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Friendships among young children: links with social behaviour

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ABSTRACT

Children's relationships with their peers have important associations with their behaviour. The current study examined children's friendships during the formative school years and hypotheses were made regarding associations between how well-liked children were by peers, the reciprocity of these friendships, and with whom friendships were made. Children aged 4–7 years ($N=193$) were asked to identify who their friends were. Teachers and teaching assistants provided ratings of children's behaviour; aggressive, victimized, prosocial and solitary. Results indicated differences in the number of friendship nominations children received from peers in relation to their behaviours. Reciprocity in children's friendships was also differentially associated with child behaviour. Further, there was some evidence for homophily in the behaviour of children and their friends. The findings are discussed in relation to the importance of supporting children's good quality friendship relationships.

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Introduction

Children's relationships with peers provide an important context for development, offering opportunities for support and allyship, as well as social learning, and are associated with their adjustment (Hartup, 1996). Positive relationships with peers during childhood are related to immediate and longer-term benefits to children, including psychological wellbeing (Bukowski, Buhrmester, & Underwood, 2011), emotional adjustment (Schwartz-Mette, Shankman, Dueweke, Borowski, & Rose, 2020) and feelings of self-worth (Mauder & Monks, 2019). However, the influence of children's peer relations can be negative as well as positive (Berndt, 1992). For example, children who are friends with others who are aggressive may increase their aggressive behaviour (Salvas et al., 2011).

Children's peer relationships have been examined in relation to their overall social standing within the peer group as well as their relationships with individual peers (Mauder & Monks, 2019). Much of the research to date has examined associations between children's behaviour and how liked they are by the peer group as a whole (e.g. Camodeca, Caravita, & Coppola, 2015). However, although peer standing and friendships are often related, it is possible to be well-liked by peers, but have few or no close friendships, or poor-quality friendships (Fink, Begeer, Peterson, Slaughter, & de Rosnay, 2015) which suggests that these involve different skills and may be differentially associated to children's behaviour.

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When looking at associations between social behaviour and peer relations, researchers have tended to focus on four main aspects of behaviour among children: aggression, being the target of aggression (victimization), prosocial behaviour, and solitary behaviour. Much of this research has focussed on children in middle childhood or adolescence, with less focus on young children (Dryburgh, Ponath, Bukowski, & Dirks, 2022). For example, Dryburgh et al. (2022) recent meta-analysis focussing on the association between friendship quality and children's behaviour included studies with children and young people between the ages of 4 and 18 years. However, their searches only identified two studies where the mean age was under 7 years. However, it is important to understand these burgeoning relationships during the early years of school. The current study addresses this gap and examines the links between social behaviour during the early years of school and children's relationships with peers.

Peer relations

Peer relations are often assessed by measures of peer-liking by the broader peer group (Coie & Dodge, 1983). Research has been fairly consistent in relation to the peer status of children who behave aggressively; finding that aggression is associated with being less well-liked by peers (Johnson & Foster, 2005; Kucaba & Monks, 2022; Ladd, 2006; Ladd & Burgess, 1999; Monks, Smith, & Swettenham, 2003). Peer-directed aggression among young children tends to be direct and confrontational, such as physical aggression in the form of hitting or kicking, verbally aggressive behaviours such as name-calling, or some forms of social exclusion, such as telling someone that they cannot join in (Monks & O'Toole, 2021). It is possible that young children who behave aggressively towards their peers do so because they are less well-integrated into the peer group and experience fewer positive relationships, or that others are responding negatively to their aggression. Fink, De Rosnay, Patalay, and Hunt (2020) noted that early poor social understanding (as measured through Theory of Mind assessments) predicted later involvement in bullying as a perpetrator, mediated by lower levels of social acceptance by peers.

When considering the peer relations of young children who are the targets of their peers' aggression, there are inconsistent findings. In groups of younger children, peer-aggression appears to be experienced by many children, although for most this is a relatively short-lived experience. Although some studies have indicated that children who are targets of their peers' aggression are less well-liked than others (Lee, Smith, & Monks, 2016; Nelson, Robinson, Hart, Albano, & Marshall, 2010), which is in accord with studies among older children, other studies have found no association between being the target of aggression and peer status among young children (Camodeca et al., 2015; Kucaba & Monks, 2022; Monks et al., 2003) which may be reflective of the more transient experience of victimization at this age.

