Capturing the world of physical education through the eyes of children with autism spectrum disorders

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The potential benefits of physical education (PE) are universal for all pupils. However, facilitating such benefits in children with autism spectrum disorders (ASD) requires careful planning. This paper reports on a small-scale case study at one school in eastern England, exploring physical education through the eyes of children (n = 5), aged 12–16, with autistic spectrum disorders. Photo-elicitation was adopted as the research tool to accord authority to the voices of the pupils, empowering them to share their feelings towards the subject by capturing significant aspects of physical education. The photographs provided prompts for greater exploration during unstructured interviews. Using the concepts of Bourdieu's reflexive sociology, the paper draws attention to how pupil's embodied dispositions interacted with what may be illustrated as the delimited spaces of the physical education field—physical education changing rooms, physical education corridors, the physical education teacher's office and physical education activities in the development of positive and negative positions and practices. The teacher's office was regarded positively as were activities that provided opportunities for engagement with peers. Opportunities to be heroic, such as scoring a goal for their team or being given an official role were important factors as was the opportunity to engage in some team sports. However, pupils' interaction with the changing rooms and physical education corridors were viewed with trepidation, worry and fear. The paper concludes by highlighting that both positive and negative interactions with the spaces of physical education develop forms of social and symbolic capital shaping the physical education experiences for pupils with ASD. Anticipating barriers presented within these integral fields of physical education space can help in preparing a rich and inclusive experience for pupils with ASD. Teachers may be better informed in providing strategies to facilitate communication and social interaction whilst allowing all pupils to engage positively with physical education.

Keywords: Autism spectrum disorders; Physical education; Bourdieu; Informal spaces; Pupil voice

Introduction

Comprised of two Greek words; 'aut' (meaning self) and '-ism' (meaning orientation or state), autism is linked with child development disorders (Massion, 2006). Autism more recently has been defined as being a gift which allows people to view the world in a completely different way which can be exciting and colourful (Klar, 2006). Wing (1996) introduced the notion of an 'autistic spectrum' viewing it as a disorder sitting on a continuum, which includes Asperger's Syndrome and Rett Syndrome. Individuals with autistic spectrum disorders (ASD) are believed to demonstrate three main symptoms: communication disorders, socialisation disorders and resistance to change (Massion, 2006; Pan, 2008). Children with ASD often present with communication problems and an inability to develop social relationships, as they are unable to comprehend the social normalities of communication (Groft-Jones & Block, 2006). Additionally, the impairment of social interaction has adverse effects on educational performance (Winnick, 2011) and prevents pupils from acquiring particular dispositions towards physical education (PE).

The field of physical education offers great opportunities for pupils to develop an array of social dispositions and skills, the acquisition of which are primarily framed through the practice of the body. These include cooperation, teamwork, empathy and personal responsibility (Bailey, 2008; Council of Europe, 2001). In this sense, physical education is unique in that it does not take place in the 'typical' classroom, and often requires more socio-physical interaction than other subjects (Colley, 2005; Graham, 2008). For pupils with disorders such as autism, the understanding and engagement with these rituals is even more precarious due to decreased physical attributes including cardiovascular endurance, muscular strength, balance, coordination and general motor skills (Berkeley, Zittel, Pitney, & Nichols, 2001; Jansiewicz et al., 2006; Pan, Tsai, Chu, & Hsieh, 2010). In the book, 'Freaks, Geeks and Asperger Syndrome', a 13-year-old reports: 'Quite literally, the thought of doing games really makes me feel ill. I can't concentrate on the lessons before as my worst nightmare is slowly approaching' (Jackson, 2002, p. 130). Whilst previous studies have identified the implications for supporting pupils with ASD within mainstream physical education (Groft-Jones & Block, 2006; Zhang & Griffin, 2007) or teachers' beliefs concerning teaching pupils with disabilities (Sato, Hodge, Murata, & Maeda, 2007; Smith, 2004), specific focus on ASD and physical education is scarce (Massion, 2006). Against this backdrop, our paper offers insight into some of the unique challenges facing children with ASD within physical education, exposed through their own accounts. In what follows we outline our application of Bourdieu which will be drawn upon to frame the interpretations of these accounts later in the paper.

Bourdieu and understanding experiences of PE for pupils with ASD

The ideas and ruminations of Bourdieu's work has long informed understanding of experience and practices within physical education, providing researchers with a analytical language that avoids the dualistic position in which 'theory without empirical research is empty, empirical research without theory is blind' (Bourdieu, 1988, pp. 774–775). Instead, Bourdieu's concepts provide a language from which to offer possibilities of change to the context of physical education; enriching our understanding of the relationship between structures and experience of agents (Aldous & Brown, 2010). It is with this in mind that the concepts of field, habitus and capital have been useful in making sense of how children with ASD experience physical education.

