'Sometimes I want to play by myself': Understanding what friendship means to children with autism in mainstream primary schools

Lynsey Calder, Vivian Hill and Elizabeth Pellicano

*Autism* 2013 17: 296 originally published online 27 November 2012

DOI: 10.1177/1362361312467866

The online version of this article can be found at:

[http://aut.sagepub.com/content/17/3/296](http://aut.sagepub.com/content/17/3/296)
‘Sometimes I want to play by myself’: Understanding what friendship means to children with autism in mainstream primary schools

Lynsey Calder
Institute of Education, University of London, UK; Haringey Educational Psychology Service, London, UK

Vivian Hill
Institute of Education, University of London, UK

Elizabeth Pellicano
Institute of Education, University of London, UK

Abstract
Research has shown that friendship impacts the overall experience of mainstream school for autistic children. Using a unique combination of quantitative, qualitative and social network methods, we investigated the extent and nature of autistic children’s friendships from their perspective and from those of their mothers, teachers and classroom peers. Consistent with previous research, children with autism (n = 12), aged between 9 and 11 years, rated their friendships to be of poorer quality than their non-autistic classroom peers (n = 11). There was, however, much variability in autistic children’s ratings, which, unexpectedly, was related to neither children’s cognitive ability nor their theory of mind ability. Encouragingly, the children generally reported satisfaction with their friendships, and although no child was socially isolated, the degree of inclusion in friendship networks varied widely. Furthermore, autistic children’s social motivation emerged as a key factor in parents’ and teachers’ reports in determining both the nature and extent of their friendships. Adults played an active role in supporting children’s friendships, but this sometimes conflicted with what the children wanted. These findings highlight the need to ascertain the perspectives of young people with autism on their friendships and to consider the social and ethical implications of when and how to intervene.

Corresponding author:
Liz Pellicano, Centre for Research in Autism and Education (CRAE), Department of Psychology and Human Development, Institute of Education, University of London, 25 Woburn Square, London WC1H 0AA, UK.
Email: l.pellicano@ioe.ac.uk
Keywords
friendships, peer relationships, mainstream school, theory of mind, social skills

Enjoying stable long-lasting reciprocal friendships is held to be one of the hallmarks of a ‘good adult outcome’ (Lotter, 1978). It is perhaps not surprising, then, that many adults and adolescents diagnosed with an autism spectrum condition (hereafter, ‘autism’) – defined in part by a ‘failure to develop peer relationships appropriate to developmental level’ (American Psychiatric Association (APA), 2000) – rarely achieve such good outcomes. Indeed, long-term studies show that the majority of adults with autism have few, if any, friends (e.g. Howlin et al., 2000, 2004; though see Farley et al., 2009). Findings from a national US longitudinal study showed that adolescents with autism were more likely never to see friends, be called by them or be invited to activities relative to adolescents with other special educational needs (Shattuck et al., 2011). These reports serve to reinforce the widespread belief that individuals with autism cannot form friendships.

Partly in response to these findings, there are an increasing number of programmes available to promote the peer interaction skills of children with autism targeting either the child directly, the child’s parents (e.g. Frankel, Myatt, Sugar et al. (2010b)) or peers (e.g. Kasari et al., 2012). Yet knowing precisely when and how to provide support, guidance and intervention relies, in part, on a solid understanding of how individuals with autism perceive, interpret and experience friendships and social contact.

This study therefore sought to provide a systematic investigation of the friendship experiences of a group of cognitively able children with autism educated within mainstream schools in the United Kingdom using a unique combination of quantitative, qualitative and sociometric methods. Several authors (e.g. Humphrey and Lewis, 2008) have emphasised the importance of multiple perspectives when investigating the experiences of children with autism. Yet children’s perspectives are rarely sought and never have they been captured together with the views of their parents, teachers and classroom peers. We therefore extended previous work to examine in detail the degree and nature of autistic children’s friendships and social networks by collecting information from multiple sources.

In combining these approaches, we addressed the following four aims. First, we examined children’s experiences of friendships through asking children both to rate the perceived qualities of their best friendship and to talk in-depth about key aspects of friendship. Second, we sought to investigate the potential source(s) of individual differences in the degree and nature of autistic children’s friendship, examining whether children’s language skills, their mentalising skills and their degree of motivation for social contact might account for the variability. Third, we situated children’s responses within a broader context through interviews with parents and teachers to establish their understanding of the autistic child’s friendships and their self-perceived role in developing and maintaining his/her friendships. We also gathered information from their classroom peers using Cairns and Cairns’s (1994) social cognitive mapping (SCM) technique. Finally, fourth, we conducted an observation of each child tracing what actually occurs on the playground and supplementing the reports from parents, teachers, peers and children themselves.

Before describing the study in detail, this article begins by tracing the strengths and limitations of the extant literature. Existing studies have made good progress towards understanding the extent of friendships and social relationships of children with autism, particularly those who attend mainstream schools, the majority of pupils with autism (Department for Education, 2010). Intriguingly, these studies report that children and adolescents with autism do seek out their non-autistic peers (Sigman and Ruskin, 1999), report having friends and best friends (Bauminger...
et al., 2007; Daniel and Billingsley, 2010) and also have a desire for friends and involvement with other children (Bauminger and Kasari, 2000). Indeed, interviews with young autistic people suggest that establishing and maintaining friendships play a significant role in their overall experience of school, just as it does for typical children (Connor, 2000; Humphrey and Lewis, 2008; Ochs et al., 2001).

These same studies report, however, that children with autism tend to have significantly fewer friends than typical children, a finding that is highly consistent with other work (e.g. Bauminger and Kasari, 2000). Furthermore, the friends who they report are sometimes not verified by maternal report, reflecting perhaps ‘desired’ rather than actual friendships (Bauminger and Kasari, 2000).

What is less clear from this research is the precise functional role of friendships for children with autism. In typical children, it is widely held that qualities such as companionship (e.g. ‘hanging out’), intimacy (e.g. sharing one’s innermost thoughts, feelings and experiences) and closeness (e.g. the affective bond between friends) are critical in distinguishing friends from acquaintances (see Buhrmester, 1990; Bukowski et al., 1994; Howes, 1996). During middle childhood (from 8 to 12 years old), typical children increasingly seek out these qualities in their friendships (Dunn, 2004), and such friendships serve to promote children’s developing sense of self and feelings of self-worth (Buhrmester, 1990), buffer against loneliness and enhance children’s social adaptation and adjustment (e.g. Ladd, 1990; Newcomb and Bagwell, 1995; see Gifford-Smith and Brownell, 2003 for review).

Studies of friendships in children with autism suggest that their concept of friendship might differ. When asked to define friendship, typical children tended to include descriptions of the qualities outlined above but the definitions of children with autism were less ‘complete’, focusing more upon companionship and less on intimacy and affection (Bauminger et al., 2004; Bauminger and Kasari, 2000). Differences are also reflected in the ratings of perceived friendship quality (Bukowski et al., 1994). Children with autism tend to rate their best friendship as lower on several dimensions, including companionship, helpfulness, security and closeness (Bauminger et al., 2004; Bauminger and Kasari, 2000; Chamberlain et al., 2007; Kasari et al., 2011; Whitehouse et al., 2009).

