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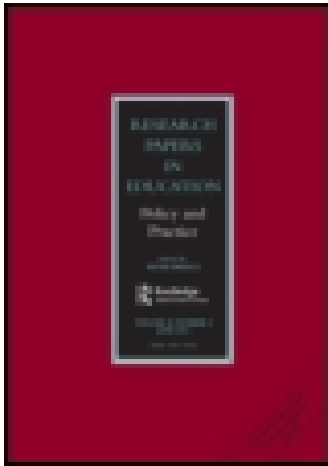
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## Starting Strong: feasibility of an indicated prevention programme during the transition to kindergarten

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School-based mental health services are a promising context for evidence-based interventions to promote early socio-emotional development, yet implementation presents significant challenges. This paper describes the rationale, content and format of a school-based intervention, Starting Strong in Kindergarten (Starting Strong). Starting Strong is a 10 week, indicated prevention programme aimed at promoting positive student–teacher relationships and behavioural adjustment during the transition to kindergarten. This parent- and teacher-focused indicated prevention programme targets children with or at risk for disruptive behaviour problems. The paper describes feasibility results of a pilot study of Starting Strong’s parent programme. Twenty-five families participated; rates of enrolment, attendance, retention, session engagement, homework completion, treatment fidelity and participant satisfaction suggest promising feasibility. School-based efforts targeting the transition to kindergarten may be helpful in improving behavioural and relational adjustment, especially for children who begin school with behavioural or relational risk.

**Keywords:** school-based mental health; disruptive behaviour problems; transition to school; kindergarten; indicated prevention programme; student–teacher relationships; parent-school connectedness

Though the value of evidence-based interventions promoting school readiness in early childhood is well established, the process of developing, implementing and disseminating such programming effectively entails significant challenges. The transition to kindergarten may be a crucial time to intervene, as efforts to promote positive school adaptation may be especially impactful during this period (Pianta 2010). Numerous evidence-based programmes have demonstrated that intervention that is school-based, parent-focused and directed at reducing early behaviour problems can be effective (e.g. Early Risers: Bloomquist et al. 2012; Incredible Years: Webster-Stratton and Reid 2010; PATHS: Greenberg and Kusché 2006). Here, we first describe a newly developed, parent- and teacher-focused and school-based indicated prevention programme, Starting Strong in Kindergarten (Starting Strong).<sup>1</sup> Starting Strong, which has not been previously tested, is built on principles of existing, efficacious programmes but is focused specifically on the transition to

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kindergarten and is aimed not only at reducing or preventing behaviour problems but also at improving student–teacher relationships (STRs). Secondly, we present results of a pilot investigation testing the feasibility of the parent component of this manualised programme during the early months of kindergarten. This feasibility testing, an important precursor to any efficacy and effectiveness testing of such a programme (Hallfors and Cho 2007), considers rates of attendance, retention and homework completion, as well as levels of session engagement, treatment fidelity and participant satisfaction. In this pilot study with no control group, the programme’s efficacy is not directly tested; instead, we identify lessons learned from this investigation that can inform a larger randomised, controlled efficacy trial of Starting Strong.

### ***School-based mental health***

Given the vital role that psychological well-being plays in children’s school success, schools may be an ideal gateway for addressing children’s mental health needs (Stephan et al. 2007). In fact, schools are already the primary setting for both detection and treatment of psychological disorders in children (Stephan et al. 2007). Compared to clinic-based programmes, school- and community-based programmes are generally cost-effective (e.g. Cunningham, Bremner, and Boyle 1995), foster greater social support due to similarities in parent<sup>2</sup> experiences, may present fewer transportation challenges, and may decrease stigma associated with mental health treatment (Dempster, Wildman, and Keating 2013). When parent-focused programmes are offered in schools or community centres compared to clinics or homes, enrolment rates are higher – especially for immigrant families, English learner families and those with more severe child behaviour problems (Gross, Julion, and Fogg 2001). School-based programmes can also enhance parents’ school involvement by their increased presence at, and familiarity with, the school.

With the high number of children suffering from untreated behavioural and emotional problems (Kataoka, Zhang, and Wells 2002), schools cannot do all the work alone. In line with an expanded school mental health model, partnerships between schools and other community entities, such as universities, can be vital to sustainability of such school-based programmes overtime (Anderson and Bronstein 2012). Starting Strong represents a school–university partnership; such efforts not only provide universities with a means for conducting applied research but also enable schools to access quality, evidence-based programmes. At the same time, challenges to implementing evidence-based programming under ‘real-world’ conditions are numerous, including environmental factors (lack of school space and time for programmes), turnover in school staff, pressures to focus on student achievement, and communication barriers between researchers and school staff (Anderson-Butcher et al. 2010). Thus, in order to be most successful, programmes must (a) be cost-effective, (b) involve minimal teacher and administrator burden, (c) address staff identified needs and (d) fit within existing scheduling and space restrictions. The feasibility of programmes such as Starting Strong in part reflects their degree of success in addressing these challenges.

Consistent with a stage-based approach to implementation science, determining the feasibility of intervention implementation in the school setting is an important step prior to conducting an efficacy trial, and a pilot study can provide valuable information to this end (Forman et al. 2013). In addition, attending to process-oriented

variables in evaluating feasibility – in this case, factors such as parents’ attitude and openness toward programme principles, parents’ degree of participation in sessions and parents’ comprehension of programme strategies—can also elucidate the programme’s likelihood of remaining acceptable when implemented more broadly and in contexts requiring further adaptation (Berkel et al. 2011; see Forman et al. 2013 for a review).