In doing so it is important to illustrate how the application of Bourdieu's theoretical concepts of field, habitus and capital provides us with tools from which to develop a more nuanced

understanding of the children's experience and to prevent lapsing into what Bourdieu (1992, p. 233) refers to as the 'vacuous discourse of grand theorising'. Central to our position in this paper is the contention that experience of pupils is constructed through the reflexive interaction between the structures of the physical education field, the dispositions of pupils embodied within the habitus and the consequences of this in the expression and accumulation of forms of capital (physical, social and symbolic). Furthermore, it is important to note how the reflexive interaction between each is developed through physical education's permeability to the (see Bourdieu, 1993; Brown, 2005) influence of other discourses within society, such as gender, class race or in the case of this paper, disability. Accordingly, as identified elsewhere in literature, the field of physical education should not be thought of as one harmonious configuration but is comprised of a series of delimited spaces; each influencing the positions and practices of agents (individuals). This is highlighted by Bourdieu and Wacquant (1992):

> A network, or configuration, of objective relations between positions, objectively defined, in their existence and in the determination they impose upon their occupants, agents of institutions, by their present and potential situation (situs) in the structure of the distribution of species of power (or capital) whose possession commands access to the specific profits that are at stake in the field. (Bourdieu & Wacquant, 1992, p. 97)

Thus, the field of physical education is comprised of micro-spaces such as the gymnasium, the playing field, the swimming pool, the changing room and the classroom. Within each of these micro-spaces agents (teachers and pupils) occupy positions based on their embodied dispositions. In a Bourdieunian sense, pupils with ASD conditions will experience the objective relations of these micro-spaces differently to other pupils due to their difficultly in recalling instructions and making sense of when to act upon instructions from teachers (Stockley, 2010). They may also find it difficult to screen out irrelevant information within the space, becoming disorientated in terms of determining the most important aspect of a task (Ozonoff, Dawson, & McPartland, 2002). Information is more difficult to process in wide open spaces (Houston-Wilson & Lieberman, 2003), which is challenging when teaching outside or in a large sports hall. Other elements unique to these spaces also cause visual and auditory stresses (Groft-Jones & Block, 2006; McAllister & Maguire, 2012). These may include the acoustics of sports halls, fluorescent artificial lights, bouncing of basketballs, people moving around rapidly, squeaking shoes on the floor, equipment banging, echoing acoustics, whistles, shouts of encouragement and the quick changing movement of people. Such triggers can account for aggressive behaviour in the classroom (Zhang & Griffin, 2007).

Thus the culture of performativity and ability illustrated by Fitzgerald (2005) necessitates that pupils with ASD are faced with a number of challenges (Todd & Reid, 2006), particularly as a number of these pupils are not cognitively or socially ready to deal with competitive situations (Stockley, 2010). They disregard themselves as team members (Attwood, 2007), feeling misunderstood when communicating (Pan, 2009) and finding it difficult to work at the same pace and in the same strategic manner as their teammates (Sainsbury, 2002; Stockley, 2010). Furthermore pupils with ASD may suffer increased stress through unpredictable events and uncertain outcomes during group activities (Todd & Reid, 2006). Activities not requiring a team set-up, such as fitness, badminton or golf, are reported to be more appealing to pupils with ASD (Jackson, 2002; Sainsbury, 2002; Todd & Reid, 2006). Similarly the nature of physical tasks constantly changing and physical contact can be extremely traumatic (Sainsbury, 2002). Pupils with ASD are believed to need structure and organisation and consistency (Ozonoff et al., 2002), and are said to not like change (O'Neill, 1999; UK Autism Foundation, 2008). Additionally, their relationship to the teacher will differ as the teacher is required to pay particular attention to methods of explaining tasks (Sainsbury, 2002). Consequently,

relations between teacher and pupils with ASD are defined differently as the child with ASD may not benefit from observing others in the same way (Staples & Reid, 2010) due to 'too much going on at the same time'.

How pupils experience these spaces is shaped by their ability to draw upon dispositions that are embodied within their habitus. As illustrated by Stones (2005), an individual's habitus is comprised by:

> Transposable skills and dispositions, including generalised world views and cultural schemas, classifications, typifications of things, people and networks, principles of action, typified recipes of action, deep binary frameworks of signification, associative chains and connotations of discourse, habits of speech and gesture, and methodologies for adapting this generalised knowledge to a range of particular practices in particular locations in time and space. (Stones, 2005, p. 88)

Such reflexive interaction is dependent on the individual pupil recognising the ritualised practices of physical education and having valued dispositions. These valued dispositions are often shaped around the ability to perform and practice physical movements with skill and technique to accrue dispositions with particular physical capital (see Evans, 2004; Fitzgerald, 2005). The barriers presented may challenge the way pupils with ASD acquire and embody particular dispositions towards physical education, resulting in different forms of practice.

The inclusion of different experiences has previously been addressed within the social model of disability. The model, illustrated by Burchardt (2004) 'provides a way of conceptualising the disadvantage experienced by people with impairments which emphasises the social, economic and environmental barriers to participation in society' (p. 735). Whilst there are different versions of the model, its interpretation has highlighted inclusion issues within schools (Fitzgerald, 2012), illuminating the need for curriculum reform (Kirk, 2005) and for measures to ensure inclusive physical education experiences, rather than expecting disabled pupils to 'fit in'. However, it is also important to acknowledge that those barriers mentioned are also faced by many of the general physical education population. Those who struggle with their coordination skills, fitness levels or general gross motor skills will be challenged by the nature of physical education. More broadly, Lines and Stidder (2003, p. 70) point out that 'it is possible that the policies and practices within English secondary schools may not be addressing the needs and interest of pupils in contemporary PE'.

