**Title**

Using a ‘child’s-eye view’ of social success to understand the importance of school readiness at the transition to formal schooling

**Abstract**

Recent research into school readiness has highlighted the importance of not only children’s cognitive and socio-emotional skills but also the degree to which they have family support in the home. The current study examines the association between social success upon school entry and teacher-ratings of school readiness as assessed by the Brief Early Skills and Support Index (BESSI), controlling for language ability. Importantly, social success was assessed using a ‘child’s-eye view’ with peer-reported assessments of both social preference and reciprocated friendships. A total of 244 children (131 boys, *M*age = 61 months, *SD* = 4.78 months) in their first year of formal schooling participated. Child school readiness was found to be important for social preference, with the association being more marked for boys versus girls. Family support was the only independent predictor of children’s reciprocated friendships. The use of the BESSI, with its broad scope compared to other measures of school readiness, highlights the importance of focusing both on a child’s cognitive and socio-emotional skills at school entry and their family support when exploring the association of school readiness to children’s social success at the transition to formal schooling.

**Keywords**

**School readiness; social competence, home environment, friendship, peers/peer relations**

**Introduction**

The degree to which a child is ready, both cognitively and socially, to enter formal schooling has important implications for later academic performance and social success. While the school readiness literature has traditionally emphasised children’s core academic skills such as literacy and numeracy, more recent research has adopted a broader approach that reflects an increased awareness of the importance of socio-emotional competence and daily living skills for children’s success in the transition to school (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000; Denham, Bassett, Zinsser, & Wyatt, 2014; Elias & Haynes, 2008; Jennings & DiPrete, 2010). Indeed, longitudinal findings that highlight long-term consequences of social success in the early years have been influential in shaping public policy initiatives to ensure that children possess sufficient social and emotional skills in order to allow them to be school ready (e.g., Allen, 2011; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

Both studies of children’s school readiness and the broader field of research on social, emotional and cognitive development consistently indicate that boys start school with less sophisticated skills compared to their female peers, raising the question of how these gender differences may manifest in the school setting. One useful approach to addressing this question that has been relatively neglected in existing research is the inclusion of children’s own perspectives on their early developing peer relationships. Thus, the current study adopts a ‘child’s-eye view’, capitalising on children’s unique insight into their peer relationships, to explore associations between social preference, friendships and teachers’ ratings of school readiness as assessed using both cognitive and socio-emotional markers of preparedness for school (Hughes, Daly, Foley, White, & Devine, 2015).

Research interest in school readiness has grown dramatically since the 1990s, with investigators adopting a range of different perspectives and measurement approaches (Snow, 2006). Definitions of what constitutes ‘school readiness’ have included cognitive skills, such as cognitive control, learning and memory, all of which are considered to be crucial for school success (e.g., Noble, Tottenham, & Casey, 2005). Other definitions have also considered the social and emotional competencies that impact school success, such as the ability to manage emotions and form friendships (e.g., Linder, Ramey, & Zambak, 2013; Ray & Smith, 2010).

Longitudinal studies examining the outcomes of school readiness on both cognitive and socio-emotional skills have demonstrated, for the most part, that both features are important. For example, in a large study, across six longitudinal datasets, children’s cognitive numeracy and literacy skills upon school entry predicted academic achievement years later (Duncan et al., 2007). Other research has also demonstrated that children who enter their first year of school with more sophisticated socio-emotional skills make a more successful school transition and are likely to have both higher academic achievement and a more positive attitude toward schooling than their peers (Ladd, Birch, & Buhs, 1999; Ladd, Kochenderfer, & Coleman, 1996; for an exception, see Duncan et al., 2007). Conversely, children who have difficulty making and maintaining friends during the first year of school are more likely to struggle adapting to the transition and new routine, and experience poorer academic performance (Ladd, 1990). In a study comparing preschool children with (parent-rated) high social competence to those with low-to-average social competence, Konold and Pianta (2005) reported higher academic achievement scores for socially-competent children compared to children with poorer social skills, even though the two groups did not differ in their performance on cognitive tasks. Likewise, other studies have shown that teacher ratings of preschool children’s social skills are not only associated with concurrent mathematical performance (Dobbs, Doctoroff, Fisher, & Arnold, 2006) but also predict math and reading skills 6 years later (McClelland, Acock, & Morrison, 2006).