Prosocial behaviour describes behaviours which are viewed as helpful to others, such as helping, sharing, caring (Kakavoulis, 1998) and including (Greener, 2000). Research with young children has indicated that children who exhibit prosocial behaviour are more likely to be liked by peers (Kucaba & Monks, 2022; Monks et al., 2003; Paulus, 2017). There is some suggestion that not all prosocial behaviour is associated with peer-liking – for example, Lee et al. (2016) noted that some behaviours, which are associated with defending those who are being targeted by peer-aggression, were positively related to peer-liking (confronting the aggressor or comforting the target of aggression), but others were negatively related to peer-liking (telling an adult).

Children who are solitary or socially isolated tend to have fewer peer interactions, either because they choose to withdraw from peers or because they are actively isolated by others (Coplan, Prakash, O'Neil, & Armer, 2004; Rubin et al., 1989). Being less engaged with the broader peer group would imply that these children may have fewer positive interactions with peers. The research findings related to social isolation in early childhood are contradictory and likely depend on the nature of the isolation (whether chosen or not by the child). For example, Ladd (Ladd, 2006; Ladd & Burgess, 1999) found that not all children who were withdrawn were less well-liked by peers, but

that this was the case for children who were both withdrawn and aggressive. Similarly, Hart et al. (2000) noted that some forms of withdrawn behaviour were individually associated with poorer peer relations, in particular reticent behaviour.

Friendships

Friendship is associated with peer status, but children who are less well-liked by peers may still have a dyadic friendship (Bowker & Weingarten, 2022). Friendships are thought to be more important for children's overall wellbeing compared to their peer status as measured by broader indices of peer relations (e.g. levels of being liked by the peer group as a whole) (Maunder & Monks, 2019). A defining feature of friendship is reciprocity (Bagwell & Schmidt, 2011). Reciprocity indicates mutual liking and a dyadic relationship between the individuals, rather than a one-way affection, and research in middle-childhood has highlighted the importance of reciprocity in friendships for individuals' wellbeing (Maunder & Monks, 2019). There has been less research on reciprocity of friendships in relation to behaviour among younger children. A recent study with 5–7 year olds looked at the likelihood of having a reciprocated friendship and compared this for children who had been identified by their peers as aggressors, targets of that aggression, or defenders of the aggression (Kucaba & Monks, 2022). It was found that there was no overall difference by role, but that children who had a reciprocated friendship received more nominations from their peers as a defender. Coelho, Torres, Fernandes, and Santos (2017) found that positive play behaviours and prosocial behaviour were correlated with having a reciprocal friendship for children as young as 3 and 4 years old. Although not looking at reciprocity directly, Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, and Burgess (2006) noted that shy or withdrawn children were just as likely as non-withdrawn children to have a best friend. Similarly, Oh et al. (2008) noted that children who were solitary reported reciprocated friendships during middle childhood, and Laursen, Bukowski, Aunola, and Nurmi (2007) note the protective function of friendships among children displaying solitary behaviour during middle childhood.

It is also relevant to understand *who* children are friends with, as research has indicated that friendships are important socialization contexts and provide children with reinforcement for behaviours which are viewed positively by friends (whether these are prosocial or antisocial). Homophily suggests that children choose to be friends with others who are similar to them, and this includes behaviourally. However, socialization processes may also be at play, with children who are friends becoming more similar to each other in terms of behaviour over time (Bowker et al., 2010). Research with children in middle-childhood has identified similarities in friends in relation to their behaviours such as aggression, prosocial behaviour and social isolation (e.g. Beffel & Watling Neal, 2023; Hase-lager, Hartup, van Lieshout, & Riksen-Walraven, 1998; Oh et al., 2008; Rubin et al., 2006; Wojslawowicz Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006).

