCs who met the sample criteria. Following completion of the pilot survey, a focus group was convened to discuss the 'feel' of the survey, and how the participants related to the questions. This elicited minor changes in the construction of some of the questions.

The final version of the survey consisted of a series of questions that recorded the following demographic variables: gender, age, education (mapped against the Regulated Qualifications Framework [RQF] from GCSE - 1 to doctoral study – 8; Gov.uk, 2019), years coaching, and main sport coached.

Two further variables were included that sought to determine 'levelness' of practice. In order to gain a perspective of ASCs' normal coaching practice, i.e. what they do rather than their potential practice, we considered it important to differentiate between what the coach *normally does* versus what their qualifications *allow them to do*. For example, a highly qualified coach and coach educator could spend the majority of their time working with beginners. 'Coaching category' referred to the most frequently coached type of learner (e.g. beginner, developmental or performance). 'Coaching level' referred to the upper remit of the qualification (see table 2). This was a challenging task given

the differing terminology used by professional associations to define levelness and remit. Our classification system considered coach educators to be more involved in the development of the sport and engaged at the forefront of the practises of their governing body. Thus, coach educators were assigned a higher coding value, even though we recognise that an individual may be an exceptional coach yet choose not to become a coach educator.

Data analysis

The data were transferred to IBM SPSS statistics 23 and coded appropriately. Descriptive statistics are presented in absolute terms, and as percentages. Chi-square tests were completed to examine the association between gender and previously listed variables. Statistical significance was accepted at $p < .05$. To adhere to the assumptions of the chi squared analyses, the 'years coaching' variable was collapsed into 4 stages, 'Stage 1' (0-4 years), 'Stage 2' (5-10 years), 'Stage 3' (11-20 years), and 'Stage 4' (21+ years).

Results

Demographic profile

This section presents the descriptive statistics for the seven variables (n=504). The dataset consisted of 364 males (72.2%) and 140 females (27.8%). The modal age was 35-44 years, with a range of 18-74 years. Figure 1 shows that 370 (73.9%) participants were aged 18-44 years. Figure 2 presents frequency analysis for education and showed that 165 (32.7%) participants held a bachelor's degree. Moreover, 322 (64%) had exposure to higher education, in that they had studied at RQF level 4 or above. At the higher end, 68 (13.5%) held a master's degree and 11 (2.2%) held a doctorate. Analysis of years coaching revealed that 331 (65.7%) had been coaching for less than ten years. Conversely, 46 (9.1%) had been coaching for 26 years or more (see figure 3). The frequencies of main sport

coached are presented in Table 1; plain text denotes 179 land-based sport coaches (35.5%) and italics denotes 325 water-based sports coaches (64.5%).

[INSERT FIGURE 1 HERE]

[INSERT FIGURE 2 HERE]

[INSERT TABLE 1 HERE]

[INSERT FIGURE 3 HERE]

[INSERT TABLE 2 HERE]

The variable coaching category was comprised of 388 (77%) participants who coached at beginner level, 77 (15.3%) at developmental level, and 36 (7.1%) at performance level. Table 2 presents frequency analysis for coaching level. Evidently, 38.3% of coaches were qualified to coach beginners and/or intermediate level performers. Whereas 61.7% of coaches were qualified to coach advanced performers and/or were coach educators.

Analysis by gender

[INSERT TABLE 3 HERE]

This section presents the inferential statistics for associations between the demographic variables (age, years qualified and coaching level) and gender. The education and coaching categories were not associated with gender, and thus are not included in Table 3. Chi-squared analysis of main sport coached was significant, however only 3 of 30 standardised residuals were outside expected frequencies ($\chi^2 = 40.89$, $p < 0.05$, V = 0.285). Women were under-represented in mountaineering (SR -2.7), and over-represented in sailing/yachting (SR 2.5) and windsurfing (SR 2.6).