It is important to note that Duncan and colleagues’ (2007) comprehensive analysis of six large datasets did not find a direct association between children’s socio-emotional skills at school entry and later academic achievement. One possible explanation for this finding is that the studies included in the analysis relied only on teachers as informants of children’s socio-emotional competencies. Given that adults and children are likely to differ in their views on what constitutes a good playmate, it is necessary to explore the association of school readiness and social success using a ‘child’s-eye view’. In many ways, children are arguably better positioned than their teachers or parents to report on social success in the school context as they have a unique insight into the day-to-day interactions of their peers that may not be as salient (or readily observable) to adults. Furthermore, peer reports in particular are seen as a more objective means by which to gather information on a child’s social competence as they do not rely on a single informant, instead all participating children in the classroom contribute to peers’ scores. Tellingly, when multiple informants have been used to assess social competence, the agreement across informants tends to be poor (Renk & Phares, 2004), suggesting that peers, teachers and parents focus on different aspects of behaviour when rating social competence.

Numerous studies have adopted peer nomination techniques to assess reciprocated friendships and social standing in the peer group and these two indices have shown differential associations with later social and emotional functioning (Gifford-Smith & Brownell, 2003). That is, it is possible to have high social standing in the peer group (i.e., have high social preference) but lack a reciprocated friend. Additionally, the presence of a reciprocated friendship has been found to serve as a buffer against the negative repercussions of low social preference (Gifford-Smith & Brownell, 2003; Laursen, Bukowski, Aunola, & Nurmi, 2007). Given the unique insight into children’s social success that is provided by children themselves, studies exploring the association between school readiness and child-rated social competencies are clearly needed, if only to avoid the pitfalls of shared-reporter bias that may occur when teachers complete both measures of school readiness and children’s social success.

In addition to social characteristics of school readiness, an increasing body of research has demonstrated the detrimental impact of negative family relationships on the long-term outcomes of children at school (Allen, 2011; Shonkoff, Boyce, & McEwen, 2009; Wessells, 2015). For example, in a recent literature review, Linder et al. (2013) identified a number of predictors of school readiness that included home- or parent-based factors such as the quality of parent-child interactions, parental involvement and home-based literacy materials. Thus, the degree to which a child is ‘school ready’ appears also to depend on home and family support, as well as children’s core cognitive skills and their social preparedness for school. Together, these findings highlight the importance of assessing not only the child’s cognitive and socio-emotional skills as part of the overall construct of school readiness, but also the degree of family support experienced in the home. The measure of school readiness employed in the current study, Brief Early Skills and Support Index (BESSI; Hughes et al., 2015), acknowledges the importance of children’s home life and relationships for school readiness and is unique amongst teacher-reported measures of school readiness in including a family support subscale.

**Gender differences in school readiness**

In addition to highlighting the importance of children’s home environment, Linder et al. (2013) also identified gender as a risk factor associated with school readiness, with boys more likely to exhibit problems compared to girls. Such findings are consistent with research on gender differences in the attributes that underpin school readiness. For example, longitudinal research has indicated that during early childhood, boys are more likely to have poorer social-emotional competencies including greater problem behaviours and poorer self-regulation, and once at school, boys also show poorer academic attainment compared to girls (Dekker et al., 2007; Maguire, Niens, McCann, & Connolly, 2016; Moffitt, 2001; Whalen et al., 2016).

In a recent population study of almost 36,000 children at school entry in British Columbia, Thomson, Guhn, Richardson, Ark, & Shoveller (2017) measured children’s school readiness using the teacher-reported Early Development Instrument (EDI). Using latent profile analysis of EDI scores, 6 groups representing different levels of social-emotional skill were identified, and it was found that boys were more likely to be included in the groups representing poorer social-emotional skills, especially those representing aggressive and hyperactive behaviour. Thus, it appears that socio-emotional deficits for boys disrupt, either directly or indirectly, their ability to make a successful transition to formal schooling. Since there is a body of literature on gender differences in socio-emotional domains and in peer relationships, the inclusion of such factors in the construct of school readiness highlights the need to adopt a gender lens for research in this area.