Yet, existing research provides no consensus on precisely which dimensions of friendship are perceived differently by children with autism. It is thus unclear exactly how children with autism understand the value and purpose of friendship in comparison to typically developing children. This is partly because the vast majority of existing studies are based upon questionnaires, which, while valuable, fall short of providing a rich understanding of children’s notions of friendships and the functions they serve.

This study addressed this issue by directly eliciting these children’s views and perspectives in a way that will be described as follows. It is important also to consider that children’s dyadic, mutual friendships are embedded within a larger social network of peer relationships. Participation within these networks and the extent to which individuals are liked or accepted by the children in their peer group (‘peer acceptance’) represent an important component of children’s peer relations. They are especially important for children with autism within mainstream settings because the degree of others’ acceptance of the child with autism is often an indicator of successful inclusion (Staub et al., 1994).

Observational studies have found that children with autism demonstrate less sharing, less social conversation and more parallel play than typical children (Bauminger et al., 2008). They also spend more time engaged in solitary behaviour and less time in cooperative interaction (Humphrey and Symes, 2011) and in initiating and responding to the interactions of others within mainstream settings (Bauminger et al., 2003; Sigman and Ruskin, 1999). Several studies further report that cognitively able children with autism are more often neglected and rejected by their peers than typical classmates (Humphrey and Symes, 2011; Ochs et al., 2001; Symes and Humphrey, 2010).
Using sociometric techniques (e.g. Cairns and Cairns, 1994), Kasari and her colleagues (Chamberlain et al., 2007; Kasari et al., 2011; Rotheram-Fuller et al., 2010) have examined the extent to which children with autism are interconnected to their peers within classroom social networks. They asked entire classrooms of children to list groups of friends that existed within the class structure, and these lists were then combined to reveal the patterns of affiliation within the classroom – a ‘social cognitive map’. Generally, children with autism receive fewer reciprocal nominations of friendship, and are more often on the periphery of their social networks, than their non-autistic class peers (Chamberlain et al., 2007; Rotheram-Fuller et al., 2010; but see Robertson et al., 2003). Furthermore, children with autism are less socially included in upper primary school than in early-to-mid primary school (Rotheram-Fuller et al., 2010), perhaps due to the changing nature of friendships as children enter adolescence, a time when they begin to require increasing levels of companionship and intimacy (Freeman and Kasari, 1998).

Together, existing studies suggest that children with autism have fewer reciprocal friendships and that their social involvement with classroom peers remains limited. They also suggest, however, that there is considerable variability in the degree of children’s perceived quality of their friendships and the extent to which they engage in the social networks of their classroom. The underlying source(s) of this variability, however, remains unclear.

Making and keeping friends requires a range of skills, including good communication skills, perspective-taking ability, emotion-reading ability and self-regulation. Individual differences in these skills could account for the nature and quality of autistic children’s friendships. Indeed, some authors (e.g. Happé, 1995; Hermelin and O’Connor, 1985) have suggested that children with better cognitive abilities, particularly language skills, are able to compensate for their difficulties with social communication (e.g. by learning social rules). Others (e.g. Baron-Cohen et al., 1985; Tager-Flusberg, 2007) have suggested that both the formation of friendships and the perception of interpersonal relationships are limited by fundamental problems in theory of mind (or ‘mentalizing’). Difficulties in appreciating the thoughts, feelings and desires of others might make it difficult to detect subtle social cues and demonstrate reciprocity and empathic prosocial behaviours.

Neither of these explanations has benefited from much direct investigation (see Bauminger et al., 2003, 2010 for exceptions). In this study, we therefore also examined whether children’s general cognitive ability, particularly their language skills, and their mentalizing skills could explain, at least in part, the variability in the perceived quality of their friendships.

Emerging from these reflections on previous research, our aim was to investigate the friendships and social networks of cognitively able children with autism educated within mainstream settings in search of a comprehensive account of the nature of friendship for autistic children. Specifically, we investigated the functional role of friendship for these children and their experiences of, and satisfaction with, their friendships and peer interactions. We further analysed their differential ability to form such friendships and, unlike many existing studies, situated their own accounts within the context of the perspectives of multiple informants.

**Method**

**Participants**

Families of 12 children with autism (8 males, including 1 pair of male monozygotic twins) from 9 London-based mainstream primary schools (years 5 and 6) agreed to take part. Parents reported that all participants had received an independent clinical diagnosis of an autism spectrum disorder.
according to the International Classification of Diseases, 10th Revision (International Classification of Diseases, 10th Revision) (World Health Organization (WHO), 1993) or Diagnostic and Statistical Manual of Mental Disorders (4th ed., text revision; DSM-IV-TR) (APA, 2000) criteria and scored above threshold (score of 15) for autism on the Social Communication Questionnaire (SCQ; Rutter et al., 2003) (M = 24.00; SD = 4.59). The sample was ethnically diverse (see Table 2), reflecting the multicultural nature of London.

To enable comparison on the quantitative measures, teachers were asked to identify one non-autistic classroom peer of similar chronological age, gender and cognitive ability to ‘match’ each autistic child (n = 11; 6 males). Written consent was gained from these children’s parents prior to the child’s participation. For the school including one twin pair, one female classroom peer was identified as the only appropriate child of similar ability. In another school, three unrelated children with autism were recruited from the same class and were matched with three non-autistic classroom peers.

Descriptive information on participants is provided in Table 1 (see also Table 2 for individual data). Children with autism did not differ significantly from their classroom peers in terms of chronological age, F(1, 22) < 1, p = 0.95, Verbal IQ, F(1, 22) < 1, p = 0.48, Performance IQ, F(1, 22) = 1.04, p = 0.32, and Full-Scale IQ, F(1, 22) < 1, p = 0.82, as measured by the Wechsler Abbreviated Scale of Intelligence (WASI) (Wechsler, 1999).

An additional 237 classroom peers across the nine schools participated in the SCM exercise (see below) all children in each class participated (see below for information regarding consent). Details regarding age, gender and ethnicity were unavailable for these children.

**Measures**

**Friendship Qualities Scale.** Children with and without autism completed Bukowski et al.’s (1994) Friendship Qualities Scale (FQS), which assessed their perceptions of the quality of their relationship with an identified best friend. The scale contains 23 items, which are rated on a 5-point Likert scale from 1 (not true at all) to 5 (very true). The 23 items reflect five categories of friendship qualities: (a) Companionship (e.g., ‘My friend and I spend a lot of our free time together’), (b) Conflict (e.g., ‘My friend and I disagree about many things’), (c) Help (e.g., ‘My friend helps me when I am having trouble with something’), (d) Security (e.g., ‘If I have a problem at school or at home, I can talk to my friend about it’) and (e) Closeness (e.g., ‘If my friend had to move away I would miss him/her’). Scores on items within each category were summed to yield composite scores measuring each dimension.

