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University of Southampton

Faculty of Environmental and Life Sciences

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**Perceptions of Inclusion: A Study of Children with Autism in the Primary School
Playground**

by

Laura Jane Young

Thesis for the degree of Doctorate in Educational Psychology

June 2019

University of Southampton

Abstract

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Children with a diagnosis of Autism experience difficulties in social communication and are vulnerable to bullying and social exclusion in mainstream schools. The importance of educating all children in an inclusive learning environment is enshrined in both national and international legislative policy (UNESCO, 1994; Department for Education, 2015). Yet, the numbers of children with Autism currently facing exclusion from their mainstream schools are disproportionate compared to children with other Special Educational Needs (SEN) (Department for Education, 2018; Ambitious about Autism, n.d.(a)). As a construct, 'Inclusion' is multi-dimensional and is expressed through full participation in the wider community, a sense of belonging and being part of a wider social group (Farrell, 2000). There is ambiguity regarding how this concept operates in practice. How children relate to others and the social repertoires they display are likely to be a core component to effective inclusion.

Peer-Mediated Interventions (PMIs) have been used to promote the social skills of children with Autism. A systematic review of the literature was undertaken to examine the evidence from eighteen single-subject experimental designs (SSEDs). These studies examined the effectiveness of PMIs on improving the social outcomes of children with Autism. The review made an original contribution by using the 'What Works Clearinghouse' (WWC) Design Standards for evaluating SSEDs (Kratochwill et al., 2010). All studies reviewed showed positive findings, yet conclusions drawn were tentative. There was considerable variability across the studies regarding the role of peers. Generalisability of findings were limited by a lack of long-term follow-up data. Outcome measures were focused on behavioural modification, and although helpful, over-simplified the complex nature of social interaction. The conclusions from the systematic review identified the need to further explore peers' perceptions and the contextual environment in which inclusion is practiced.

Chapter Two focused on exploring the experiences and perspectives of children with Autism, their peers and their teachers in the social environment of the school playground, and examined how inclusion operated in this context. Using a qualitative case study design and semi-structured interviews, children with autism, their peers and their teachers were interviewed in three different Primary Schools (n= 39). To capture peers' perspectives of autistic behaviours, modified vignettes were used as a stimulus for discussion (Butler & Gillis, 2011; Matthews et al., 2015). Findings suggested that children's experiences of playground inclusion were more alike than different for all child participants. Specific environmental barriers to inclusion were identified as lack of structure in the playground, and within-child factors such as difficulties in emotional regulation and social communication. Facilitators were identified as increased adult support and a wider range of play equipment for some children with autism, although the need to recognise the individuality of each child was highlighted. Peers' understanding of autistic behaviours presented in the vignettes were variable and included hostile attributions (Dodge, 2006). Further research could explore the development of peer attributions of autistic behaviours and examine how these directly impact upon peer interaction in the playground. Implications for practice were highlighted, including the need to reflect about how EPs can support schools in educating children and staff about autism and how our attributions of difference can affect our behaviour towards others.

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Research Thesis: Declaration of Authorship

Print name:	LAURA JANE YOUNG
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Title of thesis:	Perceptions of Inclusion: A Study of Children with Autism in the Primary School Playground
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I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature:		Date:	
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Definitions and Abbreviations

ABA	Applied Behaviour Analysis
ASC	Autism Spectrum Condition
ASD	Autism Spectrum Disorder
EBP	Evidence Based Practice
EHCP	Education, Health and Care Plan
EP	Educational Psychologist
HIEP	Hampshire and Isle of Wight Educational Psychology
PDA	Pathological Demand Avoidance
PMI	Peer Mediated Intervention
SCD	Single Case Design
SEN	Special Educational Need
SSED	Single Subject Experimental Design
WWC	What Works Clearinghouse

Chapter 1 Peer-Mediated Interventions for the promotion of social skills in children with Autism: A Systematic Review

1.1 Introduction

1.1.1 Rationale

The present systematic review examines the quality of evidence for the effectiveness of Peer Mediated Interventions (PMIs) for promoting the social skills of children with autism. Children with autism present with difficulties in social communication and reciprocal social interaction. Autism is defined as, “persistent deficits in social communication and social interaction across multiple contexts” (DSM-5, American Psychiatric Association, 2013). This includes, initiating and responding in conversations with others, and sustaining interactions appropriately (Koegel et al., 2008; Rao et al., 2008; White et al., 2007). Children with autism typically use toys differently to their peers. They demonstrate less functional and symbolic play and tend to imitate less than their typical peers (Stone, 1990). Even though many children with autism attend school in mainstream inclusive environments, they tend not to engage in reciprocal interactions (Rotheram-Fuller et al., 2010). Consequently, they are at significant risk of social isolation from their peers. Children with autism are more likely to experience social rejection from peers, and in the UK context, children with autism are more likely to have friendships rated as poorer quality in comparison to their peers (Calder et al., 2013). Fostering positive peer relationships are important to the social inclusion of children with autism. One possible method of facilitating social interactions of children with autism is through peer-mediated-interventions (PMIs). As an intervention method, PMIs have been praised for their versatility and adaptiveness to teach a variety of skills for children with autism (Odom et

al., 2003; Reichow and Volkmar, 2010). Peers can play a role in modelling social behaviours, and as agents of change, they are situated in the natural ecological context of daily activities, meaning they are appropriate in inclusive settings (Hemmeter, 2000; Trembath et al., 2009).

1.1.2 Peer-Mediated Interventions

Over the past decade, three major systematic reviews have investigated the effectiveness of PMIs for promoting the social skills of children with autism (Chan et al., 2009; Watkins et al., 2015; Chang & Locke, 2016). Chan et al., (2009) found that although PMIs are versatile and potentially effective interventions, research has been limited due to a lack of assessment in terms of treatment fidelity. The authors focused exclusively on experimental designs and determined this type of research design is the only form that can be considered as having the potential to provide conclusive evidence. Similarly, Watkins et al., (2015) highlighted the “relatively weak nature of single-subject designs” as compared to “more rigorous research designs such as randomised controlled trials” (p.1081). Chang & Locke, (2016) focused exclusively on group designs and were critical of the evidence gathered from single subject design studies because they argue that findings are limited in terms of generalisability. Moreover, the evaluative protocol they used employed a medical model of evidence based practice. PMIs were judged according to the Reichow et al. (2008) framework, that when applied defined PMIs as “treatments” and were deemed them robust and effective only if designs were group experimental and were conducted in “separate laboratories by separate research teams” (p.135). The conclusion from these reviews was that PMIs for social skills were best defined as interventions that involved typically developing peers encouraging and promoting the social interactions of the ‘target’ participant children (Hu et al., 2018). PMIs have been identified as a promising intervention with the potential to have a high level of applicability in school settings.

However, one weakness of these earlier systematic reviews was that they reinforced beliefs surrounding hierarchies of evidence in educational research. They adopted a medical model of evidence based practice, and in doing so, neglected to acknowledge that effectiveness is a multi-dimensional construct. The effectiveness of an intervention should not solely be determined by whether it worked as it intended. Appropriateness, feasibility and contextual relevance are also important factors to consider (Evans, 2003). Moreover, it has been argued that, especially in the field of educational research, evidence is used by practitioners differently. Research can inform practice in combination with professional judgement, and its application is decided according to the needs of the client group (Hammersley, 1995).

1.1.3 Quality Criteria

Both Watkins et al., (2015) and Chang & Locke, (2016) used the same evaluative protocol (Reichow et al., 2008) that was developed to address perceived shortcomings in identifying evidence-based practice (EBP) specifically in autism research. Reichow et al. developed the 'Evaluative Method for Determining EBP in Autism' to address the current limitations of existing research quality assessment criteria. Specifically, the authors raised concerns that existing determinants of evidence-based practice excluded single subject experimental research designs (Francis 2005; Shavelson & Towne, 2002) despite the fact that much of the research on treatments for young children with autism used single subject research methods (Odom et al., 2003). For heterogeneous populations like children with autism, a key challenge for research is obtaining homogenous samples of participants with similar characteristics in order to implement meaningfully case-control comparisons (Barlow et al., 2009). In this context, it is important to note that intervention research undermined by limitations in design also represents at best a limited evidence-base to inform educational or clinical decisions, as it is unclear if the outcomes can be definitively attributed to the intervention (Wendt, 2009). However, as has been previously argued, in

determining evidence-based practice, the professional judgement of the practitioner also needs consideration. Taken together, when evaluating evidence on treatments for children with autism, there is a need to employ different quality assessment criteria which are fair and appropriate for use with single subject experimental designs (SSEDs), given that much of the research in this area use such designs.

The process of determining elements of internal validity and reliability of research studies is described as the ‘critical appraisal’ of study quality (Petticrew & Roberts, 2006). For SSEDs, different appraisal instruments have been developed to evaluate the methodological rigour and quality. Wendt’s (2012) evaluation of the different SSED appraisal tools, identified that the “ideal quality appraisal tool for SSEDs has yet to be developed” (p.259) with each existing instrument having strengths and weaknesses. However, the authors recommended two appraisal tools; the ‘Evaluative Method’ (Reichow et al., 2008), and the ‘What Works Clearinghouse Standards’ (Kratochwill et al., 2010).

The ‘Evaluative Method’ (Reichow et al., 2008) was developed to provide a standardised method to evaluate empirical evidence on autism interventions that allowed individual ratings for each study to be identified across different methodologies and designs, including single subject methods. In this sense, the criteria combine both the nomothetic approach to science (the principles underpinning group research) with the ideographic (the principles associated with single subject research). This method used both primary and secondary indicators to assign an overall evidence score to individual studies.

In the current systematic review, the ‘What Works Clearinghouse Standards’ (WWC) (Kratochwill et al., 2010) will be used based on Wendt’s (2012) recommendations. Unlike the ‘Evaluative Method’ (Reichow et al., 2008), rather than subjecting studies to ratings and scores on an individual basis, WWC guidelines propose studies are first critically screened to ensure they meet methodological standards before deciding on the quality of

the evidence. This has been identified as a unique strength of the criteria in contrast to other approaches that assign an evidence grade to specific studies (Reichow et al., 2008). This is because it increases the objectivity with which a research base can be evaluated by making use of objective measures of design conventions; evidence standards to determine if a practice is evidence-based (Maggin et al., 2012). This allows reviewers to first consider whether there are enough methodologically rigorous studies that warrant an evidence-based classification. It is important to note that to date, no previous systematic review that has explored the effectiveness of PMIs for improving the social skills of children with autism, has used this evaluative protocol. Therefore, the current systematic review will make a novel contribution to research in this field.

1.1.4 Aims of the Current Review

The current review aims to examine the evidence for the effectiveness of PMIs in SSEDs for the promotion of social skills for children with autism. It is novel in its approach to employ Kratochwill et al.'s research quality appraisal tool (2010). Given that the majority of research to date has investigated the effectiveness of PMIs using SSEDs it is important to assess the quality of the SSED evidence base with an alternative critical appraisal tools to cross-validate findings and to address the following:

- i) To use the WWC quality appraisal tool in evaluating the evidence for the effectiveness of PMIs in SSEDs, that has not been used in previous systematic reviews.
- ii) To update the review of evidence to 2019 to highlight the increasing contribution of recent research in the field.

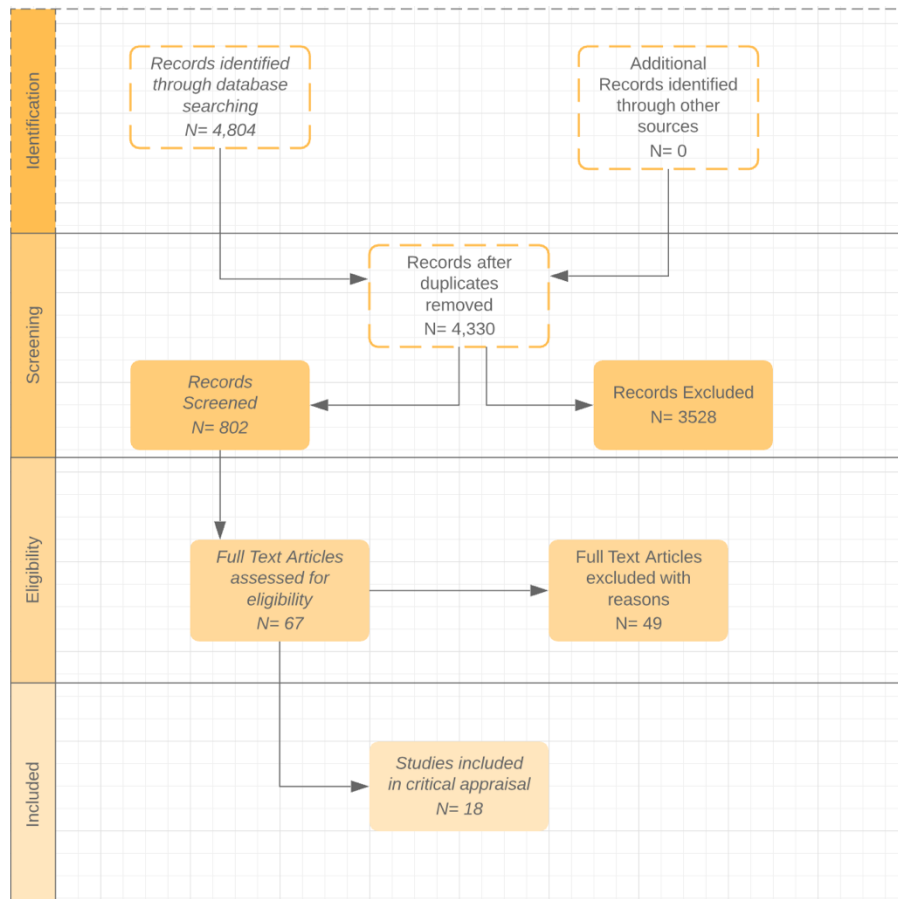
- iii) To determine whether there is a strong enough evidence base from SSEDs for the effectiveness of PMIs in promoting the social skills of children and young people with autism.
- iv) To expand upon previous systematic reviews' focus on the characteristics of the PMIs (Watkins et al, 2015; Chang & Locke, 2016) by considering potential underlying psychological theories of change.

1.2 Method

1.2.1 Search Strategy

A systematic search was conducted from September 2018 to December 2018. An electronic search was carried out using; PsycINFO, Educational Resources Information Centre (ERIC), Scopus and the University of Southampton's electronic library database. Keyword search terms focused on four areas including those related to autism (ASD OR ASC OR autis* OR Asperger*); AND social skills (social skill* OR social inclusion OR social interaction*) AND peer mediated intervention (peer*) AND school based (school*).

The initial search yielded 4,804 articles. All duplicates were removed and this reduced the number of studies to 4,330. During the screening phase, studies were assessed on the basis of their relevance to the objectives and overall research questions of the current systematic review (see Appendix A). Full text articles were assessed according to the inclusion and exclusion criteria described below.

Figure 1. PRISMA Flow Diagram

1.2.2 Inclusion and Exclusion Criteria

Inclusion and exclusion criteria emerged over the search process as the rationale evolved and the justifications for criteria became more refined. This reflects the fluid process of conducting a Systematic Review (Siddaway et al., 2019). Studies that used group experimental designs were excluded for several reasons. Firstly, a recent systematic review (Chang & Locke, 2016) identified only five group experimental designs. Subsequent to his systematic review, the researcher identified only two further group experimental studies during the search process. This reflected the paucity of research

undertaken using a group experimental design. Secondly, it was decided to focus exclusively on SSEDs as they formed the majority of chosen studies in this field. Thirdly, it is essential to develop effective methods of evaluating SSED studies given that there is a relative preponderance of them in the field of Educational Psychology (Wendt & Miller, 2012). A decision was made to exclude studies that were published prior to 2008. The reasons for this were to make contributions more contemporaneous and also to make the process of the review manageable within the given time frame. No borderline cases were identified but the parameters of the inclusion and exclusion criteria became more clearly identifiable.

Preliminary Inclusion and Exclusion Criteria

1. An experimental design.
2. Participants of any age diagnosed with autism including ASD, ASC or Asperger syndrome.
3. Peer Mediated Intervention (PMI).
4. Outcome measures focused on social skills (e.g. interactions, initiations and responses).
5. Published in English.
6. Not restricted by year of publication.

Revised Inclusion and Exclusion Criteria

1. A Single Subject Experimental design (SSED).
2. Participants of any age diagnosed with autism including ASD, ASC or Asperger syndrome.
3. Peer Mediated Intervention (PMI).
4. Outcome measures were focused on social skills (e.g. interactions, initiations and responses).
5. Published in English.
6. Restricted by year of publication from 2008 to present day.

Justification of Quality Criteria

The included studies were critically appraised using the Single-Case Design standards as recommended by the ‘What Works Clearinghouse’, (WWC) (Kratochwill et al., 2010). The critical appraisal process involved first evaluating the design to determine whether the study met, did not meet, or met (with reservations) evidence standards. A visual analysis of each outcome variable was then conducted to determine whether the evidence was either; strong, moderate or ‘no evidence’. An effect was documented when a difference was established between the baseline and intervention phase more than would be expected from a predicted data pattern (Horner et al. 2005). In order to make an estimate of the effect size of the SCD, the authors identified six features to examine within and between phase data patterns. These are as follows: i) level, ii) trend, iii) variability, iv) immediacy of the effect, v) overlap, vi) consistency of data patterns across similar phases (Fisher et al., 2003; Hersen & Barlow, 1976; Kazdin, 1982; Kennedy, 2005; Morgan & Morgan, 2009; Parsonson & Baer, 1978). These six visual analysis features are used to compare the projected and observed pattern within each phase. The immediacy of effect is described as the change between the last three data points in one phase and the first three data points in the next. Overlap is defined as the proportion of data from one phase that is shared with the next phase. Consequently, the lower the level of overlapped data points indicate a greater effect. Finally, the consistency of the data means inspecting all phases within the same condition (e.g. baseline/intervention). The greater the consistency across participants, the more likely there is a “causal relationship”. If all these criteria are met, then it can be inferred that changes in the outcome variable are causally related to the

manipulation of the independent variable (Kratochwill et al., 2010). It is possible to claim an effect in SCD studies when three demonstrations of an effect are documented at different points in time.

The field of estimating effect sizes is much less developed in single subject designs as there are no universal agreed standards. An effect size estimator for SCDs that is comparable to those used in between-groups studies is needed. Although Shadish et al. (2008) has developed an effect size estimator for continuous outcomes, given that many SCD studies use outcomes that are non-continuous, such as rates or frequencies, this estimator cannot be universally applied. Consequently, as only SSEs will be considered in this review, and the outcome variables are not continuous, effect size estimations will not be provided. Instead, the studies will be assessed according to the WWC single case design standards for quality, to determine whether a relationship exists between PMI and the outcome variables. If a causal relationship can be inferred based on the guidelines provided in WWC single case design standards, it is possible to describe the intervention as effective.

Descriptors 'Moderate' or 'Inconsistent' were used according to the success of the intervention in effecting change in the number of outcome variables (Table 1; Appendix O). Due to the pragmatic constraints of the thesis, the researcher was unable to work in collaboration. Therefore, it was not possible to apply the 'Strong' descriptor to studies that met this evidence standard. To compensate for this, the researcher introduced the 'Inconsistent' descriptor to studies where a functional relationship between intervention and outcome variables was only partially demonstrated.

1.3 Findings

1.3.1 Description of studies

There were a total of 55 participants with autism recruited across all studies. Most were male ($n = 48$). The remainder were female ($n = 7$). Sample size of peer participants ranged from 3 to 39. Out of the 18 studies, eight of the studies provide no information concerning how participants were recruited (44%). The majority of participants in the remaining studies were recruited through teacher identification. Notably, two studies recruited participants from existing research projects (McFadden et al., 2014; Mason et al., 2014). One study recruited participants from the researchers' own intervention centre (Koegel et al., 2012b). Another study recruited participants from a pre-existing school-based social competency programme (Schmidt & Stichter, 2012). In these four studies, the previous history of the participants was not acknowledged which could have been an important factor in the effectiveness of the intervention. Participants in all studies attended mainstream educational settings. Although individual differences were noted in terms of cognitive functioning and communication ability, none had significant or profound cognitive impairments. Details of the study participants, peer-mediated interventions, strategy and outcome measures in the 18 studies reviewed are presented in Table 2 (Appendix P).

The majority of studies targeted participants in the Primary Years' age range ($n = 10$, 55%). Five studies targeted Early Years' participants (28%), and the remaining three studies targeted participants in the adolescent age range (17%).

Most studies were conducted in the USA or Canada ($n = 15$: 83%), two were from Asia (11%) and only one study was from Europe (Spain). Notably, none of the studies were conducted in the UK.

1.3.2 Peer-Mediated Interventions

The structure and content of the PMIs varied considerably across the studies. Only one study used a pre-existing social skills curriculum as a basis for peer training (Schmidt & Stichter, 2012). Researchers in this study employed a modified version of the ‘SCI-A’ curriculum, a social skills curriculum designed for children with Asperger’s syndrome (Stichter et al., 2010). This curriculum was authored by one of the researchers in the study, which means there may have been a possibility of bias.

There was a considerable variability across the studies in terms of how peers and adults were used as agents of change within the interventions. Nine (50%) studies used adults and peers to reinforce social skills training during the intervention phase. Out the remaining nine studies, six studies used peers alone during the intervention phase to support social skill development (30%) and three used peer participants who had not received any social skill training as part of the pre-intervention. Instead their role was to attend the social group that participants with autism were also attending (Koegel et al., 2012a, Koegel et al., 2012b; Koegel et al., 2013).

The majority of studies did not use school staff within the training phase of the PMI ($n= 11$; 61%). For the seven studies that did use school staff, their role continued into the intervention phase, to reinforce positive social interactions between peers and participants with autism (39%).

All of the studies, with the exception of Katz & Girolametto, (2013) did not include participants with autism in the social skills training.

Only three studies (17%) made explicit reference to underlying theories of psychological change. Two referred to ‘Pivotal Response Training’ (Harper et al., 2008; McFadden et al., 2014) which uses applied behaviour analysis which is drawn from behaviourist theory (Skinner, 1953). Another study (Medina et al., 2016) explicitly referred to ‘Social Learning Theory’ (Bandura, 1977). The remaining thirteen studies did not

explicitly refer to any theoretical models. Without a clear theoretical foundation, it is difficult to ascertain the function of the peers within the intervention. However, based upon the strategies employed, an inference can be made that peers predominantly played a role in modelling, prompting and reinforcing appropriate social behaviours. With the exception of three studies that used the physical proximity of typical peers and shared social club activities as the primary intervention strategy (Koegel et al., 2012a; Koegel et al., 2012b; Koegel et al., 2013).

In five of the studies, it was unclear as to whether fidelity checklists relating to implementation of the intervention were used (Koegel et al., 2012a; Koegel et al., 2012b; Koegel et al. 2013; Medina et al., 2016; Owen-DeSchryver et al., 2008). In the remaining thirteen studies, all used some form of procedural fidelity checklist but to varying degrees of rigour. This ranged from simply making reference to the use of a fidelity checklist, to one thorough study using four procedural checklists during each stage of the experimental design (Lee & Lee, 2015).

The majority of studies used ecologically valid, naturalistic settings that provided opportunities for social interactions. Seven studies (39%) used kindergarten classes or pre-school play group areas which reflects the age of participants. Three studies used alternative settings, including a cafeteria, social club and day camp (Koegel et al., 2012a; Koegel et al., 2012b; Hughes et al., 2011). The remaining studies all incorporated 'recess' or playground settings at lunch or break times.

The number of intervention sessions across the studies ranged widely from 4 to 40. For instance, one of the longest interventions lasted for a duration of two months (Lee & Lee, 2015). Another study however used only six 10- minute play sessions as intervention contexts within one day (Jung et al., 2008). This is important as it relates not only to the feasibility of intervention, but it also limits the comparability of the interventions and therefore limits the generalisability of any recommendations suggested.

There was considerable variability across the studies regarding the role of the adult during the intervention phase of the designs. In nine of studies that used Primary and Early Years' age range participants, adults played a role during the intervention phase, either through reinforcement or prompting of social skills. There were two studies that used older Primary age participants (Harper et al., 2008; Owen-DeSchryver et al., 2008) that did not use adults during the intervention phase. The remaining seven studies used adolescent aged participants and also did not use adults during the intervention phase. One reason for this may be that younger participants require more adult support to help them in their role as peer mediators. However, the variability across the PMIs in terms of the adult role, challenges the extent to which effects can be attributed to peers rather than the influence and support of adult involvement.

Additionally, where participants had previous experience of peer network training, effects of the intervention cannot clearly be identified as the background histories of participants has not been controlled for (Mason et al., 2014; McFadden et al., 2014).

All studies used observational methods to capture outcome measures. This was either through direct observation (in vivo) or through video-recording. All studies used behavioural frequency of observed social initiations, responses or turn-taking exchanges as primary outcome measures.

All studies used behavioural measures to capture social outcomes as dependent variables. These were assessed primarily through frequency of social initiations and responses ($n= 15$). The remaining three studies used a variety of scripted phrases, engagement and communicative acts as outcome measures (Mason et al., 2014; Ganz & Flores 2008; Katz & Girolametto, 2013). There was variation between the studies regarding how social outcomes were operationalised. Six studies included some form of non-verbal communication, for example gesture, reflecting a broader conceptualisation of social interaction. All of the studies used observational methods for data collection,

primarily interval or event recording. The majority used in vivo observation ($n= 13$). Two of these studies used observation recording software to assist data collection (McFadden et al., 2014; Mason et al., 2014). The remaining five studies used video-tape recording to gather data.

Four studies (Medina et al., 2016; Hughes et al., 2013; Hughes et al., 2011; Koegel et al., 2013) triangulated behavioural measures with qualitative data, and used peer ratings and a social interaction skills questionnaire with parents and teachers to capture perceptions of changes in social behaviour. Significantly, these are the only studies where peer perceptions have been obtained.

1.3.3 Generalisation Effects

Out of the eighteen studies, 77% ($n= 14$) reported generalization or maintenance data. However, no studies reported long-term follow-up data defined as beyond three months.

1.3.4 Social Validity Measures

Ten studies (56%) used social validity measures to capture either teacher or implementer ratings through questionnaires or interviews. Out of the studies that captured social validity data, only five used interviews or surveys to capture child participants' views of the intervention (27%).