When examining gender differences at school entry, it is important to account for children’s language ability. Language abilities are undoubtedly important for children at the transition to school not only in facilitating academic engagement, but also in promoting positive relations among peers (Gallagher, 1993; Gertner, Rice, & Hadley, 1994; Mendez, Fantuzzo, & Cicchetti, 2002). Gender differences in verbal-based skills have been found in children at two years of age (and younger), with studies identifying a female advantage (Bauer, Goldfield, & Reznick, 2002; Bornstein & Haynes, 1998; Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991). While there are inconsistencies in the literature surrounding the extent to which verbal abilities differ by gender upon entry to school, when differences are found, language abilities in boys tend to lag behind those found in girls (e.g., Voyer & Voyer, 2014), and there is a higher prevalence of language impairments in boys compared to girls (Tomblin et al., 1997). In order to unpack the association between school readiness and children’s social success for boys and girls, it is therefore crucial to take into account children’s language abilities.

**The current study**

The current study examines the association between children’s school readiness and two key indices of a child’s social success in the school-context; social preference, defined as being liked by the majority of one’s classmates, and reciprocated friendships, a mutually-reciprocated dyadic relationship (Ladd, 2005; Masters & Furman, 1981). The current study relies on a ‘child’s-eye view’ of social success to take advantage of the unique insight children have into their peers’ social competencies and to ensure that any association with school readiness is not a function of having a shared informant. This study, to our knowledge, is the first to examine the association between teacher ratings of school readiness and child-rated indicators of social success. As children’s language ability has been shown to be important for social preference and reciprocated friendships, as well as school readiness (e.g., Doctoroff, Greer, & Arnold, 2006), an age-appropriate measure of language ability is also included in the current study to explore if the association between school readiness and social success is due to their shared reliance on children’s verbal skills. Finally, given the gender differences in school readiness and social success in the early school years, analyses will explore the moderating role of gender on all associations between school readiness and social success.

In sum, based on results from the extant literature, we expect that over and above the role of language ability, children’s school readiness will be an important predictor of social success at the transition to formal schooling, and that this association will be moderated by child gender. Furthermore, to provide a more comprehensive view of social success, the current study will examine both social preference and reciprocated friendships as indicators of social success.

**Method**

**Participants**

Participants were 244 reception-aged children (131 boys, 54%) between the ages of 49 and 78 months (*M*age = 61 months, *SD* = 4.78 months). The sample was recruited (with written parental consent for each child) from 14 classrooms in eight schools in the Cambridge area (UK). The majority of the sample was Caucasian (80%) with the remaining sample classified as either Asian, mixed or other ethnicity. A total of 84% of children had at least one parent who had completed tertiary education, while 9% of children were eligible for pupil premium (additional funding for disadvantaged children of all abilities).

An average of 30.50 children from each school took part in the study (range: 15-58 children per school). To obtain accurate assessments of both social preference and reciprocated friendships, whole classrooms were invited to participate, resulting in between 45% and 86% (*M* = 62%) of children recruited from each participating school.

**Materials**

**Language Ability.**

The Clinical Evaluation of Language Fundamentals – Preschool 2 (CELF – Preschool 2) is a widely-used measure to assess children’s expressive and receptive language skills, with evidence from several different types of research proving acceptable levels of validity and reliability (Wiig, Secord, & Semel, 2004). Expressive language abilities were measured using the Recalling Sentences subscale. For this task, the experimenter read aloud a sentence, and asked the child to repeat the sentence verbatim. Sentences progressed in length and grammatical complexity. Receptive language abilities were measured with the Sentence Structure subtest, which involved children picking a picture that matched a sentence read aloud to them by the experimenter. Each subtest was scoring according to the CELF-Preschool 2 manual and each subtest was summed to give a total language ability score reflecting both expressive and receptive language skills.