Age

There was significant association between gender and age ($\chi^2 = 32.54$, $p < 0.05$, V = 0.255). Females were overrepresented in the 18-24 age bracket (SR 2.9). Moreover, 74.9% of females were younger

than 35 years old. Correspondingly, females were underrepresented in both the 45-54 (SR -2.2) and 55-64 (-2.1) age brackets (see Table 3 and Figure 1). Although somewhat skewed, male ASCs' age was more evenly distributed, which was indicative of a younger workforce.

Years coaching

Gender was significantly associated with years coaching ($\chi^2 = 21.67$, $p < 0.05$, V = 0.207). Females were overrepresented as 'early stage' coaches (SR 2.4), with 80.4% as either 'early stage' or 'developmental stage' coaches. Correspondingly, females were underrepresented as 'established' coaches (SR -2.2) and 'late stage' coaches (SR -2.2; see Table 3). As with age, males were more appropriately distributed across the categories.

Coaching level

Gender was significantly associated with coaching level ($\chi^2 = 33.58$, $p < 0.05$, V = 0.263), insofar as females were significantly overrepresented at the level associated with coaching beginners -'Level 1' (SR 3.1). The standardised residual in this case indicates an extremely large effect. Conversely, females were significantly underrepresented at 'Level 7' (coaching advanced performers & training coach educators). Also noteworthy is that only 10.1% of females were coach educators compared to 27.1% of males.

Summary of key findings

Data from this sample showed that 72.2% of ASCs were male. 73.9% were younger than 44 years old, and two thirds have been coaching for less than ten years. Evidently, ASCs were well educated, with 64% had studied at university level. ASCs were also highly qualified, with 61.7% qualified to coach advanced performers and/or were coach educators. Despite being highly qualified coaches, 77% of ASCs coached at beginner level. Regarding gender, female ASCs were statistically younger, less qualified and less experienced than their male counterparts.

Discussion

This study had three aims. First, to continue extending the scope of sampling beyond within ASC research. Second, to describe the demographic profile of UK ASCs with an emphasis on gender. Third, to speculate on the extent to which ASCs are distinct from traditional sports coaches.

With respect to the first aim, this study has been successful in recruiting a large and diverse sample of ASCs. This contrasts with the majority of extant research and provides a solid foundation for rigorous empirical analysis in the future. Our findings provide a basis for future research that may adopt a longitudinal approach that is conducive to tracking changes in the ASC workforce over time. Such an approach has already been achieved in research on more traditional sports coaches (Sports Coach UK, 2011; Thompson & Mcilroy, 2017). Notably, this research has clearly demonstrated an increase in female coaches.

The large sample in the current study makes a significant contribution to the ASC literature. Our findings continue to move the research away from small-scale, interpretivist analysis of specific individuals and instances, and into large-scale nomothetic research. In addition to significantly increasing the size of the sample, the diversity within the sample is of particular interest. It has captured a broad range of ages, levels of education, coaching experiences and qualifications. It is also the first study to have recruited participants from a wide range of land-based and water-based adventure sports.

The fact that this study was able to gather data from such a large sample of ASCs, in part, addresses the third aim of the study. This was to speculate on the extent to which ASCs exist as a distinct sub-set of coaches, a notion that has been previously forwarded by Christian et al. (2017), Collins and Collins (2012), Collins, Collins and Grecic (2014) and Sinfield, Allen & Collins (2019). It should be recognised that the ASC literature is in its infancy and, as such, it is of no surprise that a limited range of research paradigms has been employed. Evidently the ASC workforce, as reflected in this study, is an eclectic and heterogenous group. The sample reflects diversity in terms of age,

education, experience and sports coached. The size of the sample indicates there is a large number of individuals that identify as ASCs. We propose that the abundance of data collected from over 500 participants is clear evidence that this group exists as a workforce that is unique in and of itself. Thus, we contend that ASCs do exist as a distinct sub-set of coaches. However, the relationship and commonalities that traditional and adventure sports coaches share has yet to be established. This would be an interesting and important topic for future ASC research, and would contribute further to understanding the uniqueness, or otherwise, of the ASC.