### ***Disruptive behaviour problems in early childhood***

An objective of Starting Strong is to reduce, or prevent the onset of, disruptive behaviour problems (DBPs) during the transition to kindergarten. When DBPs—including rule-breaking, oppositionality, aggression, inattention, impulsivity and hyperactivity – are present in early childhood, they confer substantial concurrent and long-term risk. Children who enter school with DBPs receive lower quality instruction, less positive regard and higher negativity from teachers (e.g. Pace et al. 1999; see Sutherland et al. 2010) and, in turn, demonstrate poorer academic skills and worsening achievement overtime (Stipek and Miles 2008) relative to those with low DBPs. Among the most commonly identified psychological problems in childhood (Nock et al. 2007; Willcutt 2012), DBPs are highly stable in the absence of intervention (e.g. Nock et al. 2007). With long-term risks extending from school failure to vocational outcomes, criminal justice system involvement and health risks, the societal costs of *not* intervening with early behaviour problems are significant. Below we discuss how Starting Strong is designed to curb early DBPs, both directly and by targeting improved STRs.

### ***The transition to kindergarten***

Starting Strong is designed to occur in the first three to four months of kindergarten, as the transition to kindergarten is theorised to be a pivotal period during which initial school experiences can set the stage for longer term adjustment (Pianta and Rimm-Kaufman 2006). The entry into kindergarten is a nearly universal experience for children in the US. It reflects a qualitative change in the context of children’s development, and brings with it a host of new academic, social, emotional and behavioural challenges (e.g. Wildenger and McIntyre 2012). Children’s success in adapting their social and academic behaviour patterns to fit school and classroom demands is a result not only of child characteristics but also of relationships among children, families, teachers and schools, peers, and the wider community (Doucet and Tudge 2007). Given that DBPs can be exacerbated during this transition, an intervention during this time may act to curb or prevent the emergence or worsening of DBPs during this period (Patterson, Capaldi, and Bank 1991). In addition, research on STRs suggests that the quality of early relationships with teachers, especially during kindergarten, may set the stage for children’s long-term school trajectories, uniquely predicting school outcomes well into elementary school (e.g. Silver et al. 2010) and perhaps beyond (Hamre and Pianta 2001). Thus, the transition to kindergarten is an apt time for intervention, as programmes occurring during this pivotal transition period may exert a particular impact on children’s behavioural and relational trajectories in school overtime.

### ***Early student-teacher relationships***

In Starting Strong, improved STRs are targeted alongside behavioural improvements, setting it apart from existing programmes which focus primarily on behavioural improvements. The quality of children's relationships with teachers during the early school years appears to play a crucial role in predicting, and perhaps shaping, long-term school adjustment (e.g. Baker 2006; Buyse et al. 2009; Hughes 2011; Schmitt, Pentimonti, and Justice 2012). The programme is based on a theory of change by which caring relationships with teachers, along with positive, problem-solving-oriented, collaborative relationships between parents and teachers and active parental involvement, create a context in which positive behaviour can be expressed and DBPs can be curbed. Caring relationships enable teachers to better cultivate students' socio-emotional development and provide strategic academic support, in addition to meeting basic academic needs (Jeffrey, Auger, and Pepperell 2013). Children with close, positive relationships with teachers may be more prone to internalise and act upon teacher-sanctioned values and behaviours (Skinner and Belmont 1993) and better equipped to explore their environment, communicate with adults and peers, and devote their energy towards learning (Sabol and Pianta 2012). On the other hand, relationships marked by conflict, detachment, overdependence or inconsistent emotional support from teachers may lead to alienation, lower peer likability (Sette, Spinrad, and Baumgartner 2013), lower academic achievement scores (Curby, Brock, and Hamre 2013), disengagement from classroom activities, poor self-concept and low motivation (Stipek and Miles 2008; Sutherland et al. 2010). The pathway from STR quality to achievement has not been tested experimentally; however, associations between STR quality and later school adjustment even after controlling for baseline adjustment suggest that STRs may have a causal impact on academic and behavioural outcomes (e.g. Hamre and Pianta 2001).

Children with DBPs have poorer relationships with teachers, on average, than their peers without DBPs (Silver et al. 2010). Yet, children with DBPs may be particularly well positioned to benefit from strong relationships with teachers; when positive relationships *are* established for these children, the association with subsequent school outcomes appears to be stronger than for children without behaviour problems or other risk factors (e.g. Tsai and Cheney 2012; Wilson, Pianta, and Stuhlman 2007). Children who enter the school setting with behavioural risk may depend more on the active, positive engagement of teachers in order to stay 'on track', behaviourally and academically. Thus, intervention to reduce behaviour problems and/or enhance STRs may be especially powerful for children with DBPs, by deflecting negative adjustment overtime. We expect that, in addition to a direct effect on behaviour problems, the Starting Strong programme may also have an indirect impact on behavioural adjustment by means of its effect on STR quality; in other words, improved STR quality following the programme may serve as a catalyst for behavioural improvement in the classroom.

### ***The intervention***

Starting Strong is a brief, parent- and teacher-focused group programme, combining elements found to promote feasibility in the school setting. Existing intervention research suggests that group-based interventions may be more cost-effective, and therefore more sustainable, than individual parent therapy (see Charles, Bywater,

Table 1. Description of parent and teacher components of the intervention.