1.3.5 Risk of Bias

All studies used inter-observer ratings of reliability which met minimal thresholds. According to Hartmann et al., (2004) minimum values of agreement range from 0.80 to 0.90 if measured by agreement percentage, and at least 0.60 if measured by Cohen's kappa.

In addition, all studies collected inter-assessor agreement on at least 20% of all sessions which is in keeping with SCD Design Standards (Kratochwill et al., 2010).

However, it should be noted that in one of the studies, the author may have had a vested interest in the peer training programme's successful outcome (Schmidt & Stichter, 2012). In this study, the peer training programme was structured on the 'SCI-A' curriculum, which was designed by one of the authors (Stichter et al., 2010). This could be an instance of observational bias where there was a strong possibility that the researcher was influenced by the desired experimental outcome.

1.3.6 Effects of Interventions

Effects of interventions were determined through visual analysis of results (Kratochwill et al., 2010). No universally agreed method for estimating effect sizes exists for SSEDs. It has been suggested that calculating 'Standard Mean Difference' (SMD) to generate an estimation of effect size can complement visual analysis (Olive & Smith, 2005). However, this was discounted because there was no access to original data sets and it was considered beyond the scope of this thesis. Consequently, effects were documented based upon WWC Design Standards (Kratochwill et al., 2010).

The effects of PMIs on improving the social skills of children with autism are presented in Table 1(Appendix O). All of the studies reported positive findings that highlighted a functional relationship between PMIs and social skills- related outcome variables of children with autism. These were predominately the frequency of social initiations, responses, or interactions of children with autism and their peers. Only one study reported PMIs as ineffective in promoting all outcome variables (Ganz & Flores, 2008). As such this was described as 'Inconsistent' rather than 'Moderate' evidence.

1.3.7 Study Quality

All studies assessed fully met criteria for WWC evidence standards for single case designs (Kratochwill et al., 2010). This is a measure of the internal validity and methodological rigour of design and that the studies considered in this review were well-structured and of good methodological quality.

1.4 Summary and Conclusions

1.4.1 Variation of PMIs

Across all studies, there is considerable variation regarding how PMIs are defined. Each intervention is peer-mediated in a variety of different ways. Variations occur according to age, level of adult involvement and instruction and the extent and content of peer training. In studies that used participants in the Early Years, the adult was often highly involved in the implementation of the intervention which had different components such as play-based activities.

For example, Hu et al. (2018) investigated the effects of a peer mediated LEGO play intervention on developing the social skills of three children with autism in an inclusive pre-school in China. One clear strength of the study was the replicability of the training programme for the typically developing peers. The authors developed a clear instructional peer training table that provided examples of desired outcomes. However, authors did not examine the extent of variability between the three child participants with autism in terms of their play preferences and previous experience of playing with LEGO.

Similarly, Lee & Lee (2015) examined the effects of a PMI combined with environmental arrangements on the social interactions of pre-schoolers with autism during snack-time. The intervention consisted of two different peer mediated procedures; social initiation training and correspondence training. Additionally, a 'Good Friends Board'

served as a visual prompt and reinforcement of the target initiation skills. Children were also told they would receive a stamp if they then applied these skills to the target child. Both the researchers and pre-school teacher provided social skills training to the peers and used toy puppets as reinforcement. Katz & Girolametto (2013) also used storybooks, puppets and picture communication board to help reinforce peers' interaction with autistic participants. In this study, peer training was extensive and involved all participating children, in social skills training sessions, facilitated by the Early Years' educators. The Early Childhood Educator was provided with the intervention manual, storybook and picture communication boards yet authors do not state who wrote the intervention manual, so there could be an element of bias due to lack of impartiality. However, by giving the pre-school teacher a key responsible role in the intervention, it is more likely that the practice of peer-based social skills training would be maintained.

In Mason et al., (2014) adults supported and primed the peers, directing them to interact with the target child. The role of the adult to motivate the peers is clearly a contributing factor to the success or failure of the PMI and not all interventions use an adult in the same way. In this study, it is possible that peers were motivated by the accumulation of "smiley faces" and behavioural reinforcement. Children were made aware that they were being observed by the adult to see if they were remembering to "talk, share and play nice" (*op cit.* p. 342). By the end of the ten-minute intervention, children in the group were praised for using their skills and each member was allowed to choose a reward from the bag. The authenticity of the peers' engagement with the autistic children is called into question as peers could simply be motivated by the reward. Improvements made in the frequency of communicative acts are not generalised beyond the intervention phase and it is unclear whether there would be any long-term gains.

A limitation of these Early Years PMI studies is that it is difficult to disentangle the confounding variables of quality of adult-child relationship and how peer participants'

motivation for social interaction with autistic peers has been manipulated through rewards and behavioural reinforcement. In Ganz and Flores (2008), peers were instructed in how to engage with autistic participants and were shown how to receive the autistic child's attention by talking to him and handing him a toy. The authors of the study were involved throughout the intervention and prompted peers. It is unclear how much prompting the children received. Therefore, quality of adult support may well be a confounding variable. It is unclear as to which aspect of the intervention promoted positive findings.

Not all studies made use of adults as part of peer training or the implementation of the intervention and this is perhaps reflective of the developmental age of participants. Koegel et al. (2013) examined the effects of a peer mediated social skills intervention for adolescents which took place during High School lunch breaks. The distinguishing feature of the PMI was incorporating autistic participants' preferred interests into a lunchtime club. No explicit social skills training took place. Similarly, Koegel et al., (2012a) examined the impact of social club participation on improving the social engagement and initiations of three primary school aged children with autism. Participants joined the social club and were placed with six to 10 of their typically developing peers. The club was themed around autistic participants' own specific interests, as identified by their parents and clinicians. In these studies, although PMIs were found to have a positive impact on increasing social interaction outcomes, it is unclear as to what role peers played in promoting this change. It could be argued that by simply providing social opportunities for children with autism that fit in with their own interests, this environmental change is enough to promote greater social interactions. Additionally, given the narrow and specific interests shown by children and young people with autism (DSM 5, American Psychiatric Association, 2013) this type of intervention runs the risk of restricting their social interaction repertoires further. In contrast to Koegel et al. (2013), Schmidt and Stichter

(2012) trained peers extensively for a period of six weeks, using a range of different strategies including role play modelling and reinforcement.

There is a lack of clarity regarding the role in which peers should play in PMIs, and how they should be trained. In some studies, peers and autistic pupils were taught together (Medina et al., 2016). Other studies separated the child with autism from the peer group in the social skills training (Harper et al., 2008). This reinforced the other-ness and separateness of the child with autism and is suggestive of a deficit model. Only one study explicitly referred to autism as a special educational need to the peers participating in the intervention (Owen-DeSchryver et al., 2008).

1.4.2 Limited Outcome Measures

There is also a lack of qualitative data across the studies, specifically in relation to peers' and autistic children's attributions and perceptions of each other. This surely is an important indicator of intervention effectiveness. According to "attribution" theories (Kelley, 1967), individuals interpret behaviour in terms of causes and these interpretations then contribute to the reactions toward the behaviour of others. Specifically, a person's attribution is shaped by how they perceive the causality and controllability of the behaviour (Weiner, 1993). This means that an individual's perception of another's negative behaviour is perceived as more negative if a high level of control or intention is attributed to the behaviour. For example, Sam is an eight-year old boy who is refusing to engage in social play with his peers. The other children in the playground interpret the cause of Sam's behaviour as Sam rejecting the wider group. He is perceived as having a high level of control over his behaviour. As a consequence of this attribution, his peers perceive him negatively and react by avoiding him. Similarly, hostile attribution bias (Dodge & Crick, 1990) provides an additional model of social attribution. In social situations where the causes of peer instigated negative events are ambiguous, individuals are more likely to attribute hostile intention to the event. For example, where children are pushing each other

in a queue at break-time, those with a history of hostile behaviour are more likely to infer malicious intent to the behaviours of their peers and therefore feel justified in retaliation.

These fictitious examples highlight the function of attributions and peer perceptions in the psychological process of social interactions. In the context of PMIs targeted at promoting the social skills of children with autism, one would assume that as social interactions are key to the implementation of PMIs and form the substance of the intervention, that peers' perceptions and attributions of each other would be carefully considered as part of the design of the intervention. Surprisingly, across the studies considered in this review, few explored peer perceptions as outcome measures.

Only three studies gathered qualitative data from participants with autism and peers that provided insights into their perceptions and experiences of the intervention, thus enhancing social validity. In Koegel et al., (2013), approximately one half of the students with autism reported that they had made at least one new friend following participation in the intervention. Similarly, Hughes et al., (2011) sought qualitative feedback which showed that participants with autism reported having more friends at school as a result of the intervention. Moreover, peer partners' subjective evaluations of autistic participants were more positive of students who were more verbal and communicative following the intervention. The study highlighted not only the importance of creating opportunities for young people with autism to interact with their peers, but also the need to educate peers about autism and the specific needs of these young people.

Few of the adolescent studies explored children's perspectives on the validity of the interventions. Of the eighteen studies considered in this review, only three studies gathered qualitative data from peers and autistic participants on their experience of the intervention (Koegel et al., 2013; Hughes et al., 2013; Hughes et al., 2011). However, this provided valuable insight. One peer partner commented that he enjoyed the experience because it allowed him to get to know his classmate with autism as a "friend" (Hughes et al., 2013,

p.11). This draws attention to the importance of peer perception and attitude in shaping the effectiveness of the interventions, which has been overlooked in other studies.

The majority of outcome measures used were frequencies of observed social communication behaviours, mainly initiations and responses. This restricts the definition of social competency, and neglects key relational processes such as collaborative skills and perspective taking that could contribute to this outcome. Additionally, this neglects the role of mutual attributions as a psychological process underpinning social interactions (Kelley, 1967, Weiner, 1993). Some studies (Medina et al., 2016; Jung et al., 2008; McFadden et al., 2014) considered both the frequency and quality of social interactions and responses as outcome measures. For example, comments, requests and turn-taking were differentiated within a communicative act (McFadden et al., 2014). Mason et al., (2014), Harper et al., (2008), and Loftin et al., (2008) all made no such distinction and focused instead on the frequency of social interactions. In Ganz & Flores (2008), the authors noted that placing two children with autism in the same group provided less socially competent peer role models. This suggests that the structure of the peer group is a key factor in shaping the effectiveness of the intervention.

1.4.3 Behaviourist Principles

The majority of studies used a behavioural approach where rewards were used to engage peers with autistic participants (Mason et al., 2014). Other studies used ‘Pivotal Response Training’ as a social skills teaching strategy, which involves a combination of reinforcement and turn taking., the underlying principles are similarly behaviourist (Harper et al., 2008; Koegel et al., 2012a; McFadden et al., 2014). Goal-setting and self-monitoring were also used as part of some PMIs (Hughes et al., 2013). A limitation of the behaviourist approach is that it neglects other important aspects of social communication, such as the subjective evaluations made by both parties. Moreover, the majority of studies did not explicitly refer to an underlying psychological theory of change or justifying their

position. Additionally, the implicit assumptions of a behaviour modification model, frame children with autism within a deficit model of thinking. Peers are positioned as the agents of change who will increase the repertoire of social skills for the child with autism. This stance neglects the nuanced complexity of social skill development and other psychological mechanisms that may be involved, such as peer to peer attributions, perceptions and group relationship dynamics.

1.4.4 Long-term Impact

No studies considered the long-term impact of the PMI beyond three months. This means it is difficult to ascertain whether positive changes in social behaviour will be sustained over time and outside the immediate context of the intervention.

1.4.5 Limitations and Directions for Future Research

Although all eighteen studies considered in this review reported positive findings for the role of PMIs in promoting the social skills of children with autism, there are several important limitations to acknowledge.

Firstly, there was considerable variation across the studies considered in terms of the structure and definition of Peer-Mediated Interventions. Peers' role varied considerably, from the content and duration of training received. Adults' role within the interventions also ranged considerably.

Secondly, all of the studies used limited social outcome measures as evidence of the effectiveness of PMIs. Social skills were all operationalised through behavioural measures. The underlying meaning of this behaviour change was not made clear. Increases in the frequency of observed social initiations or responses as a result of PMIs does not necessarily mean an improvement in the social skills of children with autism. Further research is needed to explore the impact of PMIs using a wider variety of outcome measures. For example, qualitative data could provide insight into children's own

experiences and perspectives of the interventions. The relationship between attitudes and behaviour warrants closer scrutiny given the key role that attributions have in the psychological process of social interactions (Kelley, 1967). For example, it would be interesting to explore the role of peer perceptions. Recent research has identified how neuro-typical peers' understanding of autism is associated with greater levels of tolerance and acceptance (Matthews et al., 2015).

Thirdly, although some of the studies examined the effects of PMIs through the collation of follow-up data, this was not obtained long-term.

Fourthly, it is noteworthy that the majority of studies were conducted in the USA ($n=15$) and no research into the effectiveness of PMIs on improving autistic children's social skills has been conducted in a UK context. Future research should seek to explore how PMIs can be used in UK schools to support the inclusion of children with autism.

Finally, the studies considered in this review raise questions in terms of ethical practice. Regarding study design, specifically where child participants with autism were not included in social skills training, neuro-typical peers were in effect positioned as the normative agents of change whose role was to 'fix' the social skills deficits of autistic children. Given that social skills are relational, it is problematic to note that autistic children did not always have an active role in the interventions. Moreover, the studies raise ethical concerns relating to the engagement of children with autism in research. The majority of studies did not seek the views of autistic children, and it could be argued that this absence reflects a "paternalistic approach to the ethics of care and threatens to further disempower those already over-looked in key decision-making processes that shape their lives" (Milton, Mills & Pellicano, 2014, p.2650).

Across all studies considered, the majority of autistic participants were male, reflecting a sampling bias. Further research is needed to explore how PMIs may operate differently with girls who have a diagnosis of autism.

Future research needs to consider the developmental trajectory of PMIs and how the role of the peer may vary according to their age.

1.4.6 Implications for Practice

Educational Psychologists (EPs) draw from a range of theoretical perspectives such as theoretical, behavioural, cognitive and organisational (Fox, 2011) to justify the implementation of interventions. One key challenge is that Peer-Mediated Interventions (PMIs) are not securely rooted in one specific psychological framework. From the literature reviewed, there is no clear underlying psychological mechanism or ‘theory of change’ that applies to all PMIs. Implicitly, the psychology of PMIs is grounded in Behaviourism (Skinner, 1953). Behavioural approaches for supporting the social skill development of children with autism are not without controversy. Behaviour modification has been criticised for reinforcing a ‘psycho-emotional disablement’ (Reeve et al., 2002) of individuals with autism. For example, Applied Behaviour Analysis (ABA), a long-standing behaviour modification therapy used for children with autism has been criticised for its basic premise; to make people on the autistic spectrum become ‘normal’ (Lovaas, 1987). The underlying principles of behaviourism also potentially reinforce a pathologisation of difference, and risk positioning the child with autism as ‘other’, reinforcing ‘within-child’ deficit modes of thinking.

Until a more comprehensive understanding of the underlying psychological mechanisms of change, recommendations must be tentative. Although implementation of a PMI may be appropriate, EPs must also continue to draw from practice and person-centred approaches, to give careful consideration to how peers may be best placed to support the social skill development of children with autism.

If manualised training of younger age peers (Hu et al., 2018) is as equally successful as setting up a shared interest club where the role of the peer is more peripheral, (Koegel et

al., 2013) then it becomes more likely that multiple factors are contributing to the effectiveness of PMIs.

1.4.7 Limitations of the Review

To the author's knowledge, this is the first review which has focused exclusively on SSEDs of PMIs in promoting the social skills of children with autism and applied WWC Design Standards (Kratochwill et al., 2010) as a critical appraisal tool. It is important to note the limitations of the author's approach. Only studies published in academic or professional journals were included, excluding unpublished work thus increasing the risk of publication bias, which may have skewed the representation of positive findings. Group comparison designs were also excluded. Consequently, the author recognises that the body of research evaluating the effectiveness of PMIs including both group comparison and single subject experimental designs has yet to be compared.

It was beyond the scope of this review to consider larger scale experimental designs. As such, the focus was assessing the evidence provided from SSEDs. Findings therefore are limited in terms of generalisability. Without controlled experimental conditions, it is not possible to conclude with absolute certainty observed improvements in social skills were a result of PMI interventions. Conclusions drawn are necessarily tentative.

To the author's knowledge, only five PMI studies have been published that have used experimental group comparison designs or RCTs (Chang & Locke, 2016). RCTs are rooted in the post-positivist principles of causality (Christ, 2014), and are limited in that they do not seek to demonstrate how or why an intervention may have affected change in participants. Consequently, it may be useful to expand research in the field and consider a review exclusively of qualitative studies that have explored peer, participants and teacher perceptions of peer involvement in supporting the social skills of children with autism.

1.4.8 Conclusions

In conclusion, this systematic review has made an original contribution by evaluating the evidence for PMIs in SSEDs using the WWC design standards (Kratochwill et al., 2010). As an evaluative tool, it has been shown to have specific advantages compared with the 'Evaluative Method' (Reichow et al., 2008). The two-step screening procedure improves the objectivity of evaluation by considering all studies against a shared set of design conventions. It encourages the researcher to examine the methodological rigour and internal validity prior to considering treatment effects. However, as it was stipulated that two researchers were required to make a joint decision to confirm whether a study met 'Strong' evidence standards, it was not possible as an individual to go beyond the 'Moderate' evidence descriptor. Consequently, the tool was refined accordingly.

Overall, although the evidence from the studies considered in this review all reported positive findings, conclusions drawn are necessarily tentative. One key finding from this review was that to date, there is no consensus regarding the role that peers should play in interventions. Across the studies, there was significant variability in terms of training received, degree of adult involvement and level of understanding from both peers and autistic participants. This means that PMIs are necessarily defined by their context and are not suited to a manualised approach. For children with autism, this reflects the recommendations made by Humphrey & Hebron (2014) who highlight the fact that autistic children are a heterogeneous group and benefit from individualised interventions. PMIs provide the flexibility for this approach. Notwithstanding, it is difficult to isolate what key factors of PMIs have the greatest impact. Equally, findings from each study cannot be compared as are SSEDs.

Additionally, although some follow-up data was gathered in some of the studies, there was not enough information gathered long-term to demonstrate whether social outcome gains were sustained and generalised beyond the immediate context of the

intervention. Especially in studies that relied on considerable adult input through behavioural reinforcement and modelling during the intervention, it is questionable as to whether gains would be sustained. Future research is needed to investigate how PMIs support the social skill acquisition of children with autism in different contexts.

The outcome measures used in the majority of studies do not reflect the sophistication and complexity of social skills. An improvement in social skills is necessarily relational and cannot be measured solely by frequency of social initiations or responses. Future research should consider how peers can support in other aspects of social skill development, such as problem solving, conflict resolution, and imaginative play. Skills that are more relevant to children's social contexts.

A further and significant limitation was that studies presumed behaviour modification as the key underlying theory of change. Yet, social skills are relational by definition and other psychological mechanisms, such as peers' and adults' attitudes and understanding of autism, as well as their motivation to develop relationships were generally not identified as contributing factors that would influence the effectiveness of the interventions. Instead, the studies focused on peers' role in reinforcing and modelling social behaviours. In doing so, they neglected to fully consider the meanings behind behaviour change. The attitudes children develop towards each other are informed by the attributions they make of overt social behaviours. Arguably, their covert perceptions are key to understanding peer relationships and how children with autism are included as part of the wider social environment. The conclusions drawn from this systematic review indicate that peers have an effective role to play in the social skill development of children with autism, but it has only been demonstrated in the domain of behavioural modification. What is now needed is an exploration of alternative underlying psychological mechanisms.

Therefore, one objective of Chapter Two of this thesis is to explore peers' understanding and attributions of autistic behaviours.

Chapter 2 Child and Teacher Perceptions of Autism and Inclusion in the Playground Context: A Qualitative Approach

2.1 Introduction

2.1.1 Definitions of Autism and Terminology

Autism, or 'Autism Spectrum Disorder' (ASD) is defined as a neurodevelopmental condition that ranges from mild to severe (DSM-5, American Psychiatric Association, 2013). Different diagnostic labels have been used over the years, including 'Autism Spectrum Condition' (ASC), 'Asperger Syndrome' and 'Pathological Demand Avoidance' (PDA). As the term ASD has negative connotations implied through the word 'Disorder', the term 'Autism' will be used throughout this thesis. There are three core features; i) difficulties in reciprocal social interaction, ii) difficulties in communication, iii) repetitive activities and interests (Frith, 2008). In children, autistic behaviours may include acute difficulty in reading social cues and non-verbal communication. Language development may also be limited. Repetitive interests shown by children with autism are typified by their extremeness. Many children may enjoy playing with trains, yet for children with autism, this type of play may be obsessive and to the exclusion of other play activities. Children with autism tend to dislike change and have an aversion to novelty. Autism must be present in early development but behaviours may not become fully observed until social demands exceed limited capacities. Behaviours may also be masked through learned strategies (DSM-5, American Psychiatric Association, 2013).

It is important to acknowledge the diversity and uniqueness of children with autism. Uta Frith has described the "vast array of 'autisms'" (Frith, 2008, p.37), emphasising that because of its developmental nature, behaviours can present themselves differently according to individual and environmental factors. For example, some children with autism may present as disinterested in social interactions, whereas, others show interest but face challenges in reading the social cues of others, so hold back from engaging. Some children with autism may present with significant

language difficulties, whereas, others have good verbal ability but tend not to engage in reciprocal conversation because they need more time to learn the implicit rules of social interaction.

It has also been recognised that for every challenge that is presented to individuals with autism, complementary strengths can be identified. One challenge may be grasping the bigger picture or ‘gestalt’, a complementary strength to this is having good attention for detail. Autism has also been viewed as part of a wider neurodiversity movement that challenges the value of diagnostic labelling and advocates autism as something to be celebrated that is integral to identity (Kapp et al., 2013). Public activists such as Temple Grandin have advocated an ‘Autistic Manifesto’ to promote their view that autism is best considered as a difference in thinking style rather than a deficit (Grandin & Panek, 2013). The ‘autistic movement’ refers to the positive identity movement for autistic individuals. Members of the autistic rights movement promote the eradication of the diagnostic label believing it to reinforce negative stereotypes (Dawson, 2007). To challenge deficit models of thinking and acknowledge neurodiversity, throughout this study individuals without autism will be referred to as ‘neuro-typical’.

2.1.2 Inclusion

Inclusive education was first promoted in UK schools following the publication of the UNESCO Salamanca World Statement on SEN; that proposed governments adopt the principles of inclusive education, meaning all children, regardless of ability should be educated in mainstream schools (UNESCO, 1994). Over the past two decades, there has been an increase in the number of children with autism receiving education in mainstream schools as opposed to specialist provision (White et al., 2007). Between 1997 and 2001, there was an increase in 16% of children with autism attending mainstream schools in the UK (Keen & Ward, 2004). This figure increased to 70% of children with autism attending mainstream schools (Department for Education, 2010).

However, recent government statistics have shown that the number of exclusions of pupils with autism in English schools is on the increase. In England, during the academic year 2015/16, over four thousand pupils ($n = 4,340$) with autism received one fixed period of exclusion. This was a 20% increase on the previous year (Department for Education, 2018; Ambitious about Autism

(b) (n.d.)). This indicates the needs of children with autism are being unmet. School exclusion figures for autistic children was 24.7% for fixed term exclusions and 36.4% for permanent exclusions in 2015/16 (Department for Education, 2018). Moreover, pupils with autism and an Education, Health and Care Plan (EHCP) are more than three times more likely to receive a fixed term exclusion compared to pupils with other SEN backgrounds, their exclusion rates for 2016/17 are 9.58 and 3.06 respectively (Department for Education, 2018). These statistics raise questions about the implementation of inclusion and its effectiveness for children with autism.

It is helpful to consider what inclusion means in practice. In the context of educational psychology research, it has often been used synonymously with ‘participation’ and ‘integration’ of all pupils into mainstream education and definitions have been underpinned by the need to protect the rights of children with special educational needs (SEN) (Lindsay, 2007). In the past, pupils who were assessed as having SEN were not automatically afforded these rights.

SEN is a generic term that has been used widely in UK education for the past thirty years, as a way of describing children who have some degree of developmental difficulties that impact upon some aspect of their behavioural, social, emotional or communication development and their ability to care for themselves independently (Lindsay, 2007). In UK legislation, a child or young person can be described as having SEN if they have a learning difficulty or disability which warrants special educational provision (Department for Education, 2018b). Under guidance published in the SEN code of practice, schools have a legal responsibility to support children with SEN or disabilities and are required to make reasonable adjustments to ensure they are included (Equality Act, 2010). Inclusion is also referred to in the National Curriculum’s ‘Inclusion Statement’ that details the responsibility teachers have to set high expectations for every pupil regardless of prior attainment (Department for Education, 2015).

In international legislation, inclusion is promoted and established as a fundamental human right. The United Nations Convention for the Rights of Persons with Disabilities (UN General Assembly, 2007) identifies that full participation is a fundamental premise of inclusion in the wider society and international community (Vandenbussche & De Schauwer, 2017).

Chapter 2

International policy outlined in UNESCO's guidelines on inclusion and the 'inclusive education agenda' identify the right of all pupils to be offered an education that is individualised, flexible and adapted to their needs and abilities (UNESCO, 2009).

Viewed within a broad multi-dimensional framework, inclusion refers to both the inclusion of pupils in terms of their academic needs and their social needs. Socially, importance is placed on creating a culture of belonging, cooperation and harmonious relationships regardless of differing aptitudes and abilities (Nilsen, 2018). Underpinning this is the fundamental need to belong in society and to feel a part of a wider social group in education and more widely in society. It means, "...taking a full and active part in school-life, be a valued member of the school community and to be seen as an integral member." (Farrell, 2000; p.154).

However, the extent to which inclusive education, that is the inclusion of pupils with SEN within mainstream schooling, is evidence based has been challenged by (Lindsay, 2007). Following a systematic review of the literature, Lindsay found that there was not enough evidence to endorse the positive effects of inclusion. Only 1% out of 1300 studies reviewed between 2000-2005 addressed the effectiveness of inclusive education in promoting children's social and educational outcomes, and the results from these studies were only marginally positive. Furthermore, Lindsay highlighted the multiple ways in which the concept of inclusion was operationalised, drawing attention to its elusiveness which clearly impacts on how it has been measured. He concluded that inclusion policy has been driven by ideological and political motivations as well as the fulfilment of children's rights, rather than research evidence.