**Strange Stories Test.** Sixteen short vignettes were used to index children’s mentalizing skills (Happé, 1994; White et al., 2009). Eight items required mental-state attribution to characters in the vignettes (‘mental-state’ items) and eight items required physical-state attribution (‘physical-state’ items). Children were given the text for each item, which was read aloud by the examiner. They were then asked a critical test question and their responses were recorded verbatim. Each item was awarded 2 points for a fully correct answer, 1 point for a partially or implicitly correct answer and 0 points for an incorrect answer (see White et al., 2009 for details). Responses from six children were randomly selected and independently coded by another rater blind to the study’s aims. Inter-rater agreement was high (92.5% of coded responses). Children’s scores on mental-state and physical-state items were summed to yield total scores for each story type (maximum score = 16). Mental-state scores were the dependent variable of interest here. Estimates of internal consistency (Cronbach’s α) were high for this variable (α = 0.82).
Table 1. Descriptive statistics for chronological age, Full-Scale IQ, Verbal IQ, Performance IQ, the FQS and the SS Test in children with and without autism.

<table>
<thead>
<tr>
<th>Group</th>
<th>Children with autism (n = 12)</th>
<th>Children without autism (n = 11)</th>
<th>Group differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years; months)</td>
<td></td>
<td></td>
<td>p value</td>
</tr>
<tr>
<td>M (SD)</td>
<td>10; 3</td>
<td>10; 3</td>
<td>0.95</td>
</tr>
<tr>
<td>Range</td>
<td>9; 3–11; 2</td>
<td>9; 2–10; 11</td>
<td></td>
</tr>
<tr>
<td>Full-Scale IQa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>95.17 (17.90)</td>
<td>93.36 (18.49)</td>
<td>0.82</td>
</tr>
<tr>
<td>Range</td>
<td>75–131</td>
<td>59–124</td>
<td></td>
</tr>
<tr>
<td>Verbal IQa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>91.42 (16.01)</td>
<td>96.27 (16.78)</td>
<td>0.48</td>
</tr>
<tr>
<td>Range</td>
<td>77–123</td>
<td>70–120</td>
<td></td>
</tr>
<tr>
<td>Performance IQa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>100.00 (20.40)</td>
<td>91.91 (17.39)</td>
<td>0.32</td>
</tr>
<tr>
<td>Range</td>
<td>72–131</td>
<td>55–121</td>
<td></td>
</tr>
<tr>
<td>FQS Companionshipb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>3.53 (0.57)</td>
<td>3.84 (0.63)</td>
<td>0.23</td>
</tr>
<tr>
<td>Range</td>
<td>2.50–4.33</td>
<td>2.75–4.75</td>
<td></td>
</tr>
<tr>
<td>FQS Helpb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>3.73 (0.89)</td>
<td>4.44 (0.36)</td>
<td>0.02*</td>
</tr>
<tr>
<td>Range</td>
<td>2.20–4.80</td>
<td>4.00–5.00</td>
<td></td>
</tr>
<tr>
<td>FQS Conflictb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>2.31 (0.82)</td>
<td>2.07 (1.00)</td>
<td>0.53</td>
</tr>
<tr>
<td>Range</td>
<td>1.50–5.00</td>
<td>1.00–4.00</td>
<td></td>
</tr>
<tr>
<td>FQS Closenessb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>4.00 (0.70)</td>
<td>4.76 (0.25)</td>
<td>0.003**</td>
</tr>
<tr>
<td>Range</td>
<td>2.60–5.00</td>
<td>4.20–5.00</td>
<td></td>
</tr>
<tr>
<td>FQS Securityb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>3.98 (0.91)</td>
<td>4.51 (0.54)</td>
<td>0.11</td>
</tr>
<tr>
<td>Range</td>
<td>2.00–5.00</td>
<td>3.40–5.00</td>
<td></td>
</tr>
<tr>
<td>SS mental-state scoresc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>7.25 (4.97)</td>
<td>10.90 (2.87)</td>
<td>0.04*</td>
</tr>
<tr>
<td>Range</td>
<td>1–15</td>
<td>7–16</td>
<td></td>
</tr>
<tr>
<td>SS physical scoresc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>7.92 (3.55)</td>
<td>10.00 (3.44)</td>
<td>0.17</td>
</tr>
<tr>
<td>Range</td>
<td>1–14</td>
<td>3–14</td>
<td></td>
</tr>
</tbody>
</table>

WASI: Wechsler Abbreviated Scales of Intelligence; FQS: Friendship Qualities Scale; SS: Strange Stories; SD: standard deviation.

*aChildren’s intellectual functioning was measured using the WASI (Wechsler, 1999).

*bChildren’s perceived friendship quality was measured using the FQS (Bukowski et al., 1994).

*cChildren’s mentalizing ability was measured using the SS Test (Happé, 1994).

*p < 0.05; **p < 0.01.
Table 2. Summary of variables for individual participants with and without autism.