To date, fewer studies have looked at similarities in the behaviours of friends among young children. However, it is important to understand these relationships, given that friendships may reinforce children's behaviour, whether positively or negatively. Thus understanding children's friendships and who they are with at this age may provide clues for intervention programmes to promote positive behaviour among children. Huising and Monks (2018) noted that those young children who behaved aggressively and shared targets of this aggression, supported or defended each other, suggesting that there was a friendship or alliance between them. Research with children aged 5–7 years (Kucaba & Monks, 2022) found that children who were identified by peers as aggressive were more likely to report being friends with others who were similarly aggressive. Furthermore, children who defended others from victimization were also likely to be friends with others who behaved in a similar manner. Rubin et al. (2006) found that during middle childhood, children who were shy or withdrawn tended to form friendships with others who were also withdrawn or were victimized. However, there are no studies to date examining who solitary children are friends with during the early school years. These findings in relation to defending and aggressive behaviour in early childhood tend to support the homophily view of children being friends with

others who behave similarly to them. However, it is less clear whether children who are solitary form friendships with others who are similar to themselves. When looking at the friendships of young children who are targeted by others' aggression it appears that they often identify defenders as the children they like the most (Monks et al., 2003). Kucaba and Monks (2022) supported this finding, suggesting that children who were targets of their peers' aggression may choose others who demonstrate complementary behaviours to their own.

Present study

In the current study, we aimed to examine how peer relations and friendships are associated with young children's behaviour.

Based on the extant literature reviewed above, we expect that children's behaviour will be associated with the quantity of friendships they have. This will be assessed in two ways: (a) how many friendship nominations they receive from their peers and (b) the number of friends they identify that they have. We hypothesize that children who are aggressive or solitary¹ will be predicted to receive fewer friendship nominations and identify fewer friends than other children. Children who are prosocial will receive more friendship nominations and identify more friends than other children. No clear hypotheses were made for children who are victimized.

We further predict that children with reciprocated friendships will demonstrate lower levels of aggression and solitary behaviour and higher levels of prosocial behaviour. No clear hypotheses were made for victimization.

Based on the previous literature, we predict that children will identify others as friends who are similar to them in aggression and prosocial behaviour. It is tentatively predicted that children will identify friends who are similar to them in terms of solitary behaviour. Children who are targets of aggression will be more likely to be friends with children higher in prosocial behaviour.

Method

Participants

Children ($N = 193$; girls $n = 97$, boys $n = 96$) and their teachers and teaching assistants ($N = 15$ all female; 8 teachers and 7 teaching assistants) were recruited from six classes in three primary schools in the Southeast of England. Children were recruited from two age groups. Child age ranged from 4 to 7 years (mean age = 71.98 months, $SD = 12.39$) and were across two class age groups (UK Reception: ages 4–5 years, $N = 102$; UK Year 2: ages 6–7 years, $N = 91$). Inclusion criteria for child participation required that they were a pupil registered at one of the three mainstream participating schools in the participating age-groups. There were no exclusion criteria. No parents/carers indicated that they did not want their child to take part and all children agreed to take part. Class sizes ranged from 24 to 47 (mean = 32.17, $SD = 8.40$). One school had class sizes larger than the others as children were taught in larger groups across two classrooms.

Measures

Child Measures – Children were asked to identify up to three children in their class who were their friends. They were asked 'Who are your friends in your class?' If a child provided more than three nominations, they were asked to identify their three best friends out of those. These nominations were used in three ways. The number of friendship nominations received by classmates by each child was standardized by class size to provide an indication of how many children considered them to be a 'friend'. Children's friendships were also examined for reciprocity (where a pair of children identified each other as friends). Friendships were also examined in relation to who children said were their friends, and the behaviour ratings for those children.

Teacher/Teaching Assistant Reports – Children’s behaviour was reported by their class teachers and teaching assistants (one class only received reports by the class teacher). Teachers and teaching assistants were asked to report separately on each child’s aggressive, prosocial and solitary behaviour and their experiences of victimization. They were asked to rate children’s behaviour on a Likert type scale from 1 (never/almost never true) to 5 (always/almost always true) based on their knowledge of the children in their class. Teacher and teaching assistant reports of each child were averaged for each child. There were four items for each form of behaviour, meaning that scores ranged from 4 to 20 (with a higher score indicating a higher rating of that behaviour). Items were based on previous studies with this age group and are described in detail in Rix, Monks, and O’Toole (2023).

