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Facilitative Parenting and Children's Social, Emotional and Behavioral Adjustment

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Abstract

Facilitative parenting (FP) supports the development of children's social and emotional competence and effective peer relationships. Previous research has shown that FP discriminates between children bullied by peers from children who are not bullied, according to reports of teachers. This study investigates the association between FP and children's social, emotional and behavioral problems, over and above the association with dysfunctional parenting (DP). 215 parents of children aged 5–11 years completed questionnaires about parenting and child behavior, and children and teachers completed measures of child bullying victimization. As predicted, FP accounted for variance in teacher reports of children's bullying victimization as well as parent reports of children's social and emotional problems and prosocial behavior better than that accounted for by DP. However for children's reports of peer victimization the whole-scale DP was a better predictor than FP. Contrary to predictions, FP accounted for variance in conduct problems and hyperactivity better than DP. When analyses were replicated substituting subscales of dysfunctional and FP, a sub-set of FP subscales including Warmth, Supports Friendships, Not Conflicting, Child Communicates and Coaches were correlated with low levels of problems on a broad range of children's adjustment problems. Parent-child conflict accounted for unique variance in children's peer victimization (teacher report), peer problems, depression, emotional problems, conduct problems and hyperactivity. The potential relevance of FP as a protective factor for children against a wide range of adjustment problems is discussed.

Keywords: Facilitative parenting; Child; Social; Emotional; Behavior problems

Introduction

Facilitative parenting (FP) is parenting that enables the development of children's social competence and peer relationships as defined by Healy et al. (2013). It is characterised by warm and responsive parent-child relating, enabling appropriate child independence (as opposed to being overly directive or protective), effective management of parent-child conflict, coaching of social and emotional skills, provision of opportunities for the child to socialize with peers, and effective communication with school staff. McDowell and Parke (2009) found three distinct paths through which parents influence children's social competence and peer acceptance: parent-child interaction, direct instruction and provision of opportunities. FP draws from all three of these paths. Healy et al. showed that FP, as measured by the FP Scale successfully discriminates between children reported by teachers to be bullied from children who were not. Children who have poor relationships with peers, difficulty in regulating their emotions, and internalizing problems are at increased risk of ongoing victimization by peers (Hodges and Perry 1999). If FP discriminates between children who are bullied and those who are not bullied, might it also be relevant to children's social and emotional adjustment? This study assesses the relationship between FP and a broad range of child adjustment problems including child as well as teacher reports of peer victimization, and parent reports of children's social behavior, emotional problems, depression, conduct problems and hyperactivity.

Facilitative parenting distinguishes children reported by teachers as bullied by peers (Healy et al. 2013). Aspects of FP are relevant to children's social competence and peer relationships. The parent-child interactional style defined by FP is warm and responsive, and encouraging of children's appropriate independence as opposed to being overdirective. Warm, responsive parenting which is not overdirective has been shown to predict children's social competence and peer acceptance over time (McDowell and Parke 2009; McDowell et al. 2003). Parental encouragement of children's appropriate independence has been associated with children's demonstration of respectful social behavior with peers (Pettit et al. 1997; Dumas et al. 1995). FP also incorporates parental coaching of children's social skills, which was one of the paths identified by McDowell and Parke (2009) through which parents influence children's peer skills. Pettit et al. (1988, 1991) have argued that children learn to respond to peers through interactions with their parents, and have found that warm parenting, which promotes independence and teaches mutual play and problem solving, helps children develop peer interaction skills. So, we would expect FP to be associated with children's peer competence as well as peer victimization.

Children's capacity for emotional regulation has also been linked to aspects of FP including warm responsiveness, encouraging of independence and coaching. Warm, responsive parenting is associated with lower levels of child anger and better regulation of negative emotions (Eisenberg et al. 1991; Fabes et al. 1994; Robinson et al. 2009), and can mitigate the adverse emotional impacts of bullying over time (Bowes et al. 2010). Over-controlling parenting, on the other hand, predicts lower capacity of young children to regulate negative emotions in response to frustration when they later entered preschool (Graziano et al. 2010). FP also incorporates coaching, through which parents could assist children to better manage their emotional reactions. Mezulis et al. (2006) found that parental feedback interacts with negative life events to exacerbate children's vulnerability to depression. Parental coaching may then assist children to view events more realistically and optimistically, thereby facilitating children's emotional regulation.

There is a substantial body of literature linking children's conduct and aggressive behavior to DP characteristics of hostility and coercion as well as permissive parenting (Hart et al. 1992; Patterson 1982). Coercive parenting can lead to an escalating pattern of coercion and conflict between parents and children (Snyder et al. 1986) and may prevent children from learning to self-regulate their own behavior (Gershoff 2002; Rodgers 1998). Permissive or inconsistent parenting can allow the child to control the parent by coercion and thus indulges the child's aggressive behavior (Olweus 1980). Lack of parental warmth is also a risk factor for child aggressive and disruptive behavior problems (Loeber and Dishion 1983; Stormshak et al. 2000). There is a great deal of evidence that interventions, such as Triple P, which combine calm consistent management of child behavior with warm responsive parent-child relating, improve child behavior problems (de Graaf et al. 2008; Nowak and Heinrichs 2008). FP includes warm, responsive parenting but does not sample the presence or absence of parenting behaviors of hostility, coerciveness and permissiveness (Healy et al. 2013). Measures of parenting that assess coercive, over-reactive and permissive parenting, such as the Parenting Scale, are well-established in the assessment of children's conduct problems (Arnold et al. 1993; Locke and Prinz 2002).

Hyperactivity is another common child behavioral concern. Studies of the etiology of hyperactivity have demonstrated there are strong genetic risk factors (Nikolas and Burt 2010). Recently, links between hyperactivity and DP have been established. Keown and Woodward (2006) found that mothers of hyperactive children reported using more permissive parenting than other parents. Harvey et al. (2001) found that parents of children diagnosed with ADHD were higher in over-reactive and permissive parenting than parents of children without significant problems. Woodward et al. (1998) reported an association between hostile parenting and children's hyperactivity after controlling for children's conduct problems. There have been mixed findings regarding the associations between warm, responsive parenting and child hyperactivity (Johnston et al. 2002; Wakschlag and Hans 1999; Stormshak et al. 2000). Overall there is little evidence to link FP and child hyperactivity. Measures of over-reactive, hostile and permissive parenting such as the Parenting Scale (Arnold et al. 1993) would be expected to have stronger associations with hyperactivity.

Facilitative parenting, as measured by the FP Scale has previously been shown to discriminate between children who are bullied and those who are not, as reported by teachers. The present study

investigates whether FP is also associated with other childhood social, emotional and behavioral adjustment difficulties, beyond associations with DP. The dependent variables we examined included child as well as teacher reports of peer victimization, peer behavior, emotional problems, depression, conduct problems and hyperactivity. To measure DP, we used the Parenting Scale, a well-established measure which includes sub-scales of over-reactive, hostile and permissive parenting. We examined the factor structure of FP and derived meaningful subscales. Analyses were conducted initially with whole scales of facilitative and DP whole scales, and then replicated using parenting subscales to determine whether particular components of dysfunctional and FP were associated differentially with various child adjustment issues. We predicted that:

1. Facilitative parenting would be negatively associated with children's peer victimization, peer problems, depression and emotional problems and positively associated with children's prosocial behavior;
2. Dysfunctional parenting would be positively associated with child conduct problems and hyperactivity;
3. Facilitative parenting would account for greater variance in child peer problems and prosocial behavior, peer bullying victimization, and child emotional problems than DP;
4. Dysfunctional parenting would predict children's hyperactive behavior better than FP.