**Teacher-rated School Readiness.**

Teachers reported on children’s school readiness using the Brief Early Skills and Support Index (BESSI). The BESSI is a validated questionnaire developed by Hughes et al. (2015) for teachers to determine how well a child is transitioning into school. The questionnaire has good test-retest reliability, established longitudinal measurement invariance (Hughes, White, Foley, & Devine, 2017) and is sensitive to special educational needs status (Hughes, Foley, White, & Devine, 2017). Alongside three child-related subscales (behavioural adjustment, language and cognition, and daily living skills), the questionnaire includes a family support subscale, indicating the degree to which children receive support for their education from their home/family life. The family support subscale has been shown to predict the three child-related factors, such that children with low family support also have higher problem scores on the child-related subscales. In previous research, family support was shown to be strongly associated with children’s free school meal status (Hughes et al., 2015). Using a 4-point scale, teachers in the current study rated from ‘strongly agree’ to ‘strongly disagree’ the extent to which they agreed/disagreed with 30 statements for each child.

**Peer-rated social success.**

**Social preference.** Social preference was assessed using the sociometric interview technique developed by Coie, Dodge and Coppotelli (1982). This widely used interview provides information on children’s relative social standing in their peer environment. Each child was interviewed individually. Using photographs, children were asked to nominate three children in their class that, “they like to play with the most” and three children, “they do not like to play with”. Cross-gender nominations were permitted (Graziano, Keane, & Calkins, 2007; Terry & Coie, 1991). To account for the differing numbers of children in each classroom, ‘like most’ and ‘like least’ scores were standardised. Children’s standardised ‘like least’ total was subtracted from their standardised ‘like most’ total to calculate each child’s peer preference in their classroom (Coie et al., 1982). Children’s social preference has been shown to reliable and stable over time (Jiang & Cillessen, 2005).

**Reciprocated friendship.** In line with previous studies using this measure (e.g., Laursen et al., 2007), children were individually asked to nominate their top three “best friends” in the class. Cross-gender nominations were permitted. Based on the coding outlined in Fink and colleagues (2015), friendship tiers were classified as reciprocal if a child had a reciprocated top three friendship nomination (*n* = 160). Non-reciprocated friendships were those where children did not receive a reciprocated friend nomination for any of their top three friends (*n* = 75).

**Procedure**

After obtaining parental consent, children were interviewed individually in a quiet room for the assessments of language ability, social preference and friendship nominations. Teachers completed the school readiness questionnaires mid-way through the school year and knew all participating children well.

**Results**

Results are presented in two parts. First, mean differences in study variables as a function of gender and bivariate associations between study variables are presented. Second, regression models predicting children’s peer-rated social success from school readiness are presented, including an examination of the moderating role of gender.

**Descriptive statistics and preliminary analyses**

Descriptive statistics are presented in Table 1. Significant differences between boys and girls were found for age, language ability, all four subscales of the BESSI and social preference. With respect to friendship reciprocity, there was a marginally significant difference between boys and girls in the proportion of children with and without a reciprocated best friend, χ21 (N = 235) = 3.63*, p* = 0.057, with girls more likely to have a reciprocated best friend than boys (girls reciprocated: *n* = 81 [74%] compared to boys reciprocated: *n* = 79 [63%]).

Separate bivariate correlations for boys and girls are presented in Table 2. The correlations between the school readiness subscales were comparable in magnitude for boys and girls, however, language ability was more consistently associated with school readiness for boys compared to girls, with a significant difference in the magnitude of the association between language ability and behavioural adjustment (*z* = -2.19, *p* = 0.029) and language and cognition (*z* = -3.32, *p* < 0.001). Furthermore, all four school readiness subscales were significantly associated with social preference for boys whereas only the association between family support and social preference was significant for girls, with a significant difference in the magnitude of the association between social preference and behavioural adjustment for boys and girls (*z* = -2.64, *p* = 0.008).

Given the consistently strong correlations between children’s scores on the behavioural adjustment, language and cognition and daily living skills subscales of the BESSI, these variables were summed to create an overall child school readiness score for use in the regression models. Family support was kept separate as is typical when using this measure (e.g., Hughes et al., 2015).