<table>
<thead>
<tr>
<th>Child ID</th>
<th>Age (years; months)</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>SCQ total score&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Full-Scale IQ&lt;sup&gt;c&lt;/sup&gt;</th>
<th>VIQ&lt;sup&gt;c&lt;/sup&gt;</th>
<th>PIQ&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Strange Stories score&lt;sup&gt;d&lt;/sup&gt;</th>
<th>FQS Companionship&lt;sup&gt;e&lt;/sup&gt;</th>
<th>FQS Help&lt;sup&gt;e&lt;/sup&gt;</th>
<th>FQS Conflict&lt;sup&gt;e&lt;/sup&gt;</th>
<th>FQS Closeness&lt;sup&gt;e&lt;/sup&gt;</th>
<th>FQS Security&lt;sup&gt;e&lt;/sup&gt;</th>
<th>% reciprocated friendships&lt;sup&gt;f&lt;/sup&gt;</th>
<th>Degree of centrality&lt;sup&gt;f&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A001</td>
<td>9; 9 Male White Other</td>
<td>20</td>
<td>95</td>
<td>87</td>
<td>104</td>
<td>5</td>
<td>4.00</td>
<td>4.80</td>
<td>1.50</td>
<td>3.80</td>
<td>4.60</td>
<td>50%</td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A002</td>
<td>9; 8 Male White British</td>
<td>29</td>
<td>131</td>
<td>123</td>
<td>131</td>
<td>13</td>
<td>3.00</td>
<td>3.20</td>
<td>4.00</td>
<td>4.00</td>
<td>4.20</td>
<td>0%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A003</td>
<td>9; 8 Male White British</td>
<td>26</td>
<td>127</td>
<td>122</td>
<td>125</td>
<td>15</td>
<td>3.25</td>
<td>2.20</td>
<td>2.25</td>
<td>3.80</td>
<td>2.00</td>
<td>50%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A004</td>
<td>10; 2 Male Black African</td>
<td>15</td>
<td>80</td>
<td>77</td>
<td>88</td>
<td>1</td>
<td>3.25</td>
<td>2.80</td>
<td>1.50</td>
<td>2.60</td>
<td>2.80</td>
<td>66%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A005</td>
<td>10; 8 Male White British</td>
<td>20</td>
<td>75</td>
<td>77</td>
<td>77</td>
<td>11</td>
<td>3.00</td>
<td>3.00</td>
<td>2.75</td>
<td>4.40</td>
<td>3.40</td>
<td>58%</td>
<td>Nuclear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A006</td>
<td>9; 5 Female White British</td>
<td>23</td>
<td>96</td>
<td>78</td>
<td>116</td>
<td>1</td>
<td>4.33</td>
<td>4.75</td>
<td>3.25</td>
<td>5.00</td>
<td>4.20</td>
<td>66%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A007</td>
<td>10; 9 Female Black African</td>
<td>30</td>
<td>92</td>
<td>96</td>
<td>89</td>
<td>11</td>
<td>3.75</td>
<td>4.20</td>
<td>1.50</td>
<td>5.00</td>
<td>4.40</td>
<td>100%</td>
<td>Nuclear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A008</td>
<td>11; 0 Male White British</td>
<td>26</td>
<td>91</td>
<td>98</td>
<td>86</td>
<td>9</td>
<td>4.00</td>
<td>3.00</td>
<td>2.25</td>
<td>3.00</td>
<td>4.20</td>
<td>75%</td>
<td>Nuclear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A009</td>
<td>10; 5 Female Black African</td>
<td>21</td>
<td>76</td>
<td>83</td>
<td>72</td>
<td>3</td>
<td>2.50</td>
<td>4.20</td>
<td>3.00</td>
<td>4.20</td>
<td>4.60</td>
<td>20%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A010</td>
<td>9; 2 Male White British</td>
<td>28</td>
<td>92</td>
<td>89</td>
<td>96</td>
<td>1</td>
<td>3.75</td>
<td>5.00</td>
<td>1.50</td>
<td>3.80</td>
<td>5.00</td>
<td>100%</td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A011</td>
<td>10; 2 Female Black African</td>
<td>20</td>
<td>84</td>
<td>85</td>
<td>88</td>
<td>7</td>
<td>3.25</td>
<td>3.80</td>
<td>2.50</td>
<td>4.00</td>
<td>3.40</td>
<td>100%</td>
<td>Peripheral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A012</td>
<td>11; 1 Male White Other</td>
<td>29</td>
<td>103</td>
<td>82</td>
<td>128</td>
<td>10</td>
<td>4.25</td>
<td>3.80</td>
<td>1.75</td>
<td>4.40</td>
<td>5.00</td>
<td>75%</td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P001</td>
<td>10; 8 Male Black African</td>
<td>89</td>
<td>86</td>
<td>97</td>
<td>7</td>
<td>4.50</td>
<td>4.00</td>
<td>3.00</td>
<td>5.00</td>
<td>3.40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P002</td>
<td>10; 3 Female White British</td>
<td>124</td>
<td>120</td>
<td>121</td>
<td>16</td>
<td>4.25</td>
<td>4.20</td>
<td>2.50</td>
<td>4.80</td>
<td>4.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P003</td>
<td>10; 9 Male White Other</td>
<td>85</td>
<td>87</td>
<td>88</td>
<td>10</td>
<td>2.75</td>
<td>4.20</td>
<td>4.00</td>
<td>4.20</td>
<td>4.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P004</td>
<td>10; 5 Male White British</td>
<td>81</td>
<td>80</td>
<td>85</td>
<td>10</td>
<td>4.75</td>
<td>4.60</td>
<td>1.50</td>
<td>4.80</td>
<td>4.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P005</td>
<td>9; 2 Female White British</td>
<td>109</td>
<td>115</td>
<td>101</td>
<td>15</td>
<td>3.50</td>
<td>4.60</td>
<td>3.00</td>
<td>4.60</td>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P006</td>
<td>10; 10 Female Indian</td>
<td>116</td>
<td>117</td>
<td>110</td>
<td>12</td>
<td>3.75</td>
<td>4.40</td>
<td>2.50</td>
<td>4.80</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P007</td>
<td>10; 6 Male Black African</td>
<td>88</td>
<td>99</td>
<td>81</td>
<td>10</td>
<td>3.75</td>
<td>5.00</td>
<td>1.00</td>
<td>5.00</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P008</td>
<td>10; 5 Female White British</td>
<td>59</td>
<td>70</td>
<td>55</td>
<td>7</td>
<td>4.50</td>
<td>4.60</td>
<td>1.00</td>
<td>5.00</td>
<td>4.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P009</td>
<td>9; 5 Male White Other</td>
<td>79</td>
<td>83</td>
<td>80</td>
<td>9</td>
<td>4.00</td>
<td>5.00</td>
<td>1.00</td>
<td>5.00</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P010</td>
<td>9; 10 Female White Other</td>
<td>96</td>
<td>94</td>
<td>99</td>
<td>12</td>
<td>3.50</td>
<td>4.20</td>
<td>1.50</td>
<td>4.60</td>
<td>4.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P011</td>
<td>10; 11 Male White Other</td>
<td>101</td>
<td>108</td>
<td>94</td>
<td>12</td>
<td>4.50</td>
<td>4.00</td>
<td>1.75</td>
<td>4.60</td>
<td>5.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SCQ: Social Communication Questionnaire; VIQ: Verbal IQ; PIQ: Performance IQ; WASI: Wechsler Abbreviated Scales of Intelligence; FQS: Friendship Qualities Scale.

<sup>a</sup>Child ID: A = participant with autism; P = matched peer without autism.
<sup>b</sup>SCQ (Rutter et al., 2003).
<sup>c</sup>Children’s Full-Scale IQ, VIQ and PIQ were estimated using WASI (Wechsler, 1999).
<sup>d</sup>Strange Stories Test mental-state scores (Happé, 1994; White et al., 2009).
<sup>e</sup>FQS (Bukowski et al., 1994) subscales (Companionship, Help, Conflict, Closeness and Security).
<sup>f</sup>Indices derived from the social cognitive mapping exercise (Cairns and Cairns, 1994).
SCM exercise. Children with autism and their classmates completed Cairns and Cairns’ (1994) SCM exercise, a peer-report method for identifying social groups in school settings. Children were asked to ‘Write down groups of friends in your class. Think about who plays together in the classroom, at playtime and lunchtimes’. Each child’s nominations provided an individual ‘social map’ of the setting, which were aggregated into a co-nomination matrix. Correlations were then applied to the matrix to determine the degree of similarity between each child’s relationships with every other child in the class. Following Cairns and Cairns (1994), correlations of $r \geq 0.40$ were identified and used to produce a social network map for each of the nine classrooms, and the social network centrality – the prominence of each autistic child within the classroom – was calculated. Following Farmer and Farmer (1996), a child (a) with high centrality in a high-centrality cluster was considered to be of ‘nuclear centrality’, (b) with medium centrality in a high-centrality cluster or high/medium centrality in a medium-centrality cluster was of ‘secondary centrality’, (c) with low centrality in a high-/medium-centrality cluster or members of a low-centrality cluster had ‘peripheral centrality’ and (d) who was not identified as belonging to any cluster was considered ‘isolated’. We also examined the extent to which children listed as friends by the autistic child reciprocated this friendship (see Table 2).

