Theme 2: Professional interventions and responsive services

‘Happy and a bit Nervous’: the experiences of children with autism in physical education

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Accessible summary

- Twelve children with autistic disorder (aged 9–13 years) talked about their time in physical education.
- The children spoke about good and bad experiences they had in physical education.
- Most of the children found some activities hard to do and felt left out at times.
- They enjoyed spending time with other children and making friends.

Summary

Twelve students with autistic disorder participated in interviews to reveal their perspective of physical education. Inductive thematic analysis was undertaken to provide a comprehensive account of the data. Three key themes emerged, each a compilation of a set of subthemes. The first theme, individual challenges, was comprised of physical ability, sensory challenges and a fear of injury. The second theme, peer interactions, encapsulated subthemes of initiation of friendship, camaraderie, social comparison and bullying. The final theme that emerged from the data was exclusion, which attends to children’s experiences of being excluded by the teacher or as a result of activities being too difficult. Most notably, however, this theme relates to children requesting to be excluded. These findings are discussed in relation to research on the perspectives of students with and without disabilities. Considerations for future research are also provided.

Keywords Adapted physical education, autism, inclusive, student perspective

Introduction

Physical activity provides numerous physical, psychological and social benefits for children (Janssen and Leblanc, 2010). Physical education (PE) is an effective means of enabling and motivating children to partake in such beneficial activity (Huberty et al. 2012). However, children with disabilities may face particular challenges to successful participation. An abundance of research from the perspective of various stakeholders seeks to explore and address this issue: teachers (Meegan & Macphail 2006; Obrusnikova & Dillon 2011), students without disabilities (Obrusnikova et al. 2003) and parents (Bennett et al. 1997) have been studied. There is need for research that recognises PE as an individualised experience (Schwandt 1997) and transforms the position of students with disability from passive (Greene 2005) to active experts on their own lives (Kiernan et al. 2005). Although some studies have focused on the experiences of students with physical disabilities (Goodwin & Watkinson 2000; Seymour et al. 2009; Spencer-Cavaliere & Watkinson 2010; Hutzler et al. 2002), the perspective of individuals with autistic spectrum disorders remains largely unheard.
Students with autistic spectrum disorders are a diverse group with a broad range of PE experiences. PE is typically a dynamic social, physical and sensual environment. It is clear that the core characteristics of autistic spectrum disorders—consisting of impairments in communication, social interaction and behavioural rigidity, as well as secondary symptoms of ADHD and motor delays (Fournier et al. 2010)—may well conflict with the demands of a PE class. The overwhelming sensory challenges for students with autistic spectrum disorders (Kristi Sayers & Shannon 2008) are an example of this.

Indeed, research in other settings highlights the importance of understanding the perspective of students with autism. Lewis & Humphrey (2008) found that students with autism in a mainstream secondary school experienced a variety of challenges, including negative self-evaluation, social difficulties and anxiety related to lack of routine and excessive noise. Similarly, in research about the experiences of daily life and social support for children with autism, the children spoke of challenges in school, including bullying, misunderstanding the teacher and noise. In contrast, they spoke of a positive experience of home life (Preece & Jordan 2009). It is clear that the characteristics of autism potentially conflict with the demands posed in many situations and environments.

Yet the absence of their perspective in PE research means that intervention strategies implemented in PE for children with autism are primarily devised from the research that has focused on the teacher perspective (Obrusnikova & Dillion 2011) and may not encompass the experiences of the children themselves. The aim of this research is to gain an insight into the experiences of students with autism in PE using a qualitative methodology consisting of semi-structured interviews.

**Methods**

**Sampling/research participants**

A purposive sampling strategy was used to recruit the twelve students with autistic spectrum disorder into this study. Participants were recruited through a week-long summer camp held in the south-west of Ireland for children with autistic spectrum disorders. During camp registration, an information sheet was given to all parents of children between the ages of nine and thirteen who participated in mainstream PE in primary school. Eleven boys and one girl from this group were self-selected to participate in an interview to discuss their experiences. The average age of participants was eleven years with ages ranging from nine to thirteen years. All had a formal diagnosis of autistic disorder (American Psychiatric Association, 2000), also known as ‘classic’ autism, and currently were taking part in mainstream primary school PE without support from a special needs assistant.

