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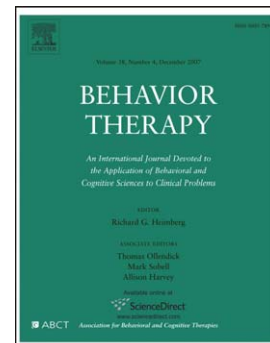
Randomized Controlled Trial of a Family Intervention for Children Bullied by Peers

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RANDOMIZED CONTROLLED TRIAL OF A FAMILY INTERVENTION  
FOR CHILDREN BULLIED BY PEERS

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**Running Head:** Controlled trial of a family intervention for bullied children

### Abstract

This study examined the effects of a family intervention on victimization and emotional distress of children bullied by peers. The intervention, *Resilience Triple P*, combined facilitative parenting and teaching children social and emotional skills relevant to developing strong peer relationships and addressing problems with peers. Facilitative parenting is parenting which supports the development of children's peer relationship skills. A randomized controlled trial was conducted with 111 families who reported chronic bullying of children aged six to 12 years. Families were randomly allocated to either an immediate start to Resilience Triple P (RTP) or an assessment control (AC) condition. Assessments involving children, parents, teachers and observational measures were conducted at 0 (pre), 3 (post) and 9 months follow-up. RTP families had significantly greater improvements than AC families on measures of victimization, child distress, child peer and family relationships, including teacher reports of overt victimization ( $d = 0.56$ ), child internalizing feelings ( $d = 0.59$ ), depressive symptoms ( $d = 0.56$ ), child overt aggression towards peers ( $d = 0.51$ ), acceptance by same sex and opposite sex peers ( $d = 0.46/ 0.60$ ), and child liking school ( $d = 0.65$ ). Families in both conditions showed significant improvements on most variables over time including child reports of bullying in the last week reducing to a near zero and indistinguishable from the normative sample. The intervention combining facilitative parenting and social and emotional skills training for children produced better results than the comparison assessment control condition. This study demonstrated that family interventions can reduce victimization and distress and strengthen school efforts to address bullying.

**Key words:** *school bullying, facilitative parenting, family intervention, controlled trial, victim*

## **Randomized Controlled Trial of a Family Intervention for Children Bullied by Peers**

Bullying is hurtful behavior which is typically repeated (Olweus, 1993). It can take physical, verbal and relational forms (e.g. deliberate exclusion) and can be carried out in person or through technology. Children who bully do not distribute their aggressive behavior evenly across all available peers; they selectively target a minority of 10% of children (Perry, Kusel & Perry, 1988). For this targeted minority, victimization tends to be quite stable throughout primary school (Boulton & Smith, 1994), and across the transition into middle or high school (Paul & Cillessen, 2003), resulting in the same children being victimized over many years. Bullying in primary school has serious mental health consequences for victims including higher rates of internalizing problems two years later (Arseneault et al., 2008), higher rates of self-harm and psychotic problems by 12 years of age (Fisher et al., 2012; Schreier et al., 2009) and increased incidence of depression and psychiatric problems in early adulthood and up to 32 years later (Sourander et al. 2007; Farrington, Loeber, Stallings, & Ttofi, 2011), after controlling for early adjustment and family factors.

There is evidence that children who are bullied demonstrate social behavior which can attract more bullying over time. Poor social competence is one of the strongest predictors for being bullied (Cook, Williams, Guerra, Kim & Sadek, 2010). Children who are bullied have fewer friends than other students, which places them at greater risk of ongoing victimization (Fox & Boulton, 2006). Being emotionally reactive is also a risk factor for victimization. The majority of bullied children act as “passive victims”, who demonstrate “internalizing” behaviors of submissiveness, depression and anxiety which act as both risk factors and consequences of bullying, resulting in a recursive downward spiral of internalizing and victimization over time (Hodges & Perry, 1999; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). The remaining third of bullied children, described as “provocative victims” (Olweus,

1993), lash out angrily with unskilled aggression when provoked (Perry, Perry, & Kennedy, 1992), which also results in worsening victimization over time (Spence, De Young, Toon, & Bond, 2009). Hence for both passive and provocative victims of bullying, strong emotional reactions can inadvertently reinforce a chronic pattern of victimization over time. Lack of friends further exacerbates this problem, since having close friends can mediate the emotional consequences of bullying (Hodges, Boivin, Vitaro and Bukowski, 1999).

Most current programs to address bullying are school-based interventions that include various combinations of whole-school curricula, improved discipline and supervision, social skills training, teacher education, peer assistance programs (e.g. peer mediators), counselling, use of mentors, with some including parent meetings (Vreeman & Carroll, 2007; Merrill, Gueldner, Ross & Isava, 2008). Two recent meta-analyses investigating the effectiveness of these programs reported no meaningful changes on the majority of outcomes and a small average reduction in students' reports of victimization (Merrell et al., 2008 ; Ttofi & Farrington, 2011). Clearly more work is needed to increase the impact of school bullying interventions. Two recent systematic reviews identified inclusion of parent meetings was a feature associated with more effective interventions (Ttofi & Farrington, 2011; Barbero & Hernandez, 2012). Might greater involvement of parents strengthen interventions further?

A recent systematic review found that warm, responsive parenting produced small to moderate protective effects on children's resilience to victimization, and recommended that bullying interventions should extend their focus to families of victims (Lereya, Samara & Wolker, 2013). Previous literature has linked parenting with peer victimization, children's social skills and peer relationships, and ability to regulate emotions. Warm responsive parenting is associated with lower levels of children's victimization by peers (e.g. Ladd & Ladd, 1998), predicts lower ongoing risk of chronic victimization after controlling for pre-existing genetic and environmental factors (Bowes et al, 2013) and protects children against

the emotional consequences of being bullied (Bowes, Maughan, Caspi, Moffitt & Arseneault, 2010). On the other hand, high levels of intrusive, over-demanding, over-protective parenting are associated with higher levels of peer victimization (e.g. Ladd & Ladd, 1998) and predict lower capacity of children to regulate emotions over time (Graziano, Keane & Calkins, 2010). Parenting which is high in warmth and low in control, predicts greater social competence in children over time (McDowell, Parke & Wang, 2003). McDowell and Parke (2009) found three distinct paths by which parents influence children's peer competence and acceptance over time: though warm parent-child interactions, direct instruction, and provision of opportunities. Sibling relationships provide an important context for children to learn and practise peer skills, with sibling relationship quality, including bullying and aggression, predictive of peer relationships several years later (Wolke & Samara, 2004; Stauffacher & DeHart, 2006). Parents may therefore also be able to assist children's development of peer social skills through coaching them to manage sibling conflict.

Healy, Sanders and Iyer (2013) described *facilitative parenting* as a set of parenting behaviors that supports children's peer relationships. Facilitative parenting combines warm relating; not being over-controlling, coaching peer social skills, providing friendship opportunities, plus effective communication with the school. In combination with children's social and emotional behavior, facilitative parenting discriminated children reported by teachers to be bullied from those who were not (Healy et al., 2013). Given the opportunities available for parents to influence children's development of peer skills, relationships and emotional regulation, the families of children bullied by peers may be a viable system for intervening in peer victimization. The program we trialled, *Resilience Triple P*, is a cognitive behavioral family intervention combining facilitative parenting training with social and emotional skills training for children. To our knowledge, this is the first controlled trial of a family intervention for children bullied by peers.

The current study was a randomized controlled trial of Resilience Triple P for families of children bullied by peers. We targeted elementary school children from 6 years, the earliest age at which chronic victimization can be established (Alsaker & Valkanover, 2001). The intervention was designed to interrupt the recursive downward spiral of peer victimization and emotional distress described by Hodges and Perry (1999) by utilising facilitative parenting to help children develop effective peer relationships, regulate emotions and address conflict and bullying. Primary aims of the program were to decrease child peer victimization and distress. We hypothesized that, compared with children in a control condition, children whose families received the intervention would show improved primary outcomes of reduced peer victimization and emotional distress and depression, and improved secondary outcomes of less aggressive behavior towards peers, improved peer social skills, improved peer and sibling relationships, and increased use of facilitative parenting by parents.