Component	Timing	Format	Content
Parent	<ul style="list-style-type: none"> <li>• 10 weekly group sessions (1.5 h each)</li> <li>• 2 individual sessions (1 h each)</li> <li>• 2 monthly group follow-up 'booster' sessions (1.5 h)</li> </ul>	<ul style="list-style-type: none"> <li>• Homework review</li> <li>• Didactics</li> <li>• Group discussion</li> <li>• Video examples</li> <li>• Role-play exercises</li> <li>• Identifying new homework goals</li> </ul>	<p><i>Communicating effectively with teachers</i></p> <p>(1) The importance of parent involvement in school, parent-teacher collaboration, and the student-teacher relationship to school success;</p> <p>(2) Developing mutually satisfying, collaborative relationships with teachers and communicating effectively about children's behaviour and academic needs.</p> <p><i>Promoting children's positive behaviour and relationships at home and at school</i></p> <p>(1) Using positive attention – including praise, play, shared learning activities, and rewards – and appropriate discipline – including limit setting, appropriate consequences, time-out, and ignoring – to facilitate positive behaviour, with a focus on behaviour relevant to the school setting;</p> <p>(2) Fostering children's understanding of expectations for school behaviour;</p> <p>(3) Collaborating with teachers to develop home-school positive behaviour plans.</p> <p>(1) Building strong student-teacher relationships by promoting positive behaviour in target children</p> <p>(2) Creating relationship-building opportunities in the classroom</p> <p>(3) Overcoming barriers to close, non-conflictual relationships with students with behaviour problems</p> <p>(4) Collaborating effectively with parents, including strategies for home-school reinforcement of school-appropriate behaviour.</p>
Teacher component	4, 1 h small-group consultation sessions over a 10-week period	<ul style="list-style-type: none"> <li>• Didactics</li> <li>• Video examples</li> <li>• Role-plays</li> <li>• Discussion to apply topics to the needs of participating children</li> <li>• Identifying child-specific homework goals</li> </ul>	



and Edwards 2011), and that those focused on parents or teachers may be more cost-effective than direct intervention with children (e.g. Simon et al. 2012). Indeed, parent behavioural management training is considered a well-supported treatment for childhood Attention-Deficit/Hyperactivity Disorder (Chorpita et al. 2011; Pelham and Fabiano 2008) and Oppositional Defiant Disorder (Chorpita et al. 2011; Eyberg, Nelson, and Boggs 2008). Though numerous empirically tested programmes successfully alter or deflect young children's development of DBPs (e.g. Raver et al. 2009; Webster-Stratton and Reid 2010), few programmes have targeted the transition to kindergarten or issues specific to this adaptation period, in spite of the fact that this may be a period where improvements can have a particularly long-lasting impact (Pianta and Rimm-Kaufman 2006).

As an indicated prevention programme – in other words, one that is designed for individuals with early signs of the targeted problem – Starting Strong targets children who already show DBPs in school or those with early risk for DBPs during the transition to school. Risk for DBPs may be indicated by factors such as behavioural difficulties in prior, preschool settings; difficulty adjusting to classroom rules or expectations; anxious or withdrawn behaviour in the initial weeks of school; or initial behavioural difficulties in the first weeks of school, even if these difficulties are new and not yet stable. Starting Strong (developed by the authors, Eisenhower, Baker and Taylor), which has not previously been tested, is designed to improve behavioural adjustment and STRs for kindergarten children with or at risk for DPBs at school entry. Content and techniques are derived in part from evidence-based, behaviourally oriented parent and teacher training programmes (e.g. Anastopoulos and Farley 2003; Barkley 1997; Feinfeld and Baker 2004; Kazdin 2010; Lochman et al. 2011; Webster-Stratton and Reid 2010; Zisser and Eyberg 2010) and are also informed by research on predictors of early STR quality and on the developmental tasks relevant to the transition to kindergarten. While existing programmes have rarely focused directly on building STRs, but rather on improving behavioural or social adjustment, Starting Strong directly addresses *both* STRs *and* child behavioural adjustment. Further, Starting Strong also addresses parent, teacher and child challenges specific to this school transition period. The current pilot study tests the feasibility of the parent component of Starting Strong, which is aimed at developing skills for promoting positive child behaviour, enhancing children's relationships with teachers, and improving parent-teacher communication and relationships. The teacher component promotes strategies for enhancing children's school behaviour and improving teachers' relationships with these children and their parents. Parent and teacher sessions are held at the participants' school; the programme is closely outlined in a session-by-session programme manual. The two components of the intervention, their timing and format, and their areas of focus (which reflect targeted outcomes) are outlined in Table 1.

### *Parent component*

The Starting Strong parent intervention consists of 10 weekly group sessions (1.5 h each), two individual meetings with leaders and two monthly group follow-up sessions. Parent groups are based on the premise that parents can help foster children's positive relationships with teachers and positive school experiences through three means: (1) developing effective parenting practices for promoting children's prosocial behaviour and managing negative behaviour; (2) enhancing their own engagement in children's learning; and (3) developing skills for communicating with

teachers and collaborating with teachers to meet children's needs. To this end, this component targets increase knowledge and skills in the following areas:

- The importance of parent involvement in school, parent monitoring of children's learning, parent-teacher collaboration and the STR to school success,
- Using positive attention – including praise, play, shared educational activities, and rewards – and appropriate discipline – including limit setting, appropriate consequences, time-out, and ignoring – to facilitate children's positive behaviour, focusing on behaviour that is relevant to the school setting,
- Fostering children's understanding of expectations for school behaviour,
- Developing mutually satisfying, collaborative relationships with teachers and communicating effectively about children's behaviour and academic needs.