**Interview procedure**

Researchers who had previously worked with individuals with autistic spectrum disorders were contacted for advice about creating an interview schedule. A range of strategies were identified: using unfinished statements, incorporating questions into PowerPoint slides (Carrington & Graham 2001; Carrington et al. 2003), piloting the interview guide and carrying out the interview in an informal setting (Beteta & Education 2009). In addition, other strategies were also at hand including visuals (as a slideshow on a laptop), a quiz board poster (that guided participants through the interview using visuals and text) and sheets and markers for drawing, a ‘my ideal PE class’ sheet and a semi-structured interview schedule to guide the interviewer with questions such as ‘How do team sports make you feel?’ and ‘If you could plan a PE class, what would it be like?’ The interview guide was piloted with one participant and then revised for accessibility and to reduce interviewer bias (Hammersley & Atkinson 1995). The interview protocol was flexible and responsive to participant preferences to promote comfort (King 2009). Two children opted to have their parents present during the interview. Interviews were audio-recorded.

The author (SH) was a PE teacher whose experience helped to shape the design of the research question, data collection and analysis. In addition, all interviews were carried out by the author. The author’s prior knowledge and experience could limit the data collection and interpretation (Stewart & Mickunas 1974). To reduce the effects of this, bracketing was completed prior to the interview process. This involved creating a bracketing mind map (Simon 2011) to document the researcher’s perceptions, attitudes and views with the intent of moving those to the periphery so that participants’ views could be central to the analysis. For example, bracketing notes in a reflective diary documented the author to be a proponent of inclusive adapted PE. Effort was made to minimise the effect of identified biases on the analysis through consultation with co-authors (SG, RM).

**Ethical considerations**

After responding to the invitation to participate, each parent was asked to ensure that his/her child had read and understood the participant information sheet. (This was written for a child with autism at a reading age of eight years.) Before the interview, this understanding was assessed through questions such as ‘Do you know what we will now talk about?’ and ‘Why will we talk about this?’ All children showed to have a good understanding of the aims of the research and what was required of them. Important terms, such as confidentiality, were also made
clear. Children gave a verbal agreement to participate. Earlier written agreement was received from parents. The study was approved by the University of Limerick’s Education and Health Sciences Research Ethics Committee (ethics number EHSREC10-105).

Transcription and data analysis

Transcription of interviews was completed verbatim, and three researchers performed spot checks on a number of transcripts to ensure accuracy. An inductive thematic analysis was conducted (Braun & Clarke 2006). This was congruent with the philosophical underpinnings of the research, allowed the significance of a shared phenomenon to be revealed, while providing a comprehensive account of data (Braun & Clarke 2006). Braun and Clarke’s guidance on carrying out the thematic analysis (2006) was utilised as it ensured analysis was undertaken in a theoretically and methodologically sound manner. The transcripts were read and reread to become familiar with the data. During this process, the researchers also recorded assumptions and ideas in a journal to allow for consideration of their impact on the research, the conceptualisation of analysis and subsequent interpretation. Initial codes were then made, identifying interesting features of the data, collating data relevant to each code (Braun & Clarke 2006). Thus, initial codes were generated, and quotes of interest and significance were highlighted on the transcripts. These codes were then organised into meaningful groups (Tuckett 2005); twenty-one codes in total were extracted and collated into four potential themes. After reviewing, defining and naming these themes, a draft report was compiled and reviewed to assess the strength of the proposed themes and their interconnections. The researchers then returned to the data sets and reviewed codes and themes again. It was decided that four themes should be collapsed into three themes to provide a more accurate and data-driven overall story (Braun & Clarke 2006).

Results

Participants discussed their experiences of PE, and three themes were identified that encapsulated the issues raised by the participants: individual challenges, peer interactions and exclusion.

Individual challenges

This theme encompasses the many challenges in PE that the children spoke about. This theme includes subthemes of physical ability, physical fitness, sensory issues and fear of injury.