As a concept, inclusion is perhaps more helpfully described as an 'orienting' term, one that draws attention to issues relating to belonging and participation (Norwich, 2005). Arguably, it is best described as a set of values, or an ethos that establishes the importance of diversity. A set of principles that ensures those who have a disability or learning difficulties are valued members of the community and have full access to the school environment (Forest & Pearpoint, 1992). Moreover, for inclusion to be authentic, it needs to mean more than simply "placing a disabled person in a mainstream school and providing extra support. Inclusion demands major changes within society itself and should not be viewed in a vacuum" (French & Swain, 2004, p.169).

Given that fact that inclusion underpins both national and international legislative policy, it is critical that we gain a full understanding of how it is implemented in practice. Within the school setting, a key area of social interaction where one might predict inclusive policy is most visible, evident and readily tested, is the school playground and for this reason, the playground environment will be the focus of this thesis.

2.1.3 The Playground Environment

The child development literature has highlighted the importance of the playground context as a site of social interaction. More generally, playground spaces have been identified as key environments for children's social inclusion (Gleave & Cole-Hamilton, 2012). The playground environment can also be viewed as a layer of the child's ecological system (Bronfenbrenner, 1976). Children's play behaviours provide insights into their social and cognitive development from the early years, and it is the primary means through which infants begin to explore their own worlds (Piaget, 1959). Play also supports children's learning and attention (Pellegrini & Bjorklund, 1996). Yet, it is often overlooked within the wider school context (Blatchford et al., 2003). Presumed boundaries between the playground and classroom are misleading. Learning does not begin and end in the classroom and play can be used as a pedagogical tool. For example, research has shown that socio-dramatic play has been used to promote the writing skills of Primary aged children (Boyle & Charles, 2010). For all children, play is intrinsically motivating, and serves as a stimulus for social interaction. Yet, for children with autism, the demands of play are different.

There has been very little research that has explored the playground experiences of children with autism in mainstream schools (Ingram et al., 2007). Many of the social play skills commonly observed in the playground include turn-taking and following and initiating games, yet such social interactive skills are typically challenging for children with autism.

Peer play can be anxiety provoking for children with autism. The unstructured environment of the playground presents itself with new challenges. Decisions about what to play and who to play with present difficulties (Brewster & Coleyshaw, 2010). Similarly, understanding the social rules and nuances of playground dialogue can be perplexing and anxiety inducing (Ingram et al.,

2007). One would expect the constant fluidity of circumstance on the playground to contribute to the unpredictability of the environment.

Careful consideration needs to be given to the role of the adult in supporting children's inclusion. Additional adult support may inadvertently reinforce perceived differences of children with autism (Anderson et al., 2004). This study presented observational data on the social interaction patterns of children with autism in mainstream kindergarten. The authors found that at times, supporting adults "appeared to represent a barrier" between the child with autism and their peers (*op. cit.* p.382).

Children with autism have been identified as having greater difficulties with motor coordination, postural stability and speed of movement (Henderson & Sugden, 1992; Lang et al., 2010). This is likely to pose challenges on the playground in terms of physical play. Consequently, research has identified the need for an appropriate range of toys and activities for children with autism to use (Robinson & Browning, 2011). For example, the use of slides, rockers and spinning structures to aid gross motor development. Additionally, a dedicated space for children with autism to retreat to in the playground when they are feeling overwhelmed by social situations and seek a reduction in sensory stimulation has been identified as a potential facilitating factor to their inclusion. Equally, this may be beneficial for all children.

Children with autism have been reported to be more likely to experience poorer peer relationships and to be victims of bullying (Rowley et al., 2012). Shakoor et al. (2011) argue that these difficulties with peers are in part due to the challenges autistic children experience in accurately recognising social cues and contexts, and interpreting others' thoughts, intentions and actions. Although there is considerable variation in the friendship experiences of children and young people with autism, they are more likely to be on the periphery of social networks in mainstream school classrooms (Kasari et al., 2011).

Still, research findings present a complex picture of the peer and friendship experiences of children with autism. For example, at the peer-group level, findings from a large US national longitudinal study of adolescent students in mainstream schools with SEN ($n = 11,000$) highlighted

that adolescents with autism were more likely than other adolescents to experience social rejection and were less likely to be invited to social activities with peers (Shattuck et al., 2011). Although the findings were limited to data collected through questionnaires completed by parents and educators, the large sample size reflected a nationally representative sample. In contrast, when interviews and questionnaires on friendship quality were completed by both neuro-typical primary aged children and children with autism ($n = 45$), findings showed that, in general, most friendships for children with autism were reciprocated (Petrina et al., 2016). However, there was less reciprocation in terms of 'best friend' nominations for children with autism compared to their neuro-typical peers. Petrina et al.'s findings present a complex mix of findings relating to the friendship perceptions of children with autism and highlight the need to consider the perspectives of both members of the friendship dyad. It may be that children with autism define friendships differently compared to their neuro-typical peers. Research has shown that they children with autism aged between 9-11 years tend to define friendships with a greater focus on companionship and less on intimacy and affection (Calder et al., 2013; Bauminger et al., 2004). However, Bauminger et al.'s (2000) work demonstrated that children with autism desire social relationships and want to be part of a group of friends on the playground (Bauminger & Kasari, 2000)

Having friends may act as a buffer to the social vulnerabilities of children with autism in playground environments. In neuro-typical children, research has highlighted the association between friendship quality and adjustment. Having a supportive friend was found to be a protective factor against social maladjustment even when the friendship network was small and peer acceptance low (Waldrip et al., 2008). Research on the social inclusion of children with physical disabilities has identified the value of siblings in the role of friend and this is viewed as protective factor for children with disabilities in the playground (MacArthur & Gaffney, 2001).

When thinking about inclusion in the playground, it therefore follows that the role of the adult, the role of the peer group, the role of siblings and the role of the physical environment all need to be taken into consideration.

2.1.4 Inclusion in Practice: Do Perceptions Have a Role?

In an attempt to operationalise the concept of inclusion on the Primary School playground, for the purposes of this thesis, it would seem relevant to consider the psychology that underpins social relationships.

Social Identity Theory (Tajfel, 1982) has become a useful theoretical framework for analysing group-based social relationships. There is evidence that the basic in-group out-group structure that adults possess using terms such as ‘us’ versus ‘them’ is also present in children.

In an important review, Ziv and Banaji (2012) summarise the results on group structures which young children identify. One striking finding was that “when labels are used to categorise groups, young children show implicit preferences that are similar to those of adults, a surprising result given assumptions that sustained experience over development is necessary input to the development of implicit intergroup attitudes” (*op. cit.*; p. 17). This demonstrable power of labelling would suggest that children’s attitudes towards social difference could be predicted by the presence of a name used by other children to label ‘them’ as the outgroup and ‘not like us’. One objective of this thesis is to explore peers’ understanding and attributions of autistic behaviours. Based upon the findings from Ziv and Banaji (2012) it follows that the way in which adults explain and discuss differences between social groups could influence the emerging social identity structures in children.

The power of labelling has been shown in a recent study that examined college students’ perceptions of peers with autism (Matthews et al., 2015). In this study, 224 university students were randomly assigned to one of three labelling conditions; ‘high functioning autism’ (HFA), ‘typical college student’ or ‘no label’. Students were asked to respond to three hypothetical characters who presented with autistic behaviours, to examine the effect that a character label would have on peer attributions. Interestingly, results found that students made more positive behavioural and cognitive attributions to the vignette characters labelled with ‘high functioning autism’, as opposed to ‘no label’ or ‘typical college student’. This suggests that students’ perceptions were influenced by the

label, and that peers are more likely to show a greater level of tolerance for challenging behaviours, if they are provided with a reason.

Similarly, Campbell et al. (2004) highlighted the importance of labelling in promoting peer acceptance of children with autism in the Primary years. Peers were randomly assigned to view videotapes of a boy engaging in typical autistic behaviours. In one condition both descriptive and explanatory information were provided and in the other descriptive information alone. Results showed that the combination of descriptive and explanatory information about autism had a more positive effect on peer attitudes than descriptive information alone. Moreover, this finding was only relevant to younger Primary aged children (8-9 years old). The older Primary aged children (10 years-old) did not show the same shift in positive attitude toward the child with autism. This could indicate that their attitudes were more resistant to change. As children develop into adolescence, cognitive attitudes towards individuals with disabilities tend to become more negative (Ryan, 1981). However, as shown by Matthews et al. (2015), attitudes are not necessarily fixed. The authors suggest that explanatory information was effective for the 8-9 year-olds because when given that information, they were able to attribute less responsibility to the child for unusual behaviours that they observed in the video-recordings. Children at 8-9 years of age were able to attribute the behaviour to situational factors rather than dispositional or personality factors. Attribution theory supports this explanation (Kelley, 1967). Campbell et al. (2004) also identified gender as a key factor in influencing children's attitude formation. Girls were more receptive to the combined effects of descriptive and explanatory information about autism.

Labels can function to explain behaviour and indirectly promote inclusion by fostering a more tolerant and accepting attitude. Findings from a more recent study indicated that peer attitudes towards children with autism were primarily influenced by perceived similarity to their own peer group and social status (Tonnsen et al., 2016). This experimental study examined how children's attitudes towards a fictional peer with autism varied according to the character's physical inclusion and social acceptance. Children were aged between 11 and 14 years ($n= 83$). Participants' attitudes were measured after viewing one of four social networking blogs that represented a character with autism in four conditions; physically included, physically excluded, socially

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accepted or socially rejected. It was found that social acceptance affected peers' attitudes towards the character with autism. The character's acceptance by his peer group accounted for 10-24% of variability in participants' self-reported attitudes. This association was found even when the character was depicted without autism, highlighting the importance of perceived social acceptance when forming impressions of peers. It is possible that these findings are particularly salient for children at this developmental stage, as research has shown that in seeking social integration, adolescents seek acceptance from peers who are of a similar or higher status than themselves (Dijkstra et al., 2013). One implication of this study would be that efforts should be made to identify the strengths and abilities of children with autism to enhance their status within the peer group.

In summary, these studies draw attention to the significance of labels in children's attitude formation concerning autism. Where labels serve to explain the atypical behaviours of children with autism, they have power in shaping peers' positive attributions. However, it would seem that the value of the explanatory label loses its efficacy during pre-adolescence when other competing processes of making sense of social situations become more salient. This is demonstrated by Tonnsen et al. (2016) who show that for children aged between 11-14 years, social acceptance and the drive for group identity overrides any label that might be attributed to an individual.

In terms of inclusion, this is essential as attitudes are a key motivating factor for social interaction and therefore inclusion (Ajzen & Fishbein, 1977). In terms of educational practice, it follows that due consideration should be given to educating peers about autism and efforts should be made to support children with autism in gaining a group identity, with particular emphasis at the pre-adolescent stage.

2.1.5 The Present Study

Focusing on the experiences of children with autism, the present study had three key aims. The primary aim was to explore how inclusion of children with autism works in practice on the Primary school playground. The secondary aim was to identify potential barriers and facilitators to the inclusion of children with autism in the playground context. The long-term aim was to further

the understanding of how children with autism can be supported and included in playground contexts.

The objectives of the present study were the following:

- i) To explore the perspectives of both children with autism and their typical peers about play and playground experience
- ii) To explore peers' understanding and attributions of autistic behaviours
- iii) To explore teachers' understanding of inclusion and autism on the playground

In summary, the present study sought to triangulate perspectives and experiences of children with autism, their peers and their teachers to provide a rich qualitative picture of the playground experience, to further understanding of how inclusion is practised.

2.1.6 Research Questions

The main research question of the present study was: How do children with autism, their peers and their teachers understand and experience play and inclusion in the Primary school playground?

Underlying this main question, the researcher sought to answer the following subordinate questions:

- i) What are the barriers to the inclusion of children with autism in the primary school playground?
- ii) What are the facilitating factors that promote the inclusion of children with autism in the primary school playground?
- iii) How do peers perceive autistic behaviours and make sense of difference?
- iv) How do teachers define and implement inclusion within the primary school playground?

2.2 Methods

2.2.1 Epistemological Position

In the present study, a social constructivist epistemology was adopted. This approach emphasises that psychology is a socially constructed discipline, based on the interactions between individuals situated within their social context (Gergen, 1973; Burr, 1995). Social Constructivists believe that reality is shaped by the language we use to understand the world and focus on the social interactions and practices that frame realities (Young & Collin, 2004).

A social constructivist position was taken by this researcher because she wished to examine children's and adults' perceptions, generating language-rich data and multiple perspectives in the process. In this sense, children are positioned as active participants in the research process and are considered as "experts in their own lives" (Langsted, 1994).

The social constructivist position also focuses on the processes and wider contextual factors within the dynamics of relationships. Knowledge is recognised as something that is co-constructed not something that is possessed. Additionally, this position acknowledges the active role the researcher plays in the research process and the researcher's responsibility to reflect on their role within this (Lock & Strong, 2010). The potential for researcher subjectivity bias within the study needs to be acknowledged. In an attempt to minimise this, the researcher aimed to be reflexive and engaged in discussions with her supervisor about her thought processes and produced a reflective log in order to be transparent about her place within the research and her role in creating meaning from the given data (see Appendix B).

2.2.2 Design

A qualitative case study research design was used with qualitative methods. Each school that participated in the current study is defined as a case (Flyvbjerg, 2011). The study adopts an interactive model of design informed by the research aims and questions (Maxwell, 2005). The

design is also based on ecological systems theory. Within each case, data were collected at each ecological level, from the individual participant with autism to their peers and teachers. This situates the child at the heart of the research design, and frames analysis on the interrelationships of these different sources of influence (Bronfenbrenner, 1976). The researcher sought to incorporate a design that reflected the purpose of triangulating perspectives within an ecological context. A series of cases was used to explore the underlying factors that promoted and hindered inclusion of pupils with autism in Primary Schools and allowed for descriptive comparisons between cases to be made as data were gathered from multiple sites (Miles & Huberman, 1994). However, no causal inferences or generalisations beyond the sample of participants can be assumed. Semi-structured interviews were used to explore both children's and teachers' perspectives to allow flexibility in exploring perceptions (Cresswell, 2012). A modified visual mapping tool was also used with participants with autism to support their self-expression (Ripley, 2015) (Appendix C).

2.2.3 Participants

Participants were recruited from Primary Schools in Hampshire, UK. Information letters were sent to the Head-teachers and SENCOs of 7 schools who commissioned Educational Psychology support from the Hampshire and Isle of Wight Educational Psychology Service (HIEP). Three schools agreed to take part. Table 3 summarises the characteristics across the three schools. There was variation between schools in terms of the total number of pupils who were on roll and the percentage of pupils who were eligible to receive free school meals. There was also variation between schools in terms of the number of pupils who were registered as SEN learners.

Parental consent was received for 32 children participating in the study across three schools. Focus groups were recruited from the same class as the child with autism. Head-teacher consent was received from all three participating schools, and written consent was received from the 7 participating teachers. Nine children who had a diagnosis of autism were identified through the school's SENCO. In school 1, there were 4 participants with autism (3 males, 1 female) aged between 7 years and 10 years. Two focus groups were interviewed from school 1, one group of 7 year olds ($n= 5$) and one group of 10 year-olds ($n= 4$). In school 2, there were 2 participants who

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had a diagnosis of autism, both male who were also twin brothers aged 7 years. Each brother was in a separate class, and therefore it was necessary to have two focus groups. Two focus groups were interviewed from school 2, both aged 7 years ($n=2$) and ($n=5$). In school 3, there were 3 participants with autism, all male aged between 7 years and 8 years. Two focus groups were interviewed from school 3, one group of 7 year olds ($n=4$) and one group of 8 year olds ($n=3$). All focus groups were composed of both males and females. A diagrammatic representation of participants is presented in Appendix D. Participant information can be found in Tables 4, 5 and 6. To maintain ethical standards of confidentiality, all names of participants have been changed.

Table 3.

School Group Characteristics

School	Total number of participants	Total number of children on roll	% of children receiving free school meals	% of children with SEN
1	17	489	34.6%	15.8%
2	12	434	9.4%	9.9%
3	11	501	39.9%	11%

Table 4.

Information about Participants with Autism

Pseudonym	School	Age (years) Sex (m/f)
Rollo	1	7 years-old (m)
Billy	1	7 years-old (m)
Jamie	1	8 years-old (m)

Carly	1	10 years-old (f)
Kevin	2	7 years-old (m)
Joey	2	7 years-old (m)
Leo	3	8 years-old (m)
Daniel	3	8 years-old (m)
Freddy	3	7 years-old (m)

Table 5.*Peer Group Participant Information*

Pseudonyms	School	Age (years)
Katie, Dylan, David, Clare, Ginny	1	7-8 years-old
Henry, Lucy, Tom, Fran	1	9-10 years-old
Catherine, James	2	7-8 years-old
Madeleine, Emilia, Sam, John, Lulu	2	7-8 years-old
Orla, Kirsten, Sophie, Paul	3	7-8 years-old
Rupert, Esme, Robbie	3	7-8 years-old

Table 6.*Teacher Participant Information*

Pseudonym	School	Teaching Year Group
Teacher 1	1	Year 3
Teacher 2	1	Year 3
Teacher 3	1	Year 6
Teacher 4	2	Year 3
Teacher 5	2	Year 3
Teacher 6	3	Year 3
Teacher 7	3	Year 4

2.2.4 Materials

Semi-structured interview schedules for teachers and children were developed by the researcher (Appendices C, E and F) to meet the research aims and questions of the study. The interview schedules for child participants with autism were designed to facilitate exploration of their experiences of playtime, the relationship dynamics of this space, and their views of their environment. Questions were both descriptive and evaluative, and visual materials were used where necessary to support autistic participants' expression of their views (Appendix C). This included using an adapted version of 'Mapping the Landscape of Fear' (Ripley, 2015). The researcher photographed the playground areas of each school on arrival and used these photographs with the autistic participants as a visual reference so they could answer questions on where they felt most happy and least happy on the playground. Ratings scales and emotions feelings cards were used to facilitate children answering questions about how they felt in different locations of their playground (Appendix C).

During the focus group interviews, three different vignettes were used as a focus for discussion. Each depicted examples of interaction with a main character who presented one of three characteristics associated with autism; fixated interests, difficulties in social-communication and a desire for consistency (Appendix G). Questions focused on exploring how peers would respond to the main character and their judgements and explanations for that character's behaviour (Butler & Gillis, 2011; Matthews et al., 2015).

2.2.5 Ethical Considerations

Ethical approval was gained from the Psychology Ethics Committee at the University of Southampton (Study ID 31798, 29 March 2019) (Appendix H). All participants were informed of their right to withdraw from the study at any point during the process and verbal assent was also sought in addition to written consent. The researcher acknowledged the importance of obtaining the child's voice. It was further acknowledged that children with autism have communication difficulties. Therefore, visual emotion cards were used to aid in the elicitation of their views (Appendix C). This attempted to minimise any potential imbalance of power dynamics between researcher and child.

2.2.6 Procedure

After ethical approval was obtained, schools were approached to participate in the study (Appendix I). In participating schools, information letters and opt-in consent forms were sent to teachers and parents (Appendix J). The researcher began data collection in School 1 in the Autumn Term of 2018, and completed data collection in School 3 in the Spring Term of 2019. The time spent in each school ranged between 1- 3 days. The order of interviews was arranged on the day and the researcher was flexible in her approach to fit in with the schools' own timetables. Before the interviews began, it was ethically important to prepare the participants with autism in order to reduce any potential anxiety that they may have experienced. Interviews took place within a quiet space of the school, usually an office or empty classroom and lasted no more than 30 minutes. All interviews were audio-recorded. On completion of data collection, teachers and children were

debriefed (Appendix K) and children were invited to play a short card game. Data were fully anonymised and transcribed by the researcher for analysis.

2.2.7 Analytic Strategy

Interview data were transcribed and then analysed using thematic analysis. This analytic approach is used for qualitative data as a means of identifying and exploring patterns and themes across data (Braun & Clarke, 2006). This form of analysis is useful as it aims to provide a rich description of the data. Alternative analytical approaches were considered, for example, content analysis. However this approach was discounted as codes were not pre-established as the researcher developed codes inductively from the data and there was no quantitative analysis of the qualitative data (Krippendorff, 2004).

In order to apply a consistent and transparent approach to conducting thematic analysis, the researcher adhered to Braun and Clarke's (2006) six stage process (see Table 7). Analysis was framed by the research questions, and focused on exploring participants' understandings and experiences of play and inclusion. Data was coded at the semantic level through an inductive and iterative process. Analysis was driven by a social-constructivist epistemology. Codes were inferred from the language used by participants and were informed by the contexts of the interviews which shaped the meaning of the data. The researcher kept a written record of relevant contextual factors that might have been salient to the interview process. This was gathered during a pre-data collection meeting with each school's SENCO (Appendix B). This allowed for the creation of map of the data from the respondents' point of view (Guba & Lincoln, 1994). A reflective log was also kept to allow for transparency about factors that could shape the researcher's interpretation of data. This also allowed the researcher to consider her own role in the construction of meaning (Appendix B).

The researcher analysed each set of interviews separately. This was in order to reflect the distinctiveness of each ecological context. For each set of interviews initial thematic maps were produced (Appendix L). After reflection on the definition of the initial themes, and to reduce duplication and refine sub and subordinate codes, a final set of thematic maps was produced

(Figures 2, 3 and 4). Thematic maps were shared with the supervisor to arrive at a shared consensus on a final thematic map.

Table 7.

Stages of Thematic Analysis and corresponding Researcher's actions (Braun and Clarke, 2006)

Stage	Process
1. Data Familiarisation	<ul style="list-style-type: none"> • The researcher transcribed the data from the interviews verbatim. • The researcher actively read through transcripts several times, making initial notes of ideas, patterns and emerging themes.
2. Identification of Initial Codes	<ul style="list-style-type: none"> • An initial list of ideas for codes were created based on the areas of interest defined in the research aims and questions of the present study. • Codes were driven by data rather than theory (Braun and Clarke, 2006) • The researcher worked through the complete data set systematically to organise the data into categories of meaning. See Appendix M for selected examples of coded transcript extracts.
3. Searching for Themes	<ul style="list-style-type: none"> • Codes were sorted manually into initial themes, and then sub and subordinate themes. These were developed based on the researcher's own interpretative judgement (see Appendix N for final coding manual).
4. Reviewing Themes	<ul style="list-style-type: none"> • Where necessary, themes were reviewed to complement coded extracts. • Amended thematic maps were produced. • Final thematic maps were produced.
5. Defining Themes	<ul style="list-style-type: none"> • Data extracts were collected for each theme and where necessary relevant sub-theme. Consideration was given to what was of interest about the themes. Data extracts were chosen by the researcher to provide evidence for the themes (see Findings section).
6. Reporting the Analysis	<ul style="list-style-type: none"> • An account of the data in relation to the research questions and aims of the study

was produced. Links were made to relevant psychological theory and literature (see Discussion section).

2.3 Findings

2.3.1 Qualitative data

Qualitative data were obtained through semi-structured interviews with 9 participants with autism, 23 peers and 7 teachers, from three Primary Schools. Findings are presented in the thematic maps below (Figures 2, 3, 4 and 5).