## Method

### Recruitment

The 111 families were recruited between September 2010 and March 2012. All assessments and program sessions were held at a family clinic in Brisbane, Australia. Families were informed about the trial through school newsletters and, after initiating contact, were assessed for eligibility. To be eligible, the target child needed to be 1) aged between six and 12 years, 2) living at home, 3) attending a regular elementary school<sup>1</sup>, and 4) bullied at school according to the parent. Bullying was defined behaviorally as “hurtful behavior which was typically repeated, and could be physical or verbal or indirect social, and carried out in person or through technology”. The parent needed to verify that the child had experienced either a) ongoing bullying for at least the past month and/ or b) a recurrent problem with being bullied over more than one year. Of the 161 parents screened, 19 families were

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<sup>1</sup> This criterion meant that children with a severe intellectual disability were excluded but that children with cognitive impairments who attended regular schools (with or without support) were accepted in the study.

excluded because the child had not experienced ongoing bullying (13), or was outside the age-range (6). Of the 136 eligible families, 31 elected not to continue, mainly due to difficulties attending, or lack of consent from the spouse or child. A total of 111 families attended the initial assessment and were randomized, resulting in 55 families allocated to the assessment control condition (AC), and 56 families to an immediate start on the *Resilience Triple P* program (RTP). Figure 1 shows the Consort Flow Diagram of families involved in the trial. Overall attrition was low with 86% of RTP families and 84% of AC families completing all three assessments. Reasons for dropout are documented in the flowchart. One AC family who dropped out just after the initial assessment was excluded from data analysis because the child assessment was unreliable (due to perseverative behaviors), and there was no teacher assessment. Otherwise all 110 families were retained and included in analyses.

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Insert Figure 1 here

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## Participants

Children comprised 61% boys and 39% girls ranging from six to 12 years with a mean age of 8.72 years ( $SD = 1.68$  years). 90% had siblings. Almost one quarter (24%) of the children had a pre-existing diagnosis affecting learning or behavior with the most common being Autistic Spectrum Disorder<sup>2</sup> at 8%. Most primary caregivers (95%) were mothers and consisted of 73% born in Australia and 9% who spoke a language other than English at home. Just over half the primary caregivers (54%) had completed a university degree, 34% an adult certificate or diploma, and the remaining 12% Grade 10 or 12 of school. In response to a question about money available after essential expenses (Sanders & Morawska, 2010), 44% of parents reported having enough money for “most” things they really wanted (coded as 2), 47% had enough for some non-essentials (1) and 9% no money for anything beyond

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<sup>2</sup> At the initial assessment one of the demographic questions asked parents to nominate any diagnoses the child had been given relevant to learning or behavior. In Australia these diagnoses are made by Pediatricians.



essentials (0). In addition to families recruited for the trial, data from a general sample of children was used as a normative comparison. This general sample (GS) included 215 elementary school children recruited from schools in the same geographical area as the trial, the year before the trial started (2009) and is fully described by Healy et al. (2013).

### **Design**

The trial comprised a two-group design (RTP vs AC) with assessments over three time-points at Time 1 (initial assessment), Time 2 (three months) and Time 3 (nine months). AC families were offered the intervention after completing all three assessments.

### **Measures**

We utilized multiple informants including the target child, parent (primary caregiver), the child's teacher and research assistants trained in coding observational data. An actor was also utilized on one measure which assessed children's skills in role-played situations.

#### **Primary outcome measures: Victimization by peers and child distress.**

**Teacher Report of Peer Victimization.** The Preschool Peer Victimization Measure (PPVM) is a nine-item teacher report of peer treatment of the child (Crick, Casas & Ku, 1999). As all items were appropriate for six to 12 year old children, this scale was utilized for the current trial. Teachers rate items from 0 (*never or almost never true*) to 5 (*always or almost always true*). Subscales include Overt Victimization comprising physical and verbal items (e.g. "This child is called a mean name.") and Relational Victimization (e.g. "This child gets ignored by playmates when they are mad at him/ her."). Both subscales demonstrated good internal consistency ( $\alpha = .77$ ,  $\alpha = .83$  respectively).

**Child Report of Victimization by Peers.** Things Kids Do (TKD) (Healy & Sanders, 2008a) asks children to rate the frequency of specific peer behaviors in the last four or five school days on a 5-point scale from "*not at all*" to "*heaps*". The TKD Bullying subscale includes 14 items about verbal, physical or relational behaviors (e.g. "Did other kids at school

give you mean looks?”). It demonstrated excellent internal consistency ( $\alpha = .91$ ). After questions about the occurrence of peer behaviors the child rates how upset they felt about these peer behaviors on a 5-point scale from “*not upset*” to “*very upset*” portrayed by five simple drawings of faces, comprising TDK Upset.

***Child and Parent Report of Change in Bullying and Distress.*** Each child and parent independently rated how much bullying and distress children were experiencing, compared to their first assessment. Children rated whether they were currently bullied “*less*” (0), “*the same*” (1), or “*more*” (2), and whether they felt “*worse*” (2), “*the same*” (1) or “*better*” (0) about how other children were acting towards them. Parents rated whether their child was currently bullied “*much more*” (4), “*more*” (3), “*the same*” (2), “*less*” (1), or “*much less*” (0), and whether the child was coping “*much worse*” (0), “*worse*” (1), “*the same*” (2), “*better*” (3), or “*much better*” (4) with peer behavior.

***Sensitivity to Peer Behavior (SPBI).*** The SPBI (Healy & Sanders, 2008b) measures children’s negative thoughts and feelings in six hypothetical scenarios of negative peer behavior (e.g. “A child calls you stupid.”). A felt board and characters are used to demonstrate scenarios, after the child designs a character to represent themselves. The Internalizing Cognitions scale measures children’s depressogenic beliefs for each of the six scenarios, including interpretations of motive (e.g. “They are trying to upset you.”), anticipated continuation of behavior (“lots of days” as opposed to “just today”) and expectation that other neutral children would act similarly. Internalizing Feelings measures how upset children report they would feel in each situation from “*not upset*”, “*a bit upset*” or “*very upset*”. These two scales have previously discriminated bullied from non-bullied children (Healy et al., 2013), and had good internal consistency in this trial ( $\alpha = .81$ ;  $\alpha = .84$ ).

***Child Depression.*** The Preschool Feelings Checklist (PFC) (Luby, Heffelfinger, Mrakotsky, & Hildebrand, 1999) is a brief 16-item checklist of symptoms of depression.

Parents answer “yes” or “no” for each question (e.g. “Frequently appears sad or says he/she feels sad”). This measure correlates well with established depression measures (Luby, Heffelfinger, Koenig-McNaught, Brown & Spitznagel, 2004) and discriminates children reported by teachers to be bullied from those who are not (Healy et al, 2013). This measure demonstrated acceptable internal consistency in this trial sample ( $\alpha = .73$ ).

**Secondary outcome measures: Social behavior, peer and family relationships**

***Teacher Report of Child Social Behavior.*** The Preschool Social Behavior Scale – Teacher (PSBS-T) is a 25-item report of child peer behavior (Crick, Casas, & Mosher, 1997). Teachers rate items from 1 (*never or almost never true*) to 5 (*always or almost always true*). We made minor changes to a few words to suit older children (e.g. “personal belongings” instead of “toys”). The Overt Aggression subscale measures the child’s verbal or physical aggressive towards peers, (e.g. “This child verbally threatens to hit or beat up other children.”). The Relational Aggression subscale measures the child’s social aggressive towards peers (e.g. “This child tells others not to play with or be a peer’s friend.”). Both Overt and Relational Aggression subscales had excellent internal consistency ( $\alpha = .94$ ;  $\alpha = .91$ ). Teachers also rate the child’s acceptance by peers of the same sex and opposite sex (e.g. “This child is well-liked by peers of the same sex.”) to form two single-items scales.