Physical ability was one issue that frequently arose as a challenge in the interviews (n = 10). Shane described the challenges he experienced when playing chasing games. ‘They go fast for me, I can barely catch them’. Hurling skills were also difficult to master, ‘It was hard like to get the sliotar onto the hurley’. Paul found playing football complicated. He noted, ‘Like one minute it’d [the ball] be up at one side of the pitch and the other minutes it’d be at the other side of the pitch. By the time you go to one side of the pitch, it’d be at the other’. These participants also spoke of instances when their motor deficit was accepted as a reason not to be involved. Bill explained, ‘We started doing football but I was no good at that so... we’re allowed to not join in if we want’.

Sensory issues seemed to inhibit the quality of participation for some students (n = 3). Individuals with autistic spectrum disorders process sensory information differently (Iarocci & McDonald 2006). It was evident that this can pose challenges in PE. Most commonly, these sensory issues resulted in response to auditory, heat and tactile sensitivity. Gillian described this well, ‘I feel good cause I’m going to exercise and stuff in a fun way but I hate it when I get all hot and sweaty. When I get all hot my hair starts to itch uncontrollably (Gillian begins to scratch her head furiously)’. This constraint resulting from sensory issues was reflected in other students’ perspectives. Bill, for example, disliked the noise in the gym, ‘some people in the hall start screaming at each other... just hurts my ears and ears’.

A fear of injury was highlighted by four students who expressed concern about participating in certain activities due to their perception of the danger involved. Kyle stated that he would not play basketball because ‘I think I will get hurt’. Other children referred to specific pieces of equipment as dangerous. Kyle explained his aversion to using racquets and bats, ‘because you might hit yourself or something’. Similarly, this fear arose from other group activities.

Peer interactions

Relationships and experiences with peers was a key theme that arose in all interviews. It encompasses both positive and negative subthemes: camaraderie, initiation of friendship, social comparison and bullying. Camaraderie, signifying goodwill and a positive rapport among classmates, was a positive peer interaction (n = 4) and is elucidated by Kyle: ‘We all going into a team and I, and people, get happy’ ‘My friends are always with me’. Similarly, Chris described how, ‘Sometimes we might keep each other in [the game]’ suggesting that peer support encouraged the successful integration of the student in team games.

Initiation of friendship, demonstrating the potential of PE to be a catalyst for friendship, was also discussed, demonstrating clearly that PE can socially benefit children with autism (n = 2). Michael highlighted this clearly: ‘You can do lots of cool moves and it’s kind of cool and everybody can be your friend and you can make loads of friends... When I’m running and playing with a ball and passing, they say...’
thanks and after that they say do you want to sleep over or something like that’. Conversely, negative peer interactions were also frequently reported \(n = 5\); bullying was the most extreme consequence that resulted from this conflict. Bill’s account, not unique in this data set, was a powerful portrayal of the bullying that may be experienced by this group: ‘I can’t catch a ball and they just keep shouting at me saying ‘Bill catch the ball already’ and C’s punching me, my friend C is punching me for not catching the ball and things’ and he claimed that his worst day of PE was ‘The day the kids first started teasing me’.

Other peer interactions, such as negative social comparisons \(n = 4\), also contributed to difficult PE experiences. Kyle talked about how, ‘I always come second last or something like that’. Similarly, Gillian explicitly differentiated herself from her classmates in relation to tiredness, saying, ‘No they’re energetic’.

Exclusion

The final theme, exclusion, was revealed as the students recalled various incidents whereby they were excluded from activities in PE \(n = 7\). Firstly, incidents were recalled whereby the students spoke of times when their teacher sent them from activities \(n = 2\); as recalled by John: ‘He (the teacher) just sent… because I wasn’t ready for the game he just sent me out of it because… without even telling me so… cause I wasn’t ready’.

More frequently reported, however, was times when the students were excluded due to a lack of ability \(n = 5\). Sometimes this was seen when the student tried to participate but failed, as discussed by Bill: ‘Sometimes we do (football) games and I say I can’t catch a ball and they keep, we do ball games so they keep saying that ‘Bill can’t catch a ball’ [in sing-song voice]. Alternatively, and most commonly \(n = 4\), the students requested, and were allowed, to be excluded. This occurred predominantly during ball games. Shane spoke about his phenomenon: ‘They all play football but I just watch; it’s ok with my teacher if I just watch. He thinks I’m the best student in the whole class; He’s great friends with me’. Such an experience was reflected in other student’s discussions, such as Sean: ‘I feel relaxed when I’m watching them play’ and Kevin ‘I would like take a basketball but I wouldn’t play basketball, I just bounce it around the place’.