Areas of secondary focus include fostering children's social problem-solving skills for interactions with teachers; facilitating the ability to cope with emotions like anger and anxiety in school, especially in teacher interactions; and encouraging better peer relationships.

In line with existing evidence-based treatments (e.g. Feinfield and Baker 2004; Webster-Stratton and Reid 2010), sessions take a coping modelling approach, in which parents view a video or role-play of a parent-child or parent-teacher scenario and discuss and/or role-play ways to handle the situation. Weekly home activities involve practicing new strategies with children. At least 30 min is devoted to homework review each week, followed by extensive group discussions, some didactic input, video examples, role-plays, and small group exercises around the day's topic and related techniques. Emphasis is on applying principles to families' specific situations and needs, and sessions are designed for a group size of 6–16 parents. Brief handouts summarise session content and homework. Parent handouts were written not to exceed a sixth grade reading level and were translated in Spanish using a back-translation approach.

Video examples include approximately 20 video scenarios created specifically for Starting Strong with volunteer families as actors. Examples were staged to elicit the desired parent-child interactions but were generally not scripted. An additional eight video vignettes from the Incredible Years Series parenting programme are utilised with permission from programme developer Carolyn Webster-Stratton (personal communication, 27 September 2005).

The two individual sessions with a group leader are aligned with the goals of the group sessions. Meeting 1 (during weeks 2–4 of the group) focuses on preparing for the parent(s) to meet with the teacher by identifying parent goals for the meeting and reviewing principles for effective parent-teacher collaboration. Meeting 2 (weeks 5–7) focuses on participants assessing progress toward their parent-teacher collaborative goals and developing a response plan for addressing any current concerns. In addition, following the 10-week programme, two group follow-up sessions are held, one and two months after the programme ends (after post-treatment data collection), to reconnect, review programme strategies and apply these to any current concerns.

Several logistical aspects of the programme are designed to reduce barriers to participation. Morning and evening group times are offered, and sessions are held on site at children's schools. Parents are encouraged to bring a parenting partner (e.g. spouse, relative) to sessions. Snacks or light meals are provided. Childcare is

provided on site; in this study, providers were undergraduate volunteers with prior childcare experience who had completed a 10 h training in Starting Strong principles.

### *Teacher component*

The teacher component was not tested in this pilot study, but it is developed to be time-limited to accommodate teachers' busy schedules, consisting of four, one-hour small group consultation meetings with two programme leaders. Many existing teacher-focused programmes, though efficacious, are time-intensive for busy teachers and thus may not be feasible; by requiring only four sessions, the teacher component is an attempt to achieve both brevity and efficacy. To ensure adequate time to address each participating student, child enrolment is limited to five or fewer students per teacher.

As outlined in the manual, meetings take a collaborative approach in which teachers and leaders work together to increase positive interactions with participating children and parents, develop strategies for creating relationship-building opportunities in the classroom and promote children's positive behaviour. The programme is designed to empower teachers to feel effective in improving STRs and behaviour for even their most challenging students. Sessions address all of the following: the importance of early STRs for children's school success; strategies for building positive relationships with challenging students; developing empathy-building attributions for children's behaviours; the importance of positive attention, reinforcement, and individual time with hard-to-reach students; strategies for using reinforcement systems (i.e. star or sticker charts) in collaboration with parents to promote school-appropriate behaviour; integrating relationship-building components into the school day; methods for reducing student-teacher conflict; and communicating effectively with parents. Topics are addressed using some didactic input, role-plays, video examples and extensive discussion of how topics apply to the needs of specific, participating children. Simple handouts summarising content are provided. In the initial session, teacher and leaders develop a plan for each participating child that incorporates strategies for addressing both a behavioural improvement goal and a relationship-building goal for each student. Later sessions focus on teacher progress toward these goals. Teacher goals are broadened to include plans for creating relationship-building opportunities in the classroom and collaborating effectively with parents toward specific behaviour goals, usually through home-school reinforcement systems.

### *Group leaders*

To ensure group leaders' sufficient knowledge about participating children, the same two leaders facilitate both the parent and teacher sessions. In this study, group leaders were Clinical Psychology doctoral students with prior child or family therapy experience who participated in 20 h of training were supervised by a licenced psychologist, and attended weekly group supervision with all group leaders present in order to discuss clinical issues that arose during sessions, plan for issues and questions that might arise during the subsequent session, and promote fidelity of implementation.

***Aims***

We assessed the Starting Strong parent programme's feasibility and acceptability as indicated by the following: (a) levels of attendance, retention, session engagement and homework completion, (b) treatment fidelity, (c) pre- and post-treatment assessment completion by parent and teacher respondents and (d) parent programme satisfaction.

**Method*****Procedures***

The programme was piloted in a public elementary school in an urban area in the Western US. Parent recruitment occurred during late summer and the first 1.5 months of the school year; efforts included presentations by programme staff at parent meetings, mailing letters to all kindergarten families and meetings with teachers. Teachers also personally invited parents to participate. Parents expressed interest through sign-up sheets or phone calls; enrolment and informed consent occurred via telephone and in-person meetings. The intervention was then conducted during mid-October through January, with the two parent group follow-up sessions in February and March. All methods were approved by the university's Institutional Review Board.