Method

Participants

Data from this study were collected from a sample previously described by Healy et al. (2013). The sample consisted of 215 children, their parents and teachers drawn from eight schools from South East Queensland, Australia. Schools were sampled randomly from across three federal electorates. The participating eight schools were located across a broad range of socio-economic areas. Letters seeking parental consent were sent home to all children in year levels between Prep and Grade five in these schools and consenting families subsequently involved in the study. The sample of children included 50.2 % girls and 49.8 % boys. Children were aged between 5 and 11 years with a mean age of 7.65 years ($SD = 1.49$). Surveys were returned by 185 of the 215 main caregivers of children involved in the study. Main caregivers comprised 93 % mothers and 7 % fathers. Participating families included some cultural diversity with 62.6 % of parent respondents born in Australia and others born in UK(10.2 %), NZ(9.6 %), Vietnam (4.3 %), South Africa (2.7 %), Samoa (2.1 %) and India (2.1 %). A total of 16.6 % of participating children spoke languages other than English at home.

For the factor analysis of the FP Scale, we included data from a separate sample of 110 parents of elementary school children who were bullied by peers, described by Healy and Sanders (2014).

Design and Procedure

The study was cross-sectional in design and included data from parents, children and teachers. Children and teachers were informants on children's peer victimization. Parents provided information on children's social, emotional and behavioral adjustment, and on parenting. Children were interviewed individually by an experienced child psychologist at their school. The child questionnaire for this study took 5–10 min and each child also completed two measures described by Healy et al. (2013). Parent questionnaires for the main caregiver were sent home with each participating child. After children had completed their interviews, their teacher completed a questionnaire for participating children in the class.

Measures

Please note that, for some subscales reported below, we have included the mean inter-item correlation in addition to Chronbach's alpha. As Chronbach's alpha is sensitive to the numbers of items in scales, Briggs and Cheek (1986) recommend using mean inter-item correlation for scales

with < 10 items which exhibit a low alpha, and suggest the optimal range for inter-item correlation is between .20 and .40.

Parenting Measures

The Facilitative Parenting Scale. The FP Scale (Healy and Sanders 2008a) is a 58-item self-report measure of parenting which is supportive of children's development of peer social skills and relationships. This scale was previously described by Healy et al. (2013) and found to discriminate children reported by teachers as bullied from children who were not. Parents rate each question on a 1–5 scale from “not true” to “extremely true” over the last few weeks. The whole scale demonstrated good internal consistency ($\alpha = .89$). To investigate underlying structure of the scale, we conducted a Principal Components Analysis using Varimax rotation. A total of 11 meaningful factors were extracted which all demonstrated acceptable internal consistency including FP Warmth (e.g. “My child and I enjoy time together”), ($\alpha = .84$); FP Supports Friendships (e.g. “I arrange for my child to see friends out of school”), ($\alpha = .83$); FP Not Over-Protective (e.g. “I tend to baby my child”), ($\alpha = .79$); FP Not Conflicting (e.g. “My child and I argue a lot”), ($\alpha = .83$); FP Child Communicates to Parent (e.g. “My child comes to see me if s/he has a problem”), ($\alpha = .73$); FP Coaches (e.g. “I help my child practise standing up for him/herself”), ($\alpha = .68$; mean $r = .35$); FP Communicates with Teacher (e.g. “I can calmly discuss any concerns that might arise with my child's teacher”), ($\alpha = .71$); FP Not Over-Involved in School (e.g. “I talk to my child's teacher much more than other parents do.”) ($\alpha = .81$), FP Not Aggressively Defensive (e.g. “If another child acts meanly to my child, I might tell him/her off”), ($\alpha = .58$; mean $r = .37$); Enables Independence (e.g. “I encourage my child to decorate his/her own space”), ($\alpha = .51$; mean $r = .26$); FP Not Overly Directive, (e.g. “When my child has a problem, I tell him/her what to do”), ($\alpha = .62$; mean $r = .45$).

The Parenting Scale. The Parenting Scale is a standard 30-item measure of DP practices, previously found to discriminate parents of clinic from non-clinic children, and to be associated with mothers' reports and observational measures of children's misbehavior (Arnold et al. 1993). Parents rate each question, for the previous two months, on a seven-point scale where one end has a DP anchor and the other end an appropriate parenting response. For example, for the item “When there's a problem with my child”, the response “things build up and I do things I don't mean to do” anchors one end of the scale and “things don't get out of hand” anchors the opposite end. In the current study the whole-scale score demonstrated good internal consistency ($\alpha = .83$), as did the three subscales defined by Rhoades and O'Leary (2007) as DP Laxness ($\alpha = .64$; mean $r = .24$); DP Over-Reactivity ($\alpha = .68$; mean $r = .31$), and DP Hostility (e.g.) ($\alpha = .67$; mean $r = .43$).

Measure of Children's Peer Problems

The Brief Bullying Report: Class Grid Format. The Brief Bullying Report (Sanders and Healy 2008) asks teachers to rate how much physical bullying (“pushed around, hit, tripped”), verbal bullying (“teased, called names, taunted”), social bullying (“shunned, left out, rejected”) and total bullying each child receives. No time period is specified. It demonstrated good internal consistency ($\alpha = .90$).

Things Kids Do (TKD) Bullied. Things Kids Do (TKD; Healy and Sanders 2008b) asks children to rate the amount of specific peer behaviors experienced over the past week on a five-point scale ranging from “not at all” to “heaps”. The TKD Bullied subscale includes negative peer behaviors that are verbal (e.g. “Did other kids at school call you names?”), physical (e.g. “Did other kids at school hit or punch you?”) and relational (e.g. “Did other kids at school say you couldn't play with them?”). TKD Bullied demonstrated good internal consistency ($\alpha = .91$).

Peer Problems Subscale of the Strengths and Difficulties Questionnaire (SDQ). The Strengths and Difficulties Questionnaire (Goodman 1999) is a 25-item parent report of child behavior that has previously been found to discriminate between children from low versus high-risk samples (Goodman and Scott 1999). Parents rate whether each child behavior is “not true”, “somewhat true” or “certainly true” over the last six months. The Peer Problems subscale consists of five items (e.g. “has at least one good friend”) and demonstrated acceptable internal consistency in this sample ($\alpha = .62$; mean $r = .38$).

Prosocial Behavior Subscale (SDQ). Prosocial Behavior includes five items on children's kind behavior towards others (e.g. "shares readily with other children"), It demonstrated acceptable internal consistency with this sample ($\alpha = .64$; mean $r = .27$).

Measures of Children's Emotional Problems

The Preschool Feelings Checklist. The Preschool Feelings Checklist (PFC) is a brief 16-item parent checklist of symptoms of depression (Luby et al. 1999). Parents answer "yes" or "no" for each question (e.g. "Frequently appears sad or says he/she feels sad"). No time period is specified. The PFC has demonstrated good validity in discriminating young children diagnosed with depression and correlates well with other established depression measures (Luby et al. 2004). Healy et al. (2013) found this scale discriminated between primary school children (5–12 years) reported by teachers to be bullied from those who were not. This PFC demonstrated acceptable internal consistency ($\alpha = .73$).

Things Kids Do (TKD) Upset. TKD Upset is a single item from TKD. After rating the frequency of negative peer behaviors in the past week (comprising TKD Bullied), the child rates how upset they felt about peer behaviors, on a five-point scale from "not upset" to "very upset" portrayed by five simple line-drawings of faces.

Emotional Symptoms Subscale (SDQ). Emotional Symptoms is a five-item subscale about internalizing emotional symptoms (e.g. "nervous and clingy in new situations"). It demonstrated acceptable internal consistency with this sample ($\alpha = .73$).