The second and central aim of this study was to describe the demographics of the adventure sports coaching workforce. We collected demographic information regarding gender, age, education, years coaching, and main sport coached; thus, allowing for comparison with previous reports commissioned by Sports Coach UK (2017) regarding traditional sports coaches. Two further variables that captured levelness of practice (coaching level and coaching category) were recorded. The remainder of this discussion will detail general demographic points and then discuss the data by gender.

Age

Our data reflect a younger ASC workforce than as reported in the UK Coaching demographic analysis of 2017. At the younger end, 27% of the ASC workforce were between 18-24 years old compared to 20% of traditional sports coaches. Furthermore, 74% of ASCs were under the age of 44 compared to 65% of traditional coaches. In the older age categories, 26% of ASCs were over the age of 45, whereas 36% of traditional sports coaches fell into the 45+ age category. Although the explanation for these findings is beyond the scope of this study, some possible reasons are worthy of speculation. Christian et al. (2019) proposed that one significant difference between ASCs and coaches of more traditional sports was that ASCs coach in a more dynamic environment (i.e. a whitewater river). In this respect, ASCs must 'play the game' alongside the learner whereas a netball

or tennis coach, for example, is able to coach from the side-line without being involved in the actual game. It follows that the ASC must be technically and physically capable of performing the activity that they are coaching to at least the same, if not higher standard than their charges. Potentially, this could be problematic for older coaches due to age-related declines in fitness levels, and/or injuries sustained throughout their careers (Kirk, 2012). Equally, the existence of a younger demographic could also be explained by the notion of a 'transient' workforce (Kirby, 2006) and the tendency of younger people to engage in seasonal work as instructors and coaches in the recreational adventure sector before pursuing education or training in other career destinations (Kirk & O'Connell, 2012). Similarly, Thomas (2002) speculated that limited career opportunities and inadequate mentor support contribute to frequent replacement of staff in the outdoor 'field' sector. Thus, the younger work force in our study is likely to be a result of a combination of factors.

Education

Although there is very little research that has considered levels of education of ASCs or traditional sports coaches, and the potential implications that this might have on coaching practice, we consider level of education to be a key variable in describing the demography of a sample and thus its inclusion was logical. The key finding from our data is that a significant proportion (around two-thirds) of the sample had undertaken higher education. This finding is in agreement with other comparable data, for example a study of field instructors in the USA found that 69% of practitioners held a Bachelor's degree (Marchand, Russell & Cross, 2009).

In an endeavour to professionalise sports coaching in the UK, many governing body and professional association coaching qualifications are currently mapped against the UK Regulated Qualifications Framework (DCMS, 2007; Taylor & McEwan 2015). This provides a distinct body of knowledge, ongoing training and education that are viewed as integral components of a profession. It was beyond the scope of this study to identify what subjects ASCs held degrees in, thus whether these

people are educated in coaching or outdoor related subjects is unknown. However, it seems that the ASC workforce, as identified in this study, are well educated. Whether ASCs are drawn to coaching because of their education (i.e. adventure sports are cerebral activities) or whether they engage with education as a result of the outdoors remains an unanswered but intriguing question, and one worthy of further study.

Years coaching

The inclusion criteria for this study did not specify that adventure sports coaching was the participants' main or only employment. Therefore, the conclusions drawn about the length of time coaching are relatively speculative; for example, coach A may have coached full time for 10-years, whereas coach B may have also coached for 10-years on a weekly basis at a local club. Thus, the number of years coaching does not equate to the actual time spent coaching. Clearly, in this scenario coach A would have considerably more experience. For this reason, it would be problematic to compare our data to research that has recorded career longevity in other professions, for example teaching or nursing.

