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# "It's all about knowing the young person": Best practice in coaching autistic athletes

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**ABSTRACT**

Autistic individuals participate in significantly less sport than their typically developing peers. This study aimed to reduce barriers to participation by exploring the views of experienced coaches when suppporting autistic individuals to engage in sports. Ten semi-structured interviews were conducted with coaches of autistic young people from a range of sports. Data were transcribed and analysed using reflexive thematic analysis. Six key themes were identified: the coach-athlete relationship, understanding your autistic athlete, coaching strategies, behaviour support, benefits of participation, and coach education and context. The findings suggested that coaches utilised environmental, communication, and behavioural strategies to support participation. Recognising the diversity of this population the findings suggest a person-centred approach to coaching is required, understanding individuals needs and developing a trusting relationship with the athlete and their families. Coaches largely gained their knowledge through informal routes and the study identified a need for more autistic-focussedcoac education resources.

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The benefits of physical activity for individuals with disabilities are well known, and engagement in sport has been cited as an important vehicle to ameliorate the impact of disability (Cassese & Raiola, 2017; Van der Ploeg, Van der Beek, Van der Woude, & van Mechelen, 2004). However, individuals with a disability are far less likely to engage in sport than those without a disability (McCoy, Jakicic, & Gibbs, 2016). Autistic young people[1] in particular have been identified as being significantly less active compared to individuals with other types of disability (Case, Ross, & Yun, 2020; Stanish et al., 2017). Their experience of engaging in sport has also been reported as less positive when compared to individuals with intellectual disabilities (ID) (Ryan, Fraser-Thomas, & Weiss, 2018).

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Author note

Autism is a neurodevelopmental condition characterised by difficulties in social communication/social interaction, and restricted/repetitive patterns of behaviour, interests or activities including sensory sensitivities (American Psychiatric Association, 2013). Alongside these core diagnostic features, many autistic individuals find aspects of everyday activities more challenging (Volkmar, Jackson, & Hart, 2017) and are at greater risk of experiencing physical health conditions (Rydzewska, Dunn, & Cooper, 2020), mental health conditions (Lai et al., 2019), and motor skills deficits (Licari et al., 2019). Co-occurrence of autism and ID is common with a recent whole population study in Scotland reporting 21.7% of people with ID also being autistic (Dunn, Rydzewska, MacIntyre, Rintoul, & Cooper, 2019). For some individuals secondary factors associated with autism can present additional difficulties through stigma, social exclusion, and economic disadvantages (Howlin & Magiati, 2017). From such research we can conclude that whilst autistic people may have greater health and psychological needs, engagement in sport remains low (Stanish et al., 2017).

Why engagement in sport is lower for this group has attracted some attention, with studies identifying many barriers and facilitators to such engagement. Summarised in a recent systematic review Ryan et al. (2018) reported that whilst significant barriers exist, many are interpersonal and contextual in nature, and so are open to intervention, demonstrating that with the right support the engagement of young people with disabilities in sport can be improved upon. Such findings support a "social relational approach to disability" within the context of sport, where the emphasis lies not on the original impairment but on how the social construction of the disability can lead to people being "othered, disabled or indeed enabled" (Townsend, Cushion, & Smith, 2018).

Research exploring how to effectively promote the benefits of sport to autistic young people and reduce the barriers to engagement is currently limited. However, within the wider area of ID research, a systematic review highlighted 37 barriers and facilitators to inclusion in sport for people with ID (Bossink, Annette AJ, & Vlaskamp, 2017). An on-line study involving a large sample of autistic young people with ID identified three factors (socio-communicative abilities, resources, and coach relationships) predicting engagement in sport and influencing how positively the individuals reported experiencing participation (Ryan et al., 2018). Some of the challenges reported by Bossink et al. (2017) were also identified by autistic young people, their parents and caregivers in a qualitative study by Duquette, Carbonneau, Roult, and Crevier (2016), who additionally identified parents' dissatisfaction with the level of experience and expertise to provide appropriate coaching and supervision for their children. This research suggests sports coaches act as important intermediaries to the engagement in sport of autistic young people, with a responsibility for

gaining both the confidence of the participant and their families, and ensuring that these activities are enjoyable and meet the individual's needs.

Within mainstream sports, coaches take on multiple roles to support an individuals' engagement, performance, behaviour and wellbeing (Horn, 2002). Effective coaching requires a holistic approach, involving multiple skills, and an athlete-centric approach to practice (Nichol, Hall, Vickery, & Hayes, 2019). Approaches to coaching individuals with additional learning and/or social communication needs remains less explored, despite the call for more expertise to be developed to engage young people with disabilities in sport (Cronin, Ryrie, Huntley, & Hayton, 2018). In a contemporary review of this area Townsend, Huntley, Cushion, and Culver (2021) make the case that inclusion of athletes with disabilities is predicated on the skills and knowledge of the coaching workforce, yet there is a paucity of disability-specific knowledge informing coaching training and practice.

Whilst there is a very small body of autism-specific practice based literature (e.g. UK National Autistic Society) and brief reports of case studies (e.g. Rosso, 2016) there remains considerable scope to develop this knowledge base by drawing upon the opinions and views of experienced coaches who are currently working with autistic young people in sport. Pooling this expert knowledge would be beneficial to support existing and new coach-education programmes and in turn, widen the accessibility of sport for autistic individuals. To develop this knowledge base two research questions were addressed: 1. What are coaches' experiences of coaching autistic young people? 2. From the coaches' perspective, how might practice be improved to support and motivate autistic young people to engage in sport?