Measures of Children's Behavioral Problems

Conduct Problems Subscale (SDQ). Conduct Problems of the SDQ (Goodman 1999) includes five items on children's antisocial behavior (e.g. "often loses temper"), and had acceptable internal consistency in this sample ($\alpha = .65$; mean $r = .27$).

Hyperactivity Subscale (SDQ). The Hyperactivity subscale (Goodman 1999) is a five-item parent scale measuring over-activity (e.g. "constantly fidgeting or squirming"). It demonstrated good internal consistency with this sample ($\alpha = .80$).

Statistical Analyses

To estimate the variance in each child adjustment variable associated with the parenting measures, we conducted a series of hierarchical multiple regressions from Statistical Package for Social Sciences (SPSS), as described by Tabachnick and Fidell (2007). Predictor variables were entered into the regression analyses in the following order: at Step 1, schools were entered; at Step 2, demographic variables were entered including child grade, gender, education of main caregiver and income; at Step 3, the measure of DP was added and at Step 4, the measure of FP was added. Analyses were initially conducted with whole parenting scales then repeated using the DP and FP subscales instead.

Results

Preliminary Analyses

Preliminary analyses revealed that all measures of children's adjustment were non-normally distributed on both Kolmogorov–Smirnov ($p < .001$) and Shapiro–Wilk tests ($p < .001$). All were strongly skewed ($p < .001$), and most were also highly kurtosed. The FP Scale was non-normal though less extreme ($p = .011$ on Shapiro–Wilk; $p = .001$ on Kolmogorov–Shirnov) and The Parenting Scale approached non-normality on the Kolmogorov–Shirnov ($p = .086$). It is quite common for distributions of psychological measures to produce distributions with significant skewness and kurtosis (Blanca et al. 2013). However, because Hierarchical Multiple Regression assumes normality (Tabachnick and Fidell 2007), several data transformations were attempted. Of these, square root transformation was most successful in reducing skewness and kurtosis across all variables. Analyses conducted separately with either transformed or original scales yielded the same pattern of results. Hence analyses with original scales were retained and reported. High levels of tolerances for all predictors indicated no problems of multi-collinearity. A missing values analysis indicated that 0.9 % of teacher data, 0.5 % of child data and 13.5 % of parent data were missing.

Little's test indicated data was missing completely at random, meaning that the probability of any data point being missing was not related to scores on any measured variables, $\chi^2(37) = 29.43$, $p = .808$.

Table 1 shows correlations between the whole-scale parenting measures, child adjustment and demographic variables. All measures of child adjustment were significantly correlated with each other except for the children's TKD scales. The TKD scales were positively associated with each other and with the teacher's report of Child Bullied, and TKD Bullied was significantly associated with the parent report of Peer Problems. Eight of the nine child adjustment measures were significantly correlated with at least one of the parenting scales. FP was significantly associated with seven and DP with six of the nine measures of child adjustment. FP was negatively associated with all measures of child social, emotional and behavioral problems except for the TKD subscales and had a significant positive association with children's prosocial behavior. DP had significant positive associations with all measures of behavior problems and some emotional and peer scales including TKD Bullied. The parenting scales were negatively correlated with each other. Parental educational and income were positively associated with FP and negatively associated with DP.

Table 2 shows the means and standard deviations for the parenting subscales and their correlations with measures of child adjustment. A sub-set of FP subscales including Warmth, Supports Friendships, Not Conflicting, Child Communicates and Coaches had significant associations with five of the nine children's adjustment measures including Peer Problems, Prosocial Behavior, Depression, Conduct Problems and Hyperactivity. FP Enables Independence had significant negative associations with both teacher's and children's reports of bullying (TKD). DP Over-Reactivity had significant positive associations with Peer Problems, Emotional Problems, Depression and Conduct Problems, and a significant negative association with Prosocial Behavior. Teacher reports of Child Bullied had significant negative associations with FP Warmth, FP Supports Friendships, FP Enables Independence and a positive association with DP Laxness. Children's reports of TKD Bullied were significantly negatively associated with FP Communicates with Teacher, FP Enables Independence and DP Laxness. TKD Upset was significantly negatively associated only with FP Not Aggressively Defensive.

Parenting and Children's Relationships with Peers

Table 3 reports regression analyses on the four measures of children's peer relations using whole-scales of DP and FP at Steps 3 and 4 respectively. For the teacher report of Child Bullied, the overall model accounted for 21 % of the total variance. Inclusion of schools at Step 1 and demographics at Step 2 significantly increased the amount of variance explained by the model. Inclusion of DP at Step 3, ($F [1, 171] = 5.38$, $p = .022$), and FP at Step 4 ($F [1, 170] = 8.21$, $p = .005$) made significant further improvements. The variables which accounted for significant unique variance at Step 4 were attendance or not at several schools, children's grade ($\beta = .20$, $p = .005$) and FP ($\beta = -.23$, $p = .005$); that is, teachers' reports of the child being bullied were associated with higher year levels at school and lower levels of FP. When the regression was repeated using parenting subscales instead of whole scales, the model accounted for 27 % of the variance in Child Bullied. The inclusion of DP subscales at Step 3 ($F [3, 167] = 1.95$, $p = .123$) failed to make a significant difference and the FP subscales at Step 4 ($F [11, 156] = 1.63$, $p = .095$) made a marginal difference. The variables which accounted for unique variance at Step 4 were attendance or not at several schools, the child's grade ($\beta = .20$, $p = .015$), and FP Supports Friendships ($\beta = -.21$, $p = .046$), meaning that teachers' reports of the child being bullied were associated with higher year levels at school and lower levels of parents' supporting children's friendships.

Table 3 shows that for the child report outcome variable of TKD Bullied, the overall model accounted for a significant proportion of variance (15 %). Inclusion of schools at Step 1 and DP at Step 3 ($F [1, 169] = 4.72$, $p = .031$) significantly improved the model. Attending specific schools and DP ($\beta = .19$, $p = .032$) also accounted for unique variance. That is children's reports of being bullied increased with parents' reports of DP and attending some schools. When parenting subscales were included instead of whole parenting scales, the regression equation accounted for 24 % of variance in TKD Bullied. The DP subscales failed to make a significant difference at Step 3 ($F [3, 165] = 1.07$, $p = .365$), and the FP subscales made a marginal improvement at Step 4 ($F [11, 154] = 1.65$, $p = .091$). The only parenting subscale which made a significant unique contribution at was FP Not

Aggressively Defensive ($\beta = .17, p = .044$); that is, children reports of bullying increased as parents were less aggressively defensive.

For the child outcome of Peer Problems, the overall regression using whole parenting scales explained 24 % of the variance. Addition of demographics at Step 2, then DP at Step 3 ($F [1, 171] = 5.30, p = .023$), significantly improved the model. Addition of FP at Step 4 made a further significant improvement, $F (1, 170) = 23.60, p < .001$. With all variables included, FP was the only predictor variable that accounted for a significant amount of unique variance ($\beta = -.39, p < .001$). That is, parents' reports of children's problems with peers decreased the more they reported using FP. When parenting subscales were utilized, the overall model accounted for 32 % of variance in Peer Problems. Addition of DP subscales at Step 3 did not make a significant difference ($F [3, 167] = 2.08, p < .105$), but addition of FP subscales at Step 4 significantly improved the model, $F (11, 156) = 3.84, p < .001$. The parenting subscales which explained unique variance in Peer Problems at Step 4 were FP Supports Friendships ($\beta = -.40, p < .001$) and FP Not Conflicting ($\beta = -.18, p = .039$). That is as children's peer problems increased, parents reported supporting children's friendships less and more parent-child conflict.