Given the limitations outlined above it would be fair to assume that there would be a relationship between age and experience in any workforce. Our data are consistent with this, as two-thirds of the sample have been coaching for ten-years or less. We contend that this is partially an artefact of the young workforce and not entirely surprising. Fifty percent of the workforce have between six months and six years coaching experience: thus, a large percentage of the workforce is therefore relatively inexperienced. Given that this research is an exploration into ASC demographics, further analysis, explanation and comparison is problematic. That said, future research would do well to investigate the longevity of a career as a full time ASC. Specifically, it would be interesting to investigate whether the relatively young and inexperienced workforce is a function of: 1) lack of career progression and/or opportunity, 2) the job requirements are conducive to a younger

workforce, or 3) adventure sports coaching is, by nature, an early stage work opportunity that provides a stepping stone to other career destinations.

Main sport coached

This variable was included to gain an understanding of the range of sports that ASCs classed as their main discipline. Previous literature has focused almost exclusively on paddlesports coaches, more specifically BCU level five coaches. Such sampling has a narrow scope and represents only the upper echelon of coaching qualification (Collins & Collins, 2015; Collins & Collins 2016; Collins & Collins 2017; Collins, Collins & Grecic 2015, Grey & Collins 2016). The current study sampled ASCs from 15 different adventure sports, and thus has significantly expanded our understanding of the type of activities that ASCs are engaged in. Moreover, the participants were sampled based on holding any qualification, rather than a high-level award. This reflects that participants who hold an introductory level award self-identify as an ASC and we contend that this contributes to a broader understanding of the identity of the ASC workforce. Results showed that land-based sports accounted for 35.5% of the sample, with the remaining 64.5% coming from water-based sports. Clearly there is an asymmetry here that may not reflect the true demographic. However, we contend that the current study is primarily focused on who ASCs are, rather than what they do. Future research may look to address this issue by obtaining a balanced sample.

Coaching category and Coaching level

Although not demographic variables per se, coaching category and coaching level were included in order to explore the 'levelness' of practice. These variables allowed for differentiation between the coach's normal practice and their potential practice given the upper remit of their qualification. Thus, the variables were interactive.

A key finding related to coaching category was that 77% of the sample coached beginners, 15.3% developmental and 7.1% performance. Clearly the demand for adventure sports coaching is at the beginner level. Participants who were qualified to coach beginners and intermediates accounted for 38.3% of the sample, whereas the remaining 61.7% were qualified to coach advanced, and/or were coach educators. These findings appear incongruent, as intuition suggests there would be a metaphorical 'qualification pyramid', whereby there would be a greater number of coaches qualified at foundation level (e.g. level 1 & 2) and a decreasing number of coaches with higher level qualifications. It should be noted here that coaches with higher level qualifications also hold qualifications at the lower end, as most qualifications structures are cumulative. For example, a level three coach is also a level one and two coach. Thus, notwithstanding participants who may have gone through an APL process, or direct entry to a higher-level qualification, all participants in the sample are qualified to coach beginners (i.e. are level one coaches).

There is an interesting interaction between coaching category and coaching level. The majority of coaching is being delivered to beginners despite the sample holding high level qualifications. There are several potential explanations for this interaction, but these are made with caution as we recognise that each governing body or professional association pathway has its own nuanced structure. We also recognise that some governing bodies and associations have moved away from hierarchical 'levels' of qualification (that to an extent are based on increasing personal performance), thus making generalisations is a tentative endeavour. Nonetheless, we feel there are some interesting points for discussion that emerge from the data.

First, it may be that a coach wishes to continue their professional development by means of gaining further qualifications. However, this may entail progressing to the next level of qualification (e.g. a level 2 coach may wish to become a level 3 coach). In some cases, such a progression might mean that the coach must work with a higher-level performer in a more advanced, dynamic environment even though this is not what the coach habitually does. This would also require the coach to extend

their personal skill set to match the demand of the new coaching environment. In this instance, the coach may pursue a 'level' of qualification that does not represent their normal coaching practice. Again, as previously stated, we recognise that some UK governing bodies and professional associations have moved away from hierarchical structures. There is also a possible connection between coaches pursuing higher level qualifications, and the generally high level of education reflected in the sample, but this would require further investigation.