***Child Role Play Assessment (CRPA).*** The CRPA (Healy & Sanders, 2009a) is a structured protocol for an adult actor<sup>3</sup> to role-play with children to elicit responses to three hypothetical playground situations (e.g. “A child takes your handball.”). After setting the scene, and signalling the start of each role-play, the actor pretends to be the child bullying and the child demonstrates their response. For each situation and then overall, the actor rates “How much you would feel like continuing to bully based on the child’s response?” from 0 (*not at all*) to 5 (*a lot*), which produced excellent internal consistency ( $\alpha = .91$ ). After each

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<sup>3</sup> Two actors were recruited and trained. Both were experienced in working with children. One had completed industry acting courses and had extensive experience acting in schools and the other was a qualified teacher.

situation the actor also asks the child *how they would usually respond to the same situation at school* and records the child's response. These responses were later coded by research assistants (RA's) for the number of situations the child reported they would "use words" or "tell the teacher", producing Child's Usual Response - Words and Tells scales. "Use words" was defined as an adaptive assertive response and specifically excluded teasing back. A second RA coded 20% of cases, producing good inter-rater reliability for Child's Usual Response – Words ( $r = .83$ ) and Tells ( $r = .75$ ). All videotaped child role-plays were later coded independently by two RA's trained in using a matrix of behavioral descriptors in the CRPA protocol. When reliability fell below 80%, RA's recoded any ratings discrepant by more than 1 point. This achieved good inter-rater reliability across the three situations for Assertiveness ( $r = .90$  to  $r = .92$ ) and Provocativeness ( $r = .93$  to  $r = .94$ ). Scale scores calculated from mean scores of Coder 1 across three situations, produced acceptable internal consistency for Assertiveness ( $\alpha = .70$ ) and Provocativeness ( $\alpha = .76$ ).

**Reactive Aggression.** Reactive Aggression of the SPBI (described earlier) measures the child's endorsement of aggressive responses (e.g. "Try to mess up their game") in each of six hypothetical situations involving peers. Healy et al (2013) reported this subscale was associated with teachers' reports of peer victimization, and had reasonable internal consistency ( $\alpha = .71$ ). For this trial, internal consistency was somewhat poor ( $\alpha = .66$ ).

**Friendedness and Liking School.** The Loneliness Questionnaire (Asher & Wheeler, 1985) includes 24 statements on friendedness (e.g. "I can find a friend when I need one."), which children rate from 5 (*always true*) to 1 (*not true at all*). Although originally trialled with children from 3<sup>rd</sup> to 6<sup>th</sup> grade (Asher, Hymel & Renshaw, 1984), Healy et al. (2013) found it could be utilized with individual children from five years old, through use of a chart with different sized circles representing levels of agreement. The same materials produced very good internal consistency with this sample ( $\alpha = .93$ ). The Loneliness Questionnaire

includes several “filler” items, of which “I like school”, was utilised in analyses, as disliking school is a known consequence of victimization (Card, Isaacs & Hodges, 2007).

**Facilitative Parenting.** The Facilitative Parenting Scale (FPS) (Healy & Sanders, 2008c) is a self-report measure of parenting which is supportive of children’s peer skills and relationships (e.g. “I encourage my child to invite friends over to play.”). Parent rate 58 statements from 1 (*not true*) to 5 (*extremely true*) over the last few weeks. The scale includes items about warm relating; enabling child independence; coaching social skills; support of children’s friendships, and communication with the school. This scale is described in detail by Healy et al. (2013) who found it discriminated children rated by teachers as bullied, from children who were not. Internal consistency for this sample was very good ( $\alpha = .88$ ).

**Parent Child Relating.** The Parent Child Discussion task (PCD) asks each parent and child to discuss four set questions (e.g. “How are things going at school?”). Interactions were recorded and later coded for parental intrusiveness, demandingness, warmth and responsiveness by RA’s using specific behavioral definitions (Sanders & Healy, 2009), after Ladd and Ladd (1998). Inter-rater reliability was good for intrusiveness, ( $r = .87$  to  $r = .93$ ), demandingness ( $r = .93$  to  $r = .95$ ), warmth, ( $r = .85$  to  $r = .87$ ) and responsiveness ( $r = .79$  to  $r = .86$ ). Mean scores across situations for Coder 1 formed the Intrusive Demandingness, and Warm Responsiveness scales previously found by Ladd and Ladd to be associated with child victimization. Internal consistency for both scales was good ( $\alpha = .80$ ;  $\alpha = .94$ ).

**Sibling Relationships.** The Parental Expectations and Perceptions of Children’s Sibling Relationship Questionnaire (PEPC-SRQ) (Kramer, 1995) asks parents to rate 27 sibling behaviors on “frequency” from 1 (*never*) to 5 (*always*), and “degree of problem” from 1 (*not a problem*) to 4 (*a very big problem*) over the past two weeks. We used the subscales of Warmth (e.g. “sharing”) and Agonism, meaning conflict, (e.g. “Teasing or annoying each

other”). Both Frequency and Problem of Warmth ( $\alpha = .94$ ;  $\alpha = .91$ ), and both Frequency and Problem of Agonism ( $\alpha = .91$ ;  $\alpha = .94$ ) demonstrated excellent internal consistency.

### **Satisfaction with Program.**

**Child Satisfaction.** At the end of the last session, children independently rated how helpful they found the program on a 4-point scale from “*not at all*” to “*extremely*” helpful.

**Parent Satisfaction.** Parents rated satisfaction on six questions (e.g. “Rate your feelings about your child’s progress”) from 1 (*very unsatisfied*) to 7 (*very satisfied*), adapted from Sanders, Markie-Dadds and Turner, 2001. Internal reliability was good ( $\alpha = .84$ )

### **Contextual changes over period of monitoring.**

To track any changes in child circumstances not under the researchers’ control, parents indicated if any of the following changes occurred during the nine months of monitoring to: school, class or teacher; friendships; bully leaving school; change of medication for behaviour or emotions; involvement in another program; or seeing psychologist or psychiatrist. Each change was coded as 1 (yes) or 0 (no).

### **Procedure**

Appropriate ethical clearance was obtained from university and school authorities. Eligible families were briefed of the commitments and the 50% chance of an immediate (RTP) versus delayed (AC) start on the program. The researcher scheduled a time for the child and primary caregiver to attend the initial assessment. Assessments were conducted by a research assistant (RA) with at least four years training in social sciences and an actor experienced in working with children. All staff members were trained by the first author to deliver assessments according to protocols, and were kept blind to the families’ experimental conditions. The initial assessment (Time 1) proceeded after both the parent and child gave full consent. The RA invited the child into an adjacent room whilst the parent completed questionnaires in reception. RA’s read through the questionnaires with the child and utilized

concrete materials provided to assist children to respond to TKD, Loneliness Questionnaire and SPBI. This took half an hour per child. The child was then invited to work with the actor. The session with the actor was recorded for later coding. The actor conducted the role play assessment and then invited the parent to join them for the parent-child discussions. The actor then asked the family to take, but not open, a blank envelope from a box of blank envelopes. The envelopes were previously prepared by RA's who added 16 envelopes (eight per condition) to the box at a time, with a new batch added when two envelopes were left. The family then met with a psychologist (first author) in an adjoining room and opened the envelope indicating their experimental condition. Families allocated to the RTP condition were booked into a program. Four AC families were distressed in being allocated to a delayed start to the program. In accordance with our duty of care, and, as negotiated with educational authorities, the psychologist provided brief counselling support to settle the families prior to departure. In these cases and whenever the parent requested alternative immediate assistance, the family was advised to seek help from the school guidance counsellor.

Before leaving the Time 1 assessment, all parents received an envelope to pass on to their child's school Principal. The envelope included letters to the Principal and child's teacher, information and consent forms, and an initial teacher questionnaire for immediate completion. The letters explained the family was concerned about bullying and involved in the trial and requested the teacher's assistance in completing three questionnaires over nine months. Schools were informed that some families would receive the program immediately and others after all assessments were completed, but not informed of the experimental condition of the particular child. We listed families in chronological order of their Time 1 assessments to form cohorts of up to 16 families. At completion of each program, families of that cohort were booked for Time 2 assessments. Time 3 assessments were booked from nine months after Time 1 and six months after Time 2 assessments. When assessment dates fell in

the first three weeks of the summer school holidays, assessments were brought forward to within one week of school finishing. When assessment dates fell in the second half of the summer school holidays, assessments were delayed until after the start of the new school year. This resulted in a mean of 97.63 days (3.20 months) between Time 1 and 2, 196.45 days (6.44 months) between Time 2 and 3, and 294.08 days (9.64 months) between Time 1 and 3 assessments. Procedure for Time 2 and 3 assessments was identical to Time 1 without consent or randomization. To reduce the threat of differential attrition between conditions (Grant, Raper, Kang, & Weaver, 2008), all families received a discount card for a local theme-park after the Time 1 assessment and \$40 cash after Time 2 and 3 assessments. Teacher questionnaires were mailed out corresponding to family assessment dates.