The regression using whole parenting scales accounted for 25 % of variance for the outcome of children's Prosocial Behavior. Addition of demographic variables at Step 2 significantly improved the model, but inclusion of DP at Step 3 did not $F (1, 171) = .87, p = .351$. Inclusion of FP at Step 4 improved the model $F (1, 170) = 25.94, p < .001$. With all variables included, the ones that accounted for significant unique variance were FP ($\beta = -.41, p < .001$), and child gender ($\beta = -.20, p = .009$); that is, children's prosocial behavior increased with parents' use of FP, and with being a girl. When parenting subscales were used for whole scales, the model accounted for 34 % variance in Prosocial Behavior. Addition of DP subscales at Step 3 was marginally significant $F (3, 167) = 2.48, p = .063$ and addition of FP subscales at Step 4 made a significant contribution $F (11, 156) = 3.43, p < .001$. The only variables which accounted for unique variance at Step 4 were gender ($\beta = -.21, p = .006$) and FP Coaches ($\beta = .22, p = .015$); that is, children's prosocial behavior increased with being a girl and parental coaching.

Parenting and Children's Emotional Symptoms

Table 4 reports regression analyses on children's emotional symptoms using whole-scales of parenting.

For the outcome of child depression, total variance explained by the model was significant at 18 %. Inclusion of demographic variables at Step 2 significantly improved the model, $F (4, 172) = 4.15, p = .003$. Addition of DP at Step 3 made a marginal improvement, $F (1, 171) = 2.87, p = .092$, and inclusion of FP at Step 4 made a significant improvement, $F (1, 170) = 9.66, p = .002$. At Step 4, the only variables which accounted for a significant amount of variance in child depression were FP ($\beta = -.26, p = .002$) and child gender ($\beta = .17, p = .032$); that is, child depression was associated with lower levels of FP and being a boy. When parenting subscales were used instead of whole scales, the overall model accounted for 32 % of variance in child depression. Addition of DP scales improved the model at Step 3 ($F [3, 167] = 3.87, p = .010$), as did FP subscales at Step 4 ($F [11, 156] = 3.13, p = .001$). Variables which accounted for unique variance in children's depression at Step 4 were FP Child Communicates ($\beta = -.32, p = .001$), FP Not Conflicting ($\beta = -.28, p = .002$), DP Laxness ($\beta = -.16, p = .040$) and child gender ($\beta = .16, p = .041$). That is higher child depression was associated with less communication by the child to the parent, more parent-child conflict, less lax parenting, and the child being a boy.

Table 4 shows that for the child rating of TKD Upset, total variance explained by the model was significant at 17 %. Inclusion of schools, at Step 1, accounted for a significant proportion of variance, $F (7, 175) = 3.88, p = .001$, but inclusion of demographic and parenting variables at Steps 2, 3, and 4 made no further significant improvements to the model. When all variables were included at Step 4, the only variables which explained a significant proportion of variance in children's reports of upset were children's attendance or not at two schools; attendance at either of these two schools was associated with children reporting less upset from peer behavior in the last week. When parenting subscales were used instead of whole parenting scales at Steps 3 and 4, total variance explained increased to 25 % and addition of FP subscales at Step 4 made a marginal improvement to the model,

$F(11, 155) = 1.67, p = .084$. The variables which accounted for unique variance at Step 4 were attendance or not at one of two schools, FP Supports Friendships ($\beta = -.22, p = .035$) and FP Enables Independence ($\beta = -.19, p = .036$); that is children's reports of more upset were associated with not attending two schools, and with their parents supporting friendships less and enabling their independence less.

With respect to children's Emotional Symptoms as an outcome variable, the model using whole parenting scales in Table 4 did not explain a significant amount of variance (9 %). Addition of neither schools nor demographic variables at Steps 1 or 2 made a significant contribution. Addition of DP at Step 3 made a marginal improvement, $F(1, 171) = 2.92, p = .089$. Inclusion of FP at Step 4 did significantly improve the model, $F(1, 170) = 9.09, p = .003$. At Step 4 FP was the only variable which accounted for a significant proportion of unique variance in child Emotional Symptoms, ($\beta = -.27, p = .003$), indicating that the lower levels of child emotional symptoms were associated with higher levels of FP. When parenting subscales were used instead of whole-scales, total variance explained by the model moved to significance at 24 %. There were significant improvements to the model at both Step 3 with inclusion of DP subscales ($F[3, 167] = 3.55, p = .016$) and at Step 4 with inclusion of FP subscales ($F[11, 156] = 2.83, p = .002$). Variables which accounted for significant unique variance in Emotional Symptoms at Step 4 were FP Not Conflicting ($\beta = -.32, p = .001$) and FP Child Communicates ($\beta = -.21, p = .003$); that is, higher levels of children's emotional symptoms were associated with higher levels of parent-child conflict and more communication from the child to the parent.

Parenting and Children's Behavior Problems

Table 5 reports regressions on outcome variables of child behavior problems, using whole parenting scales. The combined predictor variables accounted for a statistically significant proportion of variance for Conduct Problems (19 %). Addition of demographic variables at Step 2 significantly improved the model ($F[4, 172] = 4.42, p = .002$), as did addition of DP at Step 3 ($F[1, 171] = 6.95, p = .009$), and inclusion of FP at Step 4, $F[1, 170] = 5.22, p = .024$. With all predictor variables included at Step 4, the variables which accounted for a significant amount of unique variance in children's Conduct Problems were FP ($\beta = -.19, p = .024$), child gender ($\beta = .17, p = .030$) and attendance at one particular school ($\beta = -.22, p = .026$). That is higher levels of children's conduct problems were associated with lower levels of FP, being a boy and attending a specific school. When regression analyses were repeated using parenting subscales, the proportion of variance in Conduct Problems accounted for was higher at 39 %. Addition of DP subscales at Step 3 ($F[3, 167] = 8.44, p < .001$) as well as FP subscales at Step 4 ($F[11, 156] = 3.35, p < .001$) significantly improved the model. At Step 4, the variables which accounted for significant variance in Conduct Problems were FP Not Conflicting ($\beta = -.36, p < .001$), FP Communicates with Teacher ($\beta = .19, p = .030$), child gender ($\beta = .16, p = .030$) and attending a specific school ($\beta = .19, p = .040$). That is, higher levels of child conduct problems were associated with more parent-child conflict, more effective parent-teacher communication, with the child being a boy, and attending a specific school.

Table 5 shows that the combined predictor variables with whole parenting scales accounted for 23 % of the variance in the outcome variable of child Hyperactivity. Addition of demographics at Step 2 improved the model ($F[4, 172] = 8.34, p < .001$) but inclusion of DP at Step 3 did not ($F[1, 171] < .01, p = .482$). Inclusion of FP at Step 4 made a significant improvement, $F(1, 170) = 11.42, p = .001$. The only variables which accounted for a significant amount of unique variance at Step 4 were child gender, ($\beta = .29, p < .001$), FP ($\beta = -.27, p = .001$), and parental education ($\beta = -.18, p < .022$), meaning that higher levels of child hyperactivity were associated with lower levels of FP, being a boy and having a more educated main caregiver. When parenting subscales were used instead of whole parenting scales, the regression equation explained 32 % of the variance in child Hyperactivity. Variance explained by the model incrementally improved at Step 2 with addition of demographic variables, at Step 3 with addition of DP subscales ($F(3, 167) = 3.44, p = .018$) and at Step 4 with addition of FP subscales ($F(11, 156) = 1.92, p = .040$). At Step 4, the variables which accounted for unique variance in child Hyperactivity were child gender ($\beta = .31, p < .001$), DP Laxness ($\beta = -.22, p < .004$), Parent Education ($\beta = -.21, p < .011$), and FP Not Conflicting ($\beta = -.19, p < .032$); that is higher levels of child Hyperactivity were associated with being a boy, parents being less lax, the main caregiver being less educated, and higher levels of parent-child conflict.