Structured observations. To record the interaction behaviours of the child with autism, we conducted a single 15-min structured playground observation using an interval coding method with a predetermined coding scheme (adapted from Sigman and Ruskin, 1999). The level of peer interaction was classified hierarchically into the following categories: (a) non-social play (solitary play), (b) low-level social play (parallel and aware play), (c) high-level social play (sharing, turn taking and organised games) and (d) pretend play (the most socially complex type of play). At 15-s intervals, the researcher recorded the level of peer interaction observed during the preceding 15 s. If more than one level was shown during a 15-s block, the highest level shown was recorded. Following Sigman and Ruskin (1999), entry into play or engagement with others (children/adults) was coded according to who initiated the bid (the participant or peer/adult), the nature of the response (positive or negative) and the extent to which the initiation was maintained for more than one block. The nature of the activities in which the child engaged was also coded, alongside participants’ verbalizations (monologue or conversation with another child). These observations only offered a single ‘snapshot’ of the child’s interactions with others but the resulting data nevertheless provided important converging information regarding the inclusion of these autistic children.

Semi-structured interviews with children with autism. Children were asked a number of open questions about what friendship means to them, the activities they take part in with their friends and their satisfaction with their current friendships. The ‘Friends and Marriage’ items of the Autism Diagnostic Observation Schedule–Generic (Lord et al., 2000) were used as a starting point and allowed for children to elaborate. Questions included ‘Do you have some friends?’ ‘How did you meet your friends?’ ‘What do you like doing with your friends?’ ‘Are you happy with your friends?’ and ‘Do you think you have enough friends?’ The length of interviews ranged from 5 to 14 min.

Semi-structured interviews with parents and teachers. Semi-structured, face-to-face interviews were used with mothers ($n = 11$) and teachers ($n = 8$) to examine both ‘external realities’ (e.g. facts and events of children’s friendships) and ‘internal experiences’ (e.g. the interviewee’s feelings about the friendships) from their perspective. Interview schedules were based on Buysse’s (1993) Early Childhood Friendship Survey, which included questions about the activities the child carries out.
with their friends, the number of friendships the child has, the quality of his/her friendships and the adult input required to support and sustain these friendships.

On one occasion, the child’s teaching assistant (TA) was interviewed in place of the class teacher, and on two occasions, the teacher interview was conducted together with the child’s TA. The length of interviews varied (parents: 13–40 min; teachers: 9–31 min).

**General procedure**

Each participant was seen individually on a single occasion, lasting approximately 1.5 h, at school to complete the WASI, the FQS, the semi-structured interview and the Strange Stories (SS) Test (administered in this order). Structured observations of the child took place during playtime or lunchtime on the same day prior to children’s individual assessments, and the group-based SCM exercise was completed with the class on the same or a following afternoon.

Ethical approval for all parts of this study was provided by the Institute’s Faculty Research Ethics Committee. For the 23 participants seen individually, participants granted informed consent prior to participation. For the remaining classroom peers, parents were informed of the brief SCM exercise via the school and asked to alert the teacher or researcher if they did not want their child to be involved. No parent opted out of the study.

**Results**

This section begins with between-group analyses on the FQS and the SS Test, followed by within-group analyses examining the relationship between friendship quality, general cognitive ability and mentalizing. Next, we report the results of the SCM exercise and playground observations. The main body of this section reports the results from semi-structured interviews with the children with autism, their parents and teachers. Interviews were transcribed verbatim. The resulting data were analysed using thematic analysis, with particular attention to the phases outlined by Braun and Clarke (2006), including (a) data familiarisation, (b) generation of initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes and (f) report production.

**Between-group and within-group analyses**

Table 1 shows descriptive statistics for the FQS and SS Test (see also Table 2). All children named a child in their class as their best friend, with the exception of one child with autism who named his neighbour. Children with autism rated their friendships as significantly lower on the Closeness, \( F(1, 22) = 11.59, p = 0.003 \), and Help, \( F(1, 22) = 5.99, p = 0.02 \), subscales of the FQS, compared to non-autistic children. No significant group differences were found, however, on the Companionship, \( F(1, 22) = 1.56, p = 0.23 \), Conflict, \( F(1, 22) = 0.41, p = 0.53 \), or Security items, \( F(1, 22) = 2.76, p = 0.11 \).

On the SS Test, children with autism performed significantly lower on items that required them to attribute mental states to others, \( F(1, 22) = 4.53, p = 0.04 \), consistent with previous studies (White et al., 2009), although there was wide variation in performance by children with autism (see Table 2). There were no significant group differences on physical-state items, \( F(1, 22) = 2.04, p = 0.17 \).

Correlational analyses were performed to examine the relationship between scores on the FQS, Verbal and Performance IQs and the SS mental-state items for each group separately. We expected children with better verbal and non-verbal abilities and/or mentalizing skills to have better quality
best friendships. While children’s performance on the SS Test was strongly associated with children’s verbal ability for both groups (autism: $r(11) = 0.69$, $p = 0.013$; without autism: $r(10) = 0.87$, $p = 0.001$) and non-verbal ability for non-autistic children, $r(10) = 0.76$, $p = 0.006$, there were no significant correlations between verbal or non-verbal ability scores and FQS subscale scores for either group (all $p$s $> 0.19$). Furthermore, no correlations between the SS Test and FQS subscales reached significance in either children with (all $p$s $> 0.32$) or without autism (all $p$s $> 0.23$). There was one exception: we found, unexpectedly, a significant negative association between children’s mental-state scores and scores on the FQS Help subscale, $r(11) = −0.61$, $p = 0.035$. Autistic children with better mentalizing abilities perceived their friends as being less helpful than those with worse mentalizing abilities. Given its unexpected direction and the number of correlational analyses conducted here, this correlation should be treated with caution.

**SCM exercise**

With regard to social network centrality, half of the group of children with autism had either secondary ($n = 3$) or nuclear ($n = 3$) status and were therefore socially involved in their classrooms. The remaining six children had peripheral status. No child was socially isolated (see Table 2). Figure 1 provides an example of the varying degree of social network centrality in one classroom including three children with autism.

The percentage of children’s reciprocated friendships is reported in Table 2. Reciprocity varied widely across the sample and ranged from 0% to 100%. Some children with autism (e.g. A005, A007 and A011) were highly accurate in their nominations, but others’ (e.g. A001 and A009) friendship nominations did not match nominations received from other children. Autistic children’s friendship groups (as indexed by the results of the co-occurrence matrix of all students’ nominations) varied in size from 1 to 10 children.

**Structured observations**

Most children with autism showed considerable engagement with peers during the observation. Although 3 of the 12 children engaged in more non-social play than other types of play, 9 children engaged predominantly in high-level social play. All children with autism made at least one attempt

![Figure 1](aut.sagepub.com)
to initiate an interaction with other children during the observation (number of initiations ranged from 1 to 28). Furthermore, in 11 cases, other children made at least one bid to interact with the child with autism (number of interactions ranged from 0 to 27). Contact with peers was overwhelmingly positive in nature for 11 of the 12 children with autism.

**Semi-structured interviews with children with autism**

All children with autism reported that they had friends, except for one child who was unsure (see later in this article). Of those who reported friendships, seven children reported also having friends outside school, and in two instances, these friends were family members. Of the 11 children who reported having friends at school, 4 reported seeing those friends outside school. Children’s descriptions of their friendships and peer interactions were subdivided into two main themes: (a) their perceived role of friendship and (b) the challenges of friendship.