Thus, any discussion of inclusion should address the experience of physical education for pupils without the ability to recognise and engage with the valued and ritualised practices within the subject. This enables the discussion to evolve; becoming not only focused on inclusion but also one that recognises the experience of being isolated and marginalised. This is particularly pertinent for children with ASD, who often struggle and find practices such as teamwork (Barker & Rossi, 2012), social interaction and communication (American Psychiatric Association [APA], 2000; Hamilton-Pope & Miller, 2006) stressful and traumatic (Jackson, 2002; White, Hoffman, Hoch, & Taylor, 2011). Inclusion models such as HamiltonPope and Miller's (2006) 'Successful Inclusion for Physical Education' (SIPE) and Stevenson's (2009) 'Inclusion Spectrum' endeavour to offer strategies for facilitating communication, social interaction and modification of the environment for teaching and learning. However, change is innate within physical education lessons, with different activities, possibly different teachers for different lessons, different 'classrooms' and wearing kit different to their everyday school uniform, which makes it easy to understand why some autistic children may dread the subject (Cohen, 2006).

In relation to the considerations outlined thus far, this paper outlines how pupils with ASD experience the field of physical education by inviting them to share their views of the subject. The notion of pupil voice has been enshrined in UK law by the introduction of the Children's Act (Department of Health, 1989). Research has highlighted the importance of pupil voice in developing a better understanding of teaching and learning processes (Duffield, Allan, Turner, & Morris, 2000; McCallum, Hargreaves, & Gipps, 2000). The profile of student voice was raised professionally in the UK when OFSTED (2004) indicated that listening to student voice would be included in inspections of classroom observations. Barton (1993) stressed the need for those involved in teaching physical education to listen to the voices of young people with disabilities and those supressed in and through traditional practices (Garrett, 2006). Whilst some studies offer perspectives of young people with disabilities in physical education (Fitzgerald, 2005; Fitzgerald & Jobling, 2004; Fitzgerald, Jobling, & Kirk, 2003a) 'much research in the field has failed to explore the actual nature of young disabled people's experiences from their viewpoint' (Fitzgerald, Jobling, & Kirk, 2003b, p. 192). Listening to the voices of autistic children requires a degree of creativity and sensitivity (Bishton & Lindsay, 2011) and also consideration of theoretical perspectives that allow their voice and experiences to be accentuated. However, such empowerment is generally relished by the pupil with ASD and, more often than not, they are keen to express their viewpoints to anyone who will listen (Bishton & Lindsay, 2011).

Methodology

This paper presents data from a small-scale case study conducted at one small, rural, secondary school (age range 11–16 years) in eastern England adopting photoelicitation as the research tool to accord authority to the voices of pupils with ASD, exploring their views of physical education. Numerous studies have explored visual theory and practice methods in education (Prosser, 2007; Thomson, 2008) including children's expressions of their world and experiences, through the use of cameras (Burke, 2008). The use of photography provides participants with a visual voice (Piper & Frankham, 2007). And whilst the exploration of captured images naturally embraces the subjective nature of such images (Brace-Govan, 2007), multiple meaning can be explored as it is through dialogue between the researched and the researcher that 'the researcher can take the image and it's meaning to new places that were previously unexplored' (Pope, 2010, p. 193).

The researchers worked with a purposively selected group of pupils (n = 5) diagnosed with ASD to explore whether the juxtaposition of images to narrative could enhance our understanding of how pupils with ASD view physical education. An 'auto-driving' (Clark, 1999) photo-elicitation exercise was chosen as photos taken by the pupils were to be used to inform an unstructured interview, and to stimulate 'negotiated interpretation' (Pope, 2010, p. 193). This strategy was selected to promote dialogue between the teacher and pupils (Fitzgerald et al., 2003b) through meaningful conversations and 'interesting talk' (Harper, 2002, p. 23). The method was also informed by the work of Richardson's (1997) concept of 'collective stories' as a pedagogical tool, 'aiming to give voice to those silenced or marginalised by dominant cultural narratives (Pringle, 2008, p. 216).

Robert, Joe, Josie, Danny and Alex (pseudonyms) took part, all with an ASD statement of special educational need. Four males and one female reflected the societal picture of ASD conditions being more prevalent amongst males than females (Baron-Cohen, 2002). The pupils were asked to describe themselves, contributing to the following biographies: Robert is 16, and is about to leave school to pursue a college course. He is sensitive and can get very emotional particularly in situations involving large groups. Joe is 14, and takes separate medication for attention-deficit hyperactivity disorder (ADHD), a behavioural disorder separate to autism but causing some autistic symptoms to become more severe. Josie is 12 and has very good relationships with her teachers but struggles

making friends with her peers. Danny is 15 and often finds 'free time' stressful as he finds himself in trouble or wound up. He does not have many friends and finds dealing with his own and other's emotions challenging. Alex is 15 and hates physical education as it makes him extremely stressed, which can result in him experiencing hallucinations and fainting. So he has a reduced physical education timetable during which time he develops his social skills.

Informed consent was sought adhering to the researcher's university ethics procedures. As pupils with ASD typically engage most successfully with visual resources/aids (Ganz, 2007), a simplified guide (pictorial-dictionary) was used, with visual cues to explain what participants were consenting to. In order to acknowledge sensitivities in conducting research with vulnerable young people (Meegan, 2010), their physical education teacher acted in the dual role of researcher to facilitate the collection of photographs and interviews. The potential success of conducting this type of study with these young people was dependent on the established rapport that already existed between the teacher and the pupils (Bramham, 2003; Charman et al., 2011). Indeed, this existing rapport (see Nind, 2008) is important as the interviewer will be sensitive to signs of discomfort during the interview process (Notbohm, 2012). In using a teacher who had a positive relationship with the pupils enabled any sensitivity to be addressed. To assist with the research-relationship, a 'bag of tools' (Munford, Sanders, Mirfin-Veitch, & Conder, 2008) including an iPad and the emotive pictorial dictionary were utilised to act as a reminder to the pupils that the situation they were in, with their PE teacher, was that of a research situation.