Figure 2. Final Thematic Map for Teacher Perceptions

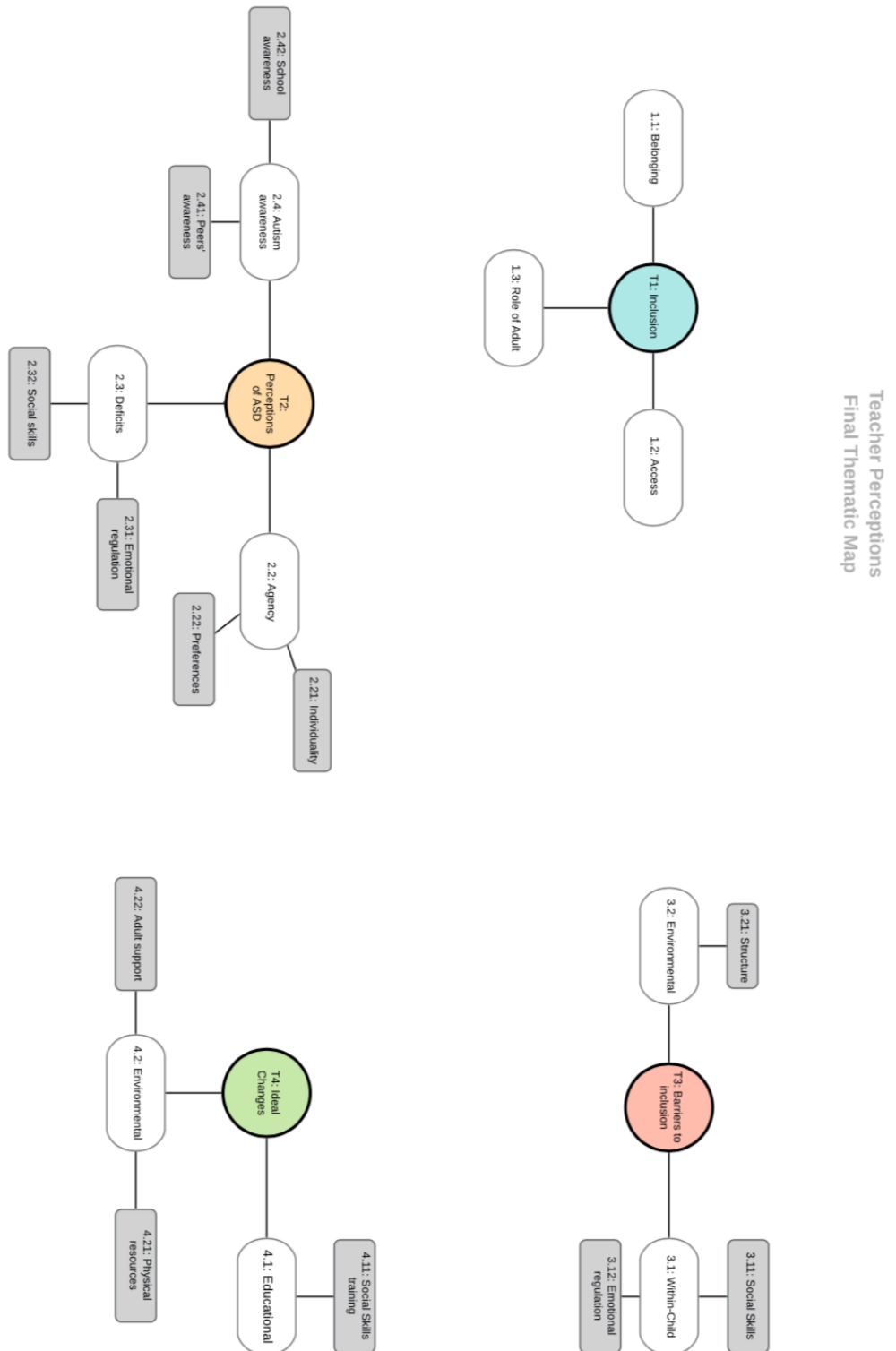


Figure 3. Final Thematic Map for peer perceptions

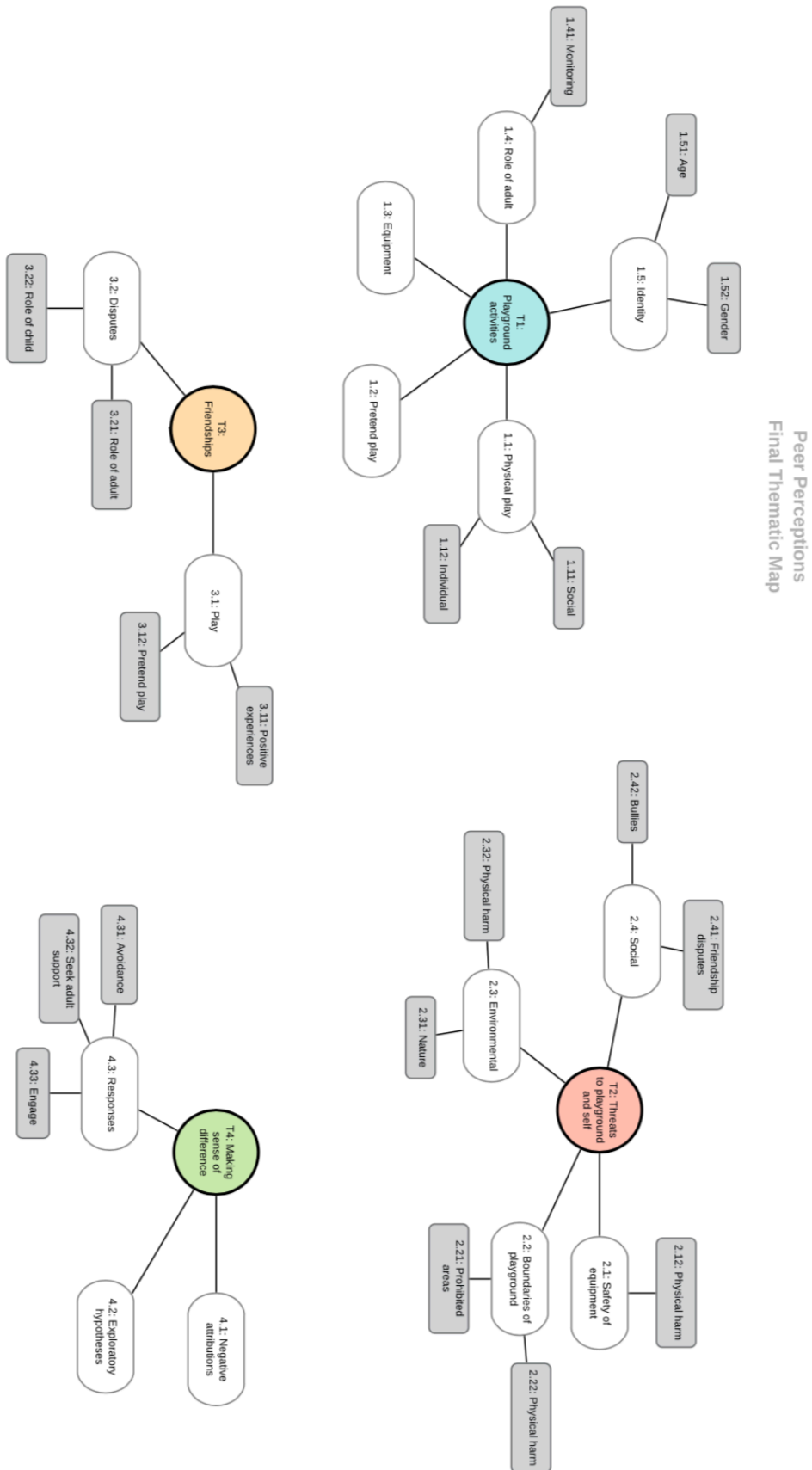


Figure 4. Final Thematic Map for perceptions of children with autism

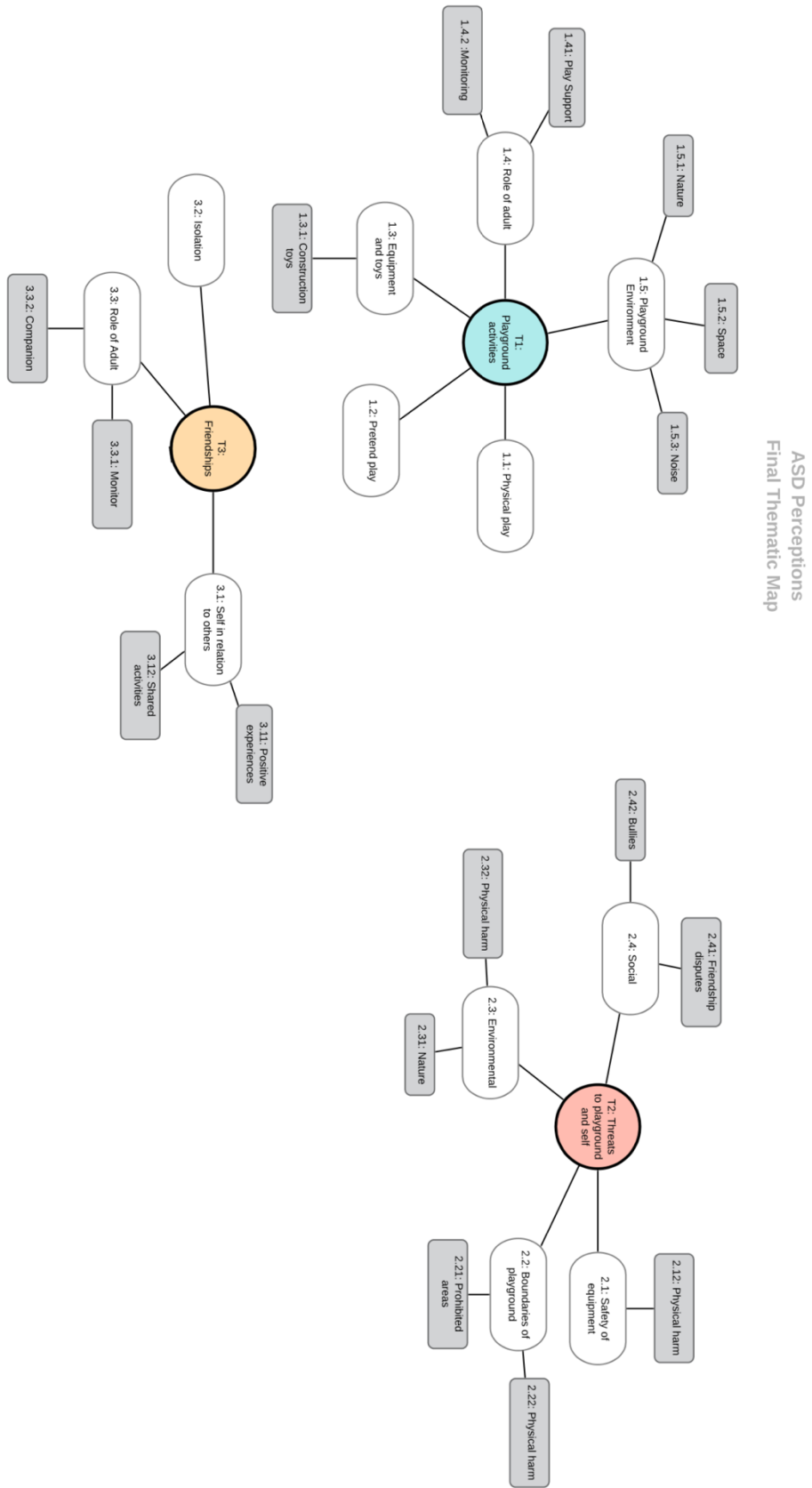
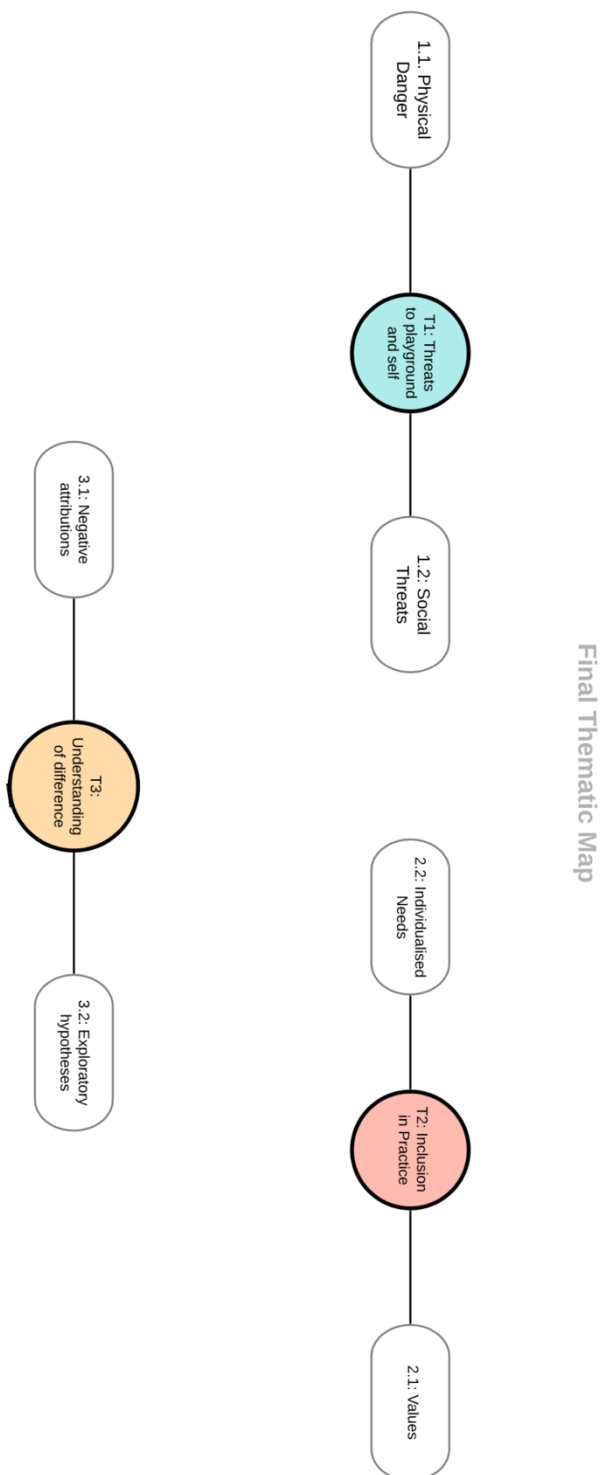


Figure 5. Final Thematic Map for triangulated perspectives



As shown from Figure 2, in exploring teacher perceptions, four overarching themes were identified; 'Inclusion', 'Perceptions of Autism', 'Barriers to Inclusion' and 'Ideal Changes'. From these main themes, ten sub-themes and twelve subordinate themes were identified.

As shown from Figure 3, in exploring peer perceptions, four overarching themes were identified; 'Playground Activities', 'Threats to Playground and self', 'Friendships' and 'Making sense of Difference'. Within these main themes, fourteen sub-themes and nineteen subordinate themes were identified.

As shown from Figure 4, in exploring perceptions of children with autism, three overarching themes were identified: 'Playground Activities', 'Threats to Playground and self' and 'Friendships'. Within these main themes, eleven sub-themes and fifteen subordinate themes were identified.

In Figure 5, the three strands of data were triangulated and a final thematic map was produced. The themes reflect across and between-participant responses. Within the data corpus, three overarching themes were identified: 'Threats to Playground and self', 'Inclusion in Practice' and 'Understanding of difference'. Within these main themes, six sub-themes were identified.

Due to the richness of data captured from both child participants and teachers, it was deemed beyond the scope of this thesis to explore every theme. It was decided therefore to focus on exploring themes that were most helpful in addressing the research questions. Initially, three sub-themes relating to teacher perceptions of autism were identified. These were, 'Autism Awareness', 'Agency' and 'Deficits'. Although of interest, the sub-themes 'Agency' and 'Deficits' focused on teachers' understanding of autism, it was decided to exclude these sub-themes because they were deemed less relevant to the playground context. Whereas, 'Autism Awareness' referred to teachers' understanding of peers' awareness. Given the primary aim of this thesis was to explore how inclusion of children with autism works in practice on the playground, peers' awareness was deemed most contextually relevant.

In the peer perceptions data, 'Playground activities' and 'Friendships' were both excluded from analysis because they focused more on the play preferences of typically developing children

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and did not provide insights into the relational dynamics between children with autism and their peers.

For the sake of clarity, the table below provides a key to each theme presented in the Findings within each group of participants. Themes were defined and numbered within each group (see thematic maps). Themes were identified within each specific participant group. Note that ‘Triangulated Perspectives’ reflects the themes found across and between participant responses.

Table 8.

Key to themes presented in Findings

Teacher Perceptions	Peer Perceptions	Perceptions of children with autism	Triangulated Perspectives
T1= Inclusion T2= Perceptions of autism T3= Barriers to inclusion T4= Ideal Changes	T2= Threats to playground and self T4= Making sense of difference	T1= Playground activities T2= Threats to playground and self T3= Friendships	T1=Threats to playground and self T2= Inclusion in Practice T3= Understanding of difference

Teacher perceptions

Theme one: Inclusion. The theme ‘Inclusion’ concerned factors related to teachers’ personal definitions of inclusion in the playground and how they understood this in practice. This theme consists of three main sub-themes: ‘Belonging’, ‘Role of Adult’ and ‘Access’.

Belonging (sub-theme 1.1). This sub-theme relates to teachers’ definitions of inclusion that referred to the importance of creating a shared sense of belonging for all pupils. A sense of community and togetherness as a key dimension of inclusion in practice.

Interviewer: What does inclusion in the playground look like to you?

Teacher 3: I would say everyone together lots of different children

Interviewer: What does inclusion look like to you?

Teacher 4: Making sure that all the children are playing together

Access (sub-theme 1.2). This sub-theme referred to teachers' definitions of inclusion that emphasised the importance of children having access to all opportunities and resources on the playground, especially in terms of physical resources.

Interviewer: What does inclusion in the playground look like?

Teacher 2: ...it would involve everybody being able to access the activities that are being put in place

Interviewer: How do you define inclusion?

Teacher 6: ...making sure that everyone is able to join in with games...to make sure that everyone has the same accessibility

Role of adult (sub-theme 1.3). This sub-theme related to the different ways in which teachers perceived their role in supporting inclusion in the playground. Two distinct subordinate themes emerged. Some of the teachers interviewed perceived the role of the adult as play supporter.

Teacher 3: I'll join in with games and play with them

Teacher 1: We often go out onto the field and have a game of football

Within the role of play supporter, one teacher identified their role as instructional and highlighted their role in developing the play skills of children with autism in the playground.

Interviewer: Do adults have a role in that?

Teacher 4: Yes, we might ask children who they would like to play with and help them get included.

Try to create like a buddy system

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Whilst only one teacher explained their role as a play supporter, all teachers identified the monitoring aspect of their role in the playground, and their purpose to manage and supervise children's behaviours.

Interviewer: How do you see your role in children's playtime?

Teacher 3: Generally, there's three of us on duty at one time so you have kind of areas to watch and make sure that children are being safe

Theme two: Perceptions of autism. The theme 'Perceptions of autism' related to how teachers described and shared a personal understanding of autism. The sub-theme 'Autism awareness' is of greatest relevance to the analysis.

Autism awareness (sub-theme 2.4). This sub-theme refers to teachers' understanding of how autism is made aware within the school context and the level of understanding demonstrated by typical peers of the child with autism. All teachers were explicit in that they did not refer to autism as a special educational need within the school.

Interviewer: So in the classroom, would you refer to autism?

Teacher 1: We haven't used those terms.

Interviewer: So has a child in the class ever said, 'What is Autism?'

Teacher 1: Nobody has every raised it...I don't know whether they (peers) would...I think some of them would think that's just Billy and accept it

Interviewer: Would you talk about Autism?

Teacher 3: I haven't personally...they (peers) have been in the same class as Rollo since reception so they've grown up with him so I guess they're all very aware of him being different

Theme three: Barriers to inclusion. The theme 'Barriers to inclusion' related to factors identified by teachers as potential obstacles to inclusion in the playground. This theme consists of two sub-themes: 'Within-Child' and 'Environmental'.

Within-Child (sub-theme 3.1). This sub-theme referred to teachers' identification of barriers to the inclusion of children with autism in their class that are attributed to the specific behavioural or social-communication difficulties of the child with autism. The barrier is situated firmly 'within-child' rather than externally in the environment. Within this, two subordinate sub-themes were identified; 'emotional regulation' and 'social skills'.

Interviewer: What kind of things prevent his inclusion?

Teacher 5: If something upsets him he lets his anger levels go up. He has a lot of problems with boys in his class not because they've done anything but because one little thing happened here or there, and he's built up a list of people he doesn't get on with

Interviewer: What do you think makes it difficult for Carly to be included?

Teacher 4: Well...when they're playing she'll give up on a game quite easily. She likes being around adults more, just like coming over. Carly prefers to stay and gravitates to adults

Environmental (sub-theme 3.2). This sub-theme referred to teachers' identification of environmental barriers to the inclusion of children with autism. A key subordinate theme within this were the challenges of the playground, especially in terms of its lack of structure.

Teacher 4: In the playground, she loses the thread because it's too free-flowing

Interviewer: What about the environment of the playground?

Teacher 6:structure would be great. A bit more structure at break-time so they know they are going out and they're going to do this or that or whatever it might be

One teacher identified that a lack of structure during playtime has consequences for the behaviour of children in afternoon lessons which she found difficult to manage.

Teacher 6: ...if either of them come in the wrong frame of mind that's it then. Like the first twenty minutes or so of the next lesson are almost a write off

Theme four: Ideal Changes. This theme referred to the desired changes teachers spoke of that they felt would support and promote the inclusion of children with autism in the playground.

Educational (sub-theme 4.1). This sub-theme relates to the need for greater educational provision for children with autism, particularly with regard to social skills training and the development of play skills.

Interviewer: Would you make any changes in the playground to better support his inclusion?

Teacher 2: Teaching him how to engage. Maybe engaging in small groups if you play games it's about how he interacts.

Interviewer: What would you change to support Carly?

Teacher 5: I think we don't have enough play leaders. We have adults monitoring areas but we don't have anyone modelling play...initiating play with straightforward interaction. Carly needs someone to get it going for her, just to lead so she can follow

Environmental (sub-theme 4.2). This sub-theme refers to teachers' identification of environmental changes they would make to improve the inclusion of children with autism. Within this theme, two subordinate themes were identified: 'Physical resources' and 'Adult support'.

Several teachers suggested that a greater variety of physical resources, such as toys and games would be helpful additions to encourage inclusion. This would provide children with autism structured activities they could engage in and enjoy.

Interviewer: Would you make any changes in the environment in the playground?

Teacher 5: Potentially, you could have like more play things if that makes sense to there's slightly more choice

Teacher 3: More equipment so he doesn't have to wait his turn, or to have more choice of where to go

Having an adult present to support inclusion in the environment was also identified as a potential positive change. They could support the child by ensuring they were not socially isolated.

Teacher 3: We're thinking of having an area where children can go to where they don't have to go and ask. They can just sit there and we could provide someone to play with

All teachers commented that their current role allowed for infrequent playground monitoring and supervision, of no more than one fifteen -minute duty session per week.

Peer Perceptions

Theme Two: Threats to the Playground and Self. This theme refers to the perceptions of threat and risks children experienced in relation to their playground environment and to themselves. All children, regardless of year group expressed anxiety about being injured or harmed in the playground environment. Distinctions were made between the types of threat experienced and four main sub-themes were identified: 'Social', 'Safety of equipment', 'Boundaries of the playground' and 'Environmental'.

Safety of equipment (sub-theme 2.1). This sub-theme refers to children's identification of threats and dangers in relation to play equipment. Within this sub-theme, physical harm was identified as a key subordinate theme.

Interviewer: So when things go wrong on the playground, what happens?

Katie: People get hurt and stuff and they got rid of the monkey bars 'cause people kept breaking their arms

Dylan: Yeah

Interviewer: So you like the football pitches then?

David: Yeah my favourite thing is football, but the posts are bad

Interviewer: Why are they bad?

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David: Cause it's really bobbly

Daniel: Yeah they are like wood and you could smack your head or something...you could get concussion or something

Boundaries of the playground (sub-theme 2.2). This sub-theme refers to children's identification of threats in relation to the perimeters or edges of the playground space. Children expressed anxiety around prohibited areas where they might experience dangers and physical harm. One child in Year 3 expressed concern about the boundaries of the playground space, especially as this area is unsupervised and could open-up new threats.

Interviewer: Is that a place where you're not allowed to go?

Katie: Yeah, it's by the fence where we're not meant to go...and twice the same dog has come into the playground through the fence. It was a big one so I was a little scared

Environmental (sub-theme 2.3). This sub-theme refers to the environmental threats children perceived in the playground. Within this two subordinate themes of 'Physical harm' and 'Nature' were identified. Children across all age groups identified natural threats in their playground, hazardous plants and the unpredictability of animals.

Interviewer: Clare, what do you think? What do you like the least and what do you like the most?

Clare: Well the thing that I don't like about the playground is the mound because it's made of stinging nettles and that and people get hurt

Daniel: I just want to say that I would build a big shelter so if it rained people could go in it. Also my friend got stung by the stinging nettles

Social (sub-theme 2.4). This sub-theme refers to children's perceptions of social threats in the playground. This was further categorised into two subordinate themes of 'Bullies' and 'Friendship Disputes'. Several children explained how friendships can be undermined by disputes and fighting, and have the potential to cause physical harm.

Interviewer: You mentioned kicking and punching Henry, does that happen quite a lot?

Henry: Yes, I've got kicked somewhere really bad, it was someone in another class. Freddy kicked me somewhere where it really hurts...but then next day we were friends

Children also identified the role bullies can play in the playground can act to hurt others and break school rules.

Ginny: Well, the naughty ones they swear and throw balls. They always do the wrong thing

Interviewer: What do they do?

Ginny: Hurt people and fight and throw things. I don't like it

Theme Four: Making sense of difference. This theme refers to the ways in which children responded and attempted to make sense of the vignettes depicting autistic behaviours and specifically the key characters within the story. Within this theme, three sub-themes were identified: 'Negative attributions', 'Explanatory hypotheses', and 'Responses'.

Negative Attributions (sub-theme 4.1). This sub-theme relates to children's negative representations or attributions of the key characters within the vignettes who presented with typical autistic behaviours. Older Primary age children expressed negative comments or were critical using character evaluations or judgements. The Year 6 focus group evaluated the characters with affirmative negative attributions with minimal exploration of possible reasons for the character's behaviour.

Interviewer: So what do you think of Kyle in the story?

Lucy: Random

Interviewer: What does 'random' mean to you?

Lucy: Different and strange

Interviewer: Ok, what would you think of Kyle if you met him?

Fran: That he's a bit cuckoo and boring

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Interviewer: Ok, can you tell me more?

Tom: I think he's a nut in the old Noggin

Interviewer: What do you mean by that?

Tom: It means he's a bit loopy

Interviewer: What's the opposite of loopy?

Tom: Unloopy...sensible! Not weird like him

Exploratory hypotheses: (sub-theme 4.2). This sub-theme refers to children's tentative and exploratory explanations for character behaviours in the vignettes. The views expressed were neither negative nor positive but sought to understand the function of the behaviour presented. These were more frequently observed in the younger children aged 7-8 years-old.

Interviewer: So what do you think of Sally in the story?

Catherine: She might just be shy

Interviewer: Ok, she might be shy...what do you think Daniel?

James: Well I'm not sure. Maybe she's just having a day where she wants to play by herself

Catherine: Yeah maybe she's kind of sad and she tries to relax or something

Interviewer: So tell me what you think of Kyle in the story?

Madeleine: He's like in the zone...he's just forgotten about the outside world and that

Sam: Yeah, maybe he's just said 'No' because he wanted to play on his own

Responses (sub-theme 4.3). This sub-theme refers to the different ways children said they would respond to the character in the vignettes. Three subordinate themes were identified within this sub-theme: 'Avoidance', 'Seek adult support' and 'Engage'. This reflected the different ways in which children imagined they would respond to the key characters from the vignettes in real-life.

Children across all age groups expressed the view that they would seek to avoid the character.

Interviewer: So what would you do if you met Sally in real-life?

Henry: I would just leave her alone cos she might tell me off and it might sound like I'm being rude.

Lucy: I wouldn't feel safe...like you never know what she is going to do. I'd just leave her alone

Interviewer: So would you do the same?

Esme: I would leave her alone cos she might try and attack you or something

Other children expressed the view that they would attempt interacting with the key characters, to engage in some form of social interaction.

Robbie: I would tell her to try new things...like try to help her so she doesn't just stick with that her whole life

Interviewer: So what would try to make friends?

Clare: Well, I wouldn't leave her alone because if you're a crazy person and you want to hang out with her you can, there's no right or wrong

Many of the children expressed the view that they would seek out adult assistance or support as a way of responding.

Emilia: I'd tell the teacher

Interviewer: What would you say to the teacher?

Emilia: I'd say Sally is annoying me and ignoring me...ooo but what if she ignores the teacher too? That would be creepy.

Perceptions of children with autism

Due to the richness of data produced, and given the word limitations of the thesis, sub-themes that were only unique to the children with autism were analysed. Consequently, only one subordinate theme was included in analysis.