## Method

### *Participants*

Participants were a volunteer sample of coaches working with autistic young people. Potential participants were identified through an online search of disability sports clubs and through liaison with staff at a national charity for autistic people to maximise the opportunity for participants with a breadth of experience from different sports. All potential participants were sent an email via their club to introduce the research and provide contact information for expressions of interest to be sent by email or telephone to the lead researcher. Initially, 18 individuals expressed an interest in participating. Of these, six did not respond to further emails and two could not participate due to work commitments. This resulted in 10 individuals participating (Table 1). The inclusion criteria required coaches to hold a relevant qualification for coaching in their sport, with a minimum of one year of experience of coaching autistic athletes, including those under age 18. Of these,

**Table 1.** Demographic details of participants.

| Participant | Gender | Age | Ethnicity | Specialisation/ Sport | Years coaching | Coaching Level | Additional Information |
|---|---|---|---|---|---|---|---|
| P1 | F | 38 | White British | Disability Swimming | 10 | Local | N/A |
| P2 | M | 20 | White British | Neurodisability Multi-sport | 3 | Local | Autism diagnosis |
| P3 | M | 29 | White Irish | Disability Hockey | 5 | Local | N/A |
| P4 | M | 68 | White British | Disability Hockey | 7 | Local | N/A |
| P5 | F | 38 | White British | Disability Athletics | 3 | Local | N/A |
| P6 | M | 30 | White British | Disability Athletics | 6 | Local | N/A |
| P7 | M | 21 | White British | Neurodisability Cricket | 2 | Local | Autism diagnosis |
| P8 | F | 72 | White British | Disability Swimming | 45 | Local/ National | N/A |
| P9 | F | 36 | White British | Disability Boxing | 6 | Local | N/A |
| P10 | M | 31 | White British | Disability Trampolining | 5 | Local/ National | N/A |

two coaches identified themselves as autistic. Participants had a mean of 9.2 years' experience of coaching autistic athletes, across a variety of activities.

## *Procedure*

Ethical approval was obtained from Canterbury Christ Church University ethics panel (ref. 075\Ethics\2017-18\AH) and permissions were also sought from the national charity to advertise the study through their channels. Consent forms were sent to participants in advance of the interview. All interviews were carried out by the lead researcher and followed a semi-structured interview protocol, allowing the interviewer to follow relevant comments and seek greater explanation. This protocol was devised by the research team and piloted with peers with coaching experience. Piloting led to the addition of three questions to capture participant's ideas and opinions in relation to coach-education, useful tips, and to provide a chance for participants to make any additional comments they felt to be important/ relevant. The interview consisted of 12 prompt questions and followed a developmental pathway, from asking participants how they first became involved in this area of coaching, to differences between working with autistic and non-autistic athletes, current practices and challenges, and, retrospectively, what they wished they had known when they first started. Interviews were conducted over a six-month period. Each individual interview lasted between 30 and 40 minutes and was recorded. Additional time was provided for participants to ask questions at the end of the interview.

Interviews were then transcribed verbatim and saved to an encrypted memory stick for analysis.

Interview data were analysed using reflexive thematic analysis (Braun & Clarke, 2019). This was chosen as it was considered important to focus on identifying themes across participants, interpret their meaning and importance, and give consideration to the wider socio-cultural context. The researcher's positioned themselves within a constructionist epistemology and aligned with principles of ontological relativism, positing that there are multiple and mind-dependent realities (Smith & McGannon, 2018). The analysis was conducted inductively, in a data-driven manner and involved a recursive and reflexive approach of repeated reviewing of the transcripts to aid familiarisation with the data, and to generate initial themes for further review and development. An inductive approach was taken due to the limited research in this area and to avoid premature assumptions about the views of the participants.

### *Enhancing the quality of the research*

To ensure the rigour, transferability and trustworthiness of this research, several principles were adhered to throughout the research journey. During the analysis phase, a critical dialogue was held between researchers, which encouraged reflexivity, the critical consideration of interpretations, and the exploration of alternative explanations (Smith & McGannon, 2018). These discussions often centred on the consideration and influence of language and led to some minor changes to theme and code labels. For example, one theme originally labelled "Behaviour Management" was changed to "Behaviour Support" to better reflect coaches' proactive and positive use of strategies and approaches.

To enhance "sincerity" within the analysis (Tracy, 2010), the lead researcher engaged in a bracketing interview (Tufford & Newman, 2012) and kept a research diary, demonstrating self-reflexivity by considering the values and knowledge they brought. This process also promoted transparency by documenting challenges faced throughout the research process.

Two autistic young people involved in sport were engaged to provide member reflections (Smith & McGannon, 2018; Tracy, 2010) by reviewing the preliminary results and providing feedback on clarity and their perspectives on the coach's opinions. These individuals were interviewed by the lead researcher once they had read the preliminary results. This process provided a method for increasing credibility by sharing a dialogue with primary stakeholders and providing opportunities for questions, critique and feedback to the researchers to consider in their interpretation of the results.

**Table 2.** Themes and subthemes generated from data.

| Theme | Subtheme |
|---|---|
| Coach-Athlete Relationship | Coach characteristics |
| | Pastoral Care |
| Understanding your autistic athlete | Understanding autistic strengths |
| | Understanding the challenges your autistic athlete faces |
| Coaching strategies | Communication |
| | Structure |
| | Approach to Session |
| | Environmental Considerations |
| Behavioural Support | Guiding Behaviour |
| | Positive Reinforcement |
| | Consistency |
| Benefits of Participation | Personal Development |
| | Enjoyment |
| | Physical Health |
| Coach Education and Context | Inclusive vs. Disability Specific Sessions |
| | Training/Resources for Coaches |

## Results

The data generated six main themes and a number of sub-themes. It was interesting to note that the main themes clustered around the "what?" in relation to research question 1. "What are coaches" experiences of coaching autistic young people?' and the sub-themes represented the "how" in relation to research question 2. "How might practice be improved to support and motivate autistic young people to engage in PA?" These themes are summarised in Table 2 followed by a discussion with illustrative quotes.