Each pupil took their photos using the iPad and engaged in a one-to-one interview with their teacher during their usual 50-minute physical education lesson. The data collection and interviews took place over a two-week period. The teacher collected each pupil at the start of their lesson, without prior notice, to create the least amount of disruption to their usual routine. Each pupil was briefed in a formal, comfortable room out of the way of general school circulation and then sent off to take their photographs whilst following school rules, for example staying on the school site and not going into the opposite sex changing rooms.

Afterwards, pupils returned to the conference room to 'tell their story' (O'Donovan & Kirk, 2007). It was felt that an informal, unstructured interview on an individual basis with the teacher would make for a more relaxed environment and reduce anxiety levels (Farrugia & Hudson, 2006; Russell & Sofronoff, 2005). The exception was Alex, who did not want to talk about his photos. Instead they were printed off and using the pictorial-dictionary he attached emotional pictograms next to each photo whilst in the presence of his teaching assistant (TA). In total the teacher/researcher conducted four one-to-one interviews, which allowed information (Clifford & Valentine, 2003) to be elicited (Berg, 1998; Denzin, 1999). A dictaphone application was installed on the iPad and pupils were informed that their voices were being recorded but, as the dicta-phone icon was out of view, beneath the copies of the photographs, this did not prove to be a distraction. They were offered the opportunity to listen to the recording after the interview, with the option that the portion of the recording pertaining to them could be erased.

During the photo elicitation interview (PEI) participants referred to the photographs in the same order that they had been taken 'to invoke comments, memory, and discussion' (Banks, 2001, p. 87). Pupils were asked to explain their reasons for taking each photograph, and as it is common for children with ASD to have issues concerning their memory (The National Autistic Society, 2013), the photographs provided a stimulating prompt for exploration (Jipson & Paley, 1997). The personal significance of the images acted as 'can-openers' (Collier & Collier, 1986) to capture and understand unique contextual social and cultural realities (Keller, Fleury, Perez, Ainsworth, & Vaughan, 2008;

Pink, 2011). However, it is acknowledged that interpretation of the photographs requires a certain amount of inference (Grady, 2008).

The interviews were transcribed and manual thematic analysis took place, drawing upon aspects of Johnson, Chambers, Raghuram, and Tincknell (2004) four dialogic moments. Initially, 'recalling', related to identifying themes or areas that prompted emotive reactions from each of the participants during the interview process. This was selective, extracting what appeared significant in supporting the study's purpose (Johnson et al., 2004). During the transcription process, 'listening around' occurred, and a coding process undertaken, colour-coding themes and areas of discussion. Finally, 'representing' was depicted through 'writing-up' (Markula & Silk, 2011) the findings juxtaposing the images to narrative. This linguistic narrative style is subjective and biased, an outcome of dialogic research, but allowed a thematic understanding of participant's perspectives (Polkinghorne, 1995) to evolve. This enabled the points raised to be contextualised, as there existed a mutual understanding between researcher and those researched of what was being implied. There has been some scepticism with regard to visual image research (Emmison, 2004; Wagner, 2007) and, because the interviews explored personal reflections of the meaning of physical education they cannot be generalised to wider populations.

In what follows, we illustrate particular moments of the pupil's experiences of physical education. The findings of the data analysis exposed influential contributors towards how pupils with ASD embodied particular dispositions within their habitus and their formal physical education space (Kirk & Tinning, 1994; Hunter, 2004). From this, four main themes emerged from the collective stories and personal insights, offering insights into the world of physical education for young people with ASD, including: the physical education changing rooms, the physical education corridor, the physical education office and, more broadly, physical education activities. Findings highlight the significance of these spaces in defining the embodiment of physical education dispositions for pupils with ASD.

Challenging the spaces of physical education changing rooms

All pupils took more than one photo of the changing areas, and identified them as areas of physical education that provokes negative emotions. Previous research identifies the changing rooms as highly symbolic areas, being the gateway to physical education lessons (Cale, 2000; O'Donovan & Kirk, 2007). The changing rooms for males and females in this study are large open plan areas (Figure 1) with coat pegs all around. There are shower cubicles (Figure 2) and separate toilet areas. Such open spaces necessitated that pupils are exposed to a plethora of dispositions and practices that presented challenges to their physical education experience. Unlike other lessons, ritual associated with entry to physical education facilitates informal stature and liability towards violent behaviour (Parker, 1996) and a need for particular levels of physical capital. Whilst pupils with ASD may have this, the inability to recognise the habitual practices of the changing room prevent them from exchanging this for valued forms of cultural capital. This causes entry into the changing room space to become seemingly problematic. For example, Danny explained that when in the changing room he feels unhappy and unsafe, and changes quickly so he can leave as soon as possible. This reflects wider literature, which recognised how Pupils with ASD can become stressed by a lack of personal space (Leyfer et al., 2006). He suggested that the changing rooms could be made to feel safer by displaying 'rules for the changing room' that all pupils are aware of. Essentially, for Danny the changing rooms should be regarded in the same manner as other formal spaces in the school. This is understandable given how Children diagnosed with ASD are dependent upon routine and familiarity (Notbohm, 2005). Furthermore, not being able to recognise the informal rituals of the changing room causes Danny to become uncomfortable with the environment. As such, due to the lack of protocol and procedure the practices he develops do not enable him to be able to change quickly.