Theme One: Playground Activities. This theme refers to the types of activities children with autism expressed a preference for. There was a considerable variability amongst autistic children with regard to their preferred playground activities, reflective of the heterogeneity of the population group. Five sub-themes were identified; ‘Physical Play’, ‘Pretend Play’, ‘Equipment and Toys’, ‘Role of adult’ and ‘Playground Environment’.

Playground environment (sub-theme 1.5). This sub-theme refers to the comments children with autism made about their playground environment. Three subordinate themes were identified were ‘Nature’, ‘Space’ and ‘Noise’. For one boy, the playground environment and particularly the nature within it was an area of concern and worry because of the potential threat of physical harm.

Rollo: When you slide down there is always a stick and the stick goes in my butt-cheeks and it hurts...and I don't like the mound because we used to go there every day but now we don't go on it because people are saying that this hill looks a little bit rude

Interviewer: So why is this space red? (sticker)

Billy: Every time I'm in there, a wasp comes in the window

Interviewer: What happens then?

Billy: It can sting me and I don't like that...there's a big stinger at the back. The wasp kept teasing us.

Whereas for others, the natural environment was a favourite space in the playground. It provided opportunities to engage with wildlife and avoid challenging social interactions. The garden area of the playground was noted as a good space for the activities it offered.

Billy: I'll tell you where my favourite space is

Interviewer: Go on then

Billy: In the garden

Interviewer: Why's that?

Billy: I like it I can climb over the fence

Rollo: If me and my friends are like I don't want to play today we just go over and look at the flowers and feed them

Interviewer: Oh! How do you feed the flowers?

Rollo: You give them 15mls of water a day, each of them.

Space was identified as an important factor in determining the positive experiences of children with autism. How this was used varied considerably between participants. Two children specifically identified indoor spaces as preferred areas. The indoor play area referred to by Rollo, was a playtime club supervised by adults and used by children who experienced social, communication or behavioural difficulties.

Interviewer: So you've chosen the room we are in now as a favourite space. Why is that?

Rollo: Because it's only for people who don't have friends. Lots of people in the school have no friends. Like I think there's about ten people in here.

Jamie referred to the indoor space as a helpful area he can use to calm down.

Interviewer: This is a photograph of the room we are in now

Jamie: Well I like it 'cause it's my calm down room

Interviewer: Why do you come here?

Jamie: Sometimes I have, you know, moments

Noise level was also an important factor in determining whether the playground environment was a positive experience.

Interviewer: So, out of all these spaces then, which is your favourite space to be in?

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Rollo: This one, cause it's really quiet

Role of adult (sub-theme 1.4). This sub-theme refers to how children described the role of the adult in the playground. This role was distinguished between that of play support, and that of a monitoring, supervisory role. For Rollo, the “dinner ladies” were the key adults on the playground, and their role was supervisory.

Interviewer: Do you see your teachers on the playground?

Rollo: Oh yes, there's dinner ladies and break time ladies. They're not all ladies, some of them are boys.

Interviewer: What do they do?

Rollo: They do duty and keep watch

For Jamie, teaching staff on the playground sometimes took part in gardening different activities with him and were familiar to him.

Interviewer: Is that a green? (sticker) so why do you like that space?

Jamie: Oh yeah cause there's pretty flowers and that and Mr D is a good gardener with me and I had him in Year 2.

Interviewer: Do you play with adults on the playground?

Billy: I play with Rula

Interviewer: Who is Rula?

Billy: She's Polish. She looks kind of old but she has no children. I don't call her Cruella (laughs)

Do you know my first one was Mrs G

Interviewer: Who was she?

Billy: Mrs G was an LSA

Equipment and toys (sub-theme 1.3). This sub-theme referred to the type of toys and equipment the children with autism enjoyed to play with on the playground. Construction toys were a popular choice especially for the boys in the sample regardless of age. Both Jamie and Freddy said they enjoyed playing with Lego.

Interviewer: So what do you like to play with?

Jamie: I like Legos

Freddy: I play with Legos and I build helicopters with them.

Jamie expressed an interest in having more Lego equipment on the playground as he perceived this as a personal strength and an activity that did not require direct social interaction.

Interviewer: Do you think there should be more Lego on the playground?

Jamie: Yes. I like shapes and characters

Interviewer: Do you play on your own?

Jamie: Yes. I like building things...maybe I'd change the trees into Christmas Trees 'cause they're beautiful. So they could freeze without losing their leaves.

Theme 2: Threats to playground and self. This theme refers to factors that children with autism identified as threatening or unsafe in their playgrounds. The sub and subordinate themes identified shared similarities with those identified by typical peers. However, the subordinate theme of 'Bullies' was particularly prevalent with the data from perceptions of children with autism.

Bullies (subordinate theme 2.41).

Interviewer: Why do you like the field Jamie?

Jamie: Because...it's easy to...I might be far away to escape from bullies...it's a good place to play

Interviewer: What do you enjoy least about the playground?

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Daniel: Well, getting beaten up.

Interviewer: That sounds sad

Daniel: Well, sometimes there's boys and like sometimes I'm really upset. Once someone threw leaves at me and I had a bit of an outrage

Interviewer: So you don't like football but you do like the field, so what do you do up at the field?

Jamie: Well, basically you know that giant bush over there, I play with that

Interviewer: What don't you like about the playtime Billy?

Billy: Well Ginny is always telling me to wee in the playground then she moans and she has to punch me

Interviewer: That doesn't sound very nice

Billy: ...so I always walk away from her 'cause she's sharp. I always tell her to go away please. She always says 'No' and then slaps my bum with a ruler

Theme 3: Friendships. This refers to comments children with autism made about friendships in the playground, and how they perceived and experienced peer relationships. Within this theme, three sub-themes were identified: 'Self in relation to others', 'Role of adult' and 'Isolation'.

Self in relation to others (sub-theme 3.1). This sub-theme referred to how children with autism viewed themselves in friendships and used friendship as a form of self-definition. Friendships were discussed in terms of shared activities and positive experiences.

Joey and Kevin were twin brothers and referred to each other as best friends throughout the interviews.

Interviewer: Is your brother the person you play with the most?

Joey: Yes

Interviewer: Why is that?

Joey: My brother is my best friend and we play quite a lot of games, sometimes we go out on the playground and make up our own games

Interviewer: Do you always play with the same friends?

Kevin: I think I play with the same person, my brother

Interviewer: Is there anyone on the playground you don't want to play with?

Kevin: Yes, they don't want to play with me. I play with my brother. I play with other people but they don't want to be my friend

In this example, the twin relationship could be both a supportive factor to the boys' social inclusion and a barrier, as neither boy reported playing with other children or developing friendships outside of their relationship. Other children spoke of their best friends, children who were important figures in their lives in school. However, children were less explicit concerning the nature of the best friend relationship, and it seemed to be used more as a defining label.

Interviewer: So what do you do in this area of the playground?

Billy: Kind of my best friend and me always go in there

Interviewer: What do you do with your best friend?

Billy: Every time me and my best friend go in there.

One child commented that he could fall out with his best friends easily. Rollo was an active boy who enjoyed playing physical games such as football. This provided opportunities for shared activities, but also opportunities for disputes, especially if rules were perceived to be broken.

Interviewer: Are there times when things can go wrong?

Rollo: Sometimes I fight people 'cause they make me angry

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Interviewer: Why do they make you angry?

Rollo: Cause they don't follow the rules of 'It'

Similarly, for Freddy, friendships offer the positive experience of shared activities but are also defined by a set of rules for play.

Interviewer: How would you feel if other children wanted to play?

Freddy: I'd just tell them to play by the rules

Interviewer: So as long as they play by the rules they could join in?

Freddy: Yes

Interviewer: Is there anybody on the playground that you would never play with?

Freddy: No. They need to play by the rules

Isolation (sub-theme 2.2). This sub-theme refers to how children with autism describe being alone in the playground. There was a difference in how this was framed, either as a positive or negative experience. For Carly, a ten-year old girl, she expressed a preference for being alone because she preferred her own space and the quietness of isolation.

Interviewer: It's raining today isn't it, are you wanting to go outside to play?

Carly: It's a good thing. I want to stay in anyway

Interviewer: You like staying in?

Carly: I like staying in and being on my own. People are loud

Interviewer: So you go there for quiet?

Carly: Yes, 'cause it gives me a headache

Whereas for Leo, moments of isolation are frequent experiences that are emotionally upsetting to recount.

Interviewer: What do you do on the football pitch?

Leo: Just walk around the side of it

Interviewer: On your own?

Leo: Yes

Interviewer: So do you prefer being on your own on the playground?

Leo: Not sure (gets upset)

Interviewer: Do you want to take a deep breath?

Leo: No...talking about this makes me upset

Role of adult (sub-theme 2.3). This referred to children's descriptions of the different roles adults had in their playground. Billy described the close relationship he had with his LSA (Learning Support Assistant) who supervised his playtime.

Interviewer: What do you do with Rula?

Billy: I play with her, she's always speaking Polish

Interviewer: Do you like Rula?

Billy: She has a Polish car, Polish children and Polish husband...a Polish buggy. She always talks Polish

For other children, the role of the adult was more focused on supervising and monitoring behaviour between children.

Interviewer: What does the LSA do then, would they play with you?

Rollo: Sometimes they play with you, but they're only watching if you had an argument say if you hurt yourself they tell you to go to the medical. They try to keep you safe, they could call for the ambulance...I fell over and had a massive cut...one tooth came out

Interviewer: Oh no then what happened?

Rollo:and they tell you to put your coat on and it was sunny and I was in my top and the teachers said to me 'Do you want to just grab a cardigan?'

Triangulated Perceptions

In this final stage of thematic analysis, data were analysed in accordance with one of the key aims of the study: to triangulate the perspectives and experiences of children with autism, their peers and their teachers within a shared playground context. In this stage of the analysis, an overview of the themes within the dataset was sought to identify the central processes across the data corpus.

Theme 1: 'Threats to playground and self'. This refers to the threats identified by both children with autism and their neuro-typical peers in the playground context. Within this, two key sub-themes emerged; 'Physical danger' and 'Social threats'.

Physical danger (sub-theme 1.1). This referred to the perceived physical dangers experienced by the child participants. Physical was used as a descriptor to highlight the risks perceived in the physical playground environment, in terms of landscape and equipment, and how this danger was perceived to have the potential to cause physical harm.

The experience of physical danger was prevalent in children with an autism diagnosis and those without one, highlighting the similarities between their perceptions.

They got rid of the monkey bars because people kept breaking their arms

(Year 4 focus group).

Similarly, for Jamie who has a diagnosis of autism, physical dangers were a concern when using the playground equipment.

Interviewer: What do you enjoy least about the playground?

Jamie: Climbing frame

Interviewer: Why?

Jamie: I fell of it and it hurt

Interviewer: Did you hurt yourself on it?

Jamie: Yeah and the monkey bars. The first time I tried to jump to the fourth bar. I tried it at first then I learnt how to do it

Interviewer: So, why don't you like the climbing frame?

Jamie: It's dangerous if you don't have the right boots on

Social Threats (sub-theme 1.2). This referred to the perceived social dangers experienced in the playground context. 'Social' was used as a descriptor to identify the risks associated with social interactions and peer relationships. As with physical threats, social threats were a shared experience of all children regardless of an autism diagnosis. Social threats could occur during moments of transition on the playground.

(Year 3 focus group)

Madeleine: ...because some people get hurt in play time and...

Interviewer: It's not a nice experience for them?

John: Definitely

Interviewer: Ok I'll come back to you in a minute John. Yes, Madeleine?

Madeleine: sometimes but not always it depends on how people are feeling the day and it depends on if they want to take it out on other people.

Interviewer: Right, OK

Madeleine; They just wanna be unkind...it's not normally at playtime its normally when we're lining up in a line

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Similarly, for children with autism, peer interactions could be challenging and social threats were perceived. For example, during football games.

Rollo: The boy with orange hair. I'll just say that. To be fair he is a nice guy but sometimes he can get into a bad mood and kicks the goalposts

Interviewer: So you don't like playing with him because he can be in a bad mood and kicks the goalposts. Do you find it difficult or easy to play with him?

Rollo: it's a little bit difficult and easy because every time he says let's play this I know that game very well so I like to do that but sometimes he can get a little bit ...(pulls face)

Theme 2: 'Inclusion in Practice'. This refers to how 'Inclusion' as a concept was understood in the playground context. Within this, two sub-themes were identified; 'Values' and 'Individualised Needs'.

Values (sub-theme 2.1). This referred to the conceptualisation of 'Inclusion' in relation to specific values or principles that are aspirational. For example, inclusion was discussed alongside the value of free choice and free will, associating the concept with children's rights.

Inclusion on a playground would involve everybody being able to access the games or the activities that are being put in place. Where they're not having to go to specific activities they can have free choice and free will. I guess so that everybody can have a go so it doesn't matter about age or ability and that sort of thing.

(Year 3 Teacher)

Individualised Needs (sub-theme 2.2). This sub-theme relates to when implementing inclusion in practice, it was considered important to acknowledge the individual needs of children with autism, which are often unique and vary between children.

Oh, Rollo would literally be one big football pitch. He's a big Spurs fan. For him, if football is ever cancelled for example the adult that does it isn't in it's like the end of the world....

Yes, ideal playground would be football. There might be some other equipment like things to do something like that. With Billy I honestly couldn't tell you. I genuinely don't know what his ideal playground might be, probably less children....

They are massively different children

(Year 3 Teacher)

Theme 3: 'Understanding of difference'. This theme refers to the ways in which children through their interpretation of character behaviours in the vignettes made sense of difference. This theme also refers to how teachers described perceived differences of children with autism. Within this theme, two sub-themes were identified: 'Negative attributions' and 'Exploratory hypotheses'. Peers' own predictions for how they would react to the characters in real-life, were found to be closely linked to the type of attributions made. Therefore, the 'Responses' (sub-theme 4.3) from the 'Peer Perceptions' data was combined in this final stage of analysis.

Negative Attributions (sub-theme 3.1). This sub-theme relates to children's negative attributions and responses towards the key characters within the vignettes who presented with typical behaviours associated with autism. Additionally, this sub-theme relates to teachers' representations of children with autism, with a focus on deficits of difference.

Interviewer: Do we think he's being mean or do we think he's being something else?

Being crazy?

Interviewer: What does it mean to be crazy?

Like going mad (8 year-old male)

Negative character attributions were associated with peers imagining they would reject or avoid the character in a real-life scenario.

Interviewer: What would you do in that situation?

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I would run away and be scared (8 year-old female)

Teachers tended to represent the social-communication needs of children with autism as deficits located within the child as opposed to being influenced by environmental factors. Comments about observed behavioural differences of children with autism were overwhelmingly negative.

Interviewer: Is there anything else to add about what you notice about his behaviour in the playground?

Teacher 4: Yes it very much depends on his mood. He just sort of plods about. He walks from place to place, he doesn't settle well on an activity. If he does go anywhere its only for a short space of time and then he goes off to do something else. He is very easily distracted by anybody else. He's got some (I don't know whether you would call them friends) people in year 6 he follows around if they are doing things. He sometimes initiates some things and waits to see what happens. I wouldn't say he is an instigator of a game he's more of a follower. He will join in and see if he likes it or not and if he doesn't he might leave or he might get cross.

Exploratory hypotheses (sub-theme 3.2). This sub-theme refers to children's inquisitive and exploratory explanations for the behaviours presented by the characters in the vignettes. The views expressed tended to be less judgemental than those presented in the 'Negative Attributions' data, and imagined responses suggested that children would engage in social interactions with the characters in real-life, even if only to test out their hypotheses about the character's behaviour or to offer advice.

Lulu: If he keeps spinning he might fall over and have a really big accident because my Mum told me that if you spin too much you might fall over.

Interviewer: would you go up to him or not?

Lulu: ...if he did it lots and lots of times I would probably stop asking. It will just waste your time going over every day.

Interviewer: Do you think Kyle is happy in what he is doing?

Lulu: Yes: I was just going to say that if he kept spinning I would go up to him and ask him to stop doing it because he's going to hurt himself ...I would persuade him to come over and ask him a couple of questions like, "Why do you always have to spin around the playground?" instead of playing with other people like us?

2.4 Discussion

The main aim of the current study was to conduct a detailed exploration of how inclusion of children with autism works in practice on the Primary School playground. This was achieved through using a qualitative methods approach seeking the perceptions of children with autism, their peers and their teachers.

Findings from the present study indicate that children's experiences of playground inclusion are more alike than different, regardless of whether children have a diagnosis of autism. The theme 'Threats to the playground and self' was identified for both participants with autism and their neuro-typical peers. Playgrounds were perceived as both spaces for enjoyment and socialisation but also as 'landscapes of fear' (Ripley, 2015). Peers and children with autism reported playground spaces as potentially threatening environments, in terms of physical harm, bullies and the potential for social rejection and isolation. The findings illustrate the importance of acknowledging the variety of experience and highlights the need for researchers and practitioners to focus on the voice of the child. Research has highlighted how adult perspectives can romanticise playground

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experience (Blatchford, 1994). Yet, the present study reinforces the importance of considering the playground as a key space where social inclusion can be threatened for all children. This is supported by the concept of the “ecology of power” a term used to describe the ways in which some children dominate space more than others (Kelly, 1996). Playgrounds are best viewed as social as well as environmental landscapes. Indeed, break-times are first and foremost a social event (Blatchford et al., 2003).

Despite the shared experiences, the ways in which children with autism and their neuro-typical peers tended to interact with their playground environment was different. In the theme ‘Playground Activities’, three subordinate themes were identified for children with autism, ‘Nature’, ‘Space’ and ‘Noise’. Some children with autism commented on the benefits of nature in their playground, for example, gardening and the opportunities for physical outdoor activities. Equally, the availability of indoor space as place to relax and avoid the noise of the outdoor playground was identified as important by some participants with autism. Sensory integration difficulties have been recognised as part of the diagnostic profile for autism (DSM-5, American Psychiatric Association, 2013). It’s possible that these activities provide an outlet for these sensory needs to be met. A recent meta-analysis confirmed the positive effects of physical activity for children with autism across a range of outcomes including locomotor skills and social functioning (Healy et al., 2018). From the perspectives of children with autism, ensuring that there is a range of play equipment to meet these individualised needs would be a facilitating factor to inclusion. Additionally, through triangulation of the data, the importance of recognising the individual needs of children with autism was also represented in teacher’s perceptions. What works well to facilitate the inclusion of one child with autism is unlikely to apply to all children with autism, given the heterogeneity of this population.

In the theme ‘Understanding of difference’, teachers tended to describe children with autism as more vulnerable than their neuro-typical peers and they identified specific barriers to their inclusion. Social-skills difficulties were attributed to the child with autism as personal characteristics, as dispositional attributions. The paucity of strengths-based talk about children with autism within the data potentially reflects the influence of stereotyping and how diagnostic labels

can reinforce negative assumptions, potentially priming teachers to think about deficits rather than strengths. Labelling may make a child more vulnerable to stereotyping and discrimination (Hastings, 1994). Yet, research has shown that if teachers are more educated about autism, they are less likely to make negative attributions about atypical behaviours, highlighting the potential value of psycho-education in this area (Ling, Mak & Cheng, 2010).

Additionally, teachers highlighted environmental challenges to inclusion. From an interactionist perspective, the combination of both dispositional and contextual challenges present significant barriers to inclusion. Teachers reported that for children with autism, a negative experience on the playground could have significant behavioural repercussions when they returned to lessons. Within-child factors were generally identified as social skill needs or emotional regulation needs. Environmental factors related to the unstructured nature of the playground.

This finding complicates previous research that has highlighted the unstructured nature of playground break-times as potentially beneficial for children's learning. Unstructured breaks in the school day may enhance learning development because they serve to reduce cognitive interference (Bjorklund and Harnischfeger, 1987). Yet, a more individualised approach may be required for children with autism, who can find the unstructured demands of playground break-times overwhelming which is perceived by teachers as a barrier to their attention and engagement in school lessons. This demonstrates that there is a need to recognise inclusive practices beyond the immediate classroom context and consider the impact of break-time and the playground environment for all children.

Teachers tended to define inclusion as a multi-dimensional concept, that involved a sense of belonging or togetherness and ensuring equal access to provision. This conceptualisation reflected how inclusion has been described in the literature, as an 'orienting' term (Norwich, 2005) or set of values that highlights the importance of participation and access (Forest & Pearpoint, 1992). Teachers' definitions did not extend to describe how inclusion should be implemented in practice. This finding supports the conclusions from Lindsay's (2007) review that drew attention to the elusiveness of the construct. Without a clear vision of what inclusion should look like in practice,

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there are no universal guidelines for implementation which places reliance on teachers' subjective definitions.

The sub-theme of 'Autism Awareness' highlighted an important finding which was that all teachers reported they did not explicitly refer to autism in their school. This could be a barrier to inclusion. This finding suggests that there was little or no formal teaching about autism to the pupils in the schools. It is reasonable to assume that children developed their own working hypotheses in order to understand differences amongst peers. Peer perceptions of difference as obtained by the interview questions relating to the vignettes, varied widely. From analysis of the findings, two distinct stages of explanatory frameworks were identified. Younger children tended to describe difference tentatively and used what the researcher coded as 'exploratory hypotheses'. Neuro-typical peers in the 7-8 years' age range attempted to make sense of autistic behaviours through the process of open-ended questions. Whereas, older children from the focus groups, (9-10 years age range) appeared more negative and fixed in the attributions they made of the characters in the vignettes. They used dispositional descriptors rather than situational descriptors for the character's behaviour. It is possible that one explanation for this difference in social information processing style (Dodge, 2006) is that children from the older focus group were modelling and reinforcing hostile attributions within their group. Given that only one focus group of 9-10 year-olds were interviewed, it is not possible to say that a developmental shift in person attribution has been observed. However, the findings from the present study support findings from Campbell et al. (2004), who found a difference between younger children (aged 8-9 years) and older children (10 years) in that the younger children demonstrated more positive attributions towards depictions of autistic behaviours when provided with a combination of both descriptive and explanatory accounts. Whereas, the older children demonstrated a more negative fixed viewpoint. This suggests that in the absence of explanatory or descriptive information for autistic behaviours, neuro-typical peers may eventually attribute negative dispositional traits to the child with autism. These misattributions would be a key barrier to the inclusion of children with autism. Furthermore, in making negative attributions, peers are effectively re-categorising children with autism as belonging to a different group (Tajfel, 1982).

It would be interesting to explore the extent to which these negative attributions and judgements of autistic behaviours were reflective of a wider peer norm, or school culture. Modelling and reinforcement have been identified as factors that contribute to the development of hostile attributions (Dodge, 2006).

Findings from this study also raise questions around the role of the adult in facilitating inclusion in the playground. Typically, teachers reported supervising children's play for one session per week. Children confirmed this and highlighted the role of Learning Support Assistants (LSAs) in playground supervision. Children and teachers reported the role of the adult as primarily supervisory and focused on behaviour management rather than facilitating play. This finding contributes to a broader debate on the role adults should have in children's playgrounds. Adults' close monitoring of children's play and providing them with structured activities has been shown to be a factor in increasing pro-social behaviours and promoting cooperative play (Leff et al., 2004). Conversely, it has been argued that adult involvement can restrict children's free choice and their "ownership of their culture" (Bishop & Curtis, 2001; p.180). Nevertheless, we need to acknowledge that adults do have a role in ensuring that playground spaces are as inclusive as possible. Findings from the present study suggest that their role is primarily focused on monitoring behaviour and keeping children safe, rather than having a role as play participants.

Some facilitating factors to promote the inclusion of children with autism that were identified by teachers, were also identified by participants with autism. These included having an adult to interact with as a play-mate and to provide general support whilst on the playground. Teachers identified the importance of having a wide range of play resources available to children with autism. The need for more Lego to play with was identified by one participant with autism as an ideal change. In visualising an ideal playground, both participants with autism and their teachers shared the perception that adults should play a greater role in terms of social skills provision. For example, acting as play leaders to model appropriate behaviours. It should also be noted that findings from this study highlighted the wide range of play preferences of participants with autism. For example, Joey and Kevin (twins) preferred to play together and referred to each other as 'best

friends'. Whereas, Carly expressed a preference for playing alone citing that she was troubled by the noise made by her peers and enjoyed the quietness of her own company.

The differences in play preferences and activities expressed by the participants with autism, reflects the diversity and heterogeneity of the population of children with autism. Findings support the need to respect the individuality of children with autism. Carly's comments support previous research showing that children with autism can perceive friendships differently to their peers and can have different social needs (Calder et al., 2013). This adds to the view that assumptions must not be made concerning the needs of children with autism and that they should be supported in an individualistic way.

2.4.1 Limitations and Directions for Future Research

To the best of the author's knowledge, this study is the first to explore playground inclusion in a UK Primary School context from the perspectives and experiences of children with autism. It also triangulated these perspectives with those of their peers and teachers within an ecological systems model (Bronfenbrenner, 1976). However, as with all research studies there were limitations.

Findings are limited in terms of generalisability due to small sample size and the subjective nature of qualitative research. However, it is accepted that in keeping with the epistemological position of the thesis, knowledge is always shaped by the subjectivities of the researcher. Any cross-validation of the coding scheme involving two researchers, would not exclude subjectivity in the interpretation of the data (Seidel and Kelle, 1995). Due to the sampling restrictions where each school had a small number of children diagnosed with autism, the scope of the sample was limited. For example, only one participant with autism was female. Furthermore, the identification of participants was limited by the fact that only schools who purchased HIEP services were approached.

Although the vignettes used in the study were a modified version of those used by Butler & Gillis, (2011) and Matthews et al., (2015), the internal validity of the vignettes was restricted by the lack of a pilot study. Also, it was possible that the vignettes required more detail to encourage

strengths-based interpretations of autistic behaviours. As characterisations, the vignettes may have served to reinforce negative stereotyping. In future research, specific highlighting of the positive behaviours and strengths of each character would create a more balanced and holistic representation. Additionally, we cannot assume a causal relationship between the children's responses to the vignettes and how they would relate to children with autism in real-life situations. However, in terms of Attribution Theory, individuals develop either dispositional or situational attributions of others based on multiple observations of behaviours in a given context (Kelley, 1967). In order to make the vignettes as authentic as possible the characters were depicted with consistent behaviours over time.

Additionally, there was a variation in the size of the focus groups (range 2-5). This was because the researcher relied upon the school SENCO to distribute parental permission slips in advance of data collection, and this was not always reliable. Larger sized focus groups may well have produced different findings.