### *Coach-athlete relationship*

An important theme generated from the data, representing contributions from all participants, and echoing much mainstream literature (e.g. Jowett, 2017) was the coach-athlete relationship. This relationship was described as vital for encouraging participation and in helping athletes make the most of sessions. Coaches spoke of the importance of getting to know the young person on an individual basis and building a strong, positive relationship which in turn, enabled a person-centred approach to coaching and increased the likelihood of engagement. One coach expressed this clearly as: "Every young person with autism is very very very very very very very different" (P2).

The sub-theme, *Coaching Characteristics*, included participant's ideas about how to establish and maintain successful coach-athlete relationships. Trust was considered crucial, though some participants noted that, in their experience, gaining the trust of autistic young people could present a challenge requiring concerted effort:

> "I think trust is important as well, I've got one little girl at the moment … she is five … it's taken me about two months for her to start talking to me but now she's actually accepted me and she trusts me" (P9).

Social skills such as the use of humour and being empathetic were identified as important by participants. Coaches explained that these characteristics helped them in capturing autistic athletes' attention and moderating anxiety to increase participation. Comments relating to humour corroborate findings from previous research (Murphy, Burns, & Kilbey, 2017), and potentially challenges the notion that autistic individuals may not value this aspect of communication (Samson, 2013).

The subtheme, *Pastoral Care*, concerned participants' ideas about the importance of broadening the relationship between coach and athlete to involve aspects of role modelling and mentoring, for example one of the autistic coaches drew on his own experience: "A lot of it is coming in and helping them with their sport, but more importantly helping them with life skills . . . using our experiences of what we have gone through to inspire and motivate young people" (P7). Participants considered the pastoral element of the relationship to be as important for encouraging engagement and promoting development as providing skills coaching:

> "Pretty much everything comes in to it you know, the hockey is probably the smallest part of it I think" (P4).

> "I want the kids to be able to bring to me problems that they have within the group and if they want to talk to someone, just widening the circle of adults they can talk to, who they feel listen to them and respect their opinion" (P5).

The additional responsibilities in coaching autistic athletes were reported to add an extra dimension to coaching and participants described this as positive, adding richness to their experience. It is interesting to note that this pastoral element is an increasingly recognised factor in building strong coach-athlete relationships and linked to successful performance (Jowett & Carpenter, 2015). However, in this context it is the opportunity to help that autistic athlete within their wider social context that is foregrounded over sports performance.

### *Understanding your autistic athlete*

The importance of understanding the athlete related both to the intrinsic differences of being autistic and what adaptations might be required, but also the wider challenges to participation in sport they may face as a consequence of this difference. *Understanding Autistic Strengths*, reflected the coaches' perceptions that autism brought positive aspects to engaging in sport, for example: "I think some of their focus and determination is rooted in the autism . . . their determination and single-mindedness with the task at hand, that can be quite helpful" (P5). Some participants discussed how this focus might reflect a young person's special interest and help to promote the

practice of skills: "They are absolutely obsessed with badminton, so they play it all the time" (P2). An additional autism related positive concerned precision, for example, an ability to remember exactly what the coach has said, replicate physical demonstrations or follow rules. However, this also presented challenges: "Sometimes athletes will pick me up and say, well you said put your left foot down and then jump and then you showed us with your right foot!" (P6).

This propensity towards concrete communication was an example of the subtheme *Understanding the Challenges Your Autistic Athlete Faces*, reflecting participant's awareness of the differences when coaching autistic young people and the factors needing consideration. These included communication differences, difficulties with engagement and motivation, behavioural difficulties and motor skills deficits. Such challenges have been previously identified for both autistic young people and more widely those with ID (Bossink et al., 2017; Obrusnikova & Cavalier, 2011), however, coaches emphasised the need to not make assumptions as they reported experiencing a rich diversity in relation to these issues. Effective communication was identified as an important factor, with coaches describing efforts to modify their verbal instructions and style of interaction to better accommodate the communication needs of their athlete. For example, coaches highlighted some autistic athletes' tendency to make literal interpretations of instructions, causing confusion on both sides: "The first time I did anything in a school I said . . . pick up the ball, meaning pick up speed. And of course, the boy stopped, picked up the ball and handed it to me" (P4).

### Coaching strategies

Consistent with the findings of previous research (e.g. Groft-Jones & Block, 2006) participants considered having strategies around *Communication* to be vital to successful coaching. Whilst it was also acknowledged that athlete's communication needs may be very diverse and perhaps connected to co-occurring diagnoses, such as ID, some strategies were considered potentially relevant to most autistic young people within the context of sports coaching. For example, the importance of using brief, simple instructions, and the need for repetition, using visual aids or physical/visual demonstration was found to be effective: "We use a lot of demonstration, so when I'm teaching . . . if I'm saying do backstroke, I show the backstroke arms" (P1). For autistic individuals who also had an ID, the implementation of more basic communication tools were viewed as helpful, for example, the use of Social Stories[2]:

> "[His parents] produced a wonderful social story for him which, they bring . . . depending on what we're doing in that session, they will go through it with him before he even gets in the water" (P8)

A number of participants reflected upon the importance of non-verbal communication. For example, some discussed how it was difficult to recognise whether athletes were listening, as the athletes did not always give typical non-verbal cues, such as maintaining eye contact. Coaches raised the importance of accommodating this difference:

> "Don't insist on [the athlete] looking at you, don't think they're misbehaving if they're sort of looking around, because chances are they are taking in what you are saying, but showing no signs of doing that until they start the activity" (P8).