***Participants***

Participating students came from all seven kindergarten classrooms at the school. Twenty-five parents participated on behalf of their children; recruitment was terminated early in two classrooms when the limit of five students per teacher was reached. Participating parents were largely biological mothers (83%) with a mean age of 41 years (range: 33–52). Children (64% girls) had a mean age of 5 years, 4 months at kindergarten entry (range: 58–73 months); 41% were English language learners. Most parents (73%) had a college degree. Twenty-two per cent of families reported annual household gross incomes at or below \$35,000, and 21% of households were headed by single parents. Fifty-nine per cent of participating parents were employed. Parents reported child race on a six-option item as 0% Asian-American, 5% Black or African-American, 14% Hispanic or Latina(o), 0% Native American, 14% Other (including 9% who specified bi/multi-racial) and 68% White. Pre- and post-treatment child functioning was reported by parents and teachers. This pilot investigation did not employ specific behavioural functioning cut-offs to determine eligibility; all children whose parents or teachers identified concerns regarding their behavioural adjustment to school or risk for DBPs were eligible to enrol.

***Measures***

Measures included parent and teacher questionnaires at pre- and post-treatment, weekly session observation ratings, parent-reported homework records and end-of-programme parent programme evaluations (PPEs).

***Attendance, engagement and homework completion***

Consistent with previous parent group intervention studies, we utilise several process-oriented variables as markers of parent engagement: attendance, session

engagement variables and homework completion (e.g. Brown, Goslin, and Feinberg 2012; Reid, Webster-Stratton, and Baydar 2004). A research assistant recorded *attendance* at each session. In addition, at the end of the 10-week programme, group leaders provided global ratings of each parent's session engagement along the following dimensions: *participation and engagement* (three-point scale; defined as parents' level of verbal and behavioural interaction and interest during sessions), *comprehension of programme principles* (five-point scale; operationalised as the extent to which parent comments and questions reflect an understanding of the principles and strategies, the goals of these strategies, and how they related to the larger goal of promoting relationships and child behaviour), and *attitude and openness* toward programme principles and topics (five-point scale; defined as verbal and non-verbal signs of positive vs. negative affect and openness to the ideas discussed). Finally, group leaders rated each parent's *homework completion* (four-point scale; operationalised as the extent to which parents report, at the start of each session, on having attempted and completed the home activities each week). All ratings were averaged across group leaders. Self-reported homework completion was also assessed; at each session, parents recorded (yes/no) in their programme folders whether they had completed or attempted the previous week's home activities.

#### *Treatment fidelity*

Session observers completed a weekly, session-specific treatment fidelity checklist indicating whether leaders covered each task in the session manual. Twenty per cent of sessions were audiotaped and double-coded by a second observer; reliability was strong at 96% agreement.

#### *Pre- and post-treatment assessment completion*

This aspect of feasibility was based on overall rates of questionnaire packet completion by parents and teachers at pre-treatment and post-treatment. Packets required approximately 15 min per child and included measures assessing child behavioural adjustment, STR quality, and parent/child or teacher/classroom demographics.

#### *Parent programme satisfaction*

At the end of the 10-week programme, parents completed the PPE, adapted from Webster-Stratton's (2001) Parent Evaluation Form, assessing parents' perceptions of their child's behavioural change, feelings about the child's progress, parenting abilities and their relationship with the child. The PPE also assesses each leader's effectiveness across domains and the helpfulness of programme elements (i.e. role-plays, videos and group discussion). PPEs were submitted anonymously to a mailbox at the school.

#### *Child behavioural and relational functioning*

Although Starting Strong's efficacy was not examined in this pilot study, pre- and post-treatment measures of STR quality and child behaviour problems at school were gathered; pre-treatment measures are examined here to gauge the programme's success in enrolling children with relational or behavioural risk.

*STR quality*

Teachers completed the 28-item student–teacher relationship scale (STRS; Pianta 2001) at pre- and post-treatment, which assesses a teacher’s perception of her or his relationship with a specific student, including teacher–student closeness, conflict and dependency. The STRS is designed for children aged 3–8 years; we focus on the Total relationship quality score, with higher Total scores indicating better relationship quality. Pianta (2001) reported adequate reliability; validity has been demonstrated by the association between STRS scores and current and future academic, social, and behavioural adjustment (Griggs et al. 2009; Silver et al. 2010). In the present sample, alphas at pre-treatment were 0.85 for Closeness and 0.92 for Conflict.

*Child behaviour problems*

Teachers also completed the caregiver–teacher report form (CTRF; Achenbach and Rescorla 2000) at pre- and post-treatment, a widely used scale for ages 1.5–5 years listing 99 child problems which teachers identify as not true, somewhat or sometimes true, or very true or often true, now or within the past two months. The CTRF produces total behaviour problems, externalising problems and internalising problems T scores ( $M = 50$ ,  $SD = 10$ ); T scores of 60–63 are in the borderline range; 64 or higher indicates clinical levels of behaviour problems. The CTRF has excellent concurrent, predictive and discriminant validity (Achenbach and Rescorla 2000); at pre-treatment, our total score alpha was 0.99.

At pre-treatment, parents and teachers completed the *Concerns About This Child* form (Feinfield and Baker 2004), listing up to three behaviours or areas of concern that led them to refer the child to the programme, described here as ‘referral concerns’. At post-treatment, parents and teachers rated the degree of change they observed in each behaviour from 1 (much worse) to 7 (much improved) since pre-treatment. We later classified these referral concerns as: (1) anxiety-related concerns (including worries, fears and separation anxiety), (2) disruptive behaviour concerns (including aggression, rule-breaking, hyperactivity, impulsivity and noncompliance), and (3) other concerns. We examine types of concerns endorsed to assess the programme’s success in enrolling children with behavioural risk.