Discussion

The present study confirmed the importance of parenting practices, and more specifically FP, to a broad range of social, emotional and behavioral adjustment difficulties in children. Our hypotheses were mainly supported with some notable exceptions. Hypothesis 1 was partially confirmed in that FP was significantly negatively associated with peer victimization as reported by teachers, peer problems, depression and emotional symptoms reported by parents and was positively associated with positive peer relating. However, FP was not significantly associated with either of the TKD scales measuring children's reports of negative peer behaviors in the last week and how upset children felt about these. Hypothesis 2 was partially confirmed in that DP was significantly positively associated with child conduct problems. However DP did not account for variance in children's hyperactivity. Hypothesis 3 was partially confirmed in that FP accounted for greater variance than did DP in teacher and parent reports of child peer problems and positive peer relating, peer bullying victimization, and child emotional problems. However, contrary to Hypothesis 3, DP better accounted for variance in the child report of negative peer behavior in the last week (TDK Bullied). Hypothesis 4 was partially confirmed in that DP did account for some variance in conduct problems. However, contrary to Hypothesis 4, FP was a significantly better predictor of both conduct problems and hyperactivity than was DP.

The significant associations between FP and teachers' and parents' reports of children's peer relating, victimization and emotional problems were consistent with our predictions. FP is characterised by warmth, responsiveness, support of friendships and enabling children's independence, all of which have been previously linked to positive child social and emotional development. FP was the only variable that accounted for significant unique variance in children's peer problems and emotional symptoms, and also accounted for unique variance in the teacher report of bullying, child depression, children's prosocial behavior, and conduct problems. We had not expected that FP would account better for variance in hyperactivity and conduct problems than would DP. Nor was it predicted that DP would account better than FP for variance in children's reports of victimization by peers. These findings will be discussed in the context of discussing effective predictors for each set of children's outcomes, taking into account analyses with subscales as well as whole parenting scales.

Parenting and Children's Relationships with Peers

Given that FP describes practices known to enhance children's peer competence, and it discriminates children who are bullied (Healy et al. 2013), we hypothesized significant associations between FP and children's relationships with peers; this was supported for three of four outcome variables. FP improved the model for children's Peer Problems, Prosocial Behavior and teacher reports of Child Bullied, after all other variables were taken into account. It was the only variable which accounted for unique variance in Peer Problems. Along with child gender, FP accounted for unique variance in Prosocial Behavior, and along with children's grade and school, it accounted for unique variance for Child Bullied. Analyses with parenting subscales revealed that parents' support of friendships was relevant to children's peer problems and victimization, and parent-child conflict was associated with children having problems with peers. Parental coaching was relevant for children's prosocial skills.

The relevance of parental support to children's friendships and coaching social skills, to children's peer relationships and prosocial behavior is consistent with previous research. McDowell and Parke (2009) found parental provision of social opportunities, and direct instruction, predicted children's development of peer social skills and relationships. The relevance of parental support of children's friendships to peer victimization is consistent with previous research demonstrating the protective function of friendships against bullying by peers (Hodges et al. 1999). The association between parent-child conflict and children's peer problems is consistent with previous research. Crockenberg and Lourie (1996) found that parents' use of coercion as opposed to negotiation predicted children's use of manipulation and negotiation with peers and their social competence over time. The relevance of gender to children's to children's prosocial behavior is consistent with

previous findings that girls are rated higher on Prosocial Behavior on the SDQ, by both parents and teachers (Leeuwen et al. 2006). The positive association between teachers' reports of victimization and children's grade level is consistent with Australian research reporting increasing peer victimization over primary school years until Grade 4 (Cross 2007). The school which children attended predicted unique variance in teachers', as well as children's, reports of victimization. This is consistent with previous findings that some schools have higher rates of bullying than others (Rigby 2008).

The analyses of the children's report of TKD Bullied showed a different pattern of results to other measures of children's peer relationships. When whole parenting scales were utilized, inclusion of dysfunctional but not FP improved the model, but when parenting subscales were used, DP subscales made no significant difference and FP subscales made a marginal difference. TKD Bullied had weak and non-significant associations not only with the parenting scales but also with most other variables of child adjustment. There was a modest significant correlation between TKD Bullied the teacher report Child Bullied, consistent with previous research documenting generally low consistency across different raters on bullying victimization (Bowes et al. 2013; Ronning et al. 2009; Wienke Totura et al. 2009). TKD Bullied asks children to report on peer behaviors in the last week at school. The test-retest reliability is not known, and nor, to our knowledge, is there research into weekly stability in victimization of children using other measures. Perhaps weekly variability in children's experiences of negative peer behaviors swamped any smaller associations between the TKD measures and most other variables. One FP subscale accounted for unique variance in TKD Bullied: children who reported more bullying had parents who reported being less aggressively defensive in response to perceived threats to their child i.e. loading in the opposite direction than expected. Despite the (non-significant) positive correlation FP Not Aggressively Defensive has with TKD Bullied (Table 2), it has a significant positive correlation with whole scale FP, and a significant negative correlation with TKD Upset (Table 2), making this finding difficult to interpret.

When whole parenting scales were used, DP accounted for unique variance in TKD Bullied. The measure of DP, the Parenting Scale, includes items on hostile, over-reactive and permissive parenting (Rhoades and O'Leary 2007). Hostile, coercive parenting is best known for its role in the development of children's aggressive behavior (Patterson 1982). However several studies have also linked harsh, coercive parenting and child abuse to peer victimization (Bowes et al. 2009; Duncan 1999; Rigby 1993). In a large-scale longitudinal study of young children, Barker et al. (2008) found that high levels of harsh, reactive parenting predicted ongoing trajectories of high chronic peer victimization for children as rated by teachers and children, after taking into account previous child behavior and family demographics. Perry et al. (2001) argued that coercive parenting can lead to children developing internalizing problems, which, in turn, puts children at ongoing risk for peer victimization (Hodges and Perry 1999). Several studies have found that harsh, hostile parenting may also play a role in the socialization of the minority of victims who are provocative (rather than passive) victims of bullying (e.g. Rigby 1994). In a longitudinal study of families of pre-school boys, Schwartz et al. (1997) found that boys who emerged as aggressive victims of bullying in Grade 3 or 4 had preschool histories of possible abuse, restrictive discipline, exposure to marital violence and maternal hostility. Our finding that DP is associated with peer victimization is consistent with these previous findings that harsh, hostile parenting is a risk factor for child peer victimization. If children who experience harsh, hostile parenting tend to experience high stable levels of victimization (Barker et al. 2008), their experiences of negative peer behavior, as measured by TKD Bullied, may vary less week by week than for other children, and explain the prominence of DP in this analysis.

Parenting and Children's Emotional Problems

For all three measures of children's emotional problems, inclusion of FP significantly improved the models, and accounted for variance better than DP. FP was the only variable that accounted for unique variance in children's Emotional Symptoms and, along with being a boy, accounted for unique variance in children's depression. When parenting subscales were utilized, the FP subscales Child Communicates and Not Conflicting accounted for unique variance in both children's depression and Emotional Symptoms. The DP subscale, DP Laxness, also accounted for unique variance in child depression, with greater depression being associated with less permissive parenting.