**Perceived role of friendship.** Children with autism generally named a small number of children (between 2 and 4) as their friends and all but one child further reported that they were satisfied with their friendships. When asked directly about what a friend means to them, the majority of children described friendship largely in terms of companionship (e.g. ‘They always play with me’, ‘Someone that you hang around with’, ‘We like being together’, ‘We play games with each other’). While some children’s descriptions incorporated more affective aspects of friendships (e.g. ‘Being a friend is someone who cares for you and protects you when someone is picking on you’, ‘A friendship is from good times to bad times’), others were lacking in emotional connectedness (e.g. ‘Well, my best, best friend is going to be moving soon … and my second best friend, she won’t be moving so I can always play with her’, ‘[They’re my friends] because I try to catch them’, ‘I helped them once and they were kind so I thought well yeah’).

**Challenges of friendship.** Children’s descriptions also underscored the difficulties in managing their friendships and peer interactions. Many children reported finding friendships confusing (e.g. ‘Well, this may be a little weird, but I don’t know if I have friends or not. I don’t know if children like me, or I like them’) and that they had difficulties maintaining friendships. They also described a preference for being alone (e.g. ‘Sometimes I want to play by myself’) and, in some instances, feelings of exclusion (for being ‘abnormal’) and loneliness (e.g. ‘Sometimes I have got nobody … I want more friends, because there are no new people in the class. Only new people be my friend, the other people don’t want to be my friend’). This latter child was the only one who was dissatisfied with his friendships. Four children relayed negative experiences of friendships or peer interactions, which they found distressing, and one child reported a high level of conflict with her mainstream peers (‘They talk in their private little groups and I’m not in it. I don’t really care … I don’t mind if they do that … actually, I get a bit upset …’).

**Semi-structured interviews with parents**

Parents provided an overview of their child’s friendships over an extended time period and across contexts. We identified three themes: (a) acknowledging differences in friendships, (b) the role of the school in providing support and (c) parental role in children’s friendships.

**Acknowledging differences in children’s friendships.** All parents viewed their child’s friendships with other children to be different in some way. Six mothers reported that their child had friendships that
were either unstable or not reciprocated (e.g. ‘He thinks he has a couple of friends … I wouldn’t say that he has a good strong friendship … whoever he plays with at the time, he calls them his best friend, but there is no real bond’). Four parents reported that their child had stable, reciprocal friendships either at (n = 2) or outside of (n = 2) school.

Parents also emphasised differences in children’s motivation to make and keep friends. Four parents reported that they felt in general their child preferred to spend time alone rather than with others (‘I think if he had a choice, he would probably choose to play by himself mostly’), with one additional parent noting that her child was uninterested in friendship (‘He has always been a bit less interested in friends and is more in his own bubble’). Two other parents also noted that their child’s interest in other children and desire to develop friendships had increased with age.

Many parents also noted their child’s developmental differences (e.g. their level of ‘maturity’) and how these impacted on their ability to develop reciprocated friendships. In particular, they observed how their child’s autism made it difficult for him/her to understand the subtleties of social interactions, which potentially made them vulnerable, although few parents described instances of bullying. Several parents commented that their child’s peers assumed a protective ‘befriending’ role with their child, either ‘tolerating’ their differences or genuinely trying to include them. One mother reported that her child was excluded by her peers due to her autism diagnosis, and although her child was highly motivated to form friendships, she was unable to do so because of other children’s attitudes.

The role of the school in providing support. Three parents spoke in detail about how the school supported their child’s friendships and social skills but the majority of mothers were generally unsure about specific interventions in place, if any, to target their child’s peer interactions. Several parents reported that the school’s priorities were focused upon academic attainment and behavioural issues and that there was little home–school communication about children’s friendships. Indeed, one mother felt her child’s social and friendship needs were not being sufficiently addressed by the school and two parents expressed a clear desire to work more closely with the school.

Parental role in friendship development. All but one parent reported that they played a significant role in the development of their child’s friendships. Two parents explained how they provided very direct, explicit instruction for their child regarding interactions with other children, including telling them where to stand and what to say (see also Bauminger and Shulman, 2003). Nine parents gave examples of the ways that they facilitate children’s social contact, including inviting their peers home to play or encouraging their child to approach children in other social contexts (e.g. [discussing birthday parties] ‘He didn’t like joining in and all the games, he’d just sit there … and I think I made a decision then to invite people round from the class … it sort-of made him have friends’). Many parents also spoke about the significant role that siblings and other family members play in helping to teach children with autism how to engage effectively with others.

Five parents spoke of supporting their child’s social interactions and friendship development by providing access to structured activities, groups and clubs (e.g. ‘I make sure that almost every music club, basketball, anything that is available, I make sure she gets into it to help her … I try to take her out as much as I can’). Such activities were not always positive, however, with several parents reporting that their children found these kinds of additional activities very difficult (e.g. ‘I tried doing Brownies and it was just too painful for her, she had to sit in a circle and talk and she just hated it’).

One third of parents were conflicted about how much they should intervene. They spoke about wanting to encourage their child’s peer interactions but were conscious of putting their child under
too much pressure to engage with other children. Parents generally prioritised their child’s immediate happiness above forcing them into situations that they knew their child found uncomfortable or difficult (e.g. ‘I just pushed him last year [to invite children home to play] and then this year, I thought, no … He might be upset if I am saying all the time, “Have you got a friend? Haven’t you got a friend?” Just bullying him all the time’).

Semi-structured interviews with teachers

We identified three themes during the teacher interviews, including (a) the nature of autistic children’s friendships, (b) rules and roles within peer interactions and (c) the role of school staff in supporting children’s friendships. In only one case had the child’s diagnosis been disclosed to his peers, although several teachers in other classrooms had suggested that their pupils were aware that the child with autism was ‘different’ but this difference had not been explicitly discussed with their peers.

The nature of children’s friendships. Many teachers perceived children with autism to be on the periphery of friendship groups rather than being either socially involved or socially isolated. Nevertheless, they were clear that, with the exception of one child, these children were not actively rejected by their peers. Several teachers explained that the child was generally liked by their classmates, but not necessarily chosen as a friend (e.g. ‘I don’t think they dislike him but I don’t think he’s their first choice’). The majority of the children were perceived to require befriending by the other children, who either ‘tolerated’ or ‘accepted’ the child with autism. Notably, two children were considered as ‘equals’ by their peers and treated as such – the same children who were reported by their peers to be of nuclear status in classroom social networks.

Teachers’ accounts also noted ‘the lack of reciprocity’ in autistic children’s friendships. Several teachers commented on the efforts of the non-autistic peer to maintain the friendship, and two teachers noted that these children had qualities or characteristics (‘caring’, ‘loving’, ‘kind’) that made them appropriate friendship partners for children with autism. Two teachers also talked about the autistic child’s status within the classroom. One reported the child to have high status, largely due to academic strengths in certain areas, which gave him a sense of prestige and meant that other children wanted to associate with him, at least in certain circumstances. Another teacher explained that she felt the child with autism in her class lacked ‘street cred’ and was not perceived as being ‘cool’ by his peers.