**Regression models predicting social success**

Two planned regression models were constructed to evaluate whether the association between school readiness and children’s social success was independent of other covarying influences. First, a hierarchical linear regression model was constructed, such that, social preference was regressed on gender, age, language ability at Step one, overall child school readiness and family support at Step two, and finally interaction term between gender and school readiness at Step three (see Table 3).

The first step was significant, *F*(3, 226) = 2.22, *p* = 0.043, and explained just 4% of the variability in social preference. At this step, only gender made a significant independent contribution to the prediction of social preference, such that boys had lower social preference scores than girls. Step two significantly improved model fit, Δ*F*(2, 225) = 10.33, *p* < 0.001. Overall, child school readiness made a significant independent contribution to the prediction of social preference. At this step, gender was no longer a significant predictor.

Finally, given that only the overall child school readiness score was a significant predictor, the interaction between this term and gender was included at Step three. This step made a significant contribution to model fit**,** Δ*F*(1, 224) = 4.69, *p* = 0.031, and the overall model, *F*(6, 224) = 5.80, *p* < 0.001, explained 13% of the variability in social preference. At the final step, both overall child school readiness and the interaction between gender and overall child school readiness were significant independent predictors of social preference, suggesting that gender moderates the association between school readiness and social preference. Subsequent simple slopes analysis of this interaction showed that for boys, there was a significant negative association between school readiness and social preference, *b* = -.52, *t* (126) = -4.48, *p* < 0.001, whereas for girls, this association was not significant, *b* = -.13, *t* (109) = -1.00, *p* = .319.

Second, the independent contribution of study variables for the prediction of reciprocated friendship status was examined using binary logistic regression. The model was first run including gender, age, language ability, overall child school readiness and family support. This model was significant, χ25 (*N* = 225) = 22.50, *p* < 0.001, Nagelkerke pseudo-*R*2 = .13. Only family support made a significant independent contribution to the prediction of reciprocated friendship status (see Table 4). Teacher ratings of family support were significantly higher for children with a reciprocated friendship than for those without. Expressed in *SD* increments, the likelihood of having a reciprocal friend decreased 2.13 times for every *SD* increase in the ‘problems of family support’ subscale. When including the interaction between gender and family support, neither this interaction nor the increase in χ2 for the addition of this term was significant, χ21 (*N* = 225) = 0.10, *p* = 0.749.

Finally, a post-hoc analysis was conducted to test if the independent contribution of children’s family support on reciprocated friendships remained significant when children’s social preference scores were controlled. This final logistic regression model, χ26 (*N* = 225) = 27.26, *p* < 0.001, Nagelkerke pseudo-*R*2 = .16, showed that family support remained a significant independent predictor (*b* = -.35, Wald = 4.21, *p* = .040) of reciprocated friendship even when accounting for the significant contribution of social preference (*b* = .27, Wald = 4.55, *p* = .033).

**Discussion**

Three key findings emerged from this investigation of the association between teacher ratings of children’s school readiness and child-reported social success during the first year of formal schooling. First, boys scored lower than girls on all measures of school readiness. Second, findings showed that while child school readiness is important for social preference in the classroom, it was family support at home that was critical for the development of reciprocated friendships, even when controlling for a child’s existing level of social preference. Third, the association between children’s school readiness and social preference was moderated by gender, such that for boys, the detrimental impact of poor school readiness on social preference was more marked than for girls. These findings are broadly in line with existing research demonstrating that boys are more vulnerable than girls at the transition to formal schooling and have greater difficulties with social and emotional competence in early childhood (e.g., Linder et al., 2013). However, there were no gender differences in the association between school readiness and reciprocated friendships in the current study.

Consistent with past research (e.g., Thomson et al., 2017), descriptive analyses indicated a significant gender difference on all four subscales of the BESSI, with poorer outcomes in boys compared to girls, including the family support subscale. Thus, as well as starting schools with greater social and cognitive disadvantages, boys are also more prone to disadvantage in social/family-based domains. The fact that family support in this study was not independent from children’s gender clearly requires further investigation, particularly given that poorer family support for boys has been found in a previous study using the BESSI (Hughes et al., 2015). One possible explanation for this result may be that it is teacher perceptions of children’s family support that differs by gender. Nonetheless, the current findings highlight the importance of prioritising resource allocation to schemes aimed at ameliorating these areas of risk in boys, for example, by developing intervention strategies that may include a more supportive school environment, community-based programs and parental support initiatives.