A second explanation for the interaction between coaching category and coaching level could be the nature of 'performance' coaching in an adventure sports context. In competitive sport, performance is normally referenced against the relative success of competitors (e.g. win or lose). On the other hand, we propose that coaching advanced performers in adventure sports is more likely to take the form of shorter-term episodes associated with breaking performance plateaus, coaching to achieve an adventure challenge (such as climbing a classic route), or coaching for independence (e.g. to be able to ski off-piste with peers). The episodic, as opposed to sustained, nature of adventure sports coaching means that ASCs are likely to spend less time working with advanced performers, and more with beginner and developmental learners. We recognise our assertion is speculative, mainly as the data does not allow that level of interpretation, but it is a logical assertion that warrants further investigation.

Third, from a pragmatic perspective, the reason the ASC workforce is coaching participants below the remit of their coaching qualifications may be a function of increased demand at the beginner level. Evidently, adventure sports coaching is a market-driven enterprise that is characterised by a large volume of beginners and developmental learners. There is some evidence for the increased demand, as highlighted in the introduction (Sport England, 2018).

The exploratory nature of this research has engendered some interesting questions outside of the original research aims. The interaction between coaching category and coaching level was an unforeseen dynamic that requires further research to examine our assertions.

Analysis by gender

Aim three of the current study was to describe the demographics of ASCs by gender. We hope that this would allow us to comment on the 'state of play' of gender representation in the workforce. As previous research has highlighted, women are underrepresented in adventure sport coaching (Allin & Humberstone, 2006; Bond Rogers & Rose, 2019; Humberstone, 2000; Warren, 2016). This is in marked contrast to coaches of more traditional sports, where 46% of the workforce are female (Thompson & Mcilroy, 2017).

A key finding of this study was the significant asymmetry between males (72.2%) and females (27.8%). Additionally, the data from the current study indicates that female ASCs are predominantly younger, less qualified and coach beginners. Moreover, as well as being underrepresented generally, women had very little representation at the upper end of the coaching qualifications (e.g. coach educators). If all things were equal, we would expect to see a similar percentage of women represented at each level of qualification, but this is not the case. There were, in fact, 27.1% of males qualified in the top four brackets of coaching level compared to 10.1% of women. This data represented something of a 'double whammy' whereby women are underrepresented twice: within the sample as a whole and at the more qualified end of the spectrum. These findings align with research in 'traditional' sports coaching that has found that women face a glass ceiling when it comes to accessing senior coaching positions (e.g. Wicker, Cunningham and Fields, 2019).

Researchers have reported a range of reasons for the lack of women in mainstream coaching positions. These include gender-role stereotypes synonymising leadership with men and masculinity (Kane, 2016), ineffective coach education adopting a blanket approach for male and female coaches (Norman, 2008) and poor working conditions and sexism (Norman and Rankin-Wright, 2018). Furthermore, within the outdoor industry, research has found that gender stereotypes continue to perceive women as less adept at technical skills in the outdoor industry than men (Saunders and

Sharp, 2002), and women lack confidence in technical skills as outdoor leaders (Bond Rogers and Rose, 2019). More research is required to examine the reasons for an underrepresentation of women ASC coaches, and particularly within the most senior coaching positions. An interesting dimension in the data is the interaction between gender, age and the experience (years qualified) of the sample. As previously mentioned, there is clearly a linear relationship between age and experience: as coaches get older, they gain experience. In respect to this interaction the data shows that women are significantly over-represented at the younger, less experienced end of the spectrum. For example, 22.1% of males fell into the 18-24 age bracket compared to 39.6% of females. At the other end of the age spectrum (45-64 years), males accounted for 29.6% of the sample compared to 12.2% of females. A similar trend can be observed in the experience data (years qualified). The relatively large number of young female coaches may be explained by one of two possible scenarios.

First, the evidence suggests that women's time as an ASC is short-lived and they exit the role relatively early. Drawing on evidence from mainstream coaching literature, one reason for this trend could be the drop-out of women who have children or take on other significant domestic responsibilities (e.g. caring for elderly parents). Domestic responsibilities have been found to disproportionally limit the time available for women to engage in coaching compared to their male counterparts (Sports Coach UK, 2010).