Roles and rules in children’s peer interactions. When discussing the nature of the interactions, several teachers reported that engaging in structured games with rules during playtime and lunchtime enabled the child with autism to participate in similar activities as other children fostering a sense of inclusion. Two additional teachers explained that although the child with autism in their class wanted to be involved in games and activities with their peers, they nevertheless found these interactions challenging. For some children, a failure to understand the game’s rules led to often distressing situations (e.g. ‘He wants to take part in games and things outside of class but doesn’t always understand the rules. For example, if you are out of the game, he thinks he is out forever, and he gets himself in a terrible state’). Other children had difficulty negotiating and compromising during their peer interactions, resulting in their peers becoming frustrated and disengaging from games. Other children showed awareness of social rules but had difficulties applying them (e.g. ‘She says all the right things but then you don’t see it in practice in the playground’).
The role of adults in supporting children’s friendships. Many teachers expressed unease about the child with autism spending a great deal of time alone during unstructured breaks and described often unsuccessful attempts to intervene to include these children in the games and activities of other children. Yet four of these same teachers also acknowledged the child’s preference for being alone (e.g. ‘He doesn’t seek out other children and would much rather play on his own or with an adult’), which corresponded to the same children identified in parents’ reports. One teacher remarked that she monitored the situation closely and was satisfied knowing that the child in her class experienced a mixture of alone time and time with other children (e.g. ‘If he was always on his own, there’d be an issue, but I think sometimes he needs alone time to organise his thoughts’). Teachers also supported autistic children’s friendships primarily through encouraging other children to include them in their activities (e.g. ‘Sometimes an adult gives them [other children] a reminder to invite the children into their games. It is possible that they do not invite him into their game as much as they should but I am constantly reminding them as I go through the playground’). They also spoke about adopting a whole-class approach to teach social rules. One teacher explained that it was sometimes necessary to instruct the child with autism regarding exactly what to say to other children in certain situations.

Integrating multiple viewpoints

In this study, both multiple informants and multiple methods were used to provide complementary information about this sample of autistic children’s friendships. For each child, all authors carefully analysed the data from interviews with parents, teachers and children, the SCM survey and the structured observation, highlighting any discrepancies. There was a high level of consistency between the accounts of children with autism, their parents, teachers and peers with parents and teachers corroborating their children’s accounts of their friendships – both the nature of these friendships and their desire for friends. There were two notable exceptions to this pattern. The first was a boy with autism (A012) who reported having friendships, which were largely reciprocated by his peers (see Table 2), corroborated by his teacher and observed by the researcher, but which were not recognised by his mother. This discrepancy may reflect the lack of communication between school staff and parents about this child’s friendships. The second exception was a girl with autism (A009) who talked at length about her friendships and her desire for friends. Her account, however, was contradictory and often difficult to follow. Indeed, her mother and teacher both acknowledged the turbulent nature of her friendships – conflict that was reflected in the low levels of reciprocal friendships (see Table 2) in the SCM exercise and also witnessed during the observation. Her mother and teacher both agreed that she was socially isolated within her peer group, but disagreed about the source of her difficulties with forming friendships.

Discussion

This study used quantitative, qualitative and sociometric methods to investigate the friendship experiences of children with autism within mainstream primary classrooms. In particular, we examined the degree and nature of autistic children’s friendships from the perception of the child, their parent, teacher and classroom peers. We also validated these reports with objective, structured observations of children’s playground interactions. No previous study has been as comprehensive in its analysis of autistic children’s friendship experiences.

We found remarkable consistency across reports from the wide variety of sources. We also found that similar to previous studies, there was much variability in the extent and nature of these
children’s friendships. Some children were considered central to high-status classroom social networks and had stable reciprocal friendships verified by a number of sources. Others had links to one or two lower status members of the class group. Others still were on the periphery of their peer group, with some showing little interest in interacting with other children of their age. Importantly, no child with autism was completely socially isolated, unlike some other children in their classes. Motivation emerged as a key factor in parents’ and teachers’ perceptions of these differences. Children also appeared to benefit from direct support to develop their friendship skills.

**Children’s perception of their friendships and peer interactions**

Similar to previous studies (e.g. Bauminger et al., 2008; Bauminger and Kasari, 2000), we used the FQS (Bukowski et al., 1994) to investigate the quality of autistic children’s friendships. Children with autism rated their best friendships as lower in affective dimensions, including Help (assistance and protection) and Closeness (acceptance, validation and attachment) compared to their classroom peers of similar age and ability. No group differences, however, were found between children’s ratings of less affective aspects of friendship (e.g. Companionship). Previous work using the same scale has yielded mixed findings regarding precisely which dimensions of friendship are perceived differently by children with autism (Bauminger et al., 2004, 2008; Bauminger and Kasari, 2000; Chamberlain et al., 2007), but on the whole, the current findings are in general agreement.

Converging sources of information in this study supported children’s ratings of best-friendship quality. When speaking about the meaning of friendship, many children with autism explained that friendships offered companionship – someone to play or ‘hang around’ with – rather than someone to bond with (see also Bauminger and Kasari, 2000). The children were also content with such friendships. Furthermore, both parents and teachers supported these descriptions, emphasising that the autistic child’s friendships were different to, and possibly less mature than, those of their non-autistic classmates. They suggested that the children with autism generally reported satisfaction with their friendships, expressed a preference for fewer friends and enjoyed activities with their friends, which were consistent with the concept of friend as ‘companion’.

Taken together, our findings suggest that autistic children’s lower scores on the FQS should not necessarily be interpreted as them having ‘poorer quality’ friendships. Rather, they suggest that these children with autism enjoyed friendships that were qualitatively different from those of their non-autistic classmates – one in which there was less emphasis on emotional connectedness. This is not to say, of course, that these children failed to connect with other children. Rather, there was wide variation in children’s perception of the extent and nature of their friendships and peer interactions.

**Explaining individual differences in autistic children’s friendships**

Some researchers have suggested that children’s verbal and non-verbal ability (e.g. Hermelin and O’Connor, 1985) and their mentalizing skills (e.g. Baron-Cohen et al., 1985; Tager-Flusberg, 2007) might be potential sources of variation in the extent to which autistic children can sustain friendships. Yet, we found no significant associations between verbal and non-verbal abilities and children’s FQS scores in either group. Furthermore, despite wide variability in autistic children’s SS Test performance, individual differences in children’s mentalizing skills failed to correlate with ratings of perceived quality of friendship in either group of children in the expected direction. These null findings are somewhat surprising but are in line with several previous studies that have
also failed to find evidence of a one-to-one mapping between mentalizing and real-life behaviour in autism (e.g. Capps et al., 1998; Fombonne et al., 1994; Pellicano et al., 2006). Indeed, within the context of developmental approaches, which emphasise the dynamic nature of developing systems (Karmiloff-Smith, 2009), these null findings might reflect the possibility that there is no simple or direct relationship between behavioural indices of mentalizing and everyday social interactions, like friendships (see Bauminger et al., 2010).

