

Quality of Parent-Child Relations in Adolescence and Later Adult Parenting Outcomes

Myron D. Friesen

School of Educational Studies and Human Development,

University of Canterbury, New Zealand

Lianne J. Woodward

Department of Psychology,

University of Canterbury, New Zealand

L. John Horwood

Christchurch Health and Development Study

University of Otago, Christchurch School of Medicine and Health Sciences, New Zealand

David M. Fergusson

Christchurch Health and Development Study

University of Otago, Christchurch School of Medicine and Health Sciences, New Zealand

Please address all correspondence to: Dr. Myron D. Friesen, School of Educational Studies and Human Development, University of Canterbury, Private Bag 4800, Christchurch, New Zealand, 8140.

Email: myron.friesen@canterbury.ac.nz

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Abstract

Data from the Christchurch Health and Development Study, a 30-year prospective longitudinal study, were used to examine the associations between the quality of parent-child relations in adolescence and adult parenting behaviour 15 years later. At ages 14 and 15 years, cohort members were interviewed about the quality of their relationship with their parents. At age 30, those who had become parents underwent a parenting assessment using self-report and observational ratings of positive (warmth, sensitivity) and negative parenting (over-reactive, inconsistency, and physical punishment/abuse). Results showed that adolescents who reported higher quality parent-child relationships were later characterized by higher levels of parental warmth, sensitivity, and effective child management, and lower levels of over-reactive parenting. These associations remained after