Future research could explore perceptions of inclusion beyond the limitations of the sample considered, perhaps at a county or national level. It would be interesting to explore the different ways in which children and schools learn and are educated about autism, and whether these topics are openly discussed as part of an inclusive educational policy.

It would also be helpful to ascertain what factors may influence peer perceptions of difference, such as gender and age. Interestingly, findings from the present study indicate a difference between middle and later years' Primary age children, in terms of how they make sense of difference. However, it was beyond the scope of this study to examine potential developmental hypotheses concerning the differences in peer attributions of autistic behaviours.

2.4.2 Implications for Practice

One key implication for Educational Psychology practice resulting from this study, is the need to consider the ways in which children and staff are educated about autism in the school environment. A striking finding was that all teachers interviewed confirmed that they did not speak about autism explicitly to children in their school and there was an implicit assumption that

Chapter 2

children would be inclusive towards their peers with autism regardless of the lack of information provided to them. Children were not educated with explanatory frameworks that would permit them to understand the functions of their peers' differences in behaviour. This finding exposed a lack of direction from the point of view of teaching staff in how to implement inclusion in practice in the playground context. Educational Psychologists have a clear role in training teaching staff to feel confident in how to explain difference, specifically in relation to autism. This will raise awareness, promote greater understanding and progress school's implementation of inclusion in practice. In addition, school staff should be supported to identify the individual needs and play preferences of children with autism. For example, bespoke playground profiles could be created that highlight the individual needs of the child in the playground context. Whether this means more Lego to play with, having access to climbing equipment, quiet spaces to retreat to, the support of an adult, or simply their own company.

Another key issue arising is that there is a clear lack of guidance given to teaching staff on what inclusion looks like in practice. Educational Psychologists have a role in supporting schools to develop their own protocols and outcome measures of inclusion in order to fully assess whether practices are functioning effectively to achieve inclusive outcomes. In order to do this, one key outcome measure has to be the perceptions of children with autism and their peers.

2.4.3 Conclusion

To summarise, this study found that the playground experiences of both children with autism and their peers was remarkably similar. There was a consensus amongst all children interviewed that the playground is as much a 'landscape of fear' (Ripley, 2015) as an environment for play, friendship and enjoyment. Inclusion as a concept, although enshrined in both national and international legislative frameworks (UNESCO, 2009; Department of Education, 2015) emerged as an elusive set of aspirational values. Although there was somewhat of a consensus in an objective definition, in practice, from the teacher's perspectives there seemed to be no clear view of how to measure inclusion, and based upon teacher's definitions it seemed difficult to quantify and therefore evidence.

By placing the voices of children, both with and without autism at the heart of how to conceptualise inclusion, this study attempted to unpick the different perspectives that make up the reality or lived experiences of inclusion. Discrepancies and similarities were found between teacher views, children's perspectives and those of their neuro-typical peers. A clear finding was that at one level, teachers were of the understanding that they were upholding the values of inclusion. Yet, this does not always translate in practice to children's playground experiences, because the needs of children with autism are often highly individualised. For example, a facilitator for inclusion for one child with autism may be a barrier to another. This reflects the heterogeneity of the autistic population, and in this sense children with autism are no different to their peers. It would appear that problems arise when misattributions are made about the behaviours of children with autism. Significantly, this study drew attention to the role of peers' attributions of autistic behaviours, and how these can be quite hostile (Dodge, 2006). It is yet to be explored how the development of these attributions has a direct impact on peer relationships in the playground context. However, it can be reasonably hypothesised that negative attributions could be further developed into prejudice or negative biases, if unchecked. Likewise, it could also be hypothesised that adults may unknowingly make misattributions about the behaviours of children with autism. For example, in attempting to include them in play when they may wish to be alone. These are significant barriers to the authentic inclusion of children with autism. Through the triangulation of perspectives from teachers, peers and children with autism, a more authentic concept of inclusion has been identified, one that places understanding of difference at its core.

Appendix A: Systematic Review Inclusion and Exclusion Criteria

Using the search terms outlined in the methods section, 4,804 studies were obtained, excluding unpublished theses and books. Search results were then refined using the following inclusion/exclusion criteria:

1. Exclude papers that were not published between the years 2008-2018 (n= 2,797)
2. Studies reported in unpublished theses, reports, review articles, working papers and conference proceedings were excluded (n= 1,197)
3. Papers not published in English (n= 8)

Following application of the initial inclusion and exclusion criteria, the titles and abstracts of 802 papers were screened and a further 735 papers were excluded for the following reasons:

1. Studies did not use single subject experimental designs (n= 7)
2. The paper was irrelevant to the research question (n= 575)
3. Studies that did not take place in inclusive settings (n= 24)
4. Duplicates (n= 8)
5. Review papers (n= 3)
6. Exclude papers that did not use social outcome measures (n= 12)
7. Papers were descriptive and did not evaluate an intervention (n= 130)

The full texts of the remaining 67 papers were then assessed and read. Based on the identified inclusion and exclusion criteria, 49 papers were excluded for the following reasons:

1. The intervention did not take place in an inclusive setting (n= 13)
2. Studies where participants with autism and peers did not share the same context and activities (n= 6)
3. The study was irrelevant to the research question (n= 22)
4. Studies did not describe a peer training component (n= 8)

As such, the final number of studies included within the review was 18.

Appendix B: Researcher's Reflective Log

Reflective Log extract

It is important to acknowledge the active role of the researcher when conducting qualitative research. Throughout the process, it is important they acknowledge their influence. During the process of conducting the interviews, I reflected on my own professional role as a Trainee EP, and prior to this as a Primary School teacher and how these experiences have impacted upon my skills and confidence in gaining rapport with children. I noticed that in my role as 'researcher' and not as 'teacher', children appeared more open to answer my questions. This may have been because, as an 'outsider' they did not perceive me to have the same authority as the 'teacher'. My prior experience has given me a sense of professional competence which I think enabled child participants to feel at ease to give their own authentic perspectives. I have also reflected on the need to be flexible and responsive in the immediate interview context, especially when interviewing children with autism. It struck me how differently each child with autism presented. Some appeared relaxed and cooperative during the interview process, whereas others were obviously more anxious and required more time to adjust to the demands of the interview process. For example, one participant was rolling around on the floor throughout the interview. I modified my approach accordingly, and provided him with short movement breaks to engage his attention, being mindful of the individual needs of each child. It was important to me during data collection to ensure that I did my utmost to capture the authentic voice of the child. Nevertheless, I am aware of my own interactionist perspective biases, and how this may have influenced how I coded data extracts. How I attempted to minimise biases have been discussed in the method section of this thesis.

Relevant contextual factors extract

School 1

- Children have access to both a 'supported playroom' as a safe space play area during wet play. This needs to be considered as part of the playground environment.
- Rollo needs quiet spaces during interview. He will benefit from having space to roll around, this supports his emotional regulation.

Appendix C: Interview Schedule for Participants with autism and Visual Prompts

Interview Schedule (Perceptions of children with autism: inclusion in the playground)

Introduction

- Introduce myself as a researcher
- Explain purpose of interview
- Explain confidentiality- explain if safeguarding issue
- Explain withdrawal
- Assent

Warm Up

- Building rapport

Rapport Building questions (Use visuals if needed)

- What do you think of school?
- What are your favourite things to learn at school?
- What things at school do you not like to do so much?
- Establish open non-judgemental atmosphere. Use toy figures to represent if needed, for example a toy judge could be used to show I am not going to judge responses.

Main body of Interview

Note: The questions asked will be supported by visuals of the child's playground and visuals of types of playground activities that participants can choose from. Faces depicting emotions will be presented for children to choose from to help elicit their responses.

Descriptive questions

1. How do you feel when you are on the playground?
2. Do you think all children in your class enjoy playtime?
3. During playtime, what kind of things do you like to play? Can you give examples?
4. During playtime, do you always play with the same children? Do you prefer to play on your own? Do you play with everyone?
5. Is there anyone you don't play with? Why?
6. What do you think the teacher should do during playtime?
7. Do all children in the playground play the same things?

Evaluative questions

1. What do you enjoy most about the playground? (e.g. activities and space)
2. What do you enjoy least about the playground? (e.g. activities and space)
3. Would you change anything about the playground to make it better?
4. What would your ideal playground look like?
5. Do you think all children would have the same ideal playground as you?

Debrief

- Explain again the purpose of the study
- Explain what will happen with the information
- Ask how they felt about the interview
- Provide opportunity to ask question
- Dobble Game

Mapping the Landscape of Fear (Ripley, 2015)

Mapping exercise to help identify playground environmental triggers of anxiety.

I will use a map of the playground in each school (using photographs) as a stimulus.

Instructions

- Look carefully at the map of your playground
- Use the highlighter pens to mark how the areas on the map make you feel
GREEN= I feel calm and relaxed in this space
YELLOW= I feel anxious/uncomfortable in this space
RED= I would like to avoid this space as it makes me very anxious

Questions

- For the areas you have coloured red, what makes you feel unsafe? Why? Can you tell me a bit more about this? What happened?
- What might the school do to help you feel safe in your 'red' areas? Why? Can you tell me a bit more about this? What happened?

Thank you for colouring in the map.

Visual Supports to help elicit views

- 1) Visuals of subjects/common activities
- 2) Emotions and Feelings cards
- 3) Types of play





cold



hot



poorly



happy



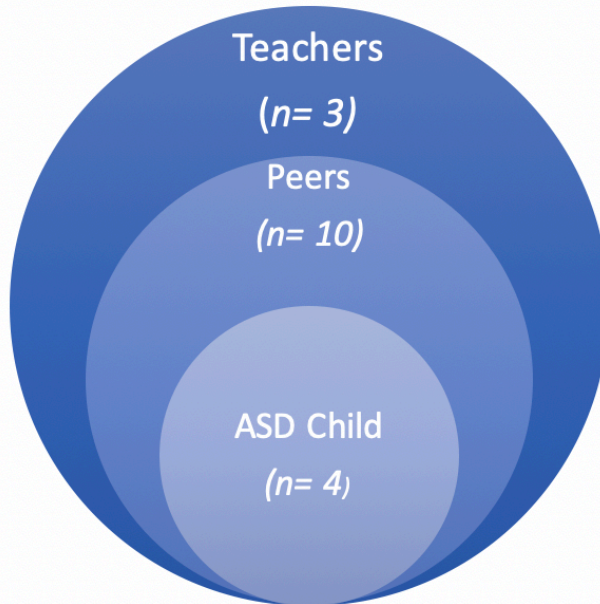
sad



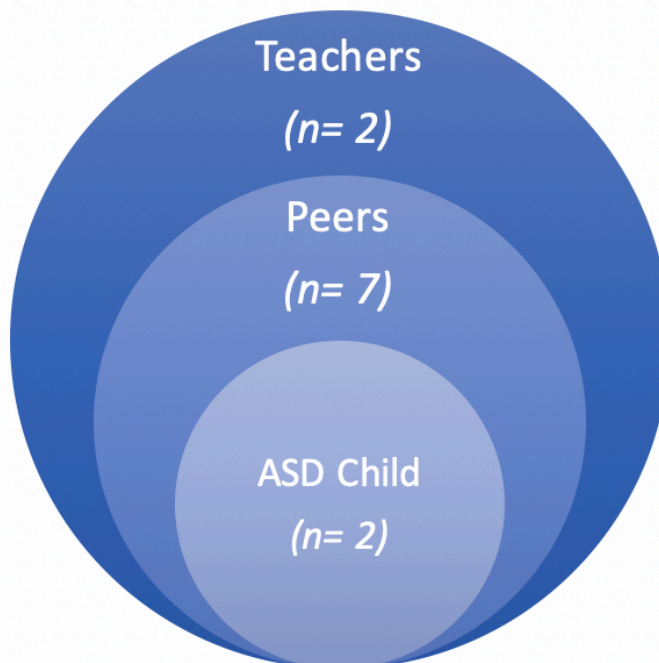
scared

Appendix D: Participant Diagrams

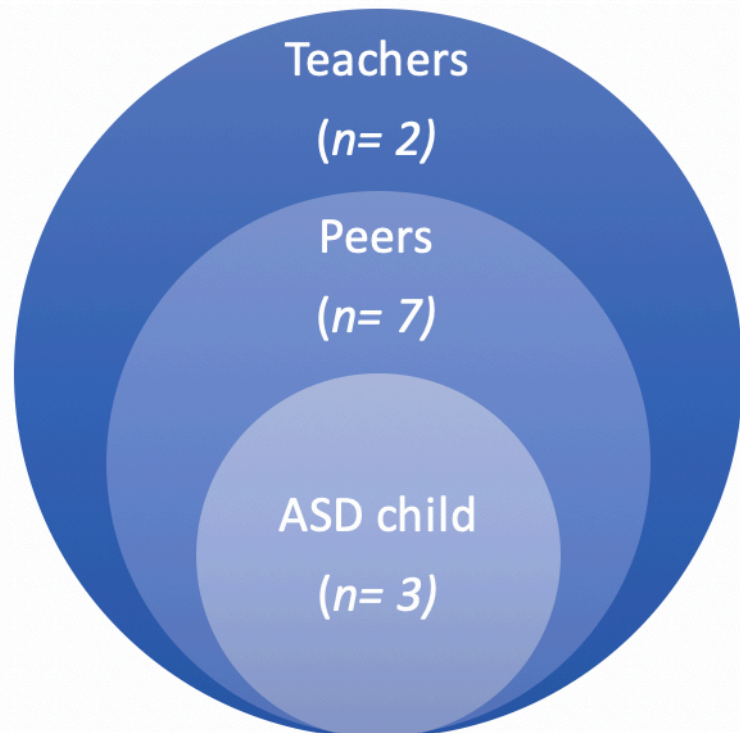
School 1.



School 2.



School 3.



Appendix E: Interview Schedule for Teachers

Interview Schedule (Teacher's perceptions of inclusion in the playground)

Introduction

- Introduce myself as a researcher
- Explain purpose of interview
- Explain confidentiality- explain if safeguarding issue
- Explain withdrawal

Main body of Interview

Descriptive questions

8. How do you define 'inclusion in the playground' what does that look like?
9. During playtime, are there any differences/similarities between the play of child X and other children?
10. On average, how often during a week do you supervise children's play in the playground?
11. What kind of things do you do during supervision of children's play in the playground?
12. How do you see your role in children's playtime?
13. Typically, what do you notice about the behaviour of child X in the playground? Can you give examples?
14. Does child X play frequently with other children?
15. What types of play does child X engage in the most?

Evaluative questions

6. What currently supports child X's inclusion in the playground? What is working well?
7. What do you think is a barrier to child X's inclusion in the playground? / What isn't working well?
8. Would you make any environmental changes in the playground to better support child X's inclusion?
9. How do you think other children relate to child X in the playground? What does that look like?
10. Do children during playtime, show awareness/understanding of the needs of child X?
11. What would the ideal playground look like for child X?

Debrief

- Explain again the purpose of the study
- Explain what will happen with the information
- Ask how they felt about the interview
- Provide opportunity to ask questions

Appendix F: Interview Schedule for Peer Participants

Interview Schedule with Focus Group

Introduction

- Introduce myself as a researcher
- Explain purpose of interview
- Explain confidentiality- explain if safeguarding issue
- Explain withdrawal
- Assent

Warm Up

- Building rapport

Rapport Building questions

- Tell me about school. What is it like? Why do you say this?
- What are your favourite things to learn at school and why?
- What things at school do you not like to do so much?
- Establish open non-judgemental atmosphere. Use toy figures to represent if needed, for example a toy judge could be used to show I am not going to judge responses.

Main body of Interview

Descriptive questions

- Tell me about playtime at school. What is it like? Can you tell me more and give me an example? What was it like yesterday? What was it today? What kind of things did you do?
- How do you feel when you are on the playground? Why? Tell me about the last time you felt like that on the playground
- Do you think all children in your class enjoy playtime? Why? Tell me more
- During playtime, what kind of things do you like to play? Can you give examples?
- During playtime, do you always play with the same children? Do you prefer to play on your own? Do you play with everyone?
- Is there anyone you don't play with? Why?

Evaluative questions

- What do you think the teacher should do during playtime? Why?
- Do all children in the playground play the same things? Why?
- What do you enjoy most about the playground? Why? Tell me more. (e.g. activities and space)
- What do you enjoy least about the playground? (e.g. activities and space)
- Would you change anything about the playground to make it better? How? What would you like to change the most?
- What would your ideal playground look like?
- Do you think all children would have the same ideal playground as you?

Debrief

- Explain again the purpose of the study
- Explain what will happen with the information
- Ask how they felt about the interview
- Provide opportunity to ask question
- Dobble Game

Appendix G: Vignettes

Kyle's story

- This is Kyle.
- Kyle is 8 years old. He lives at home with his Mum, Grandma and their pet cat Shirley. He goes to Holly Lane Primary school where his favourite things to do are running and spinning on the playground. Kyle can spend all his lunchtime and break-times whizzing about to and fro, his Grandma is always amazed at how much energy he has. She always says, "You're just like a wee spinning top Kyle !" His Mum always says "Kyle, why can you never sit still! Have you got ants in your pants?!"
- Kyle thought these were strange things to say, a spinning top is a toy that is nothing like an 8 year old boy, and as far as he can recall he has never had ants in his pants.
- At school, it was lunchtime and Kyle zoomed out onto the playground, bumping straight past Joe and Rob, he didn't even look at them as he rushed forward like a rocket and started to play his favourite game; spinning and running. Kyle always started at the same place (by the squeaky gate) and did a full circuit lap round the playing field and then spin and spin, round and round, sometimes making noises in a high pitched voice.
- Joe and Rob were in the same class as Kyle and both loved football. Their favourite team was Spurs. They had noticed that Kyle was fast and speedy and thought he would be very good to have on their football team, the only problem was getting Kyle to stop spinning and running and do something different.
- The next day, Joe went up to Kyle and asked him if he wanted to be on his team, Joe thought he was being friendly and was surprised when Kyle replied with "No" and ran off back round the playing field. "Why don't you ask him Rob?" he might join in if you ask.
- So, this time Rob tried. But, exactly the same thing happened again except that Kyle ran off around the playing field with his hands covering his ears. Every playtime was the same for Kyle.

Sally's Story

- This is Sally.
- Sally is 8 years old and lives at home with her Mum and Step-Dad Steve. Sally loves animals and has a pet puppy called Baxter. Sometimes, Steve teases Sally about how much she loves animals and in particular her favourite cartoon, 'Paw Patrol'. When she's at home, it's all she can talk about she loves how the dogs go about fighting crime and saving the day and will say over and over again "No job is too big ! No pup is too small!" even if it doesn't always make sense to do so.
- At Ivy Lane Primary, Sally enjoys keeping herself to herself and is usually very quiet. She prefers to play alone on the playground. Katie and Mandeep who are in her class are sitting on the bench watching Sally play on her own again. She doesn't really speak to anyone else, and both Katie and Mandeep feel sorry for Sally. "Why doesn't Sally ever join in our skipping games Mandeep?" Mandeep shrugged her shoulders.
- Hmm....Katie thought it would be friendly to go up and ask Sally if she wanted to join in with their skipping game. "Sally!" Katie waved. Sally didn't wave back, thinking she mustn't have heard her, so this time she asked Mandeep to come along with her and ask again. They both went up to Sally who was standing alone by the tree in the corner of the playground and said, "Hi Sally! How are you? Would you like to come and play skipping with us?"
- Sally didn't look at Katie or Mandeep, and to their surprise, she started to talk but what Sally said was a little unexpected.
- "No job is too big! No pup is too small!" and she said it again, but in different voices. Katie and Mandeep looked confused.

Jonny's Story

- This is Jonny.
- Jonny is 6 years old and lives at his Aunty's house with his Mum and little sister Caroline. At home, Jonny loves playing with Lego and the wooden bricks. He likes building towers the most and sometimes space ships. His Aunty is always telling him how clever he is to build the towers in such neat lines and so tall! Once he built one that was taller than little Caroline.
- At Groby Primary school, Jonny spends every lunchtime and breaktime playing with the building bricks. He wheels them out on a little cart, borrowed from the Reception class. Even though Miss Lewis has told him he must learn to take turns and share the toys with other children, this is something that Jonny finds difficult to understand. He likes things his way .
- One Wednesday afternoon lunchtime, Sammy and Toby are running about together and Jonny is in his usual spot by the 'thinking bench', with his little cart of bricks building a tower. Sammy decides to

Then open-ended questions to follow- to explore peers' attitude/perception of the child in the vignette and how they would respond to that scenario

- 1) What do you think of X? Why do you think X did this? What do you think X might be feeling?
- 2) What would you do in that situation? Would you play with X or not?
- 3) If you were in that situation, would you be worried or concerned about anything? If so what?
- 4) Do you think you would try to be their friend? If so how?
- 5) Do you think you'd play with them?
- 6) What kind of things are you likely to play with them?

Appendix H: Ethical Approval

Approved by Faculty Ethics Committee - ERGO II 31798



ERGOII

Fri 13/07/2018, 13:54

Young L.J. ↕

🔄 Reply all | ▼

Approved by Faculty Ethics Committee - ERGO II 31798

UNIVERSITY OF
Southampton

ERGO II – Ethics and Research Governance Online <https://www.ergo2.soton.ac.uk>

Submission ID: 31798

Submission Title: Perceptions of Inclusion: a study of ASD children in the primary school playground

Submitter Name: Laura Young

Your submission has now been approved by the Faculty Ethics Committee. You can begin your research unless you are still awaiting any other reviews or conditions of your approval.

Comments:

- Thank you for making the suggested changes, good luck with your project!
- Thank you for making these revisions. Good luck in your research!

Appendix I: School Recruitment Letter



School Recruitment/Information Letter

(Version 2 May 2018)

PERCEPTIONS OF INCLUSION: A STUDY OF CHILDREN WITH AUTISM IN THE PRIMARY SCHOOL PLAYGROUND

ERGO Study ID number: 31798

May 2018

Dear Headteacher / SENCo

My name is Laura Young and I am a trainee Educational Psychologist studying at the University of Southampton. As part of my course I am required to complete a piece of research for my thesis. My project is considering factors that promote or hinder inclusion for children with autism in the Primary School playground.

As a school within Hampshire who has pupils with an autism diagnosis, I am writing to ask if you would be interested in taking part in my research project.

Background to the study

UK educational policy places value on the 'inclusion'; the presence, participation, acceptance and achievement of all students in mainstream schools. This policy is supported by the SEND Code of Practice 2015 which identifies the statutory responsibility all mainstream schools have to support pupils with SEN. For children with a diagnosis of autism, who are likely to struggle with social communication, they are vulnerable to social exclusion. How do children with autism navigate the school playground? And how does the condition effect the child's own perceptions of inclusion as well as other's perceptions within the primary school playground?

What does the study involve?

Taking part in the project will require some commitments which are listed below. Please consider these carefully before agreeing to take part.

1. Identification and assessment of participants

I am asking schools to identify any children who have a diagnosis of autism. Once parental consent has been obtained, class teachers will be asked participate in a short interview about the child with autism's friendships and playground interactions. I will also interview a focus group (5-8 participants) of the child's peer group. This will involve me asking children about how they play on the playground and also presenting children with a series of different social stories each depicting behaviour associated with autism and asking them how they would respond to each. I estimate that this should take about 25 minutes to complete. I will also interview the child with autism and ask them about how they play on the playground and also ask them to complete a drawing activity, to highlight where they feel most happy/unhappy on a map of their playground. Children will be taken from lessons at their teacher's discretion so they should not miss any important classwork.

Paperwork

Some support will be required in the distribution of information letters and consent forms, which I will send copies of beforehand for your approval. Printed copies of all letters will be provided.

What happens to the data?

All information collected from your child will remain fully confidential and assigned an anonymous number. All data are kept on a password protected computer at the University of Southampton and only myself and my supervisor Dr. Jana Kreppner will have access. Paper copies of the data and consent forms will be stored securely in the file store at the University of Southampton. The data will be used purely for research purposes, and in accordance with the Data Protection Act of 1998 and data storage policy at the

University of Southampton, it will be kept for 10 years following completion of the study before being securely destroyed. Once the project has been completed schools will be sent a summary of the final research report. All information gathered will be strictly confidential and no names will be mentioned in the write up of this research.

Has this study been given ethical approval?

This project has been reviewed by the University of Southampton Ethics Committee and has been given independent ethical approval to proceed. I have been checked by the Criminal Records Bureau and have been given permission to work with children.

What happens if something goes wrong?

Should any concerns arise or you feel the need to make a complaint you may contact the chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: +44 (0)23 8059 3856, email: fshs-rso@soton.ac.uk

If you are interested in taking part in this project or would like to find out more information, please contact me by email (contact details below).

Thank you very much for taking the time to read my letter and I look forward to hearing from you.

Yours faithfully,

Laura Young

Trainee Educational Psychologist University of Southampton

Contact details:

Laura Young l.j.young@soton.ac.uk.

Supervisor: Dr Jana Kreppner

j.kreppner@soton.ac.uk. T: 023 80594603

Appendix J: Parent Information Letter and Participant Consent and Assent Forms



Parent Information Letter (Version 2, May 2018)

PERCEPTIONS OF INCLUSION: A STUDY OF CHILDREN WITH AUTISM IN THE PRIMARY SCHOOL PLAYGROUND

ERGO Study ID number: 31798

May 2018

Dear Parent/Guardian,

My name is Laura Young and I am a trainee Educational Psychologist studying at the University of Southampton. As part of my course I am required to complete a piece of research for my thesis. My project is considering factors that promote or hinder inclusion for children with autism in the Primary School playground.

[NAME OF SENCo] has indicated that your child either has a diagnosis of autism or studies in the same class as a pupil with a diagnosis. I am therefore writing to ask for your permission to include your child in my study. I hope to provide all the information that you will need about the study in order for you to make an informed decision about whether you would be happy for your child to participate or not. However, if you have any further queries or would like to discuss any aspect of the study, please do not hesitate to contact either myself or my supervisor, (contact details below).

Background to the study

UK educational policy places value on the 'inclusion'; the presence, participation, acceptance and achievement of all students in mainstream schools. This policy is supported by the SEND Code of

Practice 2015 which identifies the statutory responsibility all mainstream schools have to support pupils with SEN. For children with a diagnosis of autism, who are likely to struggle with social communication, they are vulnerable to social exclusion. How do children with autism navigate the school playground? And how does the condition affect the child's own perceptions of inclusion as well as other's perceptions within the primary school playground?