Aggression was assessed using four items: indirect relational (rumour spreading); physical (hitting, pushing or kicking); verbal (shouting at and name calling); direct relational (exclusion) ($\alpha = 0.76$). Children’s experiences of receiving these four forms of aggression (victimization) were also reported by teachers and teaching assistants ($\alpha = 0.77$). Prosocial behaviour was assessed using four items: sharing (sharing and taking turns), helping (helpful to peers), caring (caring towards peers), including (actively asks others to join in) ($\alpha = 0.69$). Solitary behaviour was based on reports of four items: unsociable (choose to play alone); shyness (shy, nervous or self-conscious); active solitude (left out by others); contextual solitude (alone because preferred playmates are not available) ($\alpha = 0.73$).

Procedure

The study was approved by the relevant University Research Ethics Committee. The sample was a convenience sample of primary schools in the Southeast of England who agreed to take part. Schools were initially contacted via email and then followed up with a phone call to discuss participation in the study. Headteachers gave consent for the study to take place in the school and for school staff and the parents/carers of pupils in their school to be approached to take part. Teachers and teaching assistants gave consent for their own participation. Parents/carers were sent letters by the school providing information about the study and were given the opportunity to opt their child out of participating in the study. This approach was approved by the relevant ethics committee and is argued to be less burdensome on schools and leads to a more representative sample (Shaw, Cross, Thomas, & Zubrick, 2015). Children provided their assent prior to taking part. Teachers and teaching assistants completed their questionnaires individually in their time. Child participants were assessed individually by trained researchers ($N = 5$, all female) during school time in a quiet area of the school away from the classroom.

Analysis plan

To examine the associations between the different behaviours and the friendship nominations received and identified by children, Pearson’s correlations and multiple regressions were conducted. The association between children’s behaviour and reciprocity of their friendships was examined via multivariate analysis of covariance (MANCOVA). To explore the associations between children’s behaviour and the behaviours of their friends, we conducted Pearson’s correlations and a series of multiple regressions. Due to the complexity of children’s behaviour and social relationships, all significant results are of interest, even where effect sizes may be smaller. Therefore, these have been reported and discussed, as per other studies into children’s behaviour (e.g. Coplan & Weeks, 2009; Tapper & Boulton, 2004).

Results

Behaviour and friendship nominations

The number of friendship nominations received by each child was recorded and standardized by class size. Pearson’s correlations indicated that there was a significant and positive correlation

between adult reports of children's prosocial behaviour and standardized number of friend nominations received ($r = .169, p = .019$), and a significant negative correlation between adult reports of solitary behaviour and standardized friendship nominations received ($r = -.225, p = .002$) and aggressive behaviour and standardized friendship nominations received ($r = -.151, p = .037$).

A multiple regression was conducted to examine the relative contributions of the four behaviours to children's received friendship nominations. Age and gender were included in the model, along with adult reports of aggression, victimization, prosocial and solitary behaviours as dependent variables. The model was significant, accounting for 4.3% of the variance, ($R^2 = .043, F(6, 186) = 2.43, p = .03$). The only significant negative predictor of received friendship nominations was adult rated solitary behaviour ($\beta = -.178, p = .029$) indicating that with increasing solitary behaviour, children received fewer friendship nominations.

The number of friends who were identified by children was also examined (i.e. children's own nominations of their friends). Children were given the opportunity to identify up to three friends in their class. The number of friends identified by children varied, with 12.4% ($n = 24$) identifying no friends, 8.3% ($n = 16$) identifying one friend, 21.2% ($n = 41$) reporting having two friends and 58.0% ($n = 112$) reporting three friends. Pearson's correlations were carried out between number of friends identified by children and the four types of adult-reported behaviour. There was a significant negative association between number of friends and ratings of solitary behaviour ($r = -.154, p = .03$) indicating that children with higher ratings of solitary behaviour reported having fewer friends. No other correlations reached significance.

A multiple regression was conducted to examine the relative contributions of the four behaviours to how many friends children identified. Age and gender were included in the model, along with adult reports of aggression, victimization, prosocial and solitary behaviours as dependent variables. The model was not significant, $R^2 = .019, F(6, 186) = 1.740, p = .15$.