**Results***Feasibility and acceptability**Enrolment, attendance, session engagement and homework completion*

Parents enrolled in one of two weekly groups: a morning group held right after drop-off (16 parents), and an evening group (nine parents). Of the 25 parents who attended at least one session, two parents (8%) dropped out after one session and did not provide data. The remaining 23 parents, including 19 mothers and 4 fathers, represent 22 kindergarten children. In further evidence of feasibility, enrolled families represented 18.3% of all kindergarteners at the school, or a mean of 3.7 children per class (with a maximum of five students permitted per class); this is roughly in line with the estimated one-fifth of families who were expected to have behavioural concerns about their children at the time of transition to kindergarten (Nolan, Gadow, and Sprafkin 2001).

*Enrolment.* Pre-treatment scores of behaviour problems and STR quality can be used as an indication of the extent to which the programme was successful in enrolling children who exhibited behaviour problems or behavioural or relational risk. At pre-treatment, 20% of children had elevated total, internalising or externalising T scores on the CTRF (defined as scores in the borderline or clinical range). With regard to parents' and teachers' referral concerns, 82% of children had parent- or teacher-reported referral concerns that were classified as disruptive behaviour-related, while 41% of children had referral concerns that were anxiety-related. In all, 100% of children began the programme with elevated behavioural risk on one or more of these three indicators. The mean total STR quality score on the STRS fell in the 47th percentile relative to the standardisation sample ( $M = 115.8$ ,  $SD = 14.5$ ); 26% of children had total scores in the bottom 25th percentile, thus falling in the low average range for STR quality (Pianta 2001).

*Attendance.* Parents attended an average of 8.5 out of 10 sessions. Twenty one (91%) attended seven or more sessions; 100% attended at least one individual meeting and 78% attended both. Attendance was comparable across morning ( $M = 8.8$  sessions attended) and evening groups ( $M = 8.0$  sessions). Group leader ratings of parents' session engagement along multiple dimensions are reported below.

*Participation and engagement.* Leaders reported that 65% of parents participated 'frequently' in sessions, while 30% participated 'sometimes,' the remaining 9% of parents participated 'never or seldom' each week [ $M = 2.52$  (on a 1–3 scale),  $SD = 0.65$ ]. With regard to *comprehension of programme principles*, 70% of parents showed a complex, accurate understanding of the principles and strategies presented in the programme. Meanwhile, 22% of parents showed a good understanding of programme principles, 4% were rated as 'neutral or no signs', and 4% of parents demonstrated a somewhat inaccurate understanding of programme principles overall [ $M = 4.56$  (on a 1–5 scale),  $SD = 0.77$ ].

*Attitude and openness.* Seventy eight percent of parents were rated as highly positive and open to the programme principles and strategies, while 13% were somewhat positive and open and 13% were neutral; no parents were rated as either somewhat or highly negative and resistant [ $M = 4.60$  (on a 1–5 scale),  $SD = 0.71$ ].

*Homework completion.* According to group leader ratings, an average of 44% of parents fully completed the homework each week, 44% mostly completed homework activities and 13% of parents partially completed homework assignments; there were no parents who did not complete assignments [ $M = 3.30$  (on a 1–4 scale),  $SD = 0.69$ ]. Parents' self-reported homework completion roughly corroborated group leaders' records: 72% of parents reported completing at least half to three quarters of home assignments. Of parents in the morning group, 81% reported completing home activities on at least three quarters of sessions attended, vs. 57% completing most home assignments in the evening group. Group leader notes indicated that evening group parents, who were also more likely to be employed outside the home (100% vs. 29% were employed), reported difficulty finding time for home activities.

*Treatment fidelity*

Treatment fidelity was high; observer ratings indicated that leaders completed an average of 89% of manualised tasks per session (range across sessions: 77–100%; range across the 2 groups: 89–91%); incomplete tasks were primarily due to time limitations and generally made up at the next session.

*Pre- and post-treatment assessment completion*

At pre-treatment, 100% of parents completed questionnaire packets. Teachers completed packets for 91% of children. At post-treatment, 96% of parents completed packets, and teachers completed packets for 91% of children.

Table 2. Participating parents' ratings of the Starting Strong programme at post-treatment.

	Worse or no improvement (%) <sup>a</sup>	Slight improvement (%)	Improvement or great improvement (%)
<i>Child behaviour change</i>			
Change in my child's problems that had originally prompted enrolment	0	14	86
Change in my child's behaviours that we have tried to change using Starting Strong methods	0	28	72
	Not useful or neutral (%) <sup>b</sup>	Slightly useful (%)	Useful or extremely useful (%)
<i>Programme content</i>			
Content presented by group leaders	0	0	100
Group discussions	0	0	100
Practicing skills at home	0	9	91
Video examples	5	38	51
Role plays	11	16	74
		All other categories (%) <sup>c</sup>	Excellent or superior (%)
<i>Group leaders</i>			
Teaching		0	100
Preparation		0	100
Concern and interest in the Parent and his/her family		0	100
Overall helpfulness		0	100
<i>Overall programme evaluation<sup>d</sup></i>			
		No (%)	Yes (%)
Programme helped with personal or family problems		5	95
Recommend Starting Strong to friend or relative		0	100
Feel optimistic and positive about the programme		0	100
Programme's approach to changing child's behaviour is appropriate		0	100

<sup>a</sup>This category collapses four response options: considerably worse, worse, slightly worse, the same.

<sup>b</sup>This category collapses four options: extremely useless, useless, slightly useless, and neutral.