What does the study involve?

I am asking class teachers to participate in a short interview about the child with autism's friendships and playground interactions. I will also complete an interview with a focus group (5-8 participants) of the child's peer group. This will involve me asking children about how they play on the playground and also presenting children with a series of different social stories each depicting behaviour associated with autism and asking them how they would respond to each. I estimate that this should take about 25 minutes to complete. I will also interview the child with autism and ask them about how they play on the playground and also ask them to complete a drawing activity, to highlight where they feel most happy/unhappy on a map of their playground. Children will be taken from lessons at their teacher's discretion so they should not miss any important classwork.

Are there any risks involved in my child's participation?

The researcher has attempted to ensure that any risks involved in your child's participation in this study have been minimised. In the unlikely event that children may feel upset when rating their peers, children's ratings will be anonymised and will not be shared with the rest of the class. I have incorporated a brief game at the end of each interview to ensure children leave having experienced an activity they really enjoy doing.

What happens to the data?

All information collected from your child will remain fully confidential and assigned an anonymous number. All data are kept

on a password protected computer at the University of Southampton and only myself and my supervisor Dr. Jana Kreppner will have access. Paper copies of the data and consent forms will be stored securely in the file store at the University of Southampton. The data will be used purely for research purposes, and in accordance with the Data Protection Act of 1998 and data storage policy at the University of Southampton, it will be kept for 10 years following completion of the study before being securely destroyed. Once the project has been completed schools will be sent a summary of the final research report. All information gathered will be strictly confidential and no names will be mentioned in the write up of this research.

Does my child have to participate?

No. Participation in this study is entirely voluntary and you are under no obligation to allow your child to participate. Should you give permission for your child to participate but subsequently change your mind, you may withdraw your child from the study at any point without giving any reason. All children who have been given their parents' permission to participate in this study will be verbally asked if they want to participate before they complete any tasks. They will also be reminded that they can choose to discontinue at any point.

Has this study been given ethical approval?

This project has been reviewed by the University of Southampton Ethics Committee and has been given independent ethical approval to proceed. I have been checked by the Criminal Records Bureau and have been given permission to work with children. [NAME OF HEADTEACHER] has also given permission for this research to be undertaken at [NAME OF SCHOOL].

What happens if something goes wrong?

Should any concerns arise or you feel the need to make a complaint you may contact the chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: +44 (0)23 8059 3856, email: fshs-rso@soton.ac.uk

If you are happy for your child to take part in this project we would

appreciate if you could complete the attached parent consent form and return this to your child’s class teacher by [DATE].

Yours faithfully,

Laura Young

Trainee Educational Psychologist

University of Southampton

Contact details:

Laura Young l.j.young@soton.ac.uk

Supervisor:

Dr Jana Kreppner

j.kreppner@soton.ac.uk T: 023 80594603



PARENT CONSENT FORM

Study title:

Perceptions of Inclusion: a study of children with autism in the primary school playground

Researcher name: Laura Young

ERGO number: 31798

Please initial the box(es) if you agree with the statement(s):

<p>I have read and understood the information sheet (Version 2) and have had the opportunity to ask questions about the study.</p>	
--	--

Appendices

<p>I agree to take part in this research project and agree for my child’s data to be used for the purpose of this study.</p>	
<p>I understand my participation is voluntary and I may withdraw on behalf of my child (at any time) for any reason without my rights being affected.</p>	
<p>I understand that my child’s interview will be audio recorded.</p>	
<p>I understand that their responses will be anonymised in reports of the research.</p>	
<p><i>I understand that information collected about my child during their participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of ethically approved research studies.</i></p>	

Name of child participant (print name).....

Parent’s signature.....

Date.....

Name of researcher (print name)...Laura Young

Signature of
researcher

Date.....

Child Assent Form

ERGO Study ID number: 31798

CHILD ASSENT FORM (to be read to children) (Version 2 May 2018)

Hello!

My name is Laura and I am a student at Southampton University. As part of my studies, I must complete a project about friendships and ways that I can help children who sometimes find making friends more difficult. I would be really grateful if you could help me with my project. I will ask you some questions about playtime and will need you to tell me your answer to each of the questions.

The task will take about 15 minutes to complete. It doesn't matter how well you do in the task, and it doesn't count towards your school report but if you try and do the best that you can, that would be fantastic.

It is up to you whether you would like to help me out; it's not a problem if you don't want to. If you start the task and then change your mind and don't want to carry on then you can stop at any time, just let me know.

Please ask me if you have any questions or if there is anything you are worried about.

If you are happy to help me, please answer the questions below and write your name. Please circle the answer you agree with:

Has somebody explained this project to you?

(YES/ NO)

Do you understand what the project is about?

(YES/ NO)

Has somebody answered your questions in a way you understand?

(YES/ NO)

Do you understand it's ok to stop taking part at any time?

(YES / NO)

If you answered **yes** to all the questions, please write your name to show you are happy to take part

Name _____

Thank you so much for your help!



HEAD TEACHER CONSENT FORM

Study title:

Perceptions of Inclusion: a study of children with autism in the primary school playground

Researcher name: Laura Young

ERGO number: 31798

Please initial the box(es) if you agree with the statement(s):

<p>I have read and understood the information sheet (Version 2) and have had the opportunity to ask questions about the study.</p>	
<p>I understand that the school's involvement and the data obtained from this study will remain strictly confidential and I am aware that I have the right to see what has been written following completion of the research</p>	
<p>I understand that arrangements have been made for the secure storage of data and for its secure disposal</p>	

Headteacher (print name).....

Signature

Date.....

.....

Name of researcher (print name)...Laura Young

Signature of
researcher

Date.....

.....

TEACHER CONSENT FORM

Study title:

Perceptions of Inclusion: a study of children with autism in the primary school playground

Researcher name: Laura Young

ERGO number: 31798

Please initial the box(es) if you agree with the statement(s):

<p>I have read and understood the information sheet (Version 2) and have had the opportunity to ask questions about the study.</p>	
<p>I agree to take part in this research project and agree for my data to be used for the purpose of this study.</p>	
<p>I understand my participation is voluntary and I may withdraw (at any time) for any reason without my rights being affected.</p>	
<p>I understand that my interview will be audio recorded.</p>	
<p>I understand my responses will be anonymised in reports of the research.</p>	

<p><i>I understand that information collected about me during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of ethically approved research studies.</i></p>	
--	--

Name of participant (print name).....

Signature of participant.....

Date.....
.....

Name of researcher (print name)...Laura Young

Signature of researcher

Date.....
.....

Appendix K: Debriefing Letters

Child Debrief Letter (Version 2, May 2018)

ERGO Study ID number: 31798

Hello!

Thank you for helping me with my science project. I hope you have enjoyed helping me.

I wanted to see what you think about playtime and what you think about your friends at playtime.

If you have any questions about the project, please talk to your class teacher or (Named Person as identified by school).

Thank you,

Laura



PARENT DEBRIEF FORM (Version 2, May 2018)**PERCEPTIONS OF INCLUSION: A STUDY OF CHILDREN WITH AUTISM IN THE PRIMARY SCHOOL PLAYGROUND****ERGO Study ID number: 31798**

Dear Parent/ Guardian

Thank you for giving me permission to work with your child as part of my research. The purpose of this study is to identify the factors that promote and those that pose a barrier to playground inclusion for children with autism. The aims of gathering the information is to better understand children's perceptions of inclusion on the playground and to identify potential solutions that promote successful inclusion for children with autism.

Following data analysis and completion of the research, a summary of the project will be shared with all schools who took part in the study. This report may include anonymised data of the children who took part in the research. As previously stated, please be reassured that individual's will not be named in any data shared with the schools or with Southampton University.

I do hope that your child enjoyed being a part of this study. Should any concerns arise or you feel the need to make a complaint you may contact the chair of the Ethics Committee, Psychology, University of Southampton, SO17 1BJ, UK. Phone: +44 (0)23 8059 3856, email: fshs-rso@soton.ac.uk.

Should any aspect of this study, have caused you to feel upset in anyway and you would like some further support, please do not hesitate to contact Family Lives who offer a confidential support and advice service for families. Phone: 0808 800 2222, website: www.familylives.org.uk.

Once again, thank you for your co-operation in this study and if you have any queries, please do not hesitate to contact me (details below).

Appendices

Yours faithfully,

Laura Young

Trainee Educational Psychologist

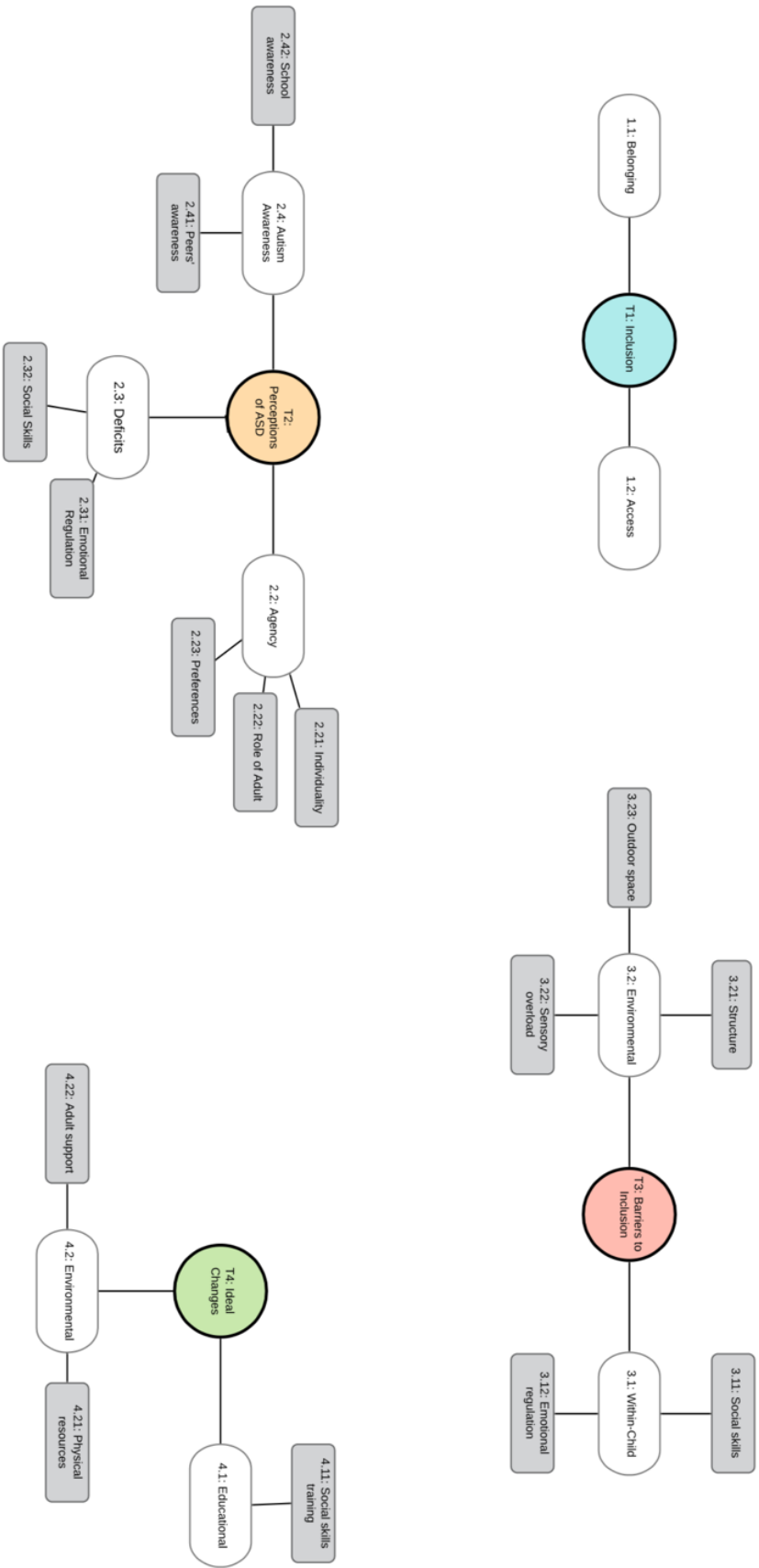
University of Southampton

Contact details:

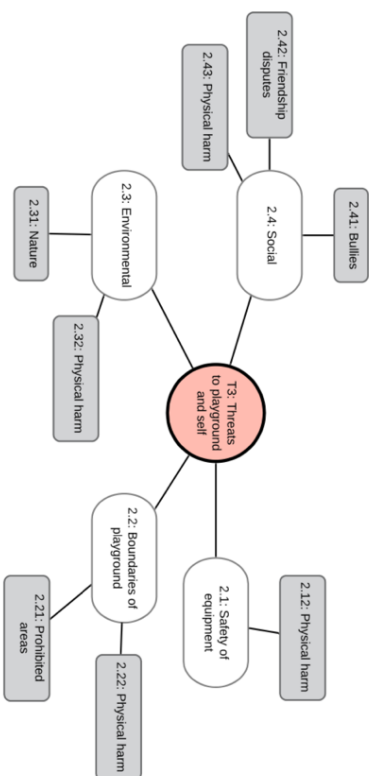
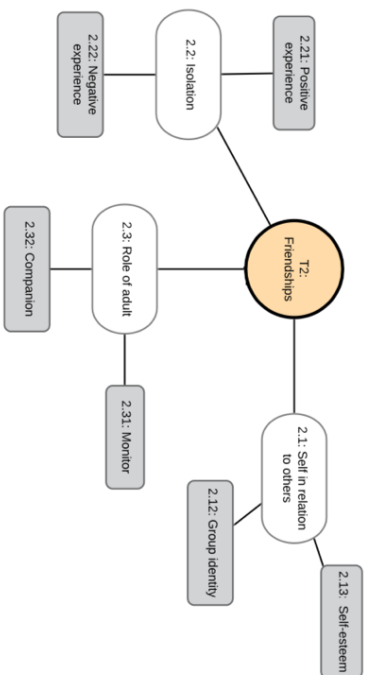
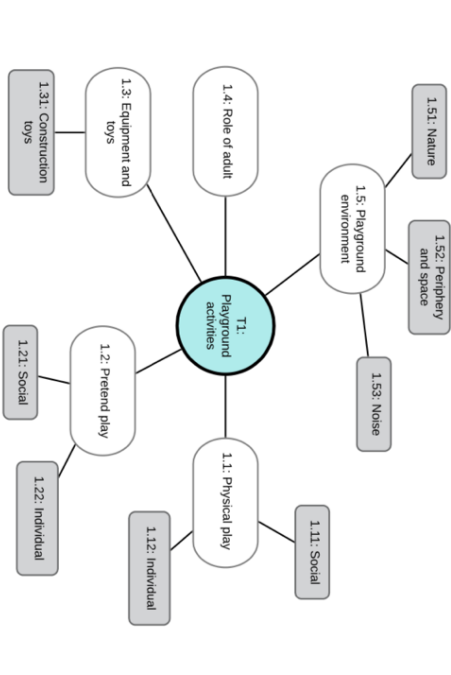
Laura Young: l.j.young@soton.ac.uk

Appendix L: Initial Thematic Maps

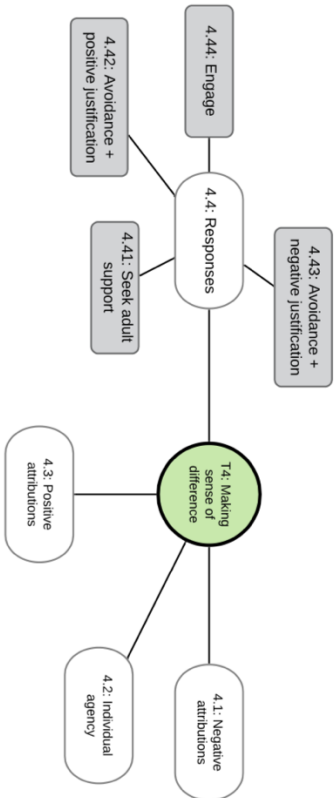
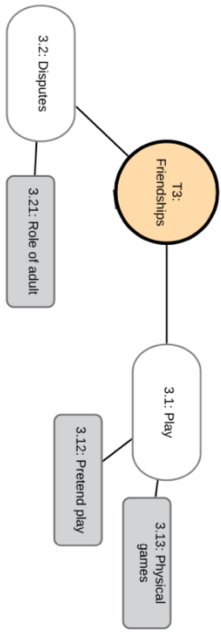
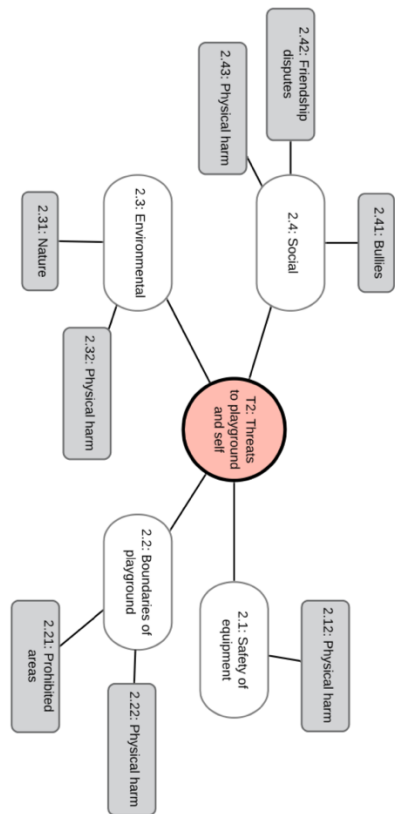
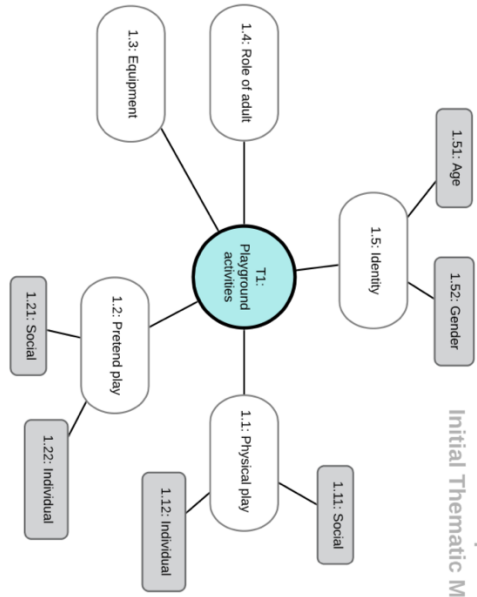
Teacher Perceptions
Initial Thematic Map



ASD Perceptions
Initial Thematic Map



Peer Perceptions
Initial Thematic Map



Appendix M: Examples of Transcript Coding

Role of Adult: Monitoring

Role of Adult: Play Support

Playground Activities: Physical Games

Threats to Playground and self: Injury

Threats to Playground and self: Disputes

Participant with autism interview

I: What do you think the teacher should do in the playground?

Child: Keep an eye on everyone. Seeing that everything is ok. Deal with problems

I: Do you think they should be playing with you?

Child: Who?

I: The teacher

Child: No

I: Why not?

Child: Cos they're supposed to be on duty

I: So, they wouldn't do that. Would you like them to?

Child: Yes

I: If you could choose a teacher to play with who would it be?

Child: Probably Miss X

I: What would you play with her?

Child: She's kind and she does sports

I: What game would you play?

Child: Football... maybe or basketball

I: Would it be better for you to play with an adult or someone your own age?

Child: Both probably

I: What do you enjoy most about the playground?

Child: I enjoy playing football

I: What do you enjoy least about the playground?

Child: Climbing frame

I: Why?

Child: I fell of it and it hurt

I: Did you hurt yourself on it?

Child: Yeah and the monkey bars. The first time I tried to jump to the fourth bar. I tried it at first then I learnt how to do it

I: So, why don't you like the climbing frame?

Child: It's dangerous if you don't have the right boots on

I: Ok What would your ideal playground look like?

Child: Real football goals. Swings, a swimming pool

I: Lots of activities then

Child: Trees to climb and lots of walls you can pull up yourself

I: Lots of climbing walls

Child: Yes

Focus Group interview

I: What do you enjoy least about the playground?

Child: I like everything

Child: I don't like it when I fall out

Child: Like an argument

Child: I have this friend called X and sometimes she doesn't talk to me and we have a fall out

Child: There was like bars and then they got rid of them because people kept on hurting themselves and now there is nothing there

I: So, there's a bit of the area that could be a bit more developed with equipment

Child: Yes

I: What would you change about the playground as it is at the moment to make it better? The second question is what would your ideal playground look like?

Child: What is ideal? Is it what you imagine?

I: Yes, like an idea. Like a dream playground

Child: The bars could be like somewhere else

Child: I would like swings and roundabouts and slides and it could be all spread out so that there would be at least one thing in different places

I: Ok so there would be more things to play on

Child: There's this tree over near the gate and there's nothing over there

I: There's a lot of blank space you would want to fill?

Child; yes

Child: I would put grass down because when you fall over you don't really want to bang your head to the ground

I: You think it could be improved by having softer grass

Child: Yes cos there's like a stick in-between them and you can fall back and bang yourself

Appendix N: Coding Manual

Coding Manual Teacher Perceptions (Final Version)

Theme	Sub-theme	Sub-theme description	Subordinate sub-themes	Subordinate sub-theme description	Example quotes
Inclusion	Access	Reference to definition of inclusion that identifies access to playground (both in terms of physical access and access to activities).	N/A	N/A	<p><i>...would involve everybody being able to access the activities that are being put in place</i></p> <p>(Year 3 Teacher)</p> <p><i>making sure that everyone is able to join in with games...to make sure that every child has the same accessibility</i></p> <p>(Year 3 Teacher)</p>
					<p><i>...everyone together, lots of different children</i></p> <p>(Year 4 Teacher)</p> <p><i>...it's making sure that all the children are inclusive of each other, being together</i></p> <p>(Year 6 Teacher)</p>
	Role of adult	Reference to the role of the adult in supporting inclusion on the playground.	Play support	Teachers describing their role as encouraging or teaching play behaviours.	<p><i>I'll join in with games and play with them.</i></p> <p>(Year 3 teacher)</p> <p><i>We often go out onto the field and have a game of football</i></p> <p>(Year 4 teacher)</p> <p><i>We're encouraging him to go up to a group of children...I said to him why don't you ask X to play?</i></p> <p>(Year 3 teacher)</p>

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			Monitoring	Teachers describing their role as monitoring or managing behaviours (including playground disputes).	<p><i>For me, it's to make sure there are no scuffles or fights</i></p> <hr/> <p>(Year 6 teacher)</p> <hr/> <p><i>It's very much supervising...looking for medical needs or disagreements</i></p> <hr/> <p>(Year 3 teacher)</p>
Perceptions of ASD	Agency	This refers to teachers' perceptions of the child's individual agency and autonomy in relation to their experience of ASD.	Individuality	Reference to the uniqueness of the child with ASD.	<p><i>They are massively different children</i></p> <hr/> <p><i>X really likes football whereas Y is more into imaginative games</i></p> <hr/> <p>(Year 3 teacher)</p>
			Preferences	Judgements made about the preferences and child's choices in relation to ASD behaviours.	<p><i>She likes being around adults more and coming and chatting...I think that's why she prefers adults because adults can keep the conversation going for her</i></p> <hr/> <p>(Year 6 teacher)</p> <hr/> <p><i>He's very possessive over his 1:1</i></p> <hr/> <p>(Year 4 teacher)</p> <hr/> <p><i>He's very happy to play on his own</i></p> <hr/> <p>(Year 3 teacher)</p>

					<p><i>He can be very forceful with children</i></p> <hr/> <p><i>He can't let go</i></p> <hr/> <p>(Year 4 teacher)</p> <hr/> <p><i>He will talk about he's got no-one to play with...he will say, 'I can't ask them, will you ask them?' He finds it very difficult to ask</i></p> <hr/> <p><i>It's the turn-taking, he's not quite got the turn-taking</i></p> <hr/> <p>(Year 3 teacher)</p>
	Deficits	Reference to ASD children in terms of deficiencies and negative behaviours.	Social Skills	Comments that refer to the social skills difficulties children with ASD experience.	
					<p><i>If football goes wrong he gets really angry</i></p> <hr/> <p><i>They both let their anger levels go up</i></p> <hr/> <p><i>The main issue is as soon as there is a dispute it's how he handles it</i></p> <hr/> <p>(Year 3 teacher)</p>
			Emotional Regulation	Comments that refer to the difficulties in emotional regulation and/or understanding that children with ASD experience.	
	Autism awareness	Comments that refer to the awareness of Autism and/or ASD	School awareness	Reference to the extent of school-wide awareness of Autism and/or ASD	<p><i>We haven't used the word Autism. We haven't had an Autism awareness day or anything like that</i></p> <hr/> <p>(Year 4 teacher)</p> <hr/> <p><i>Do you talk about Autism as a class?</i></p> <hr/> <p><i>No</i></p> <hr/> <p>(Year 3 teacher)</p>

Appendices

				Peers' awareness	Reference to the extent of peer awareness of Autism and/or ASD	<p><i>Do they (peers) understand?</i></p> <hr/> <p><i>It's hard to say cos it's not ever mentioned...I think they just think he's a quiet boy</i></p> <hr/> <p>(Year 4 teacher)</p> <hr/> <p><i>I think some of the children know he is autistic, but X doesn't know he's autistic himself. We tell them that they don't see things necessarily the way you do</i></p> <hr/> <p>(Year 3 teacher)</p>
Barriers to Inclusion	Environmental	Reference to the playground environmental barriers to inclusion	Structure	Comments that refer to the lack of structure in a playground	<p><i>In the playground she loses the thread because it's too free flowing</i></p> <hr/> <p><i>...a bit more structure so they know they are going out and they're going to do this or whatever it may be</i></p> <hr/> <p>(Year 6 teacher)</p>	
	Within-Child	Reference to the individual traits and behaviours of children with ASD that impact upon inclusion.	Social Skills	Comments that refer to children with ASD's individual difficulties in social skills.	<p><i>She's always saying that she's tired...she always say 'No No, I'm just going to stay here' that's what makes her stand out</i></p> <hr/> <p>(Year 6 teacher)</p> <hr/> <p><i>He's very easily distracted by others. He's got some friends (I don't know whether you would call them friends) people in Year 6 but he just follows them round</i></p> <hr/> <p>(Year 4 teacher)</p>	