Another practical coaching strategy concerned the *Structure* of sessions and how they should be organised. The majority of participants spoke of the need to establish and maintain a routine within sessions and two participants noted how extra planning was perhaps needed:

> "Something that does help me as a coach for someone specifically with autism is the routine of the session . . . so we have a welcome registration, we have a warm-up, we have the main session, warm-down, finish and a goodbye" (P6).

However, the need to be flexible and adaptable was also stressed: "What you have to do is just look at the group in front of you and if plan A doesn't work you have to play plan B" (P4). The type of activity was identified by participants as being important, especially in relation to considering group-based or individual activities. Group work was identified as posing particular challenges, although some participants reported group work was possible as long as it was well structured and done progressively, building up from individual and small group settings to bigger group-based games:

> "You will do an initial explanation to everybody in the group and . . . different parts of your explanation are grasped by different athletes . . . you need to take the time to find different ways of explaining the same thing" (P5).

Participants agreed teaching individual skills in small groups was often helpful, as was allowing more time for activities, with group work or whole games placed at the end of sessions.

A further subtheme involved participant's discussions of their *Approach to the Session*. This included practical ideas as well as ideas regarding the mindset and values coaches held of being person-centred, deriving inherent enjoyment and fun from coaching and, importantly, being patient. These ideas extended to appropriately setting expectations, being careful not to pitch them too high or too low. This point was summarised well in the following comment:

> "Don't put any barriers on them, don't walk into a session . . . thinking they will never be able to achieve that . . . my girl that got onto the GB team . . . that was beyond all of our wildest dreams!" (P10).

Furthermore, several participants outlined the importance of having fun themselves, as this could have a big impact on the athlete's enjoyment: "Just enjoy it! Enjoy yourself with them. If you're enjoying it, they will love it" (P7).

In addition to communication, structure and approach, a further subtheme which focussed on methods for reducing barriers to participation for autistic athletes was *Environmental Considerations*. Ideas relating to this were discussed by several participants, describing how important it was to plan for the safety and comfort of autistic athletes. This was perhaps particularly important for those coaching young people with additional ID. For example, considering potential risks within the physical environment:

> "You get a day like today and they'll turn up with an overcoat on and start running around . . . the thing is to make sure they're not too hot, they're not too cold, make sure they have plenty to drink" (P4).

Others discussed the importance of having extra staff members or higher ratios of staff to athletes. As identified in previous research (e.g. Howe & Stagg, 2016) some of the sensory issues experienced by autistic individuals can have a significant impact in the context of sport, necessitating individual support and environmental adaptations:

> "It's in its own little area, not in the main gym . . . in your own kind of space, it's quite enclosed and it feels very secure . . . we don't leave that area so it's very easy to control all the athletes within the session, so they can't just run off anywhere" (P10).

Different sports presented their own unique sensory challenges to be managed and discussions demonstrated how coaching strategies needed to be adapted accordingly. For example, in the context of swimming, one coach mentioned how strategies that may be helpful for neurotypical athletes might need adapting to suit an individual's sensory sensitivities:

> *"She [another coach] was insisting on getting one of our swimmers to balance a float on his head to keep his head still when he's doing backstroke and I kept trying to nicely explain . . . he's not going to do it because of the sensory aspect of a wet float" (P1).*

Some participants also commented that noise could be distracting and distressing for some autistic young people and ensuring this was considered was important for enabling autistic athletes to stay engaged and to have a positive experience of sessions:

> "A lot of it can be noise . . . noise is a big thing, if there's loads of noise around it's very hard to retain their attention and then this can lead them to like a sensory overload, which can lead like to total breakdowns" (P2).

### *Behavioural support*

Participants described how the use of approaches based on behavioural principles within coaching sessions could make autistic athletes' participation safer, more enjoyable and encourage continued engagement. The use of *Guiding Behaviour* was discussed by several participants, involving ideas around managing challenging behaviour as well as describing methods for behaviour support they found had not worked so well. One participant spoke about how important it was to be selective with corrective feedback, describing efforts to avoid confrontation when managing situations, whilst ensuring key messages were communicated to the individual:

> "Well I sort of pick my battles. So, if they're doing anything that's dangerous then yeah, I'd always pull them up about it . . . .But I won't pull them up actually in the session itself, I'd do it on a one-on-one basis . . . it's like having that one-on-one talk" (P2).

The idea of not singling individuals out was a common view and having the time and resources to speak to the individual about any incidents that may have occurred seemed important, in addition to anchoring feedback to the specific incident. Equally, participants agreed that the traditional methods used to guide behaviour in sessions such as raising their voice or blowing the whistle had to be considered carefully when working with autistic individuals:

> "I think traditional coaching is with a stopwatch and whistle . . . but it's adapting that to make sure I'm standing near someone with hearing impairment so they can hear the whistle but far enough away from someone who really doesn't like loud noises" (P6).

Another important discussion in relation to guiding behaviour was the involvement of parents: "Talking to parents, learning from parents what works, what works at home if they've got difficulties at home with behaviour" (P8). This involved a carefully balanced approach in relation to both inclusion and over-involvement in order to provide the best balance for supporting behaviour whilst promoting independent participation from athletes.