### **Conditions**

*Resilience Triple P* is a manualized family intervention designed to address known modifiable risk and protective factors for children bullied at school. The eight-session program includes four sessions for parents alternating with four sessions for children with their parents present. Children learn play and friendship skills, everyday body language, how to interpret and respond to negative peer behavior and how to resolve conflicts (Healy & Sanders, in press). Parents learn facilitative parenting strategies to promote a warm parent-child relationship, support children's friendships, address problem behavior, coach effective responses to bullying and conflict, and communicate with school staff (Sanders & Healy, in press). Behavioral and cognitive strategies are described, modelled, practiced and coached.

The program was delivered by the first author, a Masters level psychologist with over 20 years experience. All siblings aged six years or over were invited to participate in the program (but not assessed). The program was delivered in groups of between three and eight families, and included between eight and fifteen children aged six to 16 years (including siblings). If families missed a session they were invited to make this up in another group, or



individually. This resulted in mean attendance of 7.6 of eight sessions for families who commenced the program. A total of 90.5% of RTP and 75.9% of AC families completed at least six of the eight sessions. Undergraduate students (one per group) attended the group sessions to check coverage of content according to protocol checklists. Overall 62.5% of sessions were attended. An average of 93% of content in parents' sessions and 90% in children's sessions was covered. After completing group sessions, families were invited to book up to three individual sessions if the child was still reporting problems with peers. Individual sessions supported families in applying the program strategies to ongoing issues (i.e. there was no new content). Of families who attended at least six of eight group sessions, 27.3% attended individual sessions with a mean of 1.8 extra sessions.

An assessment control (AC) was selected as a comparison condition. AC families attended interactive assessments, including role-play and parent-child discussions. We informed schools that the families were concerned about bullying and involved in the trial, and teachers completed questionnaires three times. Many schools reported they had not been previously aware of the parental concern about bullying. We informed AC families they were free to access other help, and referred families in distress to school Guidance Counsellors. The Assessment Control (AC) provided a control for confounding explanations of maturation and regression towards the mean, without denying treatment to children in need.

### **Statistical Analyses**

Our primary hypothesis that, compared to AC families, RTP families would demonstrate better outcomes over time was tested through Hierarchical Linear Modeling within the Linear Mixed Models framework of SPSS (LMM) as described by Peugh and Enders (2005). We used LMM to analyze intra-individual growth trajectories with an additional level of inter-individual change to test between-group differences. LMM is generally more robust to violations of normality than most other methods, (Field, 2009).

LMM also has the advantage of efficiently handling missing data, including subject dropout, through the restricted maximum likelihood estimator (West, 2009). Thus data from all 110 families was included in LMM analyses (i.e. they were intent-to-treat analyses). For the Child and Parent Report of Change in Bullying and Distress, we used ANOVA's (SPSS) to analyze differences between groups at Time 2 and at Time 3. We calculated treatment effect sizes between Time 1 and Times 2 and 3 using standardized pooled treatment variance described by Carlson and Schmidt (1999). To assess absolute changes between assessments, we calculated effect sizes for RTP and AC conditions separately using a pre-post bias correction method recommended by Morris and De Shon (2002).

We tested clinical meaningfulness of change through two different methods – assessment of normative change (Kendall & Sheldrick, 2000), and assessment of clinical improvement (Jacobson & Truax, 1991). For the normative assessment, we compared Time 1 and 3 scores of the AC and RTP groups to the general sample (GS) described by Healy et al. (2013). To make age-ranges comparable, we excluded five-year olds from the GS, and Grade 6 and 7 students from the RCT, which left 92.6% of GS and 77.3% of RCT groups for these comparisons. Mean scores of RTP and AC groups at Time 1 and 3 were compared to the GS, using ANOVA's with Bonferroni adjustments. To test for differential clinical improvements between RCT and AC groups, we examined cases which were clinically elevated at Time 1. Clinical cut-off points were designated halfway between the means of the clinical and general population (GS), as recommended by Jacobson and Truax (Method c).

## Results

### Preliminary Analyses

To check the effectiveness of randomization, we analyzed between-group differences at Time 1. There was a significant difference on one demographic measure with AC parents tending to be older,  $F(1, 107) = 11.20, p = .001$ . There was an initial difference between

groups on two of the 26 outcome variables. The AC group reported higher scores on Problem of Sibling Agonism,  $F(1, 107) = 4.27, p = .041$  and RTP children were liked less by peers of the opposite sex than were AC children,  $F(1, 107) = 4.27, p = .041$ . A missing data analysis (including that due to attrition) revealed 10.59% of total values were missing. The proportion missing in teacher data was higher (17.82%). Little's test indicated that data points were missing completely at random,  $\chi^2(4642) = 3342.93, p > .999$ . Families who dropped out after the initial assessment were comparable with other families on 24 of 26 variables but had higher ratings on child reports of TKD Bullying,  $F(1, 106) = 4.43, p = .038$ , and on parent reports of Frequency of Sibling Warmth,  $F(1, 105) = 5.64, p = .019$ .

We checked comparability of the GS (general sample) with trial families on key demographic measures. The samples were comparable on children's age ( $F[1, 268] = 1.30, p = .255$ ), grade ( $F[1, 280] = 1.91, p = .168$ ) and gender ( $\chi^2[1] = 1.42, p = .246$ ) and on family income ( $F[1, 256] < 0.01, p = .994$ ). The trial sample had a higher proportion of children with pre-existing diagnosis than the GS, ( $\chi^2[1] = 21.76, p < .001$ ). Parents in the trial were also older ( $F[1, 254] = 78.39, p < .001$ ), had a higher educational level ( $F[1, 254] = 4.32, p = .039$ ) and included less parents born outside Australia ( $\chi^2[1] = 4.99, p = .036$ ) than the GS.

#### **Effects on Victimization by Peers and Child Distress<sup>4</sup>**

Table 1 shows means, *SD*'s and LMM results for the primary outcome variables of peer victimization and child emotional distress. There are significant main effects for time across conditions for most variables. Simple effect sizes in the RTP group ranged from medium for the teacher report of Relational Victimization ( $d = 0.56$ ) to very large for the child report of Internalizing Feelings ( $d = 1.34$ ), and for the AC group, from no change for the teacher report of Overt Victimization to a medium effects for child measures of TDK Upset and Internalizing Feelings. There were significantly greater improvements in RTP than

<sup>4</sup> LMM includes all data in analyses, so all results reported are for "intent to treat" analyses. Analyses were replicated for Completers after removing families who dropped out after the first assessment. Completers' analyses were comparable to intent-to-treat analyses except where specified.

AC children over time in teacher ratings of Overt Victimization  $F(1, 247.07^5) = 4.47, p = .036^6$ , child ratings of Internalizing Feelings over time than AC children,  $F(1, 116.46) = 6.77, p < .010$ , and parent ratings of Child Depression,  $F(1, 161.68) = 7.52, p = .007$ .

Table 2 includes means, *SD*'s and ANOVA's for children's and parents' reports of overall change in victimization and emotional distress at Times 2 and 3. RTP children reported greater reductions in bullying than AC children at Times 2 and 3,  $F(1, 94) = 8.14, p = .005$ , and RTP parents reported greater reductions than AC parents,  $F(1, 94) = 16.18, p < .001$ . The mean Time 3 rating for AC parents was 0.83 and for RTP parents was 0.37, between "less" (1) and "much less" (0) bullying. Treatment effect sizes on child and parent measures were medium ( $d = 0.44; d = 0.52$ ). For child distress, at Times 2 and 3, RTP children reported greater reductions than did AC children,  $F(1, 94) = 12.79, p = .001$  and RTP parents rated greater improvements in child coping than AC parents,  $F(1, 94) = 21.22, p < .001$ . Mean ratings were 2.97 for AC and 3.37 for RTP parents where "3" means "coping better" and "4" means "coping much better" compared to Time 1. Treatment effect sizes for child distress were medium to large for both child ( $d = 0.63$ ) and parent ( $d = 0.74$ ) reports.