<sup>c</sup>This column collapses five options: very poor, poor, below average, average, above average.

<sup>d</sup>These categories, 'No' and 'Yes,' represent responses from a 7-pt scale. 'No' represents the lowest four response options (e.g. hindered much more than helped, hindered, hindered slightly, neither helped nor hindered); 'Yes' represents the highest three options (e.g. helped slightly, helped, and helped very much). The specific wording differs for each item.



*Parent programme satisfaction*

Parents expressed high satisfaction with the Starting Strong programme. Table 2 shows that most parents reported improvement or great improvement in their child's behaviour and rated the group leaders as excellent or superior in every category. The programme content and group discussions were rated useful or extremely useful by all participants, and homework activities were rated positively by all parents, though there was more variability in ratings of other instruction methods; specifically, the video vignettes and role-plays were rated as neutral or unhelpful by 5 and 11% of parents, respectively. Overall, every parent felt the programme's approach to changing a child's behaviour was appropriate and would recommend Starting Strong to friends or relatives. Example parent comments are included in the Appendix 1.

**Discussion**

We examined the feasibility of a school-based, indicated prevention programme, Starting Strong, aimed at improving STRs and reducing or preventing DBPs during the transition to kindergarten. Unique elements of Starting Strong include (a) its focus on the transition to kindergarten, a potentially crucial intervention point for children's long-term school adjustment, and (b) its emphasis on directly addressing not only child behavioural adjustment but also STRs. The programme's school-based location may enhance accessibility and retention (Bloomquist et al. 2012), while its parent- and teacher-focused group format, rather than direct child intervention, may promote cost-effectiveness (e.g. Simon et al. 2012).

Results provide preliminary evidence of the programme's feasibility. Recruitment of families was strong, with an average of 3.7 students enrolled per class (maximum allowed per class = 5), suggesting that the programme met a need in the school community. Retention at 92% and attendance at 85% per session compare favourably to rates found in other parent-focused programmes. While no accepted standard exists for what constitutes sufficient parent attendance, empirically supported parent group programmes—including CPPRG's Fast Track (Nix et al. 2005), Early Risers (Bloomquist et al. 2009), Incredible Years (Webster-Stratton, Reid, and Beauchaine 2011), PACE (Dumas, Nissley-Tsiopinis, and Moreland 2007) and TEAM (Feinfield and Baker 2004)—have reported positive results in the context of a wide range of parent attendance levels, ranging across programmes from a mean of 39% of sessions to a mean of 87% of sessions attended. Thus, with parent engagement a primary concern in early intervention programmes, Starting Strong achieved a crucial step: simply getting parents to show up (Ingoldsby 2010). In addition to showing up, observational ratings during sessions indicate that most parents showed active participation, positive attitudes and openness, and comprehension of programme principles. Given that the vast majority of children in need of mental health services, especially those under six, do not receive them (Jensen et al. 2011; Kataoka, Zhang, and Wells 2002), our rates of engagement suggest that school-based programmes like Starting Strong are a promising way to address this unmet need.

Other research with parents of kindergarten children shows that, for those with high or at-risk levels of behaviour problems, rates of help-seeking are low and rates of perceived barriers are high (Girio-Herrera, Owens, and Langberg 2013). Many parents who have concerns about their child's behaviour refrain from talking to professionals about these concerns (Blanchard, Gurka, and Blackman 2006; Horwitz et al. 2003). Models of help-seeking behaviour suggest that many factors influence

parents' process of seeking and receiving help for children's behavioural or mental health problems, not the least of which is parents' perceived ability to obtain such treatment readily (e.g. Thornton and Calam 2011). In addition, parents' weighing of the costs (e.g. time, convenience and childcare burden) vs. benefits of such help, as well as the occurrence of catalysts, or triggering events (e.g. child entry into school, discussing child problems with a teacher, receiving an invitation to an intervention programme) affect parents' likelihood of obtaining such services for their young children (Godoy and Carter 2013). Starting Strong's presence in the school setting, during a crucial transition point, visible and accessible to all families at the school, with convenient times and child-care provided, may resolve some of these important barriers to help-seeking for parents of young children. Moreover, the programme's normalising emphasis on the transition to school, a nearly universal process, may reduce stigma associated with participation (Dempster, Wildman, and Keating 2013).

Completion of home activities supports the programme's feasibility, with 88% of parents fully (44%) or mostly (44%) completing homework assignments. When compared against the few existing, empirically supported parent group programmes that report their homework completion rates – including programmes with strong evidence of effectiveness (i.e. Brown, Goslin, and Feinberg 2012; Feinfield and Baker 2004) – this rate compares favourably; these two studies report rates of 54% completion of all assignments and 75% completion of at least half of assignments, respectively. Parent satisfaction with programme outcomes, content and group leaders was universally positive. While most programme elements (group discussions, didactics and homework activities) were very well received, other elements (video examples and role-play exercises) ranged in popularity with a small subset of parents reporting these to be neutral or unhelpful.

The demographic diversity of the sample (22% earning < \$35,000/year, 68% White, 41% English learners) was roughly comparable to that of the school as a whole, in which 6% of students were designated as low income, 66% were White and 9% were English language learners, although the relatively high level of education of our sample (73% of parents with college degrees) may reduce generalisability. In addition to overall rates of recruitment, retention and engagement, subsequent testing should assess feasibility with regard to inclusion of groups often under-represented in such work, including racial and ethnic minority families, English learners, recent immigrants and families with limited socio-economic resources.