In relation to behavioural support techniques, the coaches picked out, *Positive Reinforcement* as a particularly helpful tool. Many agreed that focussing on the positives of athlete's engagement and using praise when things were going well was both good for behavioural management and for encouraging participation. Many also described the use of reframing and rewards as helpful:

> "Give positive feedback when they're doing it and changing the negatives into positives with that feedback" (P9)

> "I do think the idea of working with rewards [works] . . . the idea of you swim one length and then you can [have a reward for example] jump in" (P8).

Participants spoke about the importance of *Consistency* in behaviour support, including having well-defined boundaries. Being clear about rules was considered vital, as was the importance of athletes' knowing what was expected of them inside and outside of sessions, particularly in relation to sports that are dangerous to practice at home:

> "Making sure that rules are clear . . . we have to reiterate more with some of the kids with autism that it's not something they take out of the club . . . she would go home and hit her sister because she's practising boxing . . . we just remind her of the rules and she stopped doing it" (P9).

### *Benefits of participation in sport*

The participants talked enthusiastically about the many benefits they saw as directly relating to the young people's engagement with sport, the most prominent outcome mentioned being *Personal Development*:

> "The sessions aren't just about sport, they're about cooperation, they're about integrating with other people, they're about life skills that are important to get by in general society" (P5).

In addition to supporting general life skills, participants also mentioned the development of specific social skills such as teamwork:

> "It's an individual sport but we'd often have teamwork going on . . . it's something that we focus on quite a lot . . . we want people to interact and pilot their own social interactions" (P6).

Indeed, building on previous research (e.g. Stanish et al., 2015), the social benefits of engagement were frequently referenced by the coaches, especially the opportunity for athletes to feel included and build friendships. "It might just be to make new friends and have a wider social circle and somewhere to belong to" (P6). They also described how these skills could generalise to wider contexts and an improvement in self-belief and self-confidence. Some coaches emphasised that engagement in sport gave their athletes a chance to achieve and experience success: "I like to see the athletes succeeding and doing well but I think it's about personal development and giving the kids something they can really excel at" (P5).

In terms of encouraging engagement and sustaining activity, a number of participants mentioned the importance of *Enjoyment*, noting how much pleasure the young people took when sessions went well, and that this was reciprocal:

> "If they're having fun they blooming well let you know, which is great, we have a good old laugh in our sessions and that's joyful for me as well" (P10).

Whilst, as might be expected, participants spoke of the *Physical Benefits* of engaging in sport, this was not seen as more important than the psychological and social benefits of participation. However, a few coaches did focus on some of the physical characteristics common to autism and the adjustments they made to accommodate to these in order to reduce the barriers to participation and progress. For example, in relation to the kinaesthetic challenges associated with autism (e.g. Stins & Emck, 2018), such as difficulties relating to balance and poor fine motor control, one coach tailored his workouts to focus on these areas as a priority. "Working on balance, timing, rhythm, coordination, spatial awareness, and fine motor control" (P10).

### Coach education and context

The final theme related to the participants' thoughts about the context in which coaching occurs for this group, including the issues of *Inclusive versus Disability-Specific Sessions* and the *Training and Resources* available for coaches. The participants were aware of the debates around inclusive versus more separatist (specialist) approaches to disability sport and this theme reflected the participants' ideas about the best platform for autistic athletes to participate and compete in sport. Some felt strongly that inclusion was important, whereas others appeared cautious about this, particularly into mainstream clubs: "I've got a passion for inclusion but only when I feel it is the right inclusion" (P8). Reflecting previous research in this area (e.g. Cook, Ogden, & Winstone, 2016), participants spoke about negative experiences such as bullying and stigma their athletes had endured when participating in mainstream clubs and were also sensitive to the important role that coaches can play in shaping these experiences:

> "One of them was a very good swimmer, [he] started from the beginning, went on and joined a [mainstream] club, until a coach came and shouted at him, and he's never been near the club since . . . and avoids swimming apart from in the sea (P8).

The range of experiences autistic young people have had across inclusive and disability-specific clubs was reflected in the coaches' descriptions, with coaches also giving examples of how both sorts of provision can work well together in a hybrid model personalised to the individual:

> "It's having both types of provision available . . . I've got a young person who comes to my session every week, but he also attends a mainstream session every week somewhere else and plays football with other people. And then he comes and tells us every week how it's gone" (P2).

> "He only comes to us once a week because the rest of the time he's back into the mainstream club . . . they asked us to have him . . . because they couldn't cope with him and there were behavioural problems . . . we've now integrated him back into that club" (P8).

Getting the right support at the right level was viewed as vital to successfully reducing barriers. Some participants spoke about their athletes managing to go on to compete at a very high level when this was achieved. "We did have a girl . . . and she actually represented Great Britain in the disability trampolining team" (P10).

The approaches to inclusion described by the participants very much originated from their own experiences, and whilst holding quite passionate beliefs, a lack of *Training and Resources* to draw on was evident. Most participants described having had virtually no autism-specific training, with disability courses often failing to talk about autism at all: "The programme which is disability focussed . . . it was certainly very useful, but I don't think we even used the word autism" (P3). Where autism specific training had been undertaken, this reportedly had not included guidance relating to the coaching environment:

> "I've been on an autism course, but it generally was about things like behaviour and social communication and explaining what autism is, but nothing that had any practical application, something the coach could take away and say that was really useful" (P6).

Many coaches spoke instead about having to use trial and error to engage and motivate their autistic young people and that this was not ideal when attempting to encourage participation of autistic athletes as they can so easily be discouraged.