Discussion

The voices of the participants of this research provide the first account of PE from the perspective of students with autistic spectrum disorder. Through interviews, various issues were revealed as encapsulated by the three themes of individual challenges, peer interactions and exclusion. A number of issues are worthy of discussion and may have implications for teachers, policymakers and researchers.

The need for adapted PE

The accounts of the children in this study may help us understand why recent research shows that the level of activity of students with autistic spectrum disorders during PE is affected by the content of the lesson. Fan et al. (2011), for example, suggested that individual and group structured activities resulted in less physical activity than free play. Such results would be understandable when we consider how some children in this research spoke about not being able to successfully compete in activities: as illustrated clearly in Bill’s and Paul’s comments on their difficulty with participating in ball games. Such failure in PE is consistent with previous research involving students with physical disabilities (Goodwin & Watkinson 2000; Hutzler et al. 2002; Blinde & McCallister 1998). The dichotomy between task demand and ability level was replicated in research on secondary school student’s perspectives of PE as highlighted by one student who spoke of the need for ‘task differentiation’ in PE. In addition, ten of thirty students commented on the notion that at times they thought tasks and activities were too easy and made PE boring (Smith & St. Pierre 2009). One method to overcome this may be the implementation of an adapted PE programme. Adapted PE programmes are those that have the same objectives as the regular PE programme, but in which adjustments are made in the regular offerings to meet the needs and abilities of exceptional children (Dunn 1997). Such programmes may benefit all students as adapted PE is good PE (Sherrill 2004). Various strategies exist to aid the teacher in this task including adapting the equipment or rules or offering alternative activities (Block 2007), using peer tutors (Klavina 2008) and adapting structure for events, time and space (Houston-Wilson & Lieberman 2003).

Sensory issues

Sensory issues proved to be one challenging issue that reoccurred for a number of the children interviewed. The PE environment can be a very stimulating sensory setting for all students (Kristi Sayers & Shannon 2008) and, therefore, can conflict with the unique sensory information processing of students with autistic spectrum disorders. This was exemplified through Bill’s recollection of his dislike of the high volume in the PE environment and Gillian’s sensitivity to heat. These issues seem to be exclusive in research on student experiences in PE. Other sensory issues have emerged in research, although, for example, students spoke of how they disliked playing sports in bad weather (Smith & St. Pierre 2009; Flintoff & Scraton 2001). Teachers should consider these issues when planning and implementing PE classes so that they do not
become a factor that impedes participation for students. Various literature currently exists that provides strategies that may aid in minimising the effect of sensory deficits. Kristi Sayers & Shannon (2008) suggest various solutions for overcoming sensory challenges, including adapting instructional techniques to reduce noise and adapting equipment to overcome tactile input challenges. Preventive and preparation strategies may also be used such as previewing (Grenier and Yeaton, 2011) which may aid the student by preparing him for events that will arise during the class.

Fear of injury

The fear of injury that emerged in these data also exposed a common issue that the students who participated in the interviews raised. Research has previously reported that youth with autistic spectrum disorders do have more situation phobias and medical fears than other populations, although it was documented that they had fewer fears of harm/injury compared with all other groups (Evans et al. 2005). This was not apparent in this group of students. Such an issue has previously arisen in research on PE with students without autistic spectrum disorders also; Martin (2002) reported that students with average and low ability raised the issue of being safe and avoiding injury in PE class. Female students have also spoken of this fear especially when taking part in ‘boyish’ sports (Constantinou et al. 2009). PE teachers must be conscious of this issue. If left unresolved, this fear may be a barrier to future participation for the students. An appropriately challenging and safe environment, with necessary safety equipment and adequate space in which to practise, may be one solution. Systematic desensitisation, as outlined by Kamlesh (2011), may be one cognitive strategy for managing anxiety and fear in the PE environment for students with autistic spectrum disorders.