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Insert Tables 1, 2, 3 and 4 here

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Table 3 displays shows normative comparison data including means and *SD*'s, ANOVA's and post hoc tests of differences between RTP and AC groups at Times 1 and 3 and the General Sample (GS). Time 1 RTP and AC scores were poorer than the GS across all primary outcomes measures (listed in top half of Table 3). By Time 3, neither the AC group nor RTP groups were different to the GS on child reports of TKD Bullying or Internalizing Cognitions. By Time 3 the AC group was equivalent to the GS and the RTP reported

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<sup>5</sup>Please note that the denominator degrees of freedom produced by LMM-SPSS are not whole numbers, due to use of the Satterthwaite method when fitting linear models to distributions which may not exactly match usual *F* distributions (West, 2009).

<sup>6</sup>For the Completer's analysis the difference in improvements was marginal  $F(1, 105.35) = 3.79, p = .054$ .

significantly *lower* levels of distress than the GS for child reports of TKD Upset and Internalizing Feelings. Despite RTP parents reporting significantly less Child Depression than AC parents, both RTP and AC groups remained higher than the GS at Time 3.

Table 4 displays outcomes for children with clinically elevated scores at Time 1. On the child report of TKD Bullying, by Time 3, 74% of RTP children and 57% of AC children had moved outside the clinical range, with the difference between conditions not significant,  $p = .171$ . For all measures of child distress a significantly greater proportion of RTP than AC children moved out of the clinical range: this included 79% of RTP compared with 53% of AC children for TKD Upset; 86% of RTP compared with 56% of AC children for Internalizing Feelings; 67% of RTP compared with 43% of AC children for Internalizing Cognitions; and 65% of RTP compared with 38% of AC children for Child Depression.

#### **Effects on Child Social Behavior and Relationships**

Table 5 shows means, *SD*'s and LMM analyses for secondary outcomes. There were significant main effects for time over both conditions for 63% of variables. For 47% of variables there were significantly greater improvements over time for RTP than AC children.

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Insert Table 5 here

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**Children's social behavior and peer relationships.** Teachers reported greater reductions in Overt Aggression towards peers for RTP than with AC children ( $p = .004$ )<sup>7</sup>, and greater improvements in acceptance of RTP children by both same sex peers ( $p = .032$ ), and opposite sex peers ( $p = .010$ ). Treatment effect sizes were all in the medium range. There were no significant changes in Relational Aggression. Children's reports of Friendedness and Reactive Aggression showed improvements over time across conditions but not between conditions. Normative comparisons in Table 3 show both AC and RTP groups scored lower

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<sup>7</sup> The Completer's analysis had very low degrees of freedom and was not significant  $F(1, 0.56) = 6.19, p = .374$

than the GS on Friendliness at Time 1 ( $p < .001$ ,  $p < .001$ ), but by Time 3, the RTP group was similar to the GS ( $p > .999$ ). Table 4 shows a higher proportion of RTP (61%) than AC children (24%) who were elevated at Time 1 were out of the clinical range by Time 2, but by Time 3, similar proportions of RTP (52%) to AC children (48%) were in the normal range. For Reactive Aggression, Table 3 also shows that, RTP children at Time 3 reported significantly *lower* reactive aggression than the GS ( $p = .048$ ), with the RTP mean near “0” and *SD*’s constricting over time, suggesting a floor effect. Table 4 shows that, for children elevated on Reactive Aggression at Time 1, there was a trend towards a higher proportion of RTP (62%) than AC (30%) children moving outside the clinical range by Time 3 ( $p = .076$ ).

The CRPA measures in Table 4 show that RTP children reported significantly greater increases over time than AC children in using adaptive words to solve peer problems,  $d = 0.58$ . CRPA Tells shows that across both conditions children reported they would tell the teacher *less* often over time,  $p = .026$ . Table 5 shows that actors rated significantly greater improvements in RTP than AC children in CRPA Encourages Bullying, with a medium to large treatment effect size,  $d = 0.72$ . Coding of Child Assertiveness and Provocativeness produced no significant results for change over time. Child Assertiveness of RTP children spiked at Time 2 ( $d = 0.79$ ) before decreasing at Time 3 ( $d = 0.31$ ).

**Liking school.** Table 5 shows greater improvements over time for RTP than AC children’s ratings on “I like school”,  $p = .002$ ,  $d = 0.65$ . Table 3 shows that both AC and RTP children liked school less than GS children at Time 1, ( $p = .012$ ;  $p = .016$ ), but by time 3, RTP children were no different to the GS ( $p = .884$ ). Table 4 shows a greater proportion of RTP (63%) than AC children (14%) moved out of the clinical range by Time 3,  $p < .001$ .

**Parenting and sibling relationships.** Table 5 shows RTP families had greater improvements than AC families over time on facilitative parenting ( $p = .035$ ), beyond improvements for across conditions over time, ( $p < .001$ ). Table 3 shows that at Time 1, the

GS, RTP and AC groups were no different on facilitative parenting, but by Time 3 RTP families scored significantly higher than the GS<sup>8</sup>. Table 4 shows, for parents low in facilitative parenting at Time 1, a trend towards greater improvements for RTP than AC families,  $p = .096$ . For coding of Intrusive-Demandingness in Table 5, there was a strong trend towards significantly differential change over time between RTP and AC families ( $p = .059$ ), resulting mainly from increasing means for AC, but not RTP families. Warm Responsiveness showed significant increases across both conditions over time ( $p = .002$ ).

Table 5 shows significant main effects of time on all four sibling relationship measures with greater increases in Frequency of Sibling Warmth ( $p = .025$ ) and marginally greater reductions in Problem of Agonism ( $p = .050^9$ ), for RTP than AC families over time.

#### **Family Satisfaction with Program**

Mean ratings of parents across all questions ranged from 5.98 ( $SD = 1.03$ ) to 6.70 ( $SD = 0.61$ ) out of a maximum of “7” with a grand mean of 6.30 across questions. Parents gave a mean rating of 6.46 ( $SD = 0.92$ ) for their overall satisfaction. Children gave a mean rating of 3.10 ( $SD = 0.98$ ) for the program, between “very” (3) and “extremely helpful” (4).

#### **Contextual Changes over Period of Monitoring**

There was one significant difference between groups in contextual changes which had occurred during the nine months: significantly more AC families (22%) than RTP families (6%) reported that “the child who was bullying left the school”,  $t(1, 91) = 24.23, p < .001$ .

### **Discussion**

This trial examined the effectiveness of Resilience Triple P (RTP) in improving outcomes for children bullied by peers. For bullying victimization, there were significant improvements over time across both conditions, but children whose families received Resilience Triple P had significantly greater overall change reported by children and parents

<sup>8</sup> Lack of difference between facilitative parenting at Time 1 and the GS may be due to the higher educational level of trial parents given facilitative parenting and parental education level are correlated (Healy et al, 2013).

<sup>9</sup> For the Completer’s analysis, this difference was significant,  $F(1, 312.74) = 4.22, p = .041$

and significantly greater reductions in overt victimization reported by teachers. For child distress, children who received Resilience Triple P had significantly better outcomes than AC children across all measures, with medium treatment effect sizes. By Time 3, RTP children reported they were *less distressed* than the general sample by peer behavior in the previous week at school, as well as in hypothetical situations with peers. On secondary outcomes, RTP families showed significantly greater improvements than AC families across a broad range of measures including teacher reports of overt aggression, acceptance by same and opposite sex peers, sibling relationships, using words to address peer problems, and evaluations of how much the child encouraged bullying in role-plays according to actors blind to experimental condition. Overall, this confirmed our hypothesis that RTP children would have significantly greater improvements than children in the AC condition. Reasons for improvements in the RTP condition will first be discussed before considering the AC condition.

Absolute changes over time for children in the RTP condition were medium to large, and treatment effects for most measures of victimization compared favourably to those reported for school interventions (Merrell et al., 2008). There are several possible reasons for this. First, the intervention sought to break the recursive cycle between bullying victimization and emotional distress (Hodges & Perry, 1999) by reducing both victimization and distress, and strengthening the protective factors of peer friendships and supportive parenting. Second, the intervention placed parents in the central role in preventing and addressing issues. Children are more likely to tell their parents than teachers about problems with bullying (Fekkes, Pijpers, & Verloove-Vanhorick, 2005). The daily contact parents have with children and their motivation to assist their child may increase likelihood that strategies will be successfully implemented and incidents addressed. A final possible reason why the RTP intervention achieved relatively positive outcomes is that Resilience Triple P did *not* directly involve the child's peers. Despite the increased emphasis on bystander behaviors in anti-



bullying interventions over the last ten years, (e.g. Karna et al., 2011), a recent meta-analysis suggests that involving peers in bullying programs may lead to an *increase* in victimization (Ttofi & Farrington, 2011). Further research might explore the possibility that raising general awareness amongst peers about bullying might have an iatrogenic effect, and identify which peers under which circumstances are most likely to be helpful if involved.