## Member reflections

Two athletes (referred to here by pseudonyms: Matt and Isaac) were interviewed to determine whether the findings resonated with autistic young people involved in sport. This was helpful in identifying areas where athletes and coaches may agree or differ in their perspectives. Matt and Isaac agreed strongly with the need for the coaches to get to know the athletes as individuals and the importance of understanding their needs. They agreed with the majority of strategies mentioned, including the need for structure, and the use of short and clear instructions to help memory. However, in relation to teamwork, Matt and Isaac differed slightly, possibly demonstrating their own differences in experience and preferences. Isaac agreed with the coaches, that group work was often difficult and small group games and individual work tended to be best. Matt however, felt group activities could work well provided they were managed effectively. Both young people

agreed playing sports was a good way to make friends, with Isaac stating that most of his friends had come from his football club. Matt also noted, however, that this could be harder in individual sports such as Judo. Nothing from the preliminary findings was noted as unexpected, contradictory or outside of Matt and Isaac's experience and understanding, suggesting a good level of affinity with the findings.

## Discussion

The analysis highlighted consistency between the participants, with all the themes and the majority of sub-themes reflecting shared perspectives. The participants' described feeling disability coaching, and particularly working with autistic young people, was an extremely rewarding and positive pursuit, and that adaptations can be made to ensure that autistic young people enjoyed and benefitted from sport. In relation to the two original research questions the coaches had many valuable insights about their experiences of coaching autistic athletes and they proved to be a rich source of very practical ideas about how coaching can be effective with this group. That this coaching experience is informed mainly through experiential and informal education echoes findings within disability coaching generally, and suggests that studies like this can start to fill the gap in disability–specific knowledge, to inform more formal coaching structures, as identified by Townsend et al. (2021). Construction of coaching knowledge through personal experience in coaching is not unusual, but is typically set within a framework of more formal educational opportunities (Trudel, Milestetd, & Culver, 2020). However, reviews show that coach education within the field of disability sport generally remains under-developed, reducing the effectiveness and sustainability of this resource and some would argue constituting a form of disablism (Townsend et al., 2021).

That the importance of the coach-athlete relationship and taking an athlete centred approach came to the fore demonstrates a consistency with the wider disability coaching literature (Jowett, 2017). However, the importance of this finding, in this context, is that the coaches took a positive and active approach to how the differences presented by the autistic athlete were manifested within the sporting context, which then challenged them to think creatively and flexibly about how they could adapt their behaviour, communications and environment. Most noticeable was how some coaches construed certain characteristics of autism, so often seen in negative terms e.g. repetitive behaviour, as strengths that could be harnessed to improve their sporting activity. This is encouraging as it not only demonstrates the move away from a "deficits" based approach, but the adoption of what is becoming commonly known as the "strengths-based approach" to autism

(Urbanowicz et al., 2019) and offers a clear framework around which to build a more formal coach educational curricula in this area.

It was also interesting to note that the coaches naturally drew upon basic behavioural principles to understand their athlete's behaviour and to try and influence it. The application of such behavioural principles can commonly be witnessed within caring contexts, however the application of applied behaviour analysis, and more recently positive behavioural support has a substantial and well evidenced place in the support of autistic people (O'Reilly et al., 2016). Combined with a greater focus on using such approaches within self-management (Carr, 2016), the use of behavioural principles offers effective tools and a clear framework of intervention to sports coaches working with autistic athletes.

The coaches recognised the diversity of autistic athletes and how this might necessitate adaptations applied to individual circumstances. A specific area highlighted by the coaches was that of sensory sensitivities, which echoes previous research with autistic athletes and their parents (Duquette et al., 2016). The need to manage what are often noisy sports facilities in the context of autistic athlete's possible auditory sensitivities may be commonly recognised, and some "autistic friendly" facilities are now attending to this issue (e.g. Leicester City Football Club, 2019). However, less well known are some of the other sensory sensitivities including both hypersensitivity (over-responsiveness) and hyposensitivity (under-responsiveness) to certain textiles, colours, smells, tastes, constricting clothing, and touch (Jussila et al., 2020). Engagement in sport is often a highly sensory experience, frequently introducing new sensations to the athletes, which may not always be acceptable to them, or the athlete may lack the sensory discrimination usually expected. It may also be difficult for some autistic athletes to identify and communicate any sensory issues encountered. Having an awareness of these potential issues is very important for a coach working with autistic athletes and may make the difference between a confusing and intractable problem and something understandable and manageable. Such autism-specific knowledge held by the coaches in this study evidences the need for coaching educational curriculum to be developed to capitalise on this expertise.

How central sports performance is within the coach-athlete relationship is largely dependent upon the competitive context, and for these coaches the wider quality of life aspects was foregrounded, both for the coaches and the athletes. This is not to say the competitive element was unimportant, but the coaches reported both for the athletes and themselves, the important conduit sport is to both greater inclusion and life skills enhancement. Jowett and Carpenter (2015) discuss the implicit rules which may govern the coach-athlete relationship, and much has been written about the interpersonal boundaries within such a relationship (Nichol et al., 2019).

Within the autistic athlete-coach relationships in this study there seemed to be an acceptance that engaging in sport was not an end in itself, but more a route to opportunities, which as a consequence of the athlete's impairments they had been deprived of. These included a sense of belonging, friendships, acceptance, expectations, working as a team and the chance to excel. Sport provided a place to develop these skills, test them out, as one coach said "pilot their inter-personal skills" in a controlled and safe place, and then also a place to return to and discuss experiences. Such findings provide a strong message in terms of coach education, the importance of understanding the wider context of autistic athletes and the role sport can play in developing resilience.