Children’s school readiness was closely associated with their social success in the classroom. The current study extends the existing literature by demonstrating that children’s own perceptions of their classmates’ social success are also influenced by the degree to which an individual child is school ready, even when accounting for gender, age and verbal abilities. When including gender as a moderator in the association between school readiness and social preference, it was clear that this association only held for boys. While girls with high and low school readiness scores were equally likely to be rated as well-liked by their peers, boys who had lower levels of school readiness were also those that were less well accepted by the peer group. This finding begs the question of why variability in school readiness appears less salient for social relationships with peers for girls as compared with boys. One possible explanation is that girls, on the whole, were more ready for school, as seen in consistently better scores on all BESSI subscales, and as a result, girls showed less extreme behaviours which would be perceived by peers as poor characteristics in a playmate. These results do suggest that teachers have a view of adaptive behaviours at the transition to school for their students that does not align with girls’ own views on which classmates they most liked. It is notable, however, that there were no gender differences in how school readiness was associated with the more intimate friendship indicator of social success.

A somewhat unexpected finding that emerged in the current study was the specific association between family support and children’s reciprocated friendships, which was independent of both children’s school readiness and their social preference. This result suggests that parental support in the home plays a unique role in enabling children to develop intimate reciprocated dyadic relationships with their peers during the transition to school. Previous research has also found an association between the home environment and the quality of children’s friendships (Gifford-Smith & Brownell, 2003). For example, Dunn, Cutting, and Fisher (2002) found that children with more educated mothers were more likely to have better quality friendships. Further research is clearly needed to understand the mechanisms linking children’s social success at school and support they receive at home. One possible mechanism may be that play-dates at home or shared activities outside of the school context, which presumably are afforded to those children who have greater parental support, play a valuable role in enabling children to consider specific classroom peers as their friends.

Finally, the current findings showed that language ability was more consistently associated with school readiness for boys compared to girls, with a significant difference in the magnitude of the association between language ability and behavioural adjustment and language and cognition. As previously noted, verbal-based skills have revealed a disadvantage in boys compared to girls at 2 years of age and younger (Bauer et al., 2002; Bornstein & Haynes, 1998; Huttenlocher et al., 1991). Consistent with this, the current study found that boys demonstrated poorer performance on the verbal-based task compared to girls. In this respect, an interesting finding to emerge from the current study is that variation in verbal skills has different implications for school readiness in boys compared to girls. Although care should be taken when inferring cause and effect, it could be speculated that weaker verbal abilities in boys may lead to more behavioural problems and inhibit the development of certain cognitive functions. It is possible, for example, that boys are not as adept at using their verbal skills to negotiate difficult interactions, so behavioural problems manifest. Indeed, research has shown that poorer language skills are more strongly associated with disruptive behaviour and difficult peer interactions in boys than girls (Doctoroff et al., 2006; Stowe, Arnold, & Ortiz, 1999). Additionally, weaker verbal skills in boys may negatively impact their ability to learn more generally. Thus, if verbal skills are at least partly a vehicle to academic, social and behavioural functioning, a focus on targeting a deficiency in this skill requires intervention at school but also at home, given that weaknesses may become evident in the pre-school years. For example, schools and parents could be encouraged to increase child engagement in reading and singing-based activities which utilise and develop their verbal skills.

**Strengths and limitations**

The current study explored the association between school readiness as rated by teachers and social success as rated by children themselves. Using a multi-informant approach ensures that teachers and peers represent the domains of adjustment which are most salient to them. The use of a ‘child’s eye view’ to measure social success is arguably a more appropriate approach to measuring children’s social competencies, such that, children are themselves immersed on a regular and intimate basis in their peer group and may therefore be better placed to comment on the nuances of their peer dynamics compared to teachers or parents. Furthermore, the current study investigated both social preference and reciprocal friendships, and as a result, provided a comprehensive assessment of a child’s social success. As indicated by the findings, distinct effects were established for the two factors thereby highlighting their utility as distinct markers of a child’s social standing within their peer group.