The substantial reduction in bullying in the AC condition was unexpected from previous research indicating reasonable stability over time for victimization of individual children from Grades 4 to 7 (Paul & Cillessen, 2003). By Time 3, reports of negative peer behaviors in the previous week for both RTP and AC children were greatly reduced and indistinguishable from the General Sample (GS). There are several possible explanations for these improvements. First, a much higher proportion of AC (22%) than RTP (6%) families reported that the child who was bullying left the school over the period of monitoring. This may have made a substantial contribution to the drop in victimization in AC children. Perhaps the ongoing distress of AC families prompted schools to take further action which, in some cases, resulted in children accused of bullying changing schools.

Another factor which may have influenced victimization of children across both conditions was our informing schools of the family concern about bullying, as some reported they were previously unaware. Other research has reported that often teachers are unaware that individual children are victimized (Fekkes, Pijpers, Fredriks, Vogels, & Verloove-Vanhorick, 2006). Involvement of teachers in reporting on progress of individual children may have prompted greater awareness, and knowledge that an external agency was monitoring the child's progress may have further encouraged schools to address issues. A final possible contributing factor to improvements across both conditions was family participation in assessments. Parents were exposed to facilitative parenting strategies through completing the questionnaire. The interactive role-plays with an actor may have afforded

children valuable practice in dealing with provocation, and the parent-child discussion task following, gave parents an opportunity to coach their child. The improvement in AC families suggests briefer intervention may be sufficient for some families. It may be beneficial for the family (or an external agency) to simply inform schools and teachers that there is a concern. Brief intervention involving informing parents of strategies, and prompting parents to coach children in practicing responses to difficult peer situations, may be useful for some families.

The greater improvements of RTP children on all measures of child distress and greater movement of RTP than children out of the clinical range for all measures of distress, indicates the intervention was highly beneficial for children who were distressed. However for child depression, despite significant improvements over both conditions, greater reductions for RTP than AC children, and a higher proportion of RTP (65%) than AC (21%) children moving out of the clinical range, there was residual depression in the RTP as well as AC groups at Time 3 compared with the GS. Given that the children in this trial had been bullied, and internalizing problems are a risk factor for victimization, our sample may have included children prone to higher levels of depressive symptoms than the GS. Residual depressive symptoms following peer victimization are also consistent with recent longitudinal research by Bowes et al. (2013) who found that children who experienced bullying at primary school (ages seven and 10), but who escaped further bullying at high school (age 12) continued to report greater internalizing problems at 12 years than children who had not been bullied in primary school. We do not know how children in Bowes et al.'s study escaped from bullying. The children in the RTP condition of this trial participated in a targeted cognitive behavioral intervention. Further research might investigate the progress of residual depressive symptoms over a longer period following participation in the program.

In summary, this was the first controlled trial of a family intervention for children bullied by peers. Resilience Triple *P* achieved better outcomes than the improvements that

AC schools and families achieved in addressing bullying, and was much more effective in reducing child distress associated with victimization. Strengths of this study included the randomized design, assessment control condition, use of multiple informants and observational methods. Limitations included an under-representation of families with lower education and minority families, and further research is needed to assess the replicability of these findings to more diverse samples. A larger sample size would have enabled investigation of moderator variables (e.g. passive versus provocative victims). It would be beneficial to examine children's progress over a longer time frame, particularly to monitor children's residual depressive symptoms. Improvements of families in the assessment control condition suggests that lighter touch interventions involving informing the school of the issue and a briefer family intervention may be helpful in improving child outcomes for some families. The eventual combination of cognitive-behavioral family interventions with effective school interventions has the potential to maximize impact on bullying and provide appropriate support for children who are victimized by peers at school.

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### **Conflict of Interest Statement**

Researchers for this trial are also authors of the Resilience Triple *P* program. The copyright for Resilience Triple *P* is owned by (name of university) and any possible future royalties for publication of the program would be distributed according to university intellectual property policies.

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Figure 1: CONSORT Flow Diagram of Participants

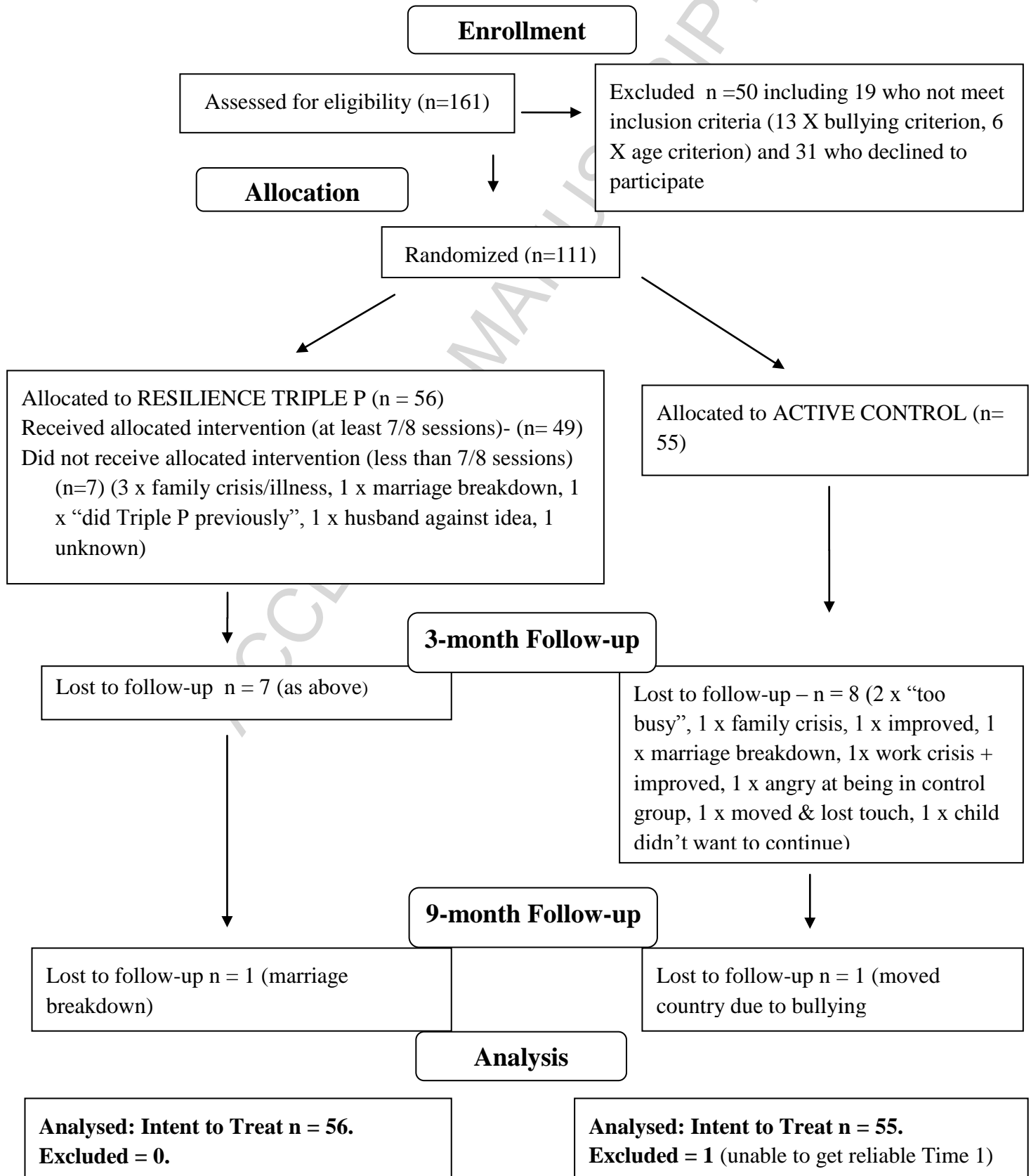


Table 1. *Effects of Time and Intervention on Child Bullying and Internalizing Problems*