Friendship reciprocity and child behaviour

Children were identified as having at least one reciprocated friendship ($n = 115$) or no reciprocated friendships ($n = 55$). A multivariate analysis of covariance (MANCOVA) was carried out with the reciprocity of friendship as the independent variable, age and gender as covariates and the four adult-rated behaviours as dependent variables (aggression, victimization, prosocial and solitary behaviour).

The overall analysis was significant, Wilks' Lambda, $F(4, 163) = 4.609, p = .001, \eta^2 = .103$. Univariate analysis indicated that there was a significant difference between children with and without a reciprocated friendship in ratings of aggression, $F(1, 166) = 5.616, p = .019, \eta^2 = .033$, with children who had at least one reciprocated friendship having lower ratings of aggression than those without a reciprocated friendship (mean = 7.76, SD = 2.83; mean = 8.87, SD = 3.38 respectively). There was a significant effect of victimization, $F(1, 166) = 7.356, p = .007, \eta^2 = .042$. Children with a reciprocated friendship had lower ratings of victimization than those without a reciprocated friendship (Mean = 7.05, SD = 2.42; Mean = 8.10, SD = 2.56 respectively). A significant univariate effect for prosocial behaviour was also found, $F(1, 166) = 16.639, p < .001, \eta^2 = .091$. Prosocial behaviour ratings were higher among children with at least one reciprocated friendship compared with those who had no reciprocated friendships (mean = 13.97, SD = 2.30; Mean = 12.55, SD = 2.66 respectively). A significant effect was also reported for solitary behaviour ratings, $F(1, 166) = 6.365, p = .013, \eta^2 = .037$. Children with at least one reciprocated friendship received lower solitary ratings than those without a reciprocated friendship (mean = 6.91, SD = 2.18; mean = 7.96, SD = 3.05 respectively).

Children's behaviour and the behaviour of their friends

Based on the children's reports of who their friends were, we created averages of their (up to three) friends' behaviour ratings by adults. Partial correlations were carried out to examine the associations

Table 1. Partial correlations between children's behaviour and the mean behaviour scores of their friends across aggression, victimization, prosocial and solitary behaviours (controlling for child age and gender).

Child behaviour rating	Mean behaviour rating of friends			
	Friend aggression	Friend victimization	Friend prosocial	Friend solitary
Child aggression	.450 ***	.382 ***	-.255***	.304***
Child victimization	.449***	.435***	-.256***	.416***
Child prosocial	-.242**	-.229**	.397***	-.174*
Child solitary	.385	.405***	-.134	.534***

* $p < .05$; ** $p < .01$; *** $p < .001$.

between child behaviour and the behaviour of their friends (with age and gender partialled out). Table 1 shows the correlation matrix and demonstrates significant correlations between children's behaviour and the behaviour of their friends.

To examine the relative contributions of friends' behaviour to children's behaviour, a series of multiple regressions were performed between children's rated behaviours and the mean behaviour ratings of their friends. Child age and gender were included in the analyses as these have been found to be associated with some of the behaviours. Table 2 displays the four regressions.

The model was significant for children's aggressive behaviour, accounting for 24% of the variance, $R^2 = .24$, $F(6, 163) = 9.83$, $p < .001$. Child age was a marginally significant positive predictor ($\beta = .04$, $p = .046$), indicating that older children were rated by adults as more aggressive. The mean adult-rating of children's friends' aggression ($\beta = .61$, $p < .001$), and friends' solitary behaviour ($\beta = .31$, $p = .021$), were significant positive predictors.

The model for children's victimization was also significant, accounting for 26% of the variance, $R^2 = .26$, $F(6, 163) = 10.96$, $p < .001$. The mean adult rating of children's friends' aggression was a significant positive predictor ($\beta = .35$, $p = .01$), as was friends' mean rating for solitary behaviour ($\beta = .41$, $p < .001$).

The model for children's prosocial behaviour was significant, accounting for 24% of the variance, $R^2 = .24$, $F(6, 163) = 9.91$, $p < .001$. Child gender was a significant predictor of prosocial behaviour ratings, ($\beta = .80$, $p = .028$), with girls receiving higher prosocial behaviour ratings than boys. The only friend behaviour rating that reached significance as a predictor in the model was prosocial behaviour which was a significant positive predictor ($\beta = .53$, $p < .001$).