A second scenario could be that more women are now entering the ASC workforce, resulting in an increase in younger, less experienced female ASCs who have not yet gained higher level coaching qualifications. Despite the continued barriers reported by female coaches relating to a gendered coaching system (LaVoi & McGarry, 2019), it has also been found that female leaders in the outdoor industry positively aspire to break gender roles, encourage gender incongruency in their practices and feel that outdoor-related organisations are actively seeking to employ a gender-balanced workforce and are moving slowly towards gender equity (Davies, Potter & Gray, 2019). It is our hope

that similar change toward gender balance and gender equity is being adopted within the ASC industry, and the overrepresentation of women at the lower levels of ASC will result in increased female representation at all levels of ASC moving forward.

Conclusion

We feel that we have addressed the three central aims of this study. With reference to aim one, there is no doubt that the study has extended the scope of sampling beyond existing research.

Regarding aim two, this study has shown that in general, the demographic profile of UK ASCs is characterised by young, well-educated and well-qualified coaches, who are coaching primarily at beginner level and for recreational purposes. That said, the data in this study shows a marked asymmetry between male and female ASCs in that there was significantly less females who were less qualified, had been coaching for less time and were predominantly coaching at beginner level. We advocate further research that explores this gender asymmetry and shines a light on the gender issues evident in our data. Such research, that seeks to understand the 'why' of the current state of female ASCs, could act as a precursor to interventions aimed at redressing the balance, as has been the case in other sports, for example the BAME and Female Coach Initiative from the English Premier League (The FA, 2017).

We feel that aim three has been partially addressed. The fact that this study was able to garner data from over 500 participants that self-identified as ASCs is clear evidence that this group of coaches exist in and of themselves. On the other hand, it is not clear whether they are 'distinct' from other sports coaches in terms of their self-identity and working practices. Although some authors have speculated on the differences in working practices between ASCs and more traditional sports coaches (Christian et al., 2017; Collins & Collins, 2012), to this point there is no evidence to support this assertion. We would welcome such investigation in the continuation of ASC research.

We feel that the current study has made a significant contribution to the research insofar that is has described the ASC workforce in some detail. However, key demographic variables were overlooked for example ethnicity. Additionally, in order to have developed a deeper understanding of the ASC workforce; data pertaining to geographic location, employment status (full time, part time, volunteer) and financial reward would have been beneficial. Future ASC research would benefit from an understanding of these aspects.

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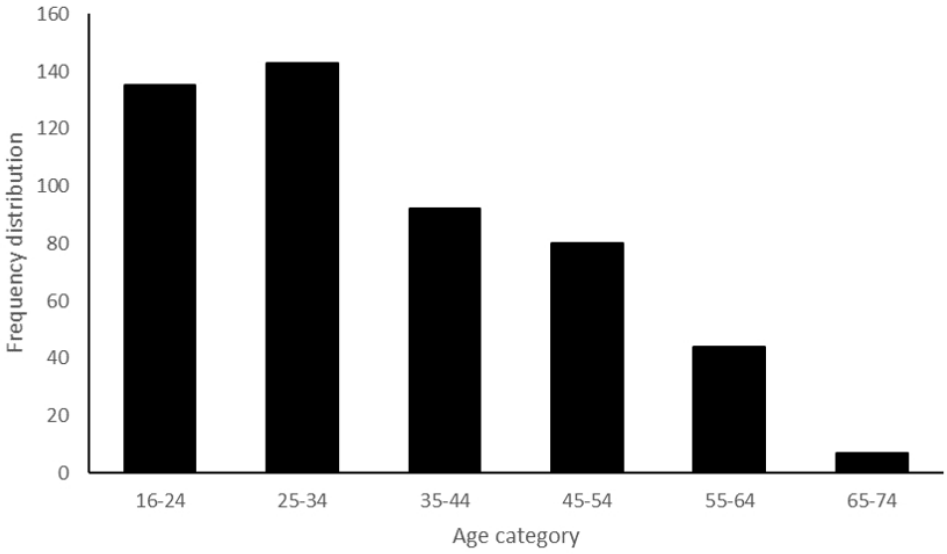

Figure 1. Frequency distribution of age.