Whilst there is some growth in developing expertise in sports coaching for people with ID, there remains a paucity of expertise specifically addressing the needs of autistic athletes, with or without ID. This study is one of the very few in-depth explorations of this issue from the perspective of coaches with experience in this area. Nevertheless, the generalisations from this study have some limitations as the sample of coaches were largely drawn from grassroots clubs and as such, the findings can only be tentatively applied to more competitive sporting contexts. For a better understanding of this field, a larger-scale project investigating both grassroots and national/international sporting participation would be beneficial. The perspectives of autistic young people should also be considered. Future research should examine young people's experiences and what they feel works well for them as athletes.

How disability could be "infused" into coach education and development has been recently reviewed by Townsend et al. (2021), who advocate the adoption of the social-relational model. Autism and sport is an emerging area and as yet there is little to draw on in terms of either the "availability" or the "effectiveness" of "disability-specific" education and training support for coaches, but it is encouraging that the intrinsic approach adopted by the coaches in this study seems to follow the "active and reflective process" of a "social-relational" approach to coaching. Embedded within this approach is a need to promote co-production of resources and more actively engaging disabled people in the process of shaping coach education. This study from the coaches' perspectives, together with the few studies that have gathered the athletes and carer's views (e.g. Duquette et al., 2016) represents early steps in this direction for coaching of autistic athletes, demonstrating the wealth of existing informal knowledge which needs formalising into structured educational programmes.

## Conclusion

This study has demonstrated that, despite the barriers to participation in sport, there are various strategies and methods for accommodating, adapting for, and understanding autistic athletes in order to increase motivation, engagement and participation. There are challenges associated with coaching autistic young people and, currently, there is insufficient training or resource available to coaches in addressing these challenges. However, participants in the current study were able to describe a range of effective strategies used to support their coaching of autistic young people and to reduce these barriers, increasing and enhancing participation. Disseminating the good practice of experienced coaches is key in reducing the barriers to sport for autistic young people and research such as this can be a good starting point from which to develop more formalised teaching resources.

## Notes

1. The authors have opted for the "identity first" (autistic people) rather than the "person first" (people with autism) style more commonly seen within disability research. This is in response to the increasingly accepted view of autistic or neuroatypical people who have stated a strong preference for the use of this terminology (https://autisticadvocacy.org/about-asan/identity-first-language/; (Vivanti, 2020). Within the general disability literature "person first" remains the preferred option so this style is adopted in these contexts, in keeping with Kiuppis, 2018).
2. Social Stories are short, often visual descriptions of a specific situation, event or activity and include information about what to expect in that situation and why, which is then used to encourage the application of principles from one social context to another (Gray & Garand, 1993).

## Disclosure of potential conflicts of interest

No potential conflict of interest was reported by the author(s).

## References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.

Bossink, L. W., Annette AJ, V. D. P., & Vlaskamp, C. (2017). Understanding low levels of physical activity in people with intellectual disabilities: A systematic review to identify barriers and facilitators. *Research in Developmental Disabilities*, *68*, 95–110.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597.

Carr, M. E. (2016). Self-management of challenging behaviours associated with autism spectrum disorder: A meta-analysis. *Australian Psychologist*, *51*(4), 316–333.

Case, L., Ross, S., & Yun, J. (2020). Physical activity guideline compliance among a national sample of children with various developmental disabilities. *Disability and Health Journal*, *13*(2), 100881.

Cassese, F. P., & Raiola, G. (2017). The importance of sport in disability management. *Sport Science*, *10*(Suppl. 1), 7–11.

Cook, A., Ogden, J., & Winstone, N. (2016). The experiences of learning, friendship and bullying of boys with autism in mainstream and special settings: A qualitative study. *British Journal of Special Education*, *43*(3), 250–271.

Cronin, C., Ryrie, A., Huntley, T., & Hayton, J. (2018). ˜Sinking and swimming in disability coaching: An autoethnographic account of coaching in a new context. *Qualitative Research in Sport, Exercise and Health*, *10*(3), 362–377.

Dunn, K., Rydzewska, E., MacIntyre, C., Rintoul, J., & Cooper, S. (2019). The prevalence and general health status of people with intellectual disabilities and autism co-occurring together: A total population study. *Journal of Intellectual Disability Research*, *63*(4), 277–285.

Duquette, M., Carbonneau, H., Roult, R., & Crevier, L. (2016). Sport and physical activity: Facilitating interventions with young people living with an autism spectrum disorder. *Physical Activity Review*, *4*, 40–49.

Gray, C. A., & Garand, J. D. (1993). Social stories: Improving responses of students with autism with accurate social information. *Focus on Autistic Behavior*, *8*(1), 1–10.

Groft-Jones, M., & Block, M. E. (2006). Strategies for teaching children with autism in physical education. *Teaching Elementary Physical Education*, *17*(6), 25–28.

Horn, T. S. (2002). Coaching effectiveness in sport domain: Advances in sport psychology. *Journal of Psychology*, *7*, 134–149.

Howe, F. E., & Stagg, S. D. (2016). How sensory experiences affect adolescents with an autistic spectrum condition within the classroom. *Journal of Autism and Developmental Disorders*, *46*(5), 1656–1668.

Howlin, P., & Magiati, I. (2017). Autism spectrum disorder: Outcomes in adulthood. *Current Opinion in Psychiatry*, *30*(2), 69–76.

Jowett, S. (2017). Coaching effectiveness: The coach–athlete relationship at its heart. *Current Opinion in Psychology*, *16*, 154–158.

Jowett, S., & Carpenter, P. (2015). The concept of rules in the coach-athlete relationship. *Sports Coaching Review*, *4*(1), 1–23.