The findings highlighted the impact that interactions in the changing room can have on pupils' engagement and experiences in physical education (O'Donovan & Kirk, 2007), particularly around pupils' behaviour in relation to belongings and clothing:

> people get other peoples' stuff and they start throwing it around like bags, shoes, ties, start whipping people with their ties and shirts, the jumper and anything they can find out of the bags they start throwing around. (Danny)

Here, Danny illustrates the chaotic nature of the PE changing room and the embedded habitual physical practices associated with this specific space. It is notable how behaviours and practices recognised by Danny are those that are tainted with traditional masculine ideals (Bramham, 2003; Connell, 2008; Light & Kirk, 2000; Skelton, 2000). Away from the teacher's gaze, within the 'informal space' of the changing rooms, such practices often provide a feeling of freedom whilst preparing for the start of the lesson (O'Donovan & Kirk, 2007). However, for children who do not recognise these practices and behaviours as being normal, non-participation is contextualised as 'being in the wrong'. Consequently, as identified by Joe, pupils choose to remove themselves from the changing room space:

> Interviewer: So if you went in the big changing room would you get changed in the showers?
> Joe: Yep.
> Interviewer: Why is that?
> Joe: So people don't throw stuff at me.

As Joe highlights, there is at times, a conscious attempt to remove himself from the social space of the changing room and from those practices that exert a sense of freedom. Such distancing creates a micro-space within the field that is devoid of the objective relations between other pupils and acts as a challenge to the ritualised practices of the changing room. In creating this space, Joe is displaying forms of agency to avoid confrontation. Furthermore, the critical distance created by Joe forces created particular forms of cultural capital for the pupils with ASD, developed through their own symbolic practice when getting changed. This supports the perspective of Evans, Bright, and Brown (2013, p. 5) who note how 'relationships within the field are also maintained or challenged through practices including symbolic violence, in which the practices by which one group dominates another are considered norms of the field even when contrary to the interests of another group'.

Similarly, Josie also highlighted practices that created a critical space between herself and the other pupils by drawing upon dispositions that are developed beyond the context of physical education. In this case, by locking herself into a shower cubicle and singing Josie is using her embodied dispositions to re-contextualise the changing room space, making it a safer environment. Josie and Danny explained that they like using the shower cubicles to change as these are much quieter areas of the changing rooms, away from the large, open and chaotic space of the general changing area: 'It's not so loud in there, it's nice and, it's, it's, kind of quiet yer' (Josie). As the shower cubicles are a distance from the general changing area it may be assumed that, Josie feels safer here, reinforcing that a quiet and calm atmosphere is preferred by a child with ASD (McAllister & Maguire, 2012).

The pattern of forming micro-spaces based on specific dispositions is also highlighted by Joe who took two photos of the outdoor changing room (Figures 3 and 4). His initial response when asked why he took these photos was that this is quieter than the boy's main changing area. Joe likes getting changed in this outdoor changing area as he gets some alone time and he feels safer than in the main changing room. Joe described the main changing rooms as crowded, 'it doesn't feel like

there is room to breathe in there sometimes'. Interestingly Joe then explained that, although the main changing areas do have shower cubicles, 'they are small. They are small boxes and there isn't enough room to get changed in'. This suggests that as Josie discussed, prior to changing in the outdoor changing room, Joe had tried to change in the shower cubicles.

Whilst changing alternatives have been put into place to accommodate Joe, it could be perceived as an 'inclusive' intervention and not necessarily a 'better' one as it requires him to embody dispositions to physical education that deter inclusivity. As McAllister and Maguire (2012) discuss, it is important that ASD pupils recognise learning areas are environments for life. Whilst the changing room caused Joe a lot of distress, his teachers have a duty to support his preparations for different challenges everyday life will present (McAllister & Maguire, 2012). The contested acquisition and production of forms of social and cultural capital through the changing room ritual is one area that through greater teacher awareness and management could foster stronger habitus for pupils with ASD. Thus cocooning Joe from external factors that prompt negative emotions should be treated as a short-term intervention. It would therefore suggest that a reintegration strategy might be an appropriate strategy to enable Joe to eventually return to changing in the main changing room with his classmates.

Alex attached the unhappy and lost pictograms to this photo reaffirming Joe's description of the changing room. All of Alex's photos focused on aspects of physical education not in immaculate condition; he zoomed in to highlight and expose imperfections (graffiti, rust, rotten wood and divots in the grass, for example). One of his photos of the changing room captured some graffiti on the wall (Figure 5). He could have zoomed further onto this but he has also included the image of damaged coat pegs (two bent pegs alongside three in good condition). The actual size of the graffiti is less than 10 cm in length—to Alex however these imperfections are clearly of great significance. The emotional pictograms he attached to this photo were afraid, worried and unhappy. These negative emotions mirror the other pupils' discussions about the changing rooms. Alex's second photo of the changing rooms incorporated the door to the shower cubicle area (Figure 6). The central part of the photo highlights an area of the wall where the paint has chipped off. Unlike other photos where he has zoomed in on such blemishes, it may be significant that the shower door is also included in the photo; possibly to draw attention to the damage on the wall but also the door itself. Similarly Danny said the changing rooms were very noisy, when asked how this level of noise makes him feel he said 'sort of lost really'. Interestingly Alex did not use the term 'lost' to describe his other photo of the changing room (the graffiti and coat pegs)—he did however use 'unhappy'.