Dependent Variable	Intervention (n=56)			Active Control (n=54)			Main Effect of Time		Time Condition Interaction		Simple effect of time	Simple effect of time	Treatment Effect (RTP vs AC)	Treatment Effect (RTP vs AC)
	Ti 1	Ti 2	Ti 3	Ti 1	Ti 2	Ti 3	F	p	F	p	to 1 to 3	to 1 to 3	Time 1 to 2	Time 1 to 3
	<u>M</u> ( <i>S</i> <i>D</i> )	<u>M</u> ( <i>S</i> <i>D</i> )	<u>M</u> ( <i>S</i> <i>D</i> )	<u>M</u> ( <i>S</i> <i>D</i> )	<u>M</u> ( <i>S</i> <i>D</i> )	<u>M</u> ( <i>S</i> <i>D</i> )					<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
Overt Victimization	1.73 (0.72)	1.38 (0.60)	1.39 (0.58)	1.63 (0.68)	1.57 (0.71)	1.68 (0.88)	3.52	.062	4.47	.036	0.47	-0.08	0.40	0.56
Relational Victimization	2.63 (0.92)	2.36 (0.92)	2.11 (0.75)	2.57 (0.93)	2.42 (0.92)	2.28 (1.06)	10.01	.002	0.85	.358	0.54	0.30	0.13	0.24
TKD Bullying	0.99 (0.73)	0.56 (0.59)	0.50 (0.59)	1.24 (0.84)	0.87 (0.78)	0.74 (0.72)	45.14	<.001	0.01	.937	0.66	0.58	-0.07	0.01
TKD Upset	2.30 (1.43)	1.16 (1.25)	0.78 (1.23)	2.33 (1.52)	1.56 (1.35)	1.34 (1.49)	61.05	<.001	2.50	.117	1.05	0.25	0.36	
Internalizing Cognitions	0.39 (0.19)	0.24 (0.17)	0.23 (0.18)	0.44 (0.22)	0.32 (0.24)	0.30 (0.23)	34.32	<.001	0.00	.959	0.79	0.64	0.12	0.06
Internalizing Feeling	1.07 (0.07)	0.52 (0.08)	0.38 (0.05)	0.95 (0.03)	0.63 (0.08)	0.58 (0.08)	89.97	<.001	6.77	.010	1.34	0.58	0.42	0.59

s	51)	43)	36)	62)	58)	56)								
Child	5.0	3.3	3.0	5.0	4.4	4.6	20.	<.0	7.	.0	0.7	0.1	0.39	0.56
Depres	5	3	4	5	6	5	39	01	52	07	0	3	[-0.01,	[0.15,
sion	(2.	(2.	(2.	(2.	(2.	(2.							0.78]	0.96]
	82)	17)	74)	96)	97)	76)								

*Note:* Overt Victimiztn = Overt Victimization (PPVM-T) teacher report; Relational Victimiztn = Relational Victimization (PPVM-T) teacher report; TKD = Thing Kids Do child report

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Table 2.

*Parent and Child Reports of Change on Child Bullying and Internalizing Problems*

Dependent Variable	Respond	Time 2 (3 months)		Time 3 (9 months)		Difference Between Conditions		Treatmt effect Time 2	Treatmt effect Time 3
		<i>M (SD)</i>		<i>M (SD)</i>		<i>F</i>	<i>p</i>	<i>d</i>	<i>d</i>
		RTP	AC	RTP	AC				
Amount bullying	Child	0.18 (0.56)	0.43 (0.65)	0.20 (0.57)	0.51 (0.80)	8.14	.005	0.41	0.44
Feeling better	Child	1.73 (0.60)	1.43 (0.83)	1.82 (0.52)	1.38 (0.82)	12.97	.001	0.41	0.63
Amount bullying	Parent	0.39 (0.49)	0.98 (1.00)	0.37 (0.72)	0.83 (1.02)	16.18	<.001	0.75	0.52
Child coping better	Parent	3.37 (0.63)	2.68 (1.01)	3.58 (0.64)	2.97 (0.98)	21.22	<.001	0.82	0.74

*Note:* Respond = Respondent, Treatmt effect = Treatment Effect

Table 3. Normative Comparison of Pre and Post RTP and AC Scores<sup>10</sup>

Measure	General	RCT time 1		RCT Time 3		Time 1 overall		Post hoc difference at			Time 3 overall		Post hoc differences at		
	sample	(0 months)		(9 months)		difference		Time 1			difference		Time 3:		
	GS	RTP	AC	RTP	AC	<i>F</i>	<i>p</i>	RTP	AC	RTP	<i>F</i>	<i>p</i>	RTP	AC	RTP
	<i>n</i> = 198	<i>n</i> = 39	<i>n</i> = 46	<i>n</i> = 50	<i>n</i> = 47			vs GS	vs GS	vs AC			vs GS	vs GS	vs AC
	Mean	Mean	Mean	Mean	Mean			<i>p</i>	<i>p</i>	<i>p</i>			<i>p</i>	<i>p</i>	<i>p</i>
	(SD)	(SD)	(SD)	(SD)	(SD)										
TKD Bullying	0.66 (0.71)	1.04 (0.75)	1.32 (0.92)	0.48 (0.62)	0.78 (0.74)	15.40	<.001	.005	<.001	.289	1.79	.170	.416	> .999	.204
TKD Upset	1.59 (1.50)	2.39 (1.45)	2.54 (1.52)	0.80 (1.23)	1.56 (1.54)	10.23	<.001	.003	.001	> .999	4.88	.008	.006	> .999	.083
Internalizing Cognitions	0.25 (0.18)	0.37 (0.18)	0.47 (0.21)	0.21 (0.17)	0.29 (0.24)	27.67	<.001	<.001	<.001	.055	1.77	.173	.569	.795	.184
Internalizing Feelings	0.85 (0.50)	1.09 (0.49)	1.07 (0.62)	0.39 (0.37)	0.72 (0.57)	6.44	.002	.010	.037	> .999	14.68	<.001	<.001	.454	.015
Child Depression	1.63 (2.25)	4.97 (2.88)	4.93 (3.08)	3.02 (2.74)	4.42 (2.82)	49.88	<.001	<.001	<.001	> .999	21.49	<.001	.003	<.001	.039
Reactive Aggression	0.45 (1.01)	0.63 (1.14)	0.97 (1.46)	0.05 (0.22)	0.59 (1.21)	3.83	.023	0.951	.021	.459	3.62	.028	.048	> .999	.050
Friendedness	4.23 (0.69)	3.61 (0.83)	3.39 (0.86)	4.16 (0.57)	3.83 (0.80)	26.66	<.001	<.001	<.001	.554	4.73	.010	> .999	.007	.126
Likes School	4.19 (1.14)	3.62 (1.28)	3.56 (1.52)	3.98 (1.08)	3.15 (1.44)	6.94	.001	.016	.012	> .999	11.45	<.001	.884	<.001	.008
Facilitative Parenting	3.82 (0.36)	3.83 (0.30)	3.82 (0.33)	4.03 (0.31)	3.93 (0.36)	.015	.985	> .999	> .999	> .999	6.21	.002	.003	.310	.695

<sup>10</sup> Please note that to make RCT samples comparable to the general sample, only children aged from 6 years to Grade 5 are included.

Table 4. Significance of Clinical Change: Comparison of RCT Groups with General Population Sample

Measure	Clinical improvement at Time 2				Clinical improvement at Time 3			
	Proportion of cases clinically improved % age (n/n)		Difference between conditions		Proportion of cases clinically improved % age (n/n)		Difference between conditions	
	RTP	AC	$\chi^2$	<i>p</i>	RTP	AC	$\chi^2$	<i>p</i>
<i>Primary Outcome Measures</i>								
TKD Bullying	57.69% (15/26)	42.42% (14/33)	1.36	.184	73.91 % (17/23)	57.14 % (16/28)	1.56	.171
TKD Upset	62.07% (18/29)	45.16% (14/31)	1.72	.146	78.57 % (22/28)	53 % (16/30)	4.08	.040
Internalizing feelings (SPBI)	80.00% (24/30)	61.54% (16/26)	2.33	.110	86.21 % (25/29)	56 % (14/25)	6.16	.015
Internalizing cognitions (SPBI)	70.97% (22/31)	47.22 (17/36)	3.86	.042	66.67% (20/30)	42.86% (15/35)	3.69	.047
Child depression	45.71 % (16/35)	34.29% (12/35)	0.95	.232	64.71% (22/34)	20.59% (7/34)	13.53	<.001
<i>Secondary Outcome Measures</i>								
Reactive aggression (SPBI)	71.43% (10/14)	38.10% (8/21)	3.74	.055	61.65 % (8/13)	30.00% (6/20)	3.21	.076
Friendedness	60.71% (17/28)	23.53% (8/34)	8.82	.003	51.85 % (14/27)	48.48 % (16/33)	0.67	.500
I like school	16.67% (4/24)	21.74% (5/23)	0.20	.471	62.50 % (15/24)	13.64% (3/22)	11.51	.001
Facilitative Parenting	42.31% (11/26)	22.72% (5/22)	2.06	.130	61.54% (16/26)	38.10% (8/21)	2.56	.096