Second, the BESSI questionnaire used in the current study provides information on not only a child’s academic and social school readiness, but also characteristics of the home environment that can support a child in the transition to school (Hughes et al., 2015). The inclusion of a family support subscale in the BESSI means that teachers are permitted the opportunity to provide an outsider’s perspective on the support a child receives from their family towards their education. An emphasis on home- or parent-based factors have been shown to be important contributors to child school readiness (Linder et al., 2013) and as a consequence, a further advantage in using the BESSI for the current study will have meant broadened the scope of investigation of the construct.

One notable limitation of the current study relates to the participant population. All children were recruited from a specific region in Cambridge, a UK city known have a more affluent economic and educational status compared to the national average. As a consequence, those who took part are unlikely to represent those in the general population. Research has indicated that poverty and parental stress are associated with school readiness (Chazan-Cohen et al., 2009; Janus & Duku, 2007; Patrianakos-Hoobler, Msall, Marks, Huo, & Schreiber, 2009; Ryan, Fauth, & Brooks-Gunn, 2006; Stipek & Ryan, 1997; Swanson, & Lipscomb, 2016). Evidence also indicates that school readiness can vary as a function of ethnic and racial differences in parenting during early childhood (for a review, see Brooks-Gunn & Markman, 2005). Thus, it is possible that the association between school readiness and social success found in the current study would differ in populations with lower socio-economic indices. Furthermore, research has indicated the influence of cumulative risk, such that the dynamic interplay between multiple socio-demographic and family-based risk factors may lead to different risk profiles and consequently different outcomes regarding a child’s school readiness (Pratt, McClelland, Swanson, & Lipscomb, 2016). Additional research is clearly needed to explore the association between school readiness and social outcomes a broader socio-economic group.

**Future research and conclusions**

To further unpack the association between school readiness and social success, the findings of the current study should be extended to include a longitudinal design. Such a framework would allow, for example, an exploration of whether the identified negative association between school readiness and social preference in boys persists beyond reception age. As noted by previous research, longitudinal investigations reveal more behavioural problems and poorer academic attainment in boys compared to girls during early childhood (Dekker et al., 2007; Maguire et al., 2016; Moffitt, 2001; Thomson et al., 2017; Whalen et al., 2016). Thus, it appears that boys are more vulnerable in the school context and had the current study included multiple time-points, it may have been possible to establish whether lower school readiness inhibits social preference in boys only initially, or whether the effect is more pervasive. Research suggests that emotional and behavioural problems may stabilise or escalate and negatively affect performance throughout the school years (Raver & Knitzer, 2002). Therefore, further studies into the longitudinal impact of school readiness and its associations with social success are warranted, particularly in light of the potential gender contrasts which seem to suggest a need for greater support for boys.

In conclusion, the current findings explored the relative importance of cognitive, behavioural, and social perspective of school readiness at the transition to formal schooling on a child’s ability to be accepted by their peer group and establish reciprocated friendships. The assessment of social success through the perspective of the child gave particular novelty to the study. Based on the current findings, it appears that boys may benefit the most from social and academic support strategies, for example, those aimed at targeting early verbal skills. An intervention possibility based on the current findings more generally could include the provision of training for teachers on how to identify children at risk of lower levels of school readiness and effective ways to ameliorate these problems. Since difficulties could manifest during the preschool age, interventions which focus on enhancing the home learning environment and the degree of family support a child receives may also improve any cognitive or social disadvantages that may result during the transition to formal schooling and beyond.