The micro-spaces of physical education: teacher's office and corridor

As illustrated above, pupils with ASD embody specific forms of practice that offer particular value to their own experience of physical education. Central to this process is the importance of separate and familiar spaces. In relation to this, Robert, Joe, Josie and Danny all photographed the physical education office (the teacher's office) and identified it as a room where they can go if they need help: 'There is where I go when I've lost something' (Robert). Joe said it is somewhere 'I can get help' which was echoed by Danny who said, 'I can come there and tell one of them what's going on in the. … what's going wrong in the changing rooms'. Josie advanced these explanations by saying that if you have to go to the physical education office to get help, you will be listened to—'always someone there that you can talk to and they'll listen to what you have to say'. Joe explained that he had taken a photo of the office because he wanted people to see it, and Robert said the physical education office was somewhere he can 'just drop by and say hello'.

The above illustrates how the office offers a friendly and positive space for the pupils from which to engage with the field of physical education and embody dispositions that would inform their experience of the subject. It is notable how it is removed from the main school building and is a quieter and calmer area of the school where there are fewer pupils and staff. This may be the attraction for the pupils, and why Joe says he visits the office most break and lunchtimes as a release from 'all the noises and people who don't like me'. Other than the physical education staff, it is not an area other staff visit. The layout of the office corresponds with Nguyen's (2008) findings that when furniture is placed at the sides of a room and wall colours are neutral this organisation is more favourable. All these factors may help explain the attraction of this space.

Similarly, the corridor down to the physical education office also offered a delimited micro-space from where to experience physical education. The corridor is dimly lit, as is the office. All pupils photographed this long and narrow corridor, where pupils line up to register before their physical education lesson; the boys on one side, the girls the other. The identification of this space supports literature suggesting pupils with ASD do not respond well to bright and busy environments (Grandin, 1995). The corridor is an important area to explore as this is where physical education lessons begin (Capel, 2004). Robert's cultural capital regarding physical education seemed enriched by this space as he explained how he felt happy going down corridor as it meant his physical education lesson was about to begin. Whilst Robert arrived to his physical education lesson promptly, he always stood in the same place—the furthest point back and acknowledged that his lesson begins in this corridor. With this in mind, the corridor should be regarded as a learning environment and, as already mentioned expectations of how pupils enter such learning environments should be representative of other lessons. Josie explained the corridor as 'not so loud'. Whilst this may be true, Josie may not emphasise the noise levels as much as other participants as she stands on the girls' side, which is quieter and calmer. With Josie generally always being at the front of her line, like Robert being at the furthest point back, she is also perhaps removed from the bulk of the chaos and noise. Considering the similarities here between Robert and Josie in relation to their positioning within their queues, this may be a way that they manage what other participants identify as a noisy and chaotic environment. Loo (1978) echoes these findings observing the need to seek safety from the boundary and perimeters of rooms/spaces. Joe and Danny's explanations of their physical education corridor photos demonstrate particularly passionate responses:

> Interviewer: ok. Right the next one you took was of the corridor going down to the PE area. Tell me about that area.
> Joe: It gets crowded and louder and crowdier
> Interviewer: Crowdier as in busy?
> Joe: Yep.

With Joe evidently beginning his physical education lessons feeling annoyed, stressed and fed up, this may explain why he previously experienced problems within the main changing room. This again reinforces the varying ways that pupils' physical education lessons begin. Danny also expresses feelings of anxiousness towards the start of lessons, describing feeling lost amongst the chaos of his surroundings. He summarises the start as 'everything is going on around me, and the noise, the noise makes me lose focus of the lesson'. The chaotic environment of the corridor is reiterated by Joe as he makes reference to feeling agitated, describing it as an area where people are running. This is a little confusing as pupils do not run in this corridor when lining up for their lessons. Appreciating occasional language complexities, Joe may be referring to the environment as one that mirrors the fast pace, not being static, varying movement, active and breathlessness characteristics of running. This association is validated later during the interview as Joe says that if he could improve the

corridor he would want 'less people moving around and swearing and shouting'. It is necessary for physical education lessons to prompt a fast pace at the start to ensure maximum learning time (Capel, 2004). However, attention should be given to this fast-paced environment not inducing stress for pupils with ASD. Joe said the corridor needed to be made wider. This may explain why Danny said he would prefer to line up in one line as opposed to two separate lines. This would allow for an illusion of the corridor being bigger. Grandin (1995) reflects how significant 'space' can be to the person with ASD, describing it as terrifying and overwhelming at times. Whilst she explains it is inevitable that non-autistic persons are unable to empathise with this concept, it reemphasises the need to listen to pupils' contexts of reality. Whilst large spaces are overwhelming, so are areas too small for their purpose (Gallo-Lopez & Rubin, 2012). Instead a room/space needs to be adequately proportioned (Loo, 1978) to prevent unnecessary anxieties. Danny also made reference to the need for spaces to be adequately proportioned for their purpose:

> Interviewer: Yes ok. So you like this space?
> Danny: Yes
> Interviewer: Not too big and not too small?
> Danny: No its just sort of right, perfect place for me to like run around and play dodgeball and that.

Alex's photograph of the corridor includes what appears to be a piece of uniform strewn on the floor. Aligning with the fact that the majority of Alex's photographs captured disorganised, imperfect and untidy aspects of physical education, the significance of mess and incorrect placing of objects only heightens Alex's negative associations of the subject. Attaching the emotions 'lost', 'worried' and 'unhappy' to his photograph of the corridor however, concurs with the explanations by Joe and Danny that it is not an area promoting positive experiences.