Table 5: *Effects of Intervention on Secondary Outcome Variables*

Dependent Variable	Intervention (n=56)						Active Control (n=54)						Main Effect of Time		Time X Condition Interaction		Simple effect of time	Simple effect of time	<i>d</i>	<i>d</i>
	Ti 1	Ti 2	Ti 3	Ti 1	Ti 2	Ti 3	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	for RT P from time 1 to 3	<i>d</i>	for AC from time 1 to 3	<i>d</i>	<i>d</i>	<i>d</i>				
	<i>M</i> ( <i>S</i> <i>D</i> )	<i>M</i> ( <i>S</i> <i>D</i> )	<i>M</i> ( <i>S</i> <i>D</i> )	<i>M</i> ( <i>S</i> <i>D</i> )	<i>M</i> ( <i>S</i> <i>D</i> )	<i>M</i> ( <i>S</i> <i>D</i> )														
Overt aggression	1.47 (0.75)	1.30 (0.63)	1.21 (0.37)	1.36 (0.69)	1.43 (0.86)	1.69 (0.88)	1.91	.169	8.61	.004	0.33	-0.17	0.33	0.51						
Relational aggression	1.78 (0.82)	1.60 (0.69)	1.56 (0.65)	1.61 (0.67)	1.66 (0.74)	2.28 (1.06)	1.32	.252	0.79	.376	0.26	-0.03	0.28	0.30						
Reactive aggression	0.59 (1.07)	0.16 (0.46)	0.14 (0.42)	0.88 (1.33)	0.50 (0.97)	0.55 (1.08)	14.37	<.001	0.12	.735	0.39	0.24	0.04	0.08						
Friendedness	3.58 (0.85)	4.10 (0.67)	4.12 (0.58)	3.41 (0.88)	3.62 (0.84)	3.86 (0.82)	43.44	<.001	0.14	.707	0.62	0.50	0.36	0.10						
I Like School	3.40 (1.37)	3.43 (1.28)	3.96 (1.01)	3.48 (1.44)	3.27 (1.01)	3.13 (1.35)	0.37	.543	10.44	.002	0.40	-0.24	0.17	0.65						
Liked by peers of same sex	3.17 (0.97)	3.40 (1.01)	3.60 (1.01)	3.43 (1.05)	3.46 (1.24)	3.39 (1.05)	4.08	.055	5.19	.032	0.43	-0.04	0.20	0.46						
Liked by peers of opposite sex	2.79 (0.92)	3.09 (1.09)	3.37 (1.09)	3.21 (1.14)	3.18 (1.22)	3.18 (1.00)	4.64	.032	6.72	.010	0.62	-0.03	0.32	0.60						

Dependent Variable	Intervention (n=56)						Active Control (n=54)						Main Effect of Time		Time X Condition Interaction		Simple effect of time	Simple effect of time	<i>d</i>	<i>d</i>
	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	for RT P from time 1 to 3	for AC from time 1 to 3	1 to 2	1 to 3
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>								
Frequency of Sibling Warmth Problem of Sibling Warmth Freq Sibling Agonism Prob Sibling Agonism Encourages bullying CRPA Child Uses Words CRPA Child Uses Tells CRPA -	3.3 1 (0.56)	3.3 4 (0.54)	3.5 0 (0.56)	3.4 0 (0.56)	3.4 1 (0.53)	3.4 1 (0.48)	8.4 6 17.93	.00 4 <.01	5.1 0 3.90	.0 25 .050	0.3 2 0.51	0.0 2 0.16	0.04 0.07 0.12 0.03	0.30 0.21 0.25 0.28						
	1.2 8 (0.34)	1.1 8 (0.27)	1.1 6 (0.28)	1.3 1 (0.43)	1.2 5 (0.33)	1.2 7 (0.38)	9.1 3 6.36	.00 3 .01	1.5 0 2.29	.2 23 .133	0.3 6 0.40	0.0 9 0.09	0.07 0.12	0.21 0.25						
	2.8 1 (0.57)	2.6 6 (0.59)	2.5 8 (0.56)	2.9 9 (0.69)	2.9 1 (0.65)	2.9 2 (0.77)	6.3 6 17.93	.01 3 <.01	2.2 9 3.90	.1 33 .050	0.4 0 0.51	0.0 9 0.16	0.12 0.03	0.25 0.28						
	7.5 7 (4.43)	4.2 5 (3.57)	2.5 0 (3.15)	8.5 2 (4.52)	7.2 7 (5.05)	3.9 0 (0.35)	56.63	<.00	10.65	.0 01	1.1 3	0.4 0	0.46	0.72						
	1.5 0 (0.93)	2.0 4 (0.96)	1.9 2 (1.03)	1.1 7 (1.08)	1.2 1 (0.99)	1.0 0 (1.02)	1.5 2 5.04	.22 0 .02	5.6 5 2.48	.0 19 .117	0.4 4 0.37	- 0.15 0.04	0.49	0.58						
	0.7 9 (1.07)	0.3 5 (0.72)	0.4 2 (0.78)	0.7 4 (0.97)	0.5 4 (0.68)	0.7 0 (0.81)	5.0 4 0.31	.02 6 .57	2.4 8 1.45	.1 17 .230	0.3 7 0.19	0.0 4 -0.1	0.34	0.32						
	2.2 1 (0.93)	2.8 2 (0.96)	2.4 2 (0.98)	2.2 2 (0.97)	2.1 1 (0.98)	2.1 1 (0.98)	0.3 1 0.31	.57 6 .57	1.4 5 1.45	.2 30 .230	0.1 9 0.19	- 0.1	0.79	0.31						

Dependent Variable	Intervention (n=56)						Active Control (n=54)						Main Effect of Time		Time X Condition Interaction		Simple effect of time	Simple effect of time	<i>d</i>	<i>d</i>		
	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	Ti	<i>F</i>	<i>p</i>	<i>F</i>	<i>p</i>	for RT	for AC	t	t		
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>					P	P	1 to 2	1 to 3		
coding	6	8	2	1	8	1																
Assertiveness	(0.81)	(0.88)	(0.84)	(0.82)	(0.80)	(0.71)																
CRPA – coding	2.0	1.7	1.7	2.2	2.2	2.3	0.6	.40	2.1	.1	0.2	-	0.22	0.30								
Provocativeness	(0.92)	(0.89)	(0.88)	(1.05)	(1.08)	(1.10)																
Facilitative Parenting	3.8	3.9	4.0	3.8	3.9	3.9	30.27	<.01	4.57	.035	1.12	0.56	0.08	0.29								
Warm responsiveness	(0.30)	(0.32)	(0.32)	(0.33)	(0.34)	(0.37)																
Warm responsiveness	6.0	6.7	6.5	5.8	5.9	6.2	10.02	.002	0.04	.838	0.36	0.28	0.40	0.08								
Intrusive demandiness	(1.51)	(1.09)	(1.27)	(1.46)	(1.50)	(1.43)																
Intrusive demandiness	3.4	3.4	3.4	3.5	4.1	4.2	3.6	.061	3.6	.0459	0.0	-	0.37	0.43								

*Note:* Freq Sibling Agonism = Frequency of Sibling Agonism; Prob Sibling Agonism = Problem of Sibling Agonism, Encourages bullying = Actor assessment of how much child's response encourages bullying

*Randomized controlled trial  
of a family intervention for children bullied by peers*

**Highlights:**

- Randomized controlled trial with children chronically bullied at school
- Intervention was intensive cognitive-behavioral family program, Resilience Triple P
- Intervention produced greater reductions in victimization and distress than control
- Following program, children better accepted by peers and liked school more
- Shows a targeted family intervention can improve outcomes for victims of bullying