			Emotional Regulation	Comments that refer to children with ASD's individual difficulties in emotional regulation/awareness.	<p><i>They both let their anger levels go up</i></p> <p>(Year 3 teacher)</p> <p><i>It's very dependent on how he is feeling that day as to whether he will join in with other people or not</i></p> <p>(Year 4 teacher)</p>
Ideal Changes	Educational	Identifying the need for educational changes to improve inclusion.	Social skills training	Comments that refer to the potential value of social skills training for ASD children.	<p><i>I think we don't have enough play leaders...we don't have anyone modelling play</i></p> <p>(Year 6 teacher)</p> <p><i>For him to engage with other children</i></p> <p>(Year 3 teacher)</p>
	Environmental	Identifying the need for changes in the playground environment to improve inclusion.	Physical resources	Comments that refer to the need for a wider range of playground resources.	<p><i>...something with a lot of variety. If he's having a tantrum he always runs to the Key Stage 1 playground</i></p> <p>(Year 3 teacher)</p> <p><i>A big football pitch for him</i></p> <p>(Year 4 teacher)</p> <p><i>More equipment so he doesn't have to wait his turn, or more choice of where he can go</i></p> <p>(Year 4 teacher)</p>

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			Adult Support	Reference to the need for more adult support to improve inclusion.	<p><i>Knowing that there is an adult there..he needs to know that she is there and can talk to her</i></p> <p><i>We're thinking about having an area where children can go to where they don't go and ask. They can just sit there and we could provide someone to play with</i></p> <p>(Year 3 teacher)</p>
Coding Manual Peer Perceptions (Final Version)					
Theme	Sub-theme	Sub-theme description	Subordinate sub-themes	Subordinate sub-theme description	Example quotes
Playground Activities	Physical Play	Reference to playground activities that involved physical actions and games	Social	Comments that refer to social physical play activities	<p><i>. I play football with my friends</i></p> <p><i>We do chasing ...'Zombie run'</i></p> <p>(Year 3 focus group_</p>
					<p><i>I like running around and going crazy</i></p> <p><i>I like jumping around and dancing</i></p> <p>(Year 3 focus group)</p>
	Pretend Play	Reference to playground activities that involve aspects of pretend or fantasy role play	N/A		<p><i>...so there's a Zombie and the shelter is this protective place</i></p> <p><i>I don't like playing Horror</i></p> <p>(Year 4 focus group)</p>

	Equipment	References to playground equipment and apparatus.	N/A		<p><i>I like it cause there's so much fun equipment out there</i></p> <hr/> <p><i>I like it cos we have apparatus and we all like to balance on the balance beam. I help the little ones get across it.</i></p> <hr/> <p>(Year 6 focus group)</p> <hr/> <p><i>The bars! The monkey-bars !</i></p> <hr/> <p>(Year 3 focus group)</p>
	Role of Adult	References to adult involvement on the playground.	Monitoring	Children describing role of adult on playground as monitoring behaviour.	<p><i>So they basically look after you</i></p> <hr/> <p><i>They walk to the playground when people fall out</i></p> <hr/> <p><i>If someone's not doing the right thing and not doing what the dinner ladies tell them they write it down and give it to the teacher</i></p> <hr/> <p>(Year 4 focus group)</p>
	Identity	References to the different social identities of children on the playground and the types of play associated.	Age	Children identifying age or 'Year Group' as a key determining factor for play preference.	<p><i>I help the younger children</i></p> <hr/> <p><i>Other year groups don't play with different year groups</i></p> <hr/> <p><i>That's for the Year 3s (different footballs)</i></p> <hr/> <p>(Year 6 focus group)</p>

Appendices

			Gender	Children identifying gender 'boy' or 'girl' as a key determining factor for play preference.	<p><i>Girls like girl games and boys like boy games</i></p> <hr/> <p><i>Mums and babies ..though I guess the boy could be the dad</i></p> <hr/> <p><i>R: Would anyone in the group say you can't play this because you're a boy or girl?</i></p> <hr/> <p><i>FG: No!!</i></p> <hr/> <p><i>(Year 4 focus group)</i></p>
Threats to playground and self	Safety of equipment	Comments relating to the safety and risk of play equipment.	Physical harm	Reference to physical risks or experience of harm.	<p><i>There needs to be more than one medical book</i></p> <hr/> <p><i>(Year 3 focus group)</i></p> <hr/> <p><i>I would change the play chair cause the wooden ones aren't goof because you get a lot of splinters out of them</i></p> <hr/> <p><i>They got rid of the monkey bars because people kept breaking their arms</i></p> <hr/> <p><i>(Year 4 focus group)</i></p>
	Boundaries of playground	Comments relating to the dangers associated with the edge or boundaries of the playground landscape.	Physical harm	Reference to physical risks or experience of harm.	<p><i>(referring to the trees on the edge of the playground)</i></p> <hr/> <p><i>you could get hit by them if you run into them, you could get hurt</i></p> <hr/> <p><i>(Year 4 focus group)</i></p>
			Prohibited areas	Reference to areas of playground that children are not permitted access to.	<p><i>There's a place we're not allowed in and it's down there near the gate.</i></p> <hr/> <p><i>(Year 3 focus group)</i></p>

	Environmental	Comments relating to threats in the environment of the playground.	Physical harm	Reference to physical risks or experience of harm.	<p><i>My least favourite bit is the gravel bit cause you can always fall over and graze yourself</i></p> <hr/> <p><i>I don't like the mound cos there's grass that grows up and sometimes there's stinging nettles inside</i></p> <hr/> <p>(Year 6 focus group)</p> <hr/> <p><i>I would put grass down because when you fall over you don't really want to bang your head to the ground</i></p> <hr/> <p>(Year 3 focus group)</p>
			Nature	Reference to aspects of nature, including animals that are perceived as threatening.	<p><i>Most people get accidents each day...she banged her chin on a thorn</i></p> <hr/> <p><i>Twice the same dog has come into the playground cos it came through the fence...it was a big one so I was a little bit scared</i></p> <hr/> <p><i>Apparently we're getting goats on the mound...there would need to be houses for different animals just in case people are allergic to different animals</i></p> <hr/> <p>(Year 6 focus group)</p>
	Social	Comments relating to the perceived social threats within the playground	Bullies	Reference to child bullies and experience of bullying.	<p><i>I've been kicked somewhere really bad...it was someone in another class</i></p> <hr/> <p><i>Fighting, punching, people in the face hurting people</i></p> <hr/> <p><i>Swearing and people going on the mound and stuff like that</i></p> <hr/> <p><i>The naughty ones...they swear and throw balls. They always do the wrong things</i></p> <hr/> <p>(Year 4 focus group)</p>

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			Friendship disputes	Reference to friendship disagreements and disputes.	<p><i>You can climb up to the top and start fighting</i></p> <hr/> <p><i>I don't like it when I fall out</i></p> <hr/> <p><i>People break up and that</i></p> <hr/> <p>(Year 3 focus group)</p>
Friendships	Play	Descriptions of friends playing together	Positive experiences	Reference to playing with friends that are positive emotional experiences.	<p><i>I enjoy playtime...mostly about playing with your friends</i></p> <hr/> <p><i>Sometimes you get to play with your friends in the other class it's great</i></p> <hr/> <p><i>I really like playing with my best friend with the equipment and stuff</i></p> <hr/> <p>(Year 3 focus group)</p>
	Disputes	Comments referring to instances of friendship disputes or disagreements.	Role of adult	Description of the role of the adult on the playground in responding to instances of disputes.	<p><i>The teacher normally comes and tries to sort it out</i></p> <hr/> <p><i>I would say we go to the dinner ladies but if they're busy we can go to the Head Teacher</i></p> <hr/> <p>(Year 3 focus group)</p>
			Role of child	Comments relating to how children manage disputes on the playground.	<p><i>I would just ignore them</i></p> <hr/> <p><i>It's basically like saying 'tomorrow's another day'</i></p> <hr/> <p>(Year 4 focus group)</p>

Making sense of difference	Negative attributions	Children's negative inferences and attributions about key character's personality and/or intentions in ASD vignette.	N/A		<i>They would think he's quite selfish</i>
					<i>He's mean</i>
					<i>They're asking nicely, but all he's doing is spinning around. He could be sick! If they've just had dinner he might be sick</i>
					(Year 3 focus group)
					<i>A bit boring! A bit cuckoo</i>
					<i>Different and strange</i>
					<i>I think she's a nut in the ol' noggin</i>
					(Year 6 focus group)
	Exploratory hypotheses	Children's comments that seek to explain the key character's behaviour without positive or negative judgement.	N/A		<i>She might be shy</i>
					<i>He's like in the zone...he's just forgotten about the outside world and that</i>
					<i>Maybe he said 'No' because maybe he just wanted to play on his own</i>
					<i>Maybe she's having a day where she wants to play by herself</i>
					(Year 4 focus group)
	Responses	Children's comments on how they would respond or react to the key character in real life.	Avoidance	Children explained that they would avoid the key character in real-life.	<i>I don't know I wouldn't ask him again if he kept on saying No, what's the point?</i>
					<i>Leave her alone</i>
					<i>I would run away and be scared</i>
					(Year 6 focus group)

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			Engage	Children explained an interest in engaging with, or encouraging interaction with, the key character in real-life.	<p><i>I would tell him to play some different stuff</i></p> <hr/> <p><i>I'd try and help her try new things so she doesn't just stick with that for her whole life</i></p> <hr/> <p>(Year 3 focus group)</p>
			Seek adult support	Children explained they would respond by seeking out adult support.	<p><i>I'd probably go to a teacher and ask her to ask him if he was ok</i></p> <hr/> <p><i>I'd tell an adult</i></p> <hr/> <p>(Year 4 focus group)</p>

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Theme	Sub-theme	Sub-theme description	Subordinate sub-themes	Subordinate sub-theme description	Example quotes
Playground Activities	Physical Play	Reference to playground activities that involved physical actions and games	N/A	Comments that refer to physical play activities	<p><i>I enjoy it most that you actually have lots of space to play around and run around</i></p> <hr/> <p><i>We play basketball and football</i></p> <hr/> <p>(10 year old male)</p> <hr/> <p><i>I don't really like it because I don't really know how to play these type of games</i></p> <hr/> <p>(8 year-old male)</p>

	Pretend Play	Reference to playground activities that involve aspects of pretend or fantasy role play	N/A		<p><i>That's where I do my ancient stuff as well...I've heard there's a legend or something but I've tried it but it hasn't worked</i></p> <p>(8 year old, male)</p> <p><i>Yesterday, me and my friend which is in exactly the same class but she's not here...but we were playing where's the dolphin and she was like ooo cheeky</i></p> <p>(10 year-old, female)</p>
	Equipment and toys	References to playground equipment and apparatus.	Construction toys	Comments that make reference to building or construction toys	<p><i>I like to play with legos</i></p> <p>(10 year old male)</p> <p><i>I like lego</i></p> <p>(7 year old male)</p>
	Role of Adult		Monitoring	Child describing role of adult on playground as monitoring behaviour.	<p><i>They help people with their crying</i></p> <p>(8 year-old, male)</p> <p><i>When someone's fighting they just go over and not let them have any more playtime</i></p> <p>(8 year-old, male)</p>
			Play Support	Child describing the role of the adult as play partner or providing support during playtime.	<p><i>Mr. X is a good gardener and he does talk to me about gardening and stuff</i></p> <p>(8 year-old, male)</p> <p><i>I play with Mrs. X she's Polish...she always talks Polish</i></p> <p>(8 year-old, male)</p>

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	Playground environment	References to the landscape of the playground	Nature	Comments referring to the role of nature in experience of playground.	<p><i>When you slide down there is always a stick and the stick goes into my butt cheeks and it hurts</i></p> <p>(8 year-old, male)</p>
			Noise	Comments referring to the level of noise on the playground	<p><i>This is my favourite space because it's really quiet (the garden)</i></p> <p>(10 year old, male)</p> <p><i>sometimes there's a lot of people and they shout really loudly and makes everyone quite a headache</i></p> <p>(7 year-old, male)</p>
			Space	Comments referring to the amount and location of play area.	<p><i>In this room at lunchtime, you get to play with toys if you don't have friends</i></p> <p>(10 year old, male)</p> <p><i>everyday I try to go there but everyone's playing on it. It's why I don't like it</i></p> <p>(10 year old, male)</p> <p><i>I usually just play on the field...it's easy to be far away to escape from the bullies. It's a good place to play</i></p> <p>(8 year -old, male)</p>
Threats to playground and self	Safety of equipment	Comments relating to the safety and risk of play equipment.	Physical harm	Reference to physical risks or experience of harm.	<p><i>Get a slide and fix the bars cos they are broken and sometimes people go on them and they get hurt</i></p> <p>(7 year-old, male)</p> <p><i>R: Why don't you like playing on the climbing frame?</i></p> <p><i>C: It's dangerous if you don't have the right boots on</i></p> <p>(7 year-old, male)</p>

	Environmental	Comments relating to threats in the environment of the playground.	Physical harm	Reference to physical risks or experience of harm.	<p><i>I don't like it when I fell over and banged my head on the floor</i></p> <p>(10 year-old, female)</p>
			Nature	Reference to aspects of nature, including animals that are perceived as threatening.	<p><i>Stinging nettles on the mound. I hate them. One time I got stung on my knee and a bit on my right hand was stung as well</i></p> <p>(10 year-old, female)</p>
	Social	Comments relating to the perceived social threats within the playground	Bullies	Reference to child bullies and experience of bullying.	<p><i>I tell her to go away and then she says No and then slaps my bum with a ruler...I slap her back and she walks away and then says ok I'll leave you alone bye</i></p> <p>(8 year-old, male)</p> <p><i>I don't like X. She's always telling me to wee in the playground and then she moans and she has to punch me</i></p> <p>(8 year-old, male)</p>
			Friendship disputes	Reference to friendship disagreements and disputes.	<p><i>I tell them to be quiet which is the SHUT up...I'd say shut up mate, you'd better not mess with me otherwise I'll punch you in the forehead</i></p> <p>(10 year old, female)</p>

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<p>Friendships</p>	<p>Self in relation to others</p>	<p>Reference to how 'friendship' is a key aspect of child's sense of self.</p>	<p>Positive experience</p>	<p>Comments that indicate friendships are positive experiences</p>	<p><i>My brother is one of my best friends</i></p> <hr/> <p>(7 year old, male)</p> <hr/> <p><i>She's my best friend...she's got some disease though</i></p> <hr/> <p>(8 year-old, male)</p>
			<p>Shared activities</p>	<p>Comments that indicate friendships are important to facilitating shared activities</p>	<p><i>We do silly things like push each other out and say 'that's not your office'</i></p> <hr/> <p>(7 year-old, male)</p> <hr/> <p><i>In this room at lunch time, you get to play with toys if you don't have friends...lots of people in the school have no friends, like I think there's about 10 people in here</i></p> <hr/> <p>(8 year-old male)</p>
	<p>Role of adult</p>	<p>References to adult involvement on the playground.</p>	<p>Monitor</p>	<p>Child describes role of adult on playground as monitoring behaviour.</p>	<p><i>They just stand there and talk about things</i></p> <hr/> <p>(7 year-old male)</p> <hr/> <p><i>They are doing their dinner duties and checking nobody gets hurt</i></p> <hr/> <p>(7 year-old male)</p>
			<p>Companion</p>	<p>Child describes role of adult as play partner or close companion on playground</p>	<p><i>I play with Mrs. X she's Polish...she always talks Polish</i></p> <hr/> <p>(8 year-old, male)</p>
	<p>Isolation</p>	<p>References to time spent alone on playground</p>	<p>N/A</p>	<p>N/A</p>	<p><i>I feel kind of lonely because I don't have anyone to play with</i></p> <hr/> <p>(7 year-old male)</p> <hr/> <p><i>No talking about it...it makes me upset (being alone)</i></p> <hr/> <p>(7 year-old male)</p>

Coding Manual: Triangulated Perceptions (Final Version)

Theme	Sub-theme	Sub-theme description	Subordinate sub-themes	Subordinate sub-theme description	Example quotes
Threats to playground and self	Physical Danger	Reference to threats perceived in the playground within the physical environment that have potential to cause physical harm	N/A	N/A	<p><i>I would change the play chair cause the wooden ones aren't good because you get a lot of splinters out of them</i></p> <p><i>They got rid of the monkey bars because people kept breaking their arms</i> (Year 4 focus group)</p> <p><i>I am very, very clumsy and I slipped and cracked my head open</i></p> <p><i>Yes, I've got a scar there</i> (Year 4 focus group)</p>
	Social Threats	Reference to threats perceived in the playground based on social interactions with peers	N/A	N/A	<p><i>bad...it was someone in another class</i></p> <p><i>Fighting, punching, people in the face hurting people</i></p> <p><i>Swearing and people going on the mound and stuff like that</i></p> <p><i>The naughty ones...they swear and throw balls. They always do the wrong things</i> (Year 4 focus group)</p>
Inclusion in Practice	Values	Comments relating to inclusion as a set of values	N/A	N/A	<p><i>Inclusion on a playground would involve everybody being able to access the games or the activities that are being put in place. Where they're not having to go to specific activities they can have free choice and free will. I guess so that</i></p>

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					<p>everybody can have a go so it doesn't matter about age or ability and that sort of thing.</p> <p>(Year 3 Teacher)</p>
	Individualised Needs	Comments that highlight the individual needs of children in relation to the successful implementation of inclusive practice	N/A	N/A	<p>Oh, Rollo would literally be one big football pitch. He's a big Spurs fan. For him, if football is ever cancelled for example the adult that does it isn't in it's like the end of the world....</p> <p>Yes, ideal playground would be football. There might be some other equipment like things to do something like that. With Billy I honestly couldn't tell you. I genuinely don't know what his ideal playground might be, probably less children....</p> <p>They are massively</p> <p>(Year 3 Teacher)</p>
Understanding of difference	Negative attributions	Responses to vignette characters that attribute negative traits to the character. Attempts to understand behaviour are fixed and judgemental in overall approach.	N/A	N/A	<p>Interviewer: Do we think he's being mean or do we think he's being something else?</p> <p>Being crazy?</p> <p>Interviewer: What does it mean to be crazy?</p> <p>Like going mad</p> <p>(8 year-old male)</p>
	Exploratory Hypotheses	Responses to vignette characters that attribute neutral or positive traits to the character. Attempts to understand behaviour are exploratory and open-minded.	N/A	N/A	<p>Maybe he's like he just wants to play his game and he doesn't want people to stop him from playing it.</p> <p>Interviewer: Why might he be doing that?</p> <p>He might be covering his ears because once the people have already asked him</p> <p>and he doesn't want someone to ask him again cos he'll get annoyed. They keep coming to ask him if he wants to join the football team.</p> <p>(7-year-old female)</p>

Appendix O: Quality Ratings Assigned to Studies

Table 1. Studies evaluated against the 'What Works Clearinghouse' (WWC) Single-Case Design Standards

Author (year)	Evidence Standards Met?	Evidence of a relation between Intervention and Outcome Variable?
Banda et al., (2009)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations and responses <p>Moderate Evidence</p>
Ganz & Flores (2008)	(Fully Met)	<ul style="list-style-type: none"> ✓ Scripted phrases ✓ Context-related phrases ✓ Inconsistent with responses to peers and adults <p>Inconsistent Evidence</p>
Harper et al. (2008)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations/gaining attention ✓ Turn taking exchanges <p>Moderate Evidence</p>
Hu et al. (2018)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses <p>Moderate Evidence</p>
Hughes et al. (2011)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses <p>Moderate Evidence</p>
Hughes et al. (2013)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses <p>Moderate Evidence</p>
Jung et al. (2008)	(Fully Met)	<ul style="list-style-type: none"> ✓ Responses ✓ Initiations

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		Moderate Evidence
Katz & Girolametto, (2013)	(Fully Met)	<ul style="list-style-type: none"> ✓ Frequency and length of extended interactions Moderate Evidence
Koegel et al. (2012a)	(Fully Met)	<ul style="list-style-type: none"> ✓ Social engagement ✓ Initiations Moderate Evidence
Koegel et al. (2012b)	(Fully Met)	<ul style="list-style-type: none"> ✓ Social engagement ✓ Initiations Moderate Evidence
Koegel et al. (2013)	(Fully Met)	<ul style="list-style-type: none"> ✓ Social engagement ✓ Initiations Moderate Evidence
Lee & Lee (2015)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses Moderate Evidence
Loftin et al. (2008)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Reduction in repetitive motor behaviours Moderate Evidence
Mason et al. (2013)	(Fully Met)	<ul style="list-style-type: none"> ✓ Verbal and non-verbal communicative acts Moderate Evidence
McFadden et al. (2014)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses Moderate Evidence
Medina et al. (2016)	(Fully Met)	<ul style="list-style-type: none"> ✓ Initiations ✓ Responses Moderate Evidence

Owen- DeSchryver et al. (2008)	(Fully Met)	✓ Initiations ✓ Responses Moderate Evidence
Schmidt & Stichter (2012)	(Fully Met)	✓ Initiations ✓ Responses Moderate Evidence

Appendix P: Characteristics of Studies

Table 2. *Characteristics of Reviewed Studies*

Author (year)	Country	Number of Participants	Number of Peers	Age range	Peer training	PMI procedure and setting	Duration of intervention	PMI strategy and 'Theory of Change'	Outcome Measures
		(Gender)	(Gender)						
Banda et al., (2010)	USA	2 males	3-5 per participant (NR)	6 years-old	Yes	Direct instruction on social interaction for peers and participants; explicit facilitator modeling, prompting, and reinforcement of peers and participants to initiate and maintain interaction during small group academic activities	13-17 sessions	Initiation No reference made to 'Theory of Change'	Initiations and responses
Ganz & Flores (2008)	USA	3 males	4 (3 female, 1 male)	4-5 years-old	Yes	Participants taught to use scripted phrases for different play themes; peers trained to use visual instruction cards to initiate interaction with participants during play; peers modeled play behaviors for participants; adults used least to most prompts to prompt participants to use scripted phrases	4 weeks	Initiation	Scripted phrases
									Context related comments
							4-5 days/week	No reference made to 'Theory of Change'	Responses
							x30 minutes/day		
Harper et al. (2008)	USA	2 (male)	6 (2 males, 4 females)	8-9 years old	Yes	Peers were trained to implement Pivotal Response Training strategies including gaining attention, varying activities, narrating play, reinforcing attempts, and turn-taking; peers used visual cue cards to remind them of	7 consecutive school days during play-time breaks	'Pivotal Response Training': Behaviourist. Prompting and reinforcing initiation	Turn-taking exchanges Initiations

Hu et al. (2018)	China	3 males	13 (3 females, 10 males)	4-6 years-old	Yes	Peers were trained in LEGO play through role play. Structured intervention, including use of visual cues, role play and prompting		Prompting	Social initiations and responses
							Total of 28-31 sessions per participant	Play reinforcement	
							Twice per week	No reference made to 'Theory of Change'	
							40 mins each session		
Hughes et al. (2011)	USA	1 male, 2 females	39 male and female	16-21 years-old	Yes	Participants received direct instruction in how to interact with peers using a communication book with socially appropriate topics; peers trained to use communication books and maintain interaction by initiating, expanding on topics, asking reciprocal questions, prompting participant use of communication book, and providing positive reinforcement	Information provided on book training time. Unclear how much time allocated for intervention phase.	Prompting, reinforcement and initiation	Interaction,
									Initiation
								No reference made to 'Theory of Change'	Responses
Hughes et al. (2013)	USA	3	3 males	16-17 years-old	Yes	Peers given suggestions for topics of conversation with participants based on shared interests; peers trained to set daily goals for number of initiations made to participants; peers trained to self-monitor and record number of interactions with participants	Information provided on training time but unclear about time spent on intervention phase.	Initiation	Initiations
		(2 males, 1 female)							Interactions
								No reference made to 'Theory of Change'	

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Jung et al. (2008)	USA	3 males	6 (2 males, 4 females)	4-6 years-old	Yes	Peers trained to interact with participants through role-play and discussion and taught to reinforce/respond to participant's initiations; facilitator directed low probability requests to participants to initiate social behaviors with peers; high probability requests directed to participants and to peers to initiate play and model behaviors for participants; praise provided for responding to requests	6 x10 minute play sessions randomly allocated in one pre-school day for each participant.	Prompting and reinforcing; initiation	Social initiations and responses
									Social interactions
Katz & Girolametto, (2013)	Canada	3 (2 males, 1 female)	6 (2 males, 4 females)	4-5 years-old	Yes 2 teacher training sessions 5x30 mins social skills training for all	Classroom. Teachers trained to support play and provide feedback to children during interactions; social skills training for participants and peers; illustrated communication board with initiation strategies for peers to implement; adult prompts to peers to initiate and prompt play with participant	Total of 12x20 min play sessions, x3 per week for total of 4 weeks.	Prompting and reinforcing; initiation No reference made to 'Theory of Change'	Extended Interactions
Koegel et al. (2012a)	USA	3 males	3 males	11-14 years-old	No	Classroom and playground Peers volunteered to participate based on interest club at lunch time. Interests of	Probes collected 1-2 times per week No information provided on duration of	Proximity No reference made to 'Theory of Change'	Social engagement and initiations
Koegel et al. (2012b)	USA	3 (2 males, 1 female)	6 to 10	9-12 years-old	No	Day camp, cafeteria and playground Activities of mutual interest to participants and peers were linked to social club activities	Lunchtime sessions 15 mins 30-45 mins free play session Total of 30 days	Proximity No reference made to 'Theory of Change'	Social engagement and initiations
Koegel et al. (2013)	USA	7 (6 males, 1 female)	9 to 20 (matched in gender)	14-16 years-old	No	Classroom and playground Peers chose to volunteer in interest in social club at lunchtime Preferred interests of participants	4-9 social club meetings, x1 week.	Proximity No reference made to 'Theory of Change'	Social engagement and initiations

		3	9			2 month duration.			
		(2 males, 1 female)	(NR)						
Lee & Lee (2015)	Malaysia			3-4 years-old	Yes	puppets and toys used to train peers target initiation skills. 'Good Friend Board' to reinforce skills with target children. Environmental measures were 'point and talk' photographs. Intervention administered during daily snack-time. Social initiation training and environmental	20 min training sessions administered during daily snack time	Prompting, reinforcing, initiations	Verbal initiations and responses

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