The model for children's solitary behaviour was significant, accounting for 33% of the variance, $R^2 = .33$, $F(6, 163) = 14.82$, $p < .001$. The mean adult rated behaviour of children's friends was a significant predictor with regards their aggression ($\beta = .26$, $p = .049$) and was significant and positive for prosocial behaviour ($\beta = .28$, $p = .015$) and solitary behaviour ($\beta = .66$, $p < .001$).

Discussion

The current study examined the associations between children's behaviour and the behaviour of their friends during the early years of school and has provided evidence to suggest that peer relations are linked to children's behaviour.

When looking at friendship quantity in relation to children's behaviour, there were some mixed findings. In contrast to predictions, for aggressive behaviour, there was no association between the level of aggression and the number of children who identified a child as a friend nor was there an association with the number of friends the child identified. This is in contrast with other studies which have suggested that children who are aggressive are less well liked by other children (Johnson & Foster, 2005; Kucaba & Monks, 2022; Ladd, 2006; Ladd & Burgess, 1999; Monks et al., 2003). This may relate to the number of children each child was asked to nominate as a friend (up to three), although this warrants further investigation.

In the current study there were no significant associations between victimization levels and numbers of children who reported that the child was a friend or the numbers of children identified

Table 2. Multiple regressions with the child's adult-reported aggression, victimization and prosocial and solitary behaviours as the dependent variables.

	Model 1 DV = Aggression			Model 2 DV = Victimization			>Model 3 DV = Prosocial			>Model 4 DV = Solitary		
	R ²	F	t	R ²	F	t	R ²	F	t	R ²	F	t
Child Gender	.24	9.83***	-.51	.26	10.96***	-1.52	.24	9.91***	.80	.33	14.82***	-.06
Child Age			2.01*			.38			-.01			.29
F Aggression			3.67***			.35*			-.14			1.98*
F Victim			-.98			.10			.19			.60
F Prosocial			-.13			.39			.53			2.46*
F Solitary			2.34*			3.78***			-.11			6.34***

* $p < .05$; ** $p < .01$; *** $p < .001$ F – mean rating of child's friends' behaviour by adults.

as friends. This ties in with some previous data which has suggested that being a target of peer-aggression is not associated with broader peer relations (Camodeca et al., 2015; Kucaba & Monks, 2022; Monks et al., 2003) but is in contrast to others (Lee et al., 2016; Nelson et al., 2010) which has suggested negative associations between victimization and peer-liking. It is possible that these findings indicate that, at this age, many children experience victimization, although transiently. It may not be until later in development, that aggressive children are selectively targeting children who are of lower status with their preferred group (Veenstra, Lindenberg, Munnikma, & Dijkstra, 2010). Thus the majority of children who are targets of peer-aggression at this point in development may not be those who are less well-liked by their peers.

In this group of children, we found that children's prosocial behaviour ratings were associated with them receiving more friendship nominations from other children, although there was no association between children's prosocial behaviour and the number of friends they identified. This finding suggests that children who are prosocial are more liked by others and supports previous research which has suggested that children who are caring and helpful to peers are well-liked more generally by others (Kucaba & Monks, 2022; Monks et al., 2003; Paulus, 2017). This extends previous findings by broadening the focus to more general prosocial behaviour as several of the previous studies focussed on defending around peer-victimization. The findings also support some of those reported among groups of older children (e.g. Beffel & Watling Neal, 2023). However, it is still unclear whether the behaviour itself pre-dates peer-liking. It is likely that children who are prosocial are well-liked and that this may then lead to further prosocial behaviour, although this is yet to be examined among young children. The finding that there was no association between children's prosocial behaviour and the number of friends they identified may be because there was a limit (of up to three) on the number of friends they could identify. Future research could examine the extensiveness of children's social networks in relation to their behaviour.

As predicted, solitary behaviour was associated with fewer children reporting that the child was one of their friends. Furthermore, children's solitary behaviour nominations were also negatively correlated with the number of children they identified as a friend. These findings support and extend previous research, confirming that children who are identified by their teachers and teaching assistants as being solitary had fewer friends (Hart et al., 2000; Ladd, 2005; Ladd & Burgess, 1999). As noted by Ooi, Baldwin, Coplan, and Rose-Krasnor (2018), children's solitary behaviour in early childhood was associated with peer exclusion. In the current study, it also appeared that children who are reported as displaying solitary behaviour are also reporting fewer friends themselves which suggests an awareness of their smaller social network even at this age.