146x87mm (149 x 149 DPI)

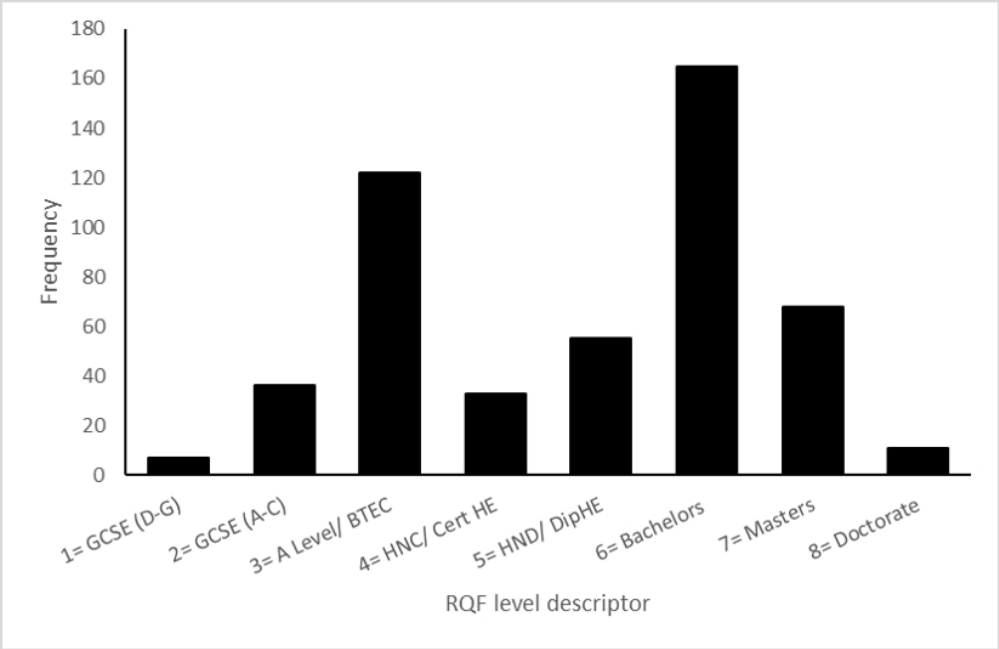

Figure 2. Frequency distribution of education.

140x91mm (149 x 149 DPI)