Our findings of associations between parent–child communication and conflict, and between children’s emotional problems and depression, are consistent with previous research. Higher rates of parent–child conflict have been found to predict poorer responses to treatment and lower remission in the treatment of children’s and adolescent’s depression (Feeny et al. 2009; Rengasamy et al. 2013). In a review of interpersonal relationships of people with depression, Chiariello and Orvaschel (1995) reported that communication between depressed children and their parents was reduced in both frequency and depth compared to other children, and argued that this relationship is likely to be bi-causal given that children who are depressed are also more likely to have parents who are depressed and less communicative. Taken together, the prominence of parent–child conflict and communication in accounting for children’s emotional problems implies that children who are emotionally distressed tend to experience less supportive communication with the parent, perhaps particularly related to discussing difficulties. Bowes et al. (2010) found that warm, responsive family relationships are a protective factor against the emotional impacts of peer victimization on children. In our analyses of children’s emotional problems, although FP Warmth was one of a group of subscales that was significantly correlated with children’s emotional problems, it did not account for unique variance whereas FP subscales concerned with parent–child conflict and communication did. This suggests that the quality and depth of communication may provide a supportive function for child beyond warmth. Availability of parents to discuss difficulties and work through conflicts with children may be important for children to debrief and process their emotional reactions.

The negative association between child depression and parental laxness (i.e. permissiveness) was not predicted. Rhoades and O’Leary (2007) reported a positive association between parental laxness and children’s behavior problems. To our knowledge, there is no previous research examining the relationship between child depression and parental permissiveness. However parental permissiveness may be interpretable within the context of the FP subscales relevant to children’s emotional problems. Low levels of children’s emotional problems are associated with low levels of parent–child conflict, high levels of communication and high levels of permissiveness. The items on the FP Scale relevant to FP Child Communicates are mainly to do with the child approaching the parent to discuss issues—so in terms of parenting behavior suggests the parent is approachable. It may be that parents who are more permissive are more easy-going, negotiable and approachable for children having emotional problems to raise issues with and resolve conflicts. On the other hand, low levels of permissive parenting may correlate with over-directive parenting, which can lead to reduced capacity of children to manage negative emotions (Graziano et al. 2010). Hence parenting which best minimises behavior problems may be slightly different to what is ideal for children with emotional problems.

Children’s depression was also predicted by a demographic variable, with being a boy associated with unique variance in depression. Previous studies have reported no gender differences for depression in pre-school children using the same measure, or in elementary school children using other measures (Brozina and Abela 2006; Meehan et al. 2008). Perhaps our sample was different to others reported, and further research may clarify the relationship between gender and depression for this age-group.

The children’s report, TKD Upset measures how upset children were by peer behaviors in the past week. This showed different results than for other measures of child emotional problems, with neither family demographics, nor whole-scale dysfunctional nor FP improving the model. However, when parenting subscales were utilized, inclusion of FP subscales improved the model, and FP Supports Friendships and FP Enables Independence accounted for unique variance. The importance of children’s friendships to their emotional adjustment is consistent with previous findings that having close friends is associated with decreased problems of depression and loneliness (Nangle et al. 2003), and attenuates the negative emotional impacts caused peer victimization (Hodges et al. 1999). McDowell and Parke (2009) have previously demonstrated the capacity of parents to influence children’s friendships. The relevance of parents’ enabling children’s independence to children’s distress is consistent with previous research that over-controlling parenting leads to reduced capacity of children to manage negative emotions (Graziano et al. 2010).

Parenting and Children's Behavior Problems

A major unexpected finding of this study was that FP provided a better account than did DP of children's behavioral problems. Inclusion of both dysfunctional and FP improved the model for conduct problems, but, for hyperactivity, only FP made a significant difference. FP, unlike DP parenting, accounted for unique variance in both conduct problems and hyperactivity. Being a boy was also associated with higher levels of both conduct problems and hyperactivity, and having more educated parents was associated with lower levels of hyperactivity. When parenting subscales were utilized, the FP subscale of Not Conflicting was associated with lower levels of both children's conduct problems and hyperactivity. Conduct problems were also associated with the FP subscale of better parent-teacher communication, which was not expected, and will be discussed.

Recent longitudinal research with young children with signs of hyperactivity supports the relevance of warm, responsive parenting to children's later inattentiveness (Keown 2012), of relevance to whole-scale FP. The association of FP subscale, FP Not Conflicting, with lower levels of both children's conduct problems and hyperactivity is consistent with previous research. High levels of parent-child conflict have been found to predict later conduct problems in at-risk primary school children (Wasserman et al. 1996). Burt et al. (2003) assessed the relationship between parent-child conflict and children's hyperactivity and conduct disorder using structural equation modelling. They found a direct link between parent-child conflict and children's hyperactivity and conduct disorder, which was not mediated by parental involvement or positive regard for the child, and concluded that parent-child conflict acts as a vulnerability that increases risk of multiple externalizing disorders for children. This is consistent with our finding that parent-child conflict, rather than lack of warmth, accounted for unique variance in both children's conduct problems and hyperactivity, as well as children's emotional and social problems.

Several other variables accounted for unique variance in conduct problems and hyperactivity. Boys had higher levels of both conduct problems and hyperactivity, consistent with previous research documenting higher scores for boys for both conduct and hyperactivity scales on the SDQ (e.g. Klein et al. 2013; Leeuwen et al. 2006) and for diagnosis rate of Attention Deficit Hyperactivity Disorder (Huss et al. 2008). Higher levels of parent education were associated with lower levels of child hyperactivity. We are not aware of any research reporting on the relationship between parental education and hyperactivity. However, given the strong genetic basis of hyperactivity (Nikolas and Burt 2010), it is reasonable to expect that parents' own hyperactive tendencies may interfere with their progress through formal education.

Analyses with parenting subscales also showed that higher levels of children's conduct problems were associated with more effective parental communication with the teacher reported by the parent. We are not aware of previous research examining the relationships between parent-teacher communication and children's conduct problems. It may be that, for children with behavior problems, teachers are more likely to initiate collaboration between home and school in order to improve child behavior in class.

Facilitative parenting describes a set of parenting strategies relevant to children's development of peer relationships. It was therefore expected that FP would be associated with measures of children's peer relating and victimization. Because FP components of warmth and enabling independence (as opposed to being over-directive) are relevant to children's emotional as well as social adjustment, it was hypothesized that FP would also be associated with children's emotional adjustment, and this was strongly supported in this study. It was not expected that FP would predict conduct problems and hyperactivity better than DP. A sub-set of FP subscales including Warmth, Supports Friendships, Not Conflicting, Child Communicates and Coaches had significant associations with a diverse range of children's adjustment measures including Peer Problems, Prosocial Behavior, Depression, Conduct Problems and Hyperactivity. It may be that these components of FP function as a protective mechanism which helps children's to regulate their own emotions and behavior in response to challenges from peers, adults or environment. This protective mechanism may be to do with the capacity to form strong supportive relationships with others. Parents who demonstrate FP not only build strong relationships with their child but enable their child to build strong relationships with peers. Bowes et al. (2010) found that children are more emotionally resilient to the stressor of bullying if they are warm supportive family relationships. Having a close friend also protects children and adolescents against emotional distress and depression as well as

externalizing behaviors that are typically consequences of victimization (Hodges et al. 1999; Denny et al. 2004). Therefore parenting which helps children develop strong supportive relationships with both parents and peers offers children emotional and behavioral resilience at home and at school.