### ***Limitations and future directions***

While teacher involvement in data collection was universal, the teacher component of the programme itself remains untested. Programme-related gains will likely be different, and presumably stronger, when both the teacher and parent components are tested in a larger, randomised controlled trial (RCT). Indeed, relative to single-component interventions, those combining both parent and teacher elements have met with success in promoting behaviour changes across home and school contexts (e.g. Barrera et al. 2002; Webster-Stratton, Reid, and Hammond 2004).

Most parents were observed to be engaged in sessions, open to programme topics, and comprehending of programme principles; however, a substantial minority were not: 9% participated interactively during sessions only seldom or never, 4% demonstrated a somewhat inaccurate understanding of programme principles overall and 13% only partially completed home activities. In addition, homework

completion was lower among parents in the evening group, who were more likely to be employed, than among parents in the morning group. In the subsequent revision of the manual, we (a) refine homework assignments to include only the most crucial home activities, in simplified form, (b) add a homework self-contract to the first session, (c) more problem-solving around barriers to completion, and (d) more consistent reinforcement for attempting homework and more focus on identifying detailed, concrete plans for how and when to achieve that week's homework goals (Otto et al. 2003). In addition, sessions are slightly simplified using treatment fidelity results as a guide, in order to improve feasibility for the end-users (in this case, group leaders). Specifically, during sessions in which treatment fidelity was lowest, primarily due to time limitations, the numbers of video vignettes and role-play exercises are reduced from 3–4 videos and 2–3 role-plays to 1–2 of each. Further research should be aimed at examining how levels of in-session behavioural engagement ratings – such as participation, comprehension, and homework completion – relate to child behavioural and relational outcomes and, secondly, which parent characteristics, group or programme elements, or other factors may predict or enhance engagement.

This pilot study was limited by the small number of children who exhibited clinically elevated behaviour problems scores on the CTRF, even though parent or teacher concern was present for all children. Subsequent trials ought to examine programme effects, as well as participant engagement and acceptability, in a sample with more behavioural risk. Future investigation could also include a more sensitive measure of STR quality, such as in-class behavioural observation, in addition to the STRS. Teachers' perceptions of students, which are captured by the STRS, may not change as rapidly as their observable behaviour within the 10-week intervention period.

Programme effects cannot be determined in the absence of a control group, and findings are also limited by the small sample. Past studies of other school-based programmes have found more consistently positive effects for indicated prevention programmes that focus on those with elevated behaviour problems or behavioural risk (Nowak and Heinrichs 2008; Sanders et al. 2000; Webster-Stratton and Reid 2010) than when using a universal prevention approach to enrolment. Similarly, parent-focused interventions are more cost-effective for children with higher baseline levels of behaviour problems relative to those with lower baseline behaviour problems (Edwards et al. 2007). In all, these past studies suggest that Starting Strong may be most impactful as an indicated prevention programme for children who enter school with behavioural risk rather than as a universal prevention programme. A RCT of Starting Strong, utilising a larger sample, is needed to examine both behavioural outcomes (child behaviour problems) and relational ones (STR quality, parent–teacher relationship quality and parental school involvement), from both parent and teacher reports. As indicated above, targeting children who begin school with at least some behavioural risk, rather than a universal enrolment approach, may be most productive. In all, Starting Strong's initial results suggest that this type of school–university partnership has the potential to build schools' capacities to improve early behavioural and relational adjustment.

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### Notes

1. The programme was formerly known as Strong Start (but is distinct from the Oregon Resiliency Project's Strong Start curriculum).
2. For clarity, the words 'parents' and 'parental' are used to apply to all non-institutional caregivers of children. Use of these words is not intended to privilege the experience of biological or adoptive parents over other non-institutional caregivers.

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## Appendix 1. Representative feedback from participating parents

Responses are reproduced below in full; names have been omitted.

- (1) "Although I have read a lot of books and articles, watched Super Nanny and learned a lot from my own great parents, it was really helpful to have an interactive group to hear ideas presented and to talk about them with our real-world experience.

I learned new details about parenting techniques I had heard of, and the details really make a difference. Besides the educational benefits, it was also personally very beneficial to have a safe place to share my own and hear others' parenting challenges and successes. It was nice to know that I'm not alone! We all felt safe enough to really share openly and get open and honest feedback that was constructive and positive.

Since our group was fairly small, that probably made a big difference. I'm sure the educational benefits would be there with a larger group, though some of the closeness might naturally not be as attainable.



I miss the meetings, but I have a special bond with those parents that were there, and we still share our experiences when we see each other at drop-off or sporting events. I would definitely recommend this group to any parent!”

(2) Dear (Group Leader 1),

I want to thank you and (Group Leader 2) for bringing the Strong Start Program to (School Name). I found the program to be insightful, practical and helpful beyond words. The simple, thoughtful, ideas in parenting changed our lives so dramatically. For this, I will be forever grateful to you and the Strong Start Program.

I would dread every school morning. It would begin with getting dressed and end with both my daughter and I angry, upset and resenting each other. Today, we got up, talked, snuggled and she got dressed with no problem (we now have time to talk and snuggle in the morning). There is a feeling of joy and freedom today that seemed impossible before the program (and the funny part is the solution was simple). This is not to say that we do not still struggle, but before it felt never ending; today I have the tools to stop the ‘dance’. I somehow knew intuitively that our struggles were coming from my end – she is simply a child. This program helped me learn a better way to parent. Thank You.

(3) I feel like this program has given me a toolbox full of tools I can draw on for parenting. Whereas, before this program, all I had was a hammer.