Jussila, K., Junttila, M., Kielinen, M., Ebeling, H., Joskitt, L., Moilanen, I., & Mattila, M. (2020). Sensory abnormality and quantitative autism traits in children with and without autism spectrum disorder in an epidemiological population. *Journal of Autism and Developmental Disorders*, *50*(1), 180–188.

Kiuppis, F. (2018). Inclusion in sport: Disability and participation. *Sport in Society*, *21*(1), 4–21.

Lai, M., Kassee, C., Besney, R., Bonato, S., Hull, L., Mandy, W., … Ameis, S. H. (2019). Prevalence of co-occurring mental health diagnoses in the autism population: A systematic review and meta-analysis. *The Lancet Psychiatry*, *6*(10), 819–829.

Leicester City Football Club (2019). Autism Packs. https://www.lcfc.com/news/1302183/autism-packs-available-on-matchdays-at-king-power-stadium .

Licari, M. K., Alvares, G. A., Varcin, K., Evans, K. L., Cleary, D., Reid, S. L., … Wray, J. (2019). Prevalence of motor difficulties in autism spectrum disorder: Analysis of a population-based cohort. *Autism Research*

McCoy, S. M., Jakicic, J. M., & Gibbs, B. B. (2016). Comparison of obesity, physical activity, and sedentary behaviors between adolescents with autism spectrum disorders and without. *Journal of Autism and Developmental Disorders*, *46*(7), 2317–2326.

Murphy, M., Burns, J., & Kilbey, E. (2017). Using personal construct methodology to explore relationships with adolescents with Autism Spectrum Disorder. *Research in Developmental Disabilities*, *70*, 22–32.

Nichol, A. J., Hall, E. T., Vickery, W., & Hayes, P. R. (2019). Examining the relationships between coaching practice and athlete outcomes: A systematic review and critical realist critique. *International Sport Coaching Journal*, *6*(1), 13–29.

Obrusnikova, I., & Cavalier, A. R. (2011). Perceived barriers and facilitators of participation in after-school physical activity by children with Autism Spectrum Disorders. *Journal of Developmental and Physical Disabilities*, *23*(3), 195–211.

Rosso, E. G. (2016). Brief report: Coaching adolescents with autism spectrum disorder in a school-based multi-sport program. *Journal of Autism and Developmental Disorders*, *46* (7), 2526–2531.

Ryan, S., Fraser-Thomas, J., & Weiss, J. A. (2018). Patterns of sport participation for youth with autism spectrum disorder and intellectual disability. *Journal of Applied Research in Intellectual Disabilities*, *31*(3), 369–378.

Rydzewska, E., Dunn, K., & Cooper, S. A. (2020). Umbrella systematic review of systematic reviews and meta-analyses on comorbid physical conditions in people with autism spectrum disorder. *The British Journal of Psychiatry*, 218(1), 1–10.

Samson, A.C., Huber, O., & Ruch, W. (2013). Seven decades after Hans Asperger's observations: A comprehensive study of humor in individuals with Autism Spectrum Disorder. Humor, 26, (3) 441–460.

Smith, B., & McGannon, K. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport and Exercise Psychology*, *11*(1), 101–121.

Stanish, H., Curtin, C., Must, A., Phillips, S., Maslin, M., & Bandini, L. (2015). Enjoyment, barriers, and beliefs about physical activity in adolescents with and without autism spectrum disorder. *Adapted Physical Activity Quarterly*, *32*(4), 302–317.

Stanish, H. I., Curtin, C., Must, A., Phillips, S., Maslin, M., & Bandini, L. G. (2017). Physical activity levels, frequency, and type among adolescents with and without autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *47*(3), 785–794.

Stins, J. F., & Emck, C. (2018). Balance performance in autism: A brief overview. *Frontiers in Psychology*, *9*, 901.

Townsend, R. C., Cushion, C. J., & Smith, B. (2018). A social relational analysis of an impairment-specific mode of disability coach education. *Qualitative Research in Sport, Exercise and Health*, *10*(3), 346–361.

Townsend, R. C., Huntley, T. D., Cushion, C. J., & Culver, D. (2021). Infusing disability into coach education and development: A critical review and agenda for change. *Physical Education and Sport Pedagogy*, 1–14. doi:10.1080/17408989.2021.1873932

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. *Qualitative Inquiry*, *16*(10), 837–851.

Trudel, P., Milestetd, M., & Culver, D. M. (2020). What the empirical studies on sport coach education programs in higher education have to reveal: A review. *International Sport Coaching Journal*, *7*(1), 61–73.

Tufford, L., & Newman, P. (2012). Bracketing in qualitative research. *Qualitative Social Work*, *11*(1), 80–96

Urbanowicz, A., Nicolaidis, C., Houting, J. D., Shore, S. M., Gaudion, K., Girdler, S., & Savarese, R. J. (2019). An expert discussion on strengths-based approaches in autism. *Autism in Adulthood*, *1*(2), 82–89.

Van der Ploeg, H. P., Van der Beek, A. J., Van der Woude, L. H., & van Mechelen, W. (2004). Physical activity for people with a disability. *Sports Medicine*, *34*(10), 639–649.

Vivanti, G. (2020). Ask the editor: What is the most appropriate way to talk about individuals with a diagnosis of autism? *Journal of Autism and Developmental Disorders*, *50*(2), 691–693.

Volkmar, F. R., Jackson, S. L., & Hart, L. (2017). Transition issues and challenges for youth with autism spectrum disorders. *Pediatric Annals*, *46*(6), e219–e223.