Bullying

Research reveals that students with autistic spectrum disorders are reported to be victimised by peers more than individuals without autistic spectrum disorder (Montes & Halterman 2007). This has been supported in research documenting the perceptions of youth with autistic spectrum disorders (Lewis & Humphrey 2008; Carrington & Graham 2001). The interviews in this study reveal instances of this victimisation in PE also, as illustrated clearly by Bill’s account of the taunting and punching during the ball game. Previous research on students with physical disabilities in PE documented psychological bullying only (e.g. isolation and ridicule, Spencer-Cavaliere & Watkinson 2010; Goodwin & Watkinson 2000). Such ridicule has been reported in research involving children without disabilities also. Secondary school students spoke of being laughed at in PE (Smith & St. Pierre 2009); students who are overweight spoke of the teasing in PE (Weidong and Rukavina 2012). However, the physical bullying in this data makes it distinct from the psychological bullying discussed in previous research on PE. Physical bullying was reported in other research documenting the perceptions of youth with autistic spectrum disorders in other environments (Lewis & Humphrey 2008; Carrington & Graham 2001; Müller et al., 2008). Bullying of individuals with disabilities has been associated with a lack of social skills (Olweus 1993) and poor motor skills (Bejerot et al. 2011); an adapted PE education programme may help prevent the exposure of such characteristics and so reduce the likelihood of victimisation. On a more positive note, similar to the opinions expressed by some students without disabilities (Mohammed & Mohammad 2012), students in the current study also spoke of how PE can be an ideal place for making and interacting with friends.

Exclusion

When we examine the phenomenon of inclusiveness in education, it is no surprise that the opposite, exclusion, will also reveal itself. It has shown to be an issue of concern in various studies seeking the perspectives of individuals with autistic spectrum disorders including adults (Müller et al., 2008), children (Preece & Jordan 2009) and students (Lewis & Humphrey 2008). Although some students described instances where a teacher removed students from PE activities, typically it was students who requested to be excluded. This behaviour of seeking exclusion is reflected in research with students who were self-identified as being adverse to PE (Brooks & Magnusson 2006). In contrast, some students with physical disabilities insist on participation despite the challenges physical impairments might pose (Goodwin & Watkinson 2000).

Considerations for future research

The ratio of males to females in this research was 11:1. The ratio of males to females in the population who have autistic spectrum disorders is thought to be 4:1 (Attwood 2006). Research suggests females and males may differ in exhibited characteristics; for example, parents report females to have less repetitive behaviours and teachers reported females to have less eternalising and social problems than males (Mandy et al. 2012). Motor deficits also appear to be less evident in females than males (Lai et al. 2012). In addition, females with Asperger’s syndrome may be more supported and aided by other more nurturing female students (Attwood 2006). Additional research is required with females with autistic spectrum disorders to examine how these differences influence their participation in PE.

This research involved twelve students from south-west Ireland. All students attended mainstream schools and participated in PE without a teaching assistant. Future
research examining the experiences of students with autistic spectrum disorders in other areas and in other circumstances could be instructive. Students, who attend PE with an educational assistant or in special schools, could offer another perspective on how to engage students with autistic spectrum disorders in PE. In addition, an ethnographic study involving the input of students, support staff and teachers may help to fully understand the complexity of inclusive PE and allow for a more in-depth exploration of the experiences of those involved.

**Conclusion**

This study provides the first account of PE experiences from the perspective of students with autistic spectrum disorders. With the support of various interview strategies, the students were articulate and enthusiastic in describing their PE experiences. An awareness of the issues raised will allow teachers to consider the views of students with autistic spectrum disorder to create inclusive PE environments. Of particular significance are the issues of sensory challenges, fear of injury and bullying—the factors highlighted by participants as contributing to negative PE experiences. In contrast, the positive accounts showed to stem from the enjoyment of the social benefits of PE, such as initiation of friendship and camaraderie. Such results provide encouragement for teachers and demonstrate the positive effects inclusive PE may provide for students with autistic spectrum disorder. When one considers that the Education for Persons with Special Educational Needs Act (2004) is committed to ensuring ‘that the education of people with such needs shall take place in an inclusive environment’ (Government of Ireland 2004 p. 5), these findings become more important. Best practices to support the successful inclusion of students with autistic spectrum disorder in Ireland can be facilitated by listening to the voices of students.

**References**