The FP subscale Not Conflicting explained unique variance in a broad range of children's adjustment problems including peer victimization (teacher report), peer problems, depression, emotional problems, conduct problems and hyperactivity. The way parents manage conflict with children and their ability to resolve conflicts with their children, rather than having repeated altercations and ongoing tension, may be central to the development of children's capacity to manage their emotions, behavior and relationships. Children first learn how to relate to peers through their interactions with their parents and siblings (Pettit et al. 1988, 1991). Thus, if children learn from their parents, how to be approachable, resolve disputes, forgive others, negotiate and accommodate others' needs as well as their own, this would assist them in developing healthy peer relationships. Experiencing less ongoing conflict at home and at school is likely to minimise children's negative emotions and acting out behavior, and in turn strengthen their relationships with others.

The strengths of this study included its application of facilitative and DP to a wide range of children's adjustment problems, a sample which included a broad range of cultural and socio-economic diversity, and use of multiple informants. A major limitation was the cross-sectional design, and further research could examine the relevance of FP to children's adjustment over time. The current study also included a broad age-group of children and further research could examine whether FP is differentially effective with children of different ages. The FP Scale would benefit from more psychometric study of its temporal stability, change sensitivity and factorial structure.

In conclusion, this study demonstrated the association between FP and a wide range of children's social, emotional and behavioral outcomes. The significant relationships between FP and children's peer relationships and emotional problems were consistent with previous research. The relevance of DP to accounting for variance in child reports of bullying, and FP to accounting for teacher reports of bullying, suggests that both facilitative and DP are relevant to intervening in and monitoring parenting which supports children bullied by peers.

The relevance of FP to conduct problems and hyperactivity raises the interesting question of whether FP, through fostering strong, supportive relationships with parents and peers may provide a protection against a wide range of children's adjustment problems.

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Tables

Table 1 Means, SD's and inter-correlations between all variables

Variables	Respondent	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Child gender		n/a	–														
2. Child grade		2.64 (1.69)	.00	–													
3. Parent education		n/a	–.07	–.13	–												
4. Income		n/a	.08	–.22**	.30***	–											
5. Facilitative parenting (FP)	Parent	3.84 (.36)	–.22	–.14	.16*	.27***	–										
6. Dysfunctional parenting (DP)	Parent	3.06 (.55)	.16	.03	–.16*	–.28***	–.46***	–									
7. Child bullied	Teacher	1.89 (1.14)	.09	.27***	–.20**	–.07	–.29***	.18*	–								
8. TKD bullied	Child	.67 (.71)	.10	–.05	–.13	.05	–.04	.17*	.37***	–							
9. TKD upset	Child	1.61 (1.51)	.025	–.08	–.07	.08	–.07	.10	.31**	.63**							
10. Peer problems	Parent	1.62 (1.79)	.15*	.15*	–.16*	–.13	–.44***	.23**	.38***	.15*	.10	–					
11. Prosocial	Parent	8.06 (1.77)	–.28***	–.03	–.00	.07	.37***	–.14	–.17*	–.01	.01	–.34***	–				
12. Emotional problems	Parent	2.15 (2.30)	.02	.02	–.08	–.01	–.25**	.15	.18*	–.01	.03	.44***	–.25**	–			
13. Child depression	Parent	1.65 (2.28)	.18*	.15*	–.08	–.10	–.34***	.223**	.24**	.11	.04	.55***	–.31***	.56***	–		
14. Conduct problems	Parent	1.70 (1.79)	.17*	.01	–.08	–.15*	–.30***	.30***	.30***	.13	.14	.40***	–.43***	.44***	.47***	–	
15. Hyperactivity	Parent	3.42 (2.52)	.29***	.05	–.21**	–.15*	–.33***	.16*	.23**	.13	.14	.37***	–.30***	.34***	.50***	.48***	–

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

Table 2 Means, SD and inter-correlations between parenting sub-scales and other variables

Variables	FP warmth	FP supports friendships	FP not over-protect	FP not conflic	FP child comm	FP coach	FP comm teachr	FP not school over involved	FP not aggress defens	FP enables indep	FP not over directive	TPS lax	TPS over react	TPS hostility
Mean (SD)	4.38 (.54)	3.86 (.69)	3.49 (.72)	1.76 (.81)	4.04 (.70)	3.81 (.62)	4.14 (.73)	3.85 (1.14)	4.16 (.76)	3.08 (.75)	3.00 (.90)	2.53 (.81)	3.25 (.98)	1.90 (.92)
Child gender	-.14	-.19*	-.06	-.05	-.20**	-.05	.00	-.16*				.07	.12	.13
Child grade	-.23**	-.18*	-.06	.02	-.13	.03	-.20**	.10	.07	.15*	.07	.01	.03	.02
Parent education	.03	.15*	.25*	.07	.06	.08	.13	-.14	-.04	.15*	.04	-.21**	.06	-.16*
Income	.16*	.22*	.26**	-.22**	.15*	.08	.25**	-.15*	.03	.00	.12	-.20**	-.17*	-.33
Facilitative parenting (FP)	.67***	.73***	.44***	.47***	.64***	.56***	.47***	.05	.30***	.48***	.26***	-.21**	-.49***	-.34***
Dysfunctional parenting (DP)	-.32***	-.29***	-.28***	-.37***	-.30***	-.32***	-.15*	.05	-.07	-.31***	-.15*	.66***	.62***	.60***
Child bullied (teacher)	-.24**	-.31***	-.14	-.07	-.11	-.14	-.08	.08	.03	-.22**	-.06	.15*	.05	.10
TKD bullied (child)	-.04	-.02	-.04	-.04	.05	-.06	.16*	-.11	.12	-.18*	-.08	.15*	.05	.10
TKD upset (child)	-.03	-.14	.03	.04	.03	-.09	.04	.05	-.25**	-.06	.03	.09	.02	.11
Peer problems	-.26***	-.41***	-.21**	-.21**	-.30***	-.26***	-.16*	.02	-.04	-.11	-.11	.06	.20**	.19**
Prosocial	.38***	.16*	-.05	.28***	.41***	.39***	.22**	.06	.04	.22**	-.05	-.09	-.27***	-.13
Emotional problems	-.15*	-.13	-.11	-.29***	-.25**	-.20**	-.05	-.03	-.04	-.04	.02	-.02	.22**	.09
Depression	-.28***	-.21**	-.10	-.34***	-.40***	-.23**	-.08	-.05	-.01	-.12	.00	.02	.27***	.18*
Conduct problems	-.21**	-.18*	.00	-.46**	-.30***	-.30***	-.00	.03	-.10	-.26***	.05	.07	.38***	.31***
Hyperactivity	-.22**	-.22**	-.11	-.26***	-.30***	-.23**	-.13	.06	-.10	-.23**	.03	-.01	.01	.14
FP warmth	1	.47**	-.11	.35***	.61***	.54***	.49***	-.04	-.03	-.32***	-.15*	-.17*	-.40***	-.21**
FP supports friendships		1	.18	-.11	.45**	.32***	.42***	-.30***	.10	.34***	.15*	-.07	-.29***	-.23**
FP not over-protective			1	-.18*	.02*	-.11	-.06	.11	.40**	-.03	.54***	-.24**	-.03	-.19**
FP not conflicting				1	.26***	.20**	-.05	.10	.23**	.22**	.11	-.12	.52***	-.31***
FP child communicates					1	.53***	.43***	-.08	.04	.27***	-.14	-.23**	-.34***	-.26***
FP coaches						1		-.04	-.09	.41***	.11	-.20**	-.38***	-.18*
FP comm teacher							1	-.26***	-.05	.21**	-.24**	-.07	-.19*	-.16*
FP not schl overinvolved								1	.09	-.09	.12	.04	-.07	.12
FP not aggress defensive									1	-.03	.29***	.02	-.09	-.06
FP enables independence										1	.01	-.07	-.36***	-.30***
FP not over-directive											1	-.01	-.01	-.04
TPS laxness												1	.18*	.26***
TPS over-reactivity													1	.48***
TPS hostility														1