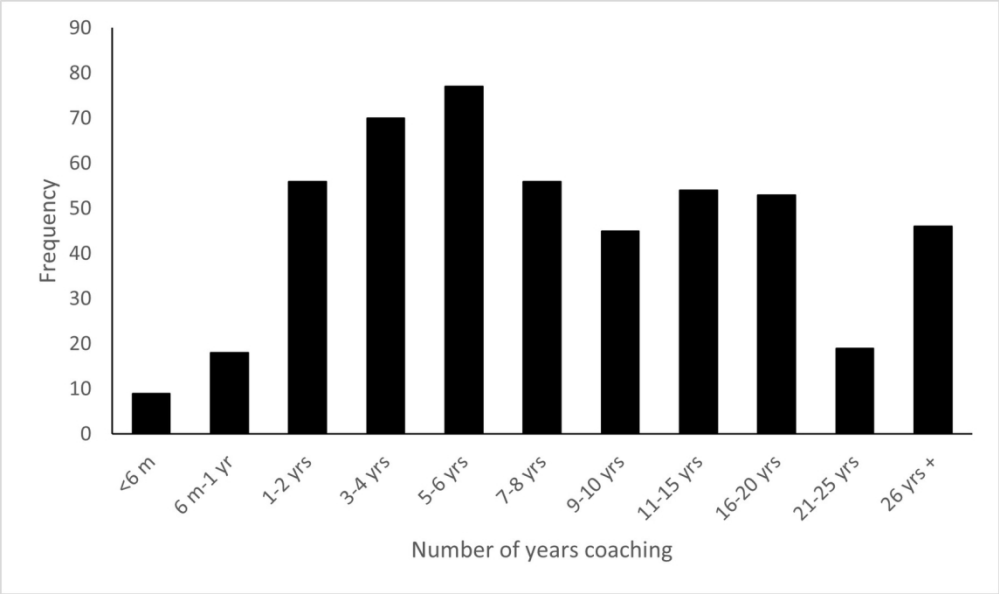

Figure 3: Frequency distribution of years coaching

143x85mm (300 x 300 DPI)

Sport coached	Frequency	Percentage
BMX	6	1.2
Climbing	42	8.3
Mountain biking	47	9.3
Mountaineering	46	9.1
Skiing	30	6.0
Snowboarding	7	1.4
Kite surfing	12	2.4
Paddlesport	45	8.9
Sailing & Yachting	86	17.1
Surfing	16	3.2
Wakeboarding	6	1.2
Water-skiing	6	1.2
Windsurfing	151	30
SCUBA	3	0.6
Other	1	0.2
Total	**504**	**100**

Coaching level	Qualified to coach	Freq	%
1	Beginners	55	10.9
2	Intermediates	138	27.4
3	Advanced performers	184	36.5
4	Up to advanced, and can train coaches to coach beginners	30	6
5	Up to advanced, and can train coaches to coach intermediates	27	5.4
6	Up to advanced, and can train coaches to coach advanced	26	5.2
7	Up to advanced, and can train coach educators	24	4.8

Variable	Male	Female	χ_2	df	Sig.	Cramer's V	SR (m)	SR (f)
Age	-	-	32.54	5	<0.05	.255	-	-
18-24	80 (22.1%)	55 (39.6%)	-	-	-	-	-1.8	**2.9**
25-34	94 (26.0%)	49 (35.3%)	-	-	-	-	-0.9	1.5
35-44	74 (20.4%)	18 (12.9%)	-	-	-	-	0.9	-1.5
45-54	68 (18.8%)	12 (8.6%)	-	-	-	-	1.3	**-2.2**
55-64	39 (10.8%)	5 (3.6%)	-	-	-	-	1.3	**-2.1**
65- 74	7 (1.9%)	0 (0.0%)	-	-	-	-	1.9	-1.4
Years qualified	-	-	21.67	3	<0.05	.207	-	-
Stage 1 (0 – 4 years)	95 (26.1%)	58 (41.4%)	-	-	-	-	-1.5	**2.4**
Stage 2 (5-10 years)	123 (33.8%)	55 (39.3%)	-	-	-	-	-0.5	0.8
Stage 3 (11-20 years)	89 (24.5%)	18 (12.9%)	-	-	-	-	1.3	**-2.2**
Stage 4 (20+ years)	57 (15.7%)	9 (6.4%)	-	-	-	-	1.4	**-2.2**
Coaching level	-	-	33.58	6	<0.05	.263		
Coach beginners	27 (7.8%)	28 (20.1%)	-	-	-	-	-1.9	***3.1***
Coach intermediate performers	87 (25.2%)	51 (36.7%)	-	-	-	-	-1.1	1.8
Coach advanced performers	138 (40.0%)	46 (33.1%)	-	-	-	-	0.6	-0.9
Coach up to advanced & train coaches to coach beginners	24 (7.0%)	6 (4.3%)	-	-	-	-	0.6	-0.9
Coach up to advanced & train coaches to coach advanced	24 (7.0%)	3 (2.2%)	-	-	-	-	1.1	-1.7
Coach up to advanced & train coaches to coach advanced	22 (6.4%)	4 (2.9%)	-	-	-	-	0.8	-1.3
Coach up to advanced & train coach educators	23 (6.7%)	1 (0.7%)	-	-	-	-	1.4	**-2.2**