When child behaviours were entered into a multiple regression, received friendship nominations were negatively predicted only by the child's solitary behaviour, although friendship nominations made by children were no longer predicted by any behaviour. This suggests that solitary behaviour as reported by teachers and teaching assistants is associated with peer identification of friendships over and above other behaviours. This finding ties in with previous research (e.g. Ooi et al., 2018) which noted the association between children's solitary behaviour and poorer peer relations.

We predicted that reciprocity, which is an important definitional feature of friendships (Bagwell & Schmidt, 2011), would be lower among children who displayed higher levels of aggressive or solitary behaviour and higher among those who displayed prosocial behaviour. In support of this hypothesis, the findings indicated that children who had at least one reciprocated friendship nomination were rated by their teachers as being lower on aggressive and solitary behaviour as well as lower on victimization compared with those who had none of their friendship nominations reciprocated. In contrast, children with at least one reciprocated friendship received higher ratings on prosocial behaviour by their teachers/teaching assistants which supports previous findings with slightly younger children (Coelho et al., 2017). Kucaba and Monks (2022) indicated that defending behaviour (a form of prosocial behaviour) was associated with an increased likelihood of having a reciprocated friendship, although they found no association between reciprocity of friendship and being the target or perpetrator of aggression.

This study also examined the behavioural characteristics of children's friends. It was found that children who were aggressive identified other children who were also aggressive as their friends, supporting previous studies that have found homophily among friendships in relation to aggressive behaviour (Kucaba & Monks, 2022). This is a concerning finding that children who are aggressive may be forming friendship groups with other aggressive children. Research has indicated that bullying among children during middle childhood and adolescence is often a group process (Salmivalli, 2010). The finding that children who are aggressive are friends with other aggressive children suggests that these group processes may in fact start early on in children's school experience. Other research has also confirmed that children who behave aggressively in early childhood support others who share the same targets of aggression (Huitsing & Monks, 2018). These findings, taken together, suggest that children may already be forming groups of similarly aggressive children which may lead to further anti-social socialization and possibly an increase in aggressive behaviour over time. Interestingly, children who were aggressive were also more likely to be friends with others who are solitary (although this association was less strong than the association with aggression). Why this might be is unclear and warrants further investigation but may mean that solitary children are at an increased risk of being targets of aggression or perhaps aggressive children may have fewer friends in the class and so report that solitary children are their friends to 'save face'. The finding that aggressive children tend to form friendships with other children who are aggressive, and that these friendships may not be of high quality (as inferred by the lower levels of reciprocity in these friendships) is worth noting. Salvas et al. (2011) found support for socialization of aggression within children's friendships but highlight that good quality friendships may mitigate ongoing aggressive behaviour. Interventions that focus on enhancing children's positive friendships may therefore help to decrease these forms of behaviour.

According to teacher and teaching assistant reports, girls were more likely to be prosocial than boys, and children who were prosocial were more likely to have friends who were similarly prosocial. The finding of a gender difference confirms findings reported in other studies which have consistently found that girls tend to be reported as being more prosocial than boys (Fabes & Eisenberg, 1998), although there is some concern that these findings may represent stereotypes held by adults (Bouchard, Sylvestre, & Forget-Dubois, 2020). The finding that children form friendships with children who are similar to them in prosocial behaviour supports Kucaba and Monks (2022). The current study extended this finding with a broader focus on more general prosocial behaviour (such as caring, helping and sharing) rather than a situation specific form of prosocial behaviour such as defending others during peer-victimization. It also extended research which has tended to focus on older children to a younger age-group (e.g. Beffel & Watling Neal, 2023). These findings further support the view of homophily, where children are friends with others who behave in a similar way to them.