Bauminger et al. (2003) noted that cognitively able children with autism can demonstrate a good theoretical understanding of social contact by generating ideas about how to initiate interaction bids, but this knowledge is not necessarily put into practice during everyday interactions. Indeed, one child with above-average verbal and non-verbal abilities was able to demonstrate a good understanding of the affective dimension of friendship during the interview, yet fluid and reciprocal interactions were neither observed on the playground nor described by his mother and teacher. Future investigations should examine individual differences in children’s executive function – those skills necessary for goal-directed behaviour, especially in novel circumstances – as one additional factor that might limit the extent to which children can apply their knowledge in real-life social situations (see Pellicano, 2012).

One striking finding that emerged from the semi-structured interviews with parents and teachers was the perceived differences in children’s motivation for interpersonal engagement. Parents and teachers agreed that some children had a very strong desire to form friendships. One child, for example, was reported as actively pursuing friendships with other children, leading to high reported satisfaction with her friendships and high levels of social inclusion as reported by her peers. Other children, however, were described as being less interested in having friends and joining in with classroom peers – reports that were corroborated by the children themselves. These findings point towards the possibility that individual differences in children’s motivation to make and keep friends might be one critical source of the variation in the degree and nature of autistic children’s friendships.

Some authors suggest that social motivation is a driving force guiding human behaviour and that ‘autism can be construed as an extreme case of diminished social motivation’ (Chevallier et al., 2012: 231). On the one hand, our findings are consistent with this hypothesis. Children who had a desire for social contact tended to be the ones who were more likely to participate in classroom social networks and enjoy stable, reciprocal friendships. On the other hand, our findings are in direct opposition to this hypothesis. Although we did not explicitly compare autistic children’s degree of social motivation with that of their non-autistic peers (as in Whitehouse et al., 2009), many children in our sample nevertheless expressed a real desire for social relationships during the qualitative interviews. Indeed, this ‘diminished social motivation’ hypothesis fails to account for the few children who were less included in social networks but nevertheless wanted to have friends and to relate to other children. Future research should investigate this issue further, specifically the factors that underlie individual differences in motivation to form friendships and the extent to which autistic children’s motivation to form friendships might change over time.

The role of parents, teachers and peers

This study adopted a multi-informant approach to examine the friendships of children with autism both to put the child’s perspective into context and to examine the role of significant others in supporting these children’s friendships. Consistent with previous findings (Bauminger and Shulman, 2003; Chamberlain et al., 2007; Howard et al., 2006), most parents perceived themselves as having a significant role to play in the development of their child’s friendships. Some parents took a very
active and direct role in supporting their child’s friendships. One mother explained how she provided very specific instructions about ‘social etiquette’, teaching her child how to approach another child and initiate bids to join in the interaction. Others took a less direct approach, facilitating social contacts with other children by inviting children to the home or encouraging their child to initiate contact with others while on outings. Recent findings suggest that home ‘play dates’ have positive effects. Frankel et al. (2010a) showed that children with autism who had more play dates engaged more successfully with peers on the school playground, as indexed by more mutual offering of objects and to-and-fro conversation with peers, and more positive responses to bids for interaction.

Teachers provided an overview of the friendships of children with autism relative to the friendships of other children in their classroom. Although teachers accepted their role, several felt unsure about the social experiences of the child with autism in the playground and deferred to other staff who work one-to-one with children for specific information on such issues. The low priority afforded to supporting friendships of children with autism at school relative to academic and behavioural issues featured in both parent and teacher accounts, and several parents expressed a desire to work more closely with school staff to address children’s social relationships.

The majority of teachers did, however, support the inclusion of children with autism, particularly through encouraging other children to involve them in their games when on playground duty. Others described how they encouraged peer ‘buddies’ and also reinforced ‘inclusive’ messages to the whole class, to be sensitive and helpful towards peers who are ‘different’ and not to exclude children from games. Indeed, in cases where teachers felt that children with autism did have friends, many reported that their peers played a significant part in maintaining these friendships. For example, one child’s teacher reported that the autistic child’s best friend appeared to feel a sense of duty to include the child in activities. Parents also spoke about the important ‘befriending’ role of other children – reports that echo previous findings (e.g. Bauminger et al., 2008; Bauminger and Shulman, 2003).

A recent randomised controlled trial from Kasari et al. (2012) demonstrates the benefits of working directly with the peers of children with autism. They showed that intervention aimed at teaching peers how to support the social interactions of children with autism (including via modelling, role playing and rehearsal) produced significant gains in autistic children’s social involvement compared to interventions that targeted the children with autism, and these effects persisted for 3 months following the intervention. Being a peer model can be a demanding role but it did not seem to adversely affect the non-autistic child’s social status in this intervention (Locke et al., 2012). It is unclear, however, whether this role influences the peer model’s attitudes towards the child with autism. Do they just ‘tolerate’ the child with autism, as parents and teachers suggested here? Future research should investigate these dimensions of befriending and peer models.

Conclusion

This study demonstrates that primary school-age children can and do form friendships and are part of classroom social networks within mainstream schools. The findings suggest that children with autism have a different understanding of what constitutes ‘friendship’, which might be based more on sharing company than sharing emotions, and that generally they were satisfied with their current friendships. There was, however, wide variation in the degree and nature of children’s friendships. Children’s cognitive abilities and mentalizing skills could not account for this variability but children’s motivation for social contact emerged as a promising candidate.
These conclusions were drawn from a relatively small sample of children with autism, three of whom were in the same classroom. This possible limitation, however, must be balanced against potential gains in ecological validity: the presence of more than one child in a classroom is simply reflecting the situation in real classrooms in one London local education authority. Furthermore, the breadth and depth of the data collected on these children and the consistency of the information gathered through the different methodologies and range of perspectives attest to the validity of these findings. Future work should focus on whether autistic children’s concept of friendship changes as they develop and whether their social involvement (and motivation for social contact) persists into adolescence.

It is noteworthy that some children felt overwhelmed by the expectations of having constantly to engage with other children, with one child remarking, ‘sometimes I just want to play by myself’. Mothers and teachers were aware of the child’s views but were nevertheless concerned about some children’s preference for being alone. Indeed, these adults felt compelled to encourage children with autism to socialise with other children, even though they were aware that the child found these situations deeply uncomfortable and sometimes distressing. One mother talked about how important it was for her child to appear ‘normal’ to her peers and this view was also reflected in her daughter’s narrative (see Humphrey and Lewis, 2008). These findings raise subtle but nonetheless serious issues regarding when and how to intervene to support the friendships of children with autism. Parents, teachers and professionals want to empower these children with the skills to make and keep friends should they wish to do so in the longer term, which is of course a laudable goal. Yet the current findings highlight the need for caution: not all children with autism want – or perhaps need – the nature and degree of social involvement that non-autistic children desire. Listening to the views and perspectives of individual children and working collaboratively with them (Pellicano and Stears, 2011) should encourage the genuinely inclusive environment towards which educators aspire.

**Funding**

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

**Notes**

1. The term ‘autistics’ is the preferred language of many people with autism (see Sinclair, 1999). In this article, we use this term as well as person-first language (such as ‘children with autism’) to respect the wishes of all individuals on the spectrum.
2. One classroom peer had an unusually low IQ score. We therefore conducted all analyses excluding this particular child. There were no changes to the pattern of results and this child was therefore retained in all analyses.

**References**