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

Table 3 Hierarchical regression analyses predicting child peer problems from parenting measures

Step	Predictor variables	Child bullied—teacher report					TKD bullied—child report					Peer problems (SDQ)					Prosocial behavior (SDQ)				
		B [95 % CI]	SEB	β	R ²	AR ²	B [95 % CI]	SEB	β	R ²	AR ²	B [95 % CI]	SEB	β	R ²	AR ²	B [95 % CI]	SEB	β	R ²	AR ²
Step 1: school	Schl 1 or not	-.70	.35	-.21*	.09	.09	-.32	.23	-.15	.11	.11	-.06	.55	-.01	.05	.05	-.80	.54	-.15	.05	.05
	Schl 2 or not	-.96	.46	-.19*	*	*	-.72	.30	-.22*	**	**	.20	.72	.02			-.39	.71	-.05		
	Schl 3 or not	-.42	.31	-.17			-.31	.20	-.19			.32	.49	.08			.48	.49	.12		
	Schl 4 or not	-.21	.38	-.06			-.12	.25	-.05			.80	.60	.13			-.47	.59	-.08		
	Schl 5 or not	-.79	.37	-.24*			-.52	.24	-.25*			.16	.57	.03			-.68	.57	-.13		
	Schl 6 or not	-.78	.31	-.29*			-.65	.21	-.38**			.58	.49	.13			.08	.49	.02		
	Schl 7 or not	-.48	.48	-.08			-.26	.31	-.07			.62	.75	.07			.54	.74	.06		
Step 2: demogs	Child grade	.14 [.04, .23]	.05	.20**	.15**	.06*	-.03 [-.09, .03]	.03	-.08	.13*	.02	.08 [-.07, .23]	.00	.07	.10	.05*	-.02 [-.16, .13]	.08	-.01	.13**	.09**
	Child gender	-.10 [-.43, .23]	.17	-.05			.06 [-.16, .28]	.11	.04			.12 [-.30, .75]	.2	.03			-.70 [-1.21, -.18]	.26	-.20**		
	Parent education	-.09 [-.22, .04]	.07	-.11			-.06 [-.15, .02]	.04	-.12			-.10 [-.27, .14]	.00	-.07			-.01 [-.21, .20]	.10	-.01		
	Income	.14 [-.21, .40]	.13	.09			.09 [-.08, .26]	.09	.09			.02 [-.41, .42]	.2	-.01			.11 [-.30, .52]	.21	.04		
Step 3:	Dysfunctional parenting (DP)	.18 [-.15, .51]	.17	.09	.18**	.03*	.24 [.02, .45]	.11	.19*	.15**	.02*	.18 [-.42, .62]	.2	.05	.13**	.03*	.27 [-.24, .79]	.26	.08	.14**	.00
Step 4:	Facilitative parenting (FP)	-.73 [-1.23, .23]	.25	-.23**	.21***	.04**	.07 [-.26, .40]	.17	.04	.15**	.00	-1.95 [-2.74, -1.16]	.3	-.39***	.24***	.11***	2.02 [1.24, 2.80]	.40	.41***	.25***	.11***

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

Table 4 Hierarchical regression analyses predicting child emotional problems from parenting measures

Step	Predictor variables	Child depression					TKD upset—child report					Emotional problems (SDQ)				
		B [95 % CI]	SEB	β	R^2	ΔR^2	B [95 % CI]	SEB	β	R^2	ΔR^2	B [95 % CI]	SEB	β	R^2	ΔR^2
Step 1: schools	Sch 1 or not	.89	.73	.13	.03	.03	-.43	.48	-.10	.13**	.13**	.54	.77	.08	.02	.02
	Schl 2 or not	.02	.96	.00			-1.71	.63	-.25**			-.44	1.02	-.04		
	Schl 3 or not	1.16	.65	.23			-.36	.43	-.11			.38	.69	-.07		
	Schl 4 or not	.62	.79	.08			.35	.52	.07			.53	.84	.07		
	Schl 5 or not	1.33	.76	.19			-.92	.50	-.21			.64	.81	.09		
	Schl 6 or not	1.24	.66	.22			-1.20	.43	-.33**			.86	.70	.15		
	Schl 7 or not	-.02	1.00	-.00			-.45	.66	-.06			-.04	1.06	-.00		
Step 2: demograph	Child grade	.15	.10	-.11	.11*	.09	-.11	.07	-.12	.15	.02	-.02	.11	.02	.03	.01
		[-.05, .35]				**	[-.24, .02]			**		[-.24, .19]				
	Child gender	.76	.35	.17*			-.10	.23	-.03			-.19	.37	-.04		
		[.07 1.46]					[-.56, .36]					[-.93, .55]				
	Parent education	-.10	.14	-.06			-.07	.09	-.06			-.16	.15	-.09		
		[-.38, .17]					[-.25, .11]					[-.45, .13]				
	Income	-.03	.28	-.01			.15	.18	.07			.20	.30	.06		
		[-.58, .51]					[-.21, .51]					[-.39, -.78]				
Step 3:	Dysfunctional parenting (DP)	.14	.35	.03	.13	.02	.16	.23	.06	.16	.01	.17	.37	.04	.04	.02
		[-.55, .83]			*		[-.30, .61]			**		[-.57, .90]				
Step 4:	Facilitative parenting (FP)	-1.66	.53	-.26	.18	.05	-.39	.35	-.10	.17	.01	-1.71	.57	-.27	.09	.05
		[-2.71, -.61]		**	**	**	[-1.09, .30]			**		[-2.82, -.59]		**	**	**

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

Table 5 Hierarchical regression analyses predicting child behavioral problems from parenting measures

Step	Predictor variables	Child conduct problems (SDQ)					Child hyperactivity(SDQ)				
		B [95 % CI]	SEB	β	R ²	ΔR^2	B [95 % CI]	SEB	β	R ²	ΔR^2
Step 1: school	Schl 1 or not	.67	.57	.12	.05	.05	.46	.78	.06	.02	.02
	Schl 2 or not	-.70	.75	-.09			-1.38	1.03	-.12		
	Schl 3 or not	.90	.51	.22			.77	.70	.14		
	Schl 4 or not	1.38	.62	.22*			1.53	.85	.18		
	Schl 5 or not	1.11	.60	.21			1.30	.82	.17		
	Schl 6 or not	.53	.51	.12			.69	.74	.11		
	Schl 7 or not	1.01	.78	.11			-.32	1.07	-.02		
Step 2: demographics	Child grade	-.03 [-.19, .13]	.08	-.03	.14 **	.09 **	-.01 [-.25, .18]	.11	-.01	.18 ***	.16 ***
	Child gender	.60 [.60, 1.14]	.27	.17			1.48 [.72, 2.25]	.38	.29	***	
	Parent education	-.06 [-.28, .15]	.11	-.05			-.34 [-.70, -.06]	.15	-.18	*	
	Income	-.32 [-.74, .11]	.22	-.12			-.51 [-1.15, .05]	.30	-.13		
Step 3	Dysfunctional parenting (DP)	.43 [-.11, .97]	.27	.13	.17 **	.03 **	-.49 [-1.29, .21]	.37	-.11	.18 ***	.00
Step 4	Facilitative parenting (FP)	-.96 [-1.77, -.13]	.42	-.19	.19 ***	.03 *	-1.93 [-3.39, -1.00]	.57	-.27	.23 ***	.05 **

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