Children who were the targets of others' aggression tended to form friendships with children high on solitary ratings and those who were aggressive. These findings are different to those reported by Kucaba and Monks (2022) who found that children who were victimized tended to choose defenders as their friends, supporting the social competence hypothesis whereby children choose those whose behaviour complements theirs, as friends. This makes sense within the context of peer-victimization where Kucaba and Monks asked about defending behaviour of children. In the current study, we focussed on a broader understanding of prosocial behaviour which did not explicitly include defending. It is possible that children in the current study were identifying other children who may defend them occasionally, but whose behaviour may not generally be viewed by teachers/teaching assistants as encompassing the broad variety of prosocial behaviour assessed in the current study.

The findings in the current study that children who are victimized are more likely to choose others who are solitary or are aggressive is worth noting. Research has found that children who have friends who can stand up for them or support them when they are being victimized fare better than those who do not have this support in terms of outcomes and repeated victimization – this has been termed the Friendship Protection Hypothesis (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999; Kendrick, Jutengren, & Stattin, 2012). It is unlikely that children who are solitary will be well

placed to be able to provide children with support when they are victimized. Furthermore, the finding that children who are victimized are likely to be friends with children high on aggression may indicate that some of this victimization may occur within friendships.

In this study, children who were reported as being solitary by their teachers/teaching assistants were more likely to choose other children who were high on solitary behaviour ratings as friends indicating homophily among children. This demonstrates that although children who are solitary may have fewer friends and less reciprocity in their friendships, they identify other children who show similar behaviour to them as friends. Children who demonstrate solitary behaviour are also more likely to identify others who are prosocial as their friends, which supports a social competence view where children are identifying others whose behaviour complements theirs, where prosocial children may help and support those who are on their own. There was a marginal association between children's solitary behaviour and aggression displayed by their friends, which would require further examination.

Limitations

A limitation of the current study was that some of the alphas were low, in particular the Cronbach's alpha for prosocial behaviour was 0.69. Therefore we need to be cautious when interpreting some of these findings. Furthermore, our sample size was relatively small and may limit generalizability of the findings. Given the age-range (4–7 years) included in this study, and evidence from previous work around age-related differences in children's social behaviour (e.g. play, Parten, 1933), it may also be relevant for future studies to examine more fine-grained developmental differences among this age group. Given the relatively small samples once children were split by age group it was not feasible to do so in the current study however future research may find it fruitful to explore difference among children of these ages. Within the current study, we did not look friendship quality, it is possible that friendship quality would also play an important role. Although friendship quality is often related to reciprocity within friendships, it would be of interest to explore the association between friendship quality and social behaviours (Maunder & Monks, 2019).

A further limitation is that it did not look at these associations longitudinally and so it is not possible to examine how children's behaviour and their friendships are associated over time. However, the use of different reporters (both children's reports and the reports of their teachers and teaching assistants) is a strength. Although there is some concern around adult reports of children's behaviour (e.g. Bouchard et al., 2020), teachers/teaching assistants are able to provide comparative assessments of children's behaviour and the inclusion of teaching assistants adds to the reliability of these adult reports.

Implications

The finding that behaviour and peer-relations are associated with each other in different ways is of relevance for the development of programmes to support children's positive behaviour. A focus on promoting and supporting children in the development of good quality friendships is likely to be a promising approach to decrease aggressive behaviour (Salvas et al., 2011), address concerns around the socio-emotional development of children who are solitary (Ooi et al., 2018) and promote prosocial behaviour (Paulus, 2017). The finding that friendships and peer relations are important from the early years at school suggests that programmes addressing these issues would be well placed at the point at which children first join the peer group.

Conclusion

In sum, the current study adds to our understanding of the associations between children's social behaviour and relationships with peers during their formative school years. The findings indicate

that children's friendships appear to differ in relation to their behaviour; with solitary behaviour associated with fewer friendship nominations and prosocial behaviour linked to more friendship nominations. Reciprocity in friendships was also associated with children's behaviour. Prosocial behaviour was related to an increased likelihood of having a reciprocated friendship compared with other behaviours. There was also evidence of homophily of behaviour in children's friendships. The findings suggest that children's behaviour and peer relations, in particular friendships, are associated with each other, presenting potential avenues for programmes aimed at addressing children's behaviour.

Note

1. We use the term 'solitary' to describe behaviours where, despite peers being present, a child is on their own (Arbeau & Coplan, 2007). This behaviour is described elsewhere using a variety of terms which may relate to motivations or reasons why an individual may be alone.

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