Physical education activities and the development of capital

As outlined elsewhere, a key element to the position of physical education is the development of physical capital. One area in which this takes place is within team games. Interestingly, and contradicting previous studies that highlight the autistic child's inability to engage and enjoy team sports, all pupils (except Alex) talked about enjoying team sports (Terpstra, Higgins, & Pierce, 2002). However, deeper analysis exposed different contentions that are pertinent to explore. Team games, including football, basketball and dodgeball were all mentioned by Robert, Danny and Joe. It seems surprising that children suffering from heightened sensory impairments indicated enjoyment of dodgeball (involving getting hit with a ball), and basketball (which can be very noisy with the continuous unsettled rhythm of the bouncing of basketballs).

One possible explanation for this finding may be because their experience is based on playing the games with very limited, but explicit rules that are to-the-point, quantifiable and require minimal language interpretation (Kershaw & Beaney, 2006). As Josie indicated 'all you have to do is just run, get the ball and then throw it and hope you don't get one thrown at you'. Robert said he enjoyed dodgeball, then, later in the interview he gave the following emotive account:

> Interviewer: And why do you like sports like tennis instead of team sports?
> Robert: Because you play with yourself and other friends or as a 2 a-side
> Interviewer: And what is it about the team sports that you don't like so much
> Robert: They are too big. Yeh they are too big.
> Interviewer: How does that make you feel?
> Robert: Worried
> Interviewer: What do you get worried about?

Robert: That I don't get the ball that much
Interviewer: And how does that make you feel if you don't get the ball that much?
Robert: Sad
Interviewer: Sad? Because you can't play?
Robert: It means I can't play
Interviewer: Ok. And is that the same in all team sports?
Robert: Sometimes yeh

Whilst discussing dodgeball as an enjoyable activity and physical education as a subject that makes him feel happy, this dialogue highlights more negative feelings towards aspects of the subject and the inability to create and develop forms of physical capital. Feelings of alienation towards invasion games are not mutually exclusive to pupils with ASD, but are a common feature of many young people's physical education experiences (Kirk & Gorely, 2000). However, autistic individuals do not regard themselves as team members (Attwood, 2007) and are not always cognitively and socially able to deal with competitive situations, requiring more time to work at their own pace (Stockley, 2010). When asked if there was anything he would change about physical education Robert commented: 'we could change by getting more equipment in the sports hall so everyone can have a go at it'. This response is related to greater opportunities for individual involvement.

The activities and practices illustrated above highlight how the embodiment of practices to develop forms of physical capital takes place in smaller spaces and practices that are conditioned to the needs of the ASD pupils. Whilst this contests the idea of pupils in this study saying that they enjoy team sports, it could be said that individuals with ASD do not enjoy and associate positive feelings with large, fullsided games. However they do enjoy team sports when they are small sided and conditioned. Kirk and Gorely's (2000) endorsement of educative rather than sport performance pedagogy summarises the importance of certain pedagogical approaches, particularly modified activities, small-sided games and teaching games for understanding (TGfU). The benefits are well documented including encouraging youngsters to play as members of a team rather than as individuals and preventing domination by children who can outperform others solely by virtue of their physical maturation. This reinforces the need for teachers to plan for the inclusion of pupils with ASD and promote team work through adapted games (Obrusnikova & Dillon, 2011).

The development of physical capital with limited social value is also demonstrated by Joe. In this instance, at break time Joe uses the sports hall by himself to prevent him getting into trouble. He explained that he liked playing football by himself, when the sports hall is quiet and he is alone. This highlights his contextualisation of the word football—an activity he enjoys when he is alone, just playing independently and in a quiet environment. Similarly, Josie described basketball and the isolated practice of shooting as a sport she enjoyed. As the conversation unfolded however, it appeared that the aspect that Josie enjoyed was shooting; she enjoyed the potential for success. Shooting is a skill that can be practiced in isolation, as a closed skill—and just one aspect of the game. Josie, although on the surface indicated she enjoys team games, actually prefers developing her skill of shooting:

> in a big game with lots of people then I get a bit nervous that I will urm well disappoint people. When I'm just with one or two other people then I don't get as nervous as, well, because, if I'm by myself then I feel quite … pressured to do it right first time but with some others we can help everyone out and it's more fun. (Josie)

Although participants illustrate the embodied practices enable physical capital to be exchanged for forms of social capital, it may be argued that Josie's and Robert's social capital is being created by

the social model of disability, which excludes disabled pupils from physical education (Fitzgerald, 2012). This necessitates that, in the experiences of the participants, such social capital does not have value beyond the immediate space of the physical education class. Whilst Josie perceives herself as not being a positive team member as, in her words, 'I will urm well disappoint people', the underlying symbolic practices at play during the game appear more powerful.

When delving further into what Danny enjoyed about team games it transpired, as with Josie, his enjoyment is stimulated by winning and the aspects of team games that easily measure success, shooting for example (no participants made reference to any other essential skills within team games other than shooting). When asked why he had photographed the basketballs (Figure 7), he said he enjoyed basketball because he enjoys shooting and when he plays football he always wants to score a goal. Giving pupils with ASD the opportunity to be an 'expert' allows them to feel a great sense of heroism and an identity of a valued team mate (Terpstra et al., 2002) as emphasised by Josie and Danny in relation to being successful at shooting. Opportunities to be heroic, such as by scoring a goal or being given an official role should be promoted as they are perceived as motivating and contribute to developing social skills when working with peers (Zhang & Griffin, 2007).