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Table 1. Means (standard deviations in parentheses) for total sample, and boys and girls separately across all study variables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Measure | Total  *n* = 242 | Boys  *n* = 128 | Girls  *n* = 110 | *t*-value  (sex comparison) |
| Age (months) | 61.13  (4.78) | 61.72  (4.81) | 60.44  (4.66) | 2.07\* |
| Language ability | 37.34  (11.83) | 35.22  (12.41) | 39.80  (10.63) | -3.06\*\* |
| School Readiness |  |  |  |  |
| Behavioural adjustmenta | 2.45  (3.11) | 2.98  (3.33) | 1.84  (2.73) | 2.93\*\* |
| Language & cognitiona | .48  (.83) | .58  (.92) | .35  (.70) | 2.19\* |
| Daily living skillsa | .91  (1.19) | 1.22  (1.38) | .54  (.78) | 4.73\*\* |
| Family supporta | .86  (1.29) | 1.05  (1.45) | .63  (1.05) | 2.66\*\* |
| Social preference | 0.00  (1.35) | -.23  (1.51) | .27  (1.09) | -2.98\*\* |

a t-value adjusted to take into account unequal variances for boys and girls.

Table 2. Bivariate correlations between key study variables for total sample (top) and separately for boys (above the diagonal) and girls (bottom).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Total sample | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Age | − | .40\*\* | -.05 | -.06 | -.14\* | -.00 | -.02 |
| 2. Language ability |  | − | -.19\*\* | -.28\*\* | -.30\*\* | -.23\*\* | .10 |
| 3. Behavioural adjustment |  |  | − | .36\*\* | .59\*\* | .42\*\* | -.28\*\* |
| 4. Language and cognition |  |  |  | − | .50\*\* | .41\*\* | -.25\*\* |
| 5. Daily living skills |  |  |  |  | − | .48\*\* | -.25\*\* |
| 6. Family support |  |  |  |  |  | − | -.24\*\* |
| 7. Social preference |  |  |  |  |  |  | − |
| Separate by gender | 1 | 2 | 4 | 5 | 6 | 7 | 8 |
| 1. Age | − | .48\*\* | -.15 | -.19\* | -.27\* | -.08 | -.01 |
| 2. Language ability | .38\*\* | − | -.26\*\* | -.41\*\* | -.32\*\* | -.20\* | .08 |
| 3. Behavioural adjustment | .02 | .02 | − | .30\*\* | .62\*\* | .42\*\* | -.37\*\* |
| 4. Language and cognition | .10 | .00 | .43\*\* | − | .45\*\* | .42\*\* | -.25\*\* |
| 5. Daily living skills | -.04 | -.14 | .45\*\* | .59\*\* | − | .45\*\* | -.22\*\* |
| 6. Family support | .06 | -.22\* | .36\*\* | .34\*\* | .50\*\* | − | -.23\*\* |
| 7. Social preference | .03 | .04 | -.04 | -.18 | -.17 | -.19\* | − |

\**p* < .05. \*\**p* < .01.

Table 3. Regression model predicting social preference.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | DV = Social preference | | | | | |
| Variable | *∆R2* | *β* | *∆R2* | *β* | *∆R2* | *β* |
| Step 1 |  |  |  |  |  |  |
| Gender |  | .16\* |  | .10 |  | .12 |
| Age | -.01 |  | -.01 |  | -.01 |
| Language ability |  | .08 |  | -.00 |  | -.02 |
| Step 2 |  |  | .08\*\* |  |  |  |
| Child school readiness |  | - |  | -.26\*\* |  | -.36\*\* |
| Family support |  | - |  | -.08 |  | -.08 |
| Step 3 |  |  |  |  | .02 |  |
| Gender X Child school readiness |  | - |  | - |  | .17\* |
| Total *R2* | .04 |  | .12 |  | .13 |  |

\**p* < .05. \*\**p* < .01.

Table 4. Summary of binary logistic regression analyses for variables predicting reciprocal friendship.

|  |  |  |  |
| --- | --- | --- | --- |
| *Variable* | *B* | *S.E.* | *Wald* |
| Gender | -.31 | .33 | .88 |
| Age | .11 | .18 | .39 |
| Language ability | .16 | .17 | .82 |
| Child school readiness | -.28 | .17 | 2.46 |
| Family support | -.37 | .24 | 4.54\* |

\**p* < .05. \*\**p* < .01.

Figure 1.

Interaction between child school readiness and sex as a predictor of social preference