All pupils, except Alex, made reference to enjoying participating in individual sports that demand bodily control and like many engaged in physical education, voiced their 'desire to engage in activities that are fun' (O'Reilly, Tompkins, &Gallant, 2001, p. 211). Josie discussed dance and gymnastics as sports she enjoyed during her physical education lessons, as she gets to work in small groups, and Joe identified trampolining and weight-lifting (part of his fitness unit of work). As Joe explained:

> Interviewer: Ah! Trampolining, tell me about trampolining then.
> Joe: It's fun!
> Interviewer: You like trampolining? Why do you like it?
> Joe: I don't fall off it …yet!
> Interviewer: Why else do you like trampolining?
> Joe: Because you get to jump high and hit the ceiling sometimes
> Interviewer: How does it make you feel when you are trampolining?
> Joe: Concentrated
> Interviewer: you feel really concentrated?
> Joe: because I have to concentrate to make sure I don't fall off the trampoline

A similar description was given regarding using the weights:

> Interviewer: Right ok. Then you took some photos of our weights
> Joe: I like using the weights … I do weightlifting.
> Interviewer: You do weightlifting do you? How do you feel when you are doing weights?
> Joe: Happy
> Interviewer: Happy. Anything else?
> Joe: More concentrated again, because I have to be so I don't get myself hurt.

It may be that fun associated with these activities holds a much deeper and significant meaning to these pupils' emphasising a 'deep, embodied pleasure with one's own competent physical movement, movement that is a pleasurable experience in itself (O'Reilly et al., 2001, p. 213). Consequently, the stronger meaning associated with these practices necessitates the development of unique forms of physical capital. This is reflected in how activities that require bodily control in order to safely engage in the activity allow Joe to really concentrate on what he is doing and, essentially refine his skill set. It would seem that pupils with ASD should not be discouraged to

participate in activities that require such control in order to perform safely. Although they can be unaware of the level of risk involved (Plimley & Bowen, 2006), such activities allow them to experience a beneficial sensory high and enables pupils to display forms of agency in shaping forms of physical practice that are detached and distinctive to other practices.

Conclusion

This paper has focused on physical education experiences through the eyes of five young people with ASD. Notwithstanding the size of the sample, the study offers deeper insight of contextual realities of physical education for such children, whilst providing an opportunity for them to feel valued and listened to. By drawing upon Bourdieu's conceptual ideas as a guide, the findings contribute to the understanding of physical education as a complex and diverse field created through many micro-spaces that contest the acquisition and embodiment of particular practices and forms of social and physical capital. Whilst apparent for all pupils, those with ASD have particular challenges in dealing with the field of physical education, whilst also displaying forms of agency in shaping spaces beyond the embedded and normative positions of the field.

Consequently, the continued development of critical pedagogy in physical education is important in providing a space for voices that are usually suppressed in and through traditional practices (Garrett, 2006). Despite access to inclusion models to support teaching and learning (Hamilton-Pope & Miller, 2006; Stevenson, 2009) there is a clear need for teachers to extend their inclusive planning and practice beyond the classroom itself. This study has highlighted that for some pupils, their experiences are shaped through the dispositions acquired and embodied through their interaction within the changing rooms, the corridors and the teacher's office as well as through activities within lessons. Whilst acknowledging that the essence of good pedagogy applies to all children, the teachers' role in influencing the physical education experiences for pupils with ASD and their embodiment of particular dispositions towards physical education should not be underestimated. There may be a misconception between the way inclusion is conceptualised and understood by some physical education departments (Fitzgerald, 2012; Smith, 2004); with an emphasis on the modification of planning to accommodate pupils with special educational needs or disabilities, rather than planning to their individual needs (Smith, 2004). For many teachers the natural focus for inclusion will be ability levels, careful differentiation, variety in teaching styles and approaches to assessment whilst paying careful thought towards adapting or modifying facilities, equipment and activities. What this study has unearthed is a much deeper representation of the physical education experience.

It is evident that rituals associated with changing rooms compound the challenges for the autistic child. Placing greater emphasis on supporting pupil needs within the field of physical education should be acknowledged, as ignoring pupils' associated emotions may subsequently hamper the autistic child's learning and progress (McAllister & Maguire, 2012). The period of waiting for entry into physical education for many pupils presents a lack of physical and aural restraint, and thus appear[ed] to initiate a feeling of 'freedom' prior to the start of lessons' (Parker, 1996, p. 145), However, the chaos in the crowded and noisy physical education corridor heightens anxieties and feelings of fear for children with ASD. This reinforces the importance of ensuring that the start of lessons adopts expectations and policies that alleviate such distresses. Anticipating the barriers presented within these integral fields of physical education space can help in preparing a rich and inclusive experience for pupils with ASD. Teachers may be better informed in providing strategies to facilitate communication and social interaction whilst allowing all pupils to access learning and engage positively with physical education.

Significantly, this research has been beneficial in presenting a contextual reality of emotive and powerful feelings these pupils hold towards physical education. The findings have illuminated that

each autistic child is different and that manipulating the delivery of activities or the composition of groups does not equate to inclusive practice (Fitzgerald, 2012). It is crucial that teachers plan for inclusion through informed awareness of the barriers pupils may face, which extend to actual and conceptual fields beyond the formal space of 'lesson delivery. An informed awareness of these barriers, initiated through more 'two-way conversations' (Fitzgerald, 2012, p. 458) should be fostered if we really want to forward change and stimulate the thinking of those involved in the delivery of physical education (Fitzgerald, 2012), and facilitate a deeper level of reflection on their own practice and that of others (Garrett, 2006).

Acknowledgements
The authors would like to thank the reviewers for their constructive feedback in shaping this article. Thanks must also go to the participants for the insights provided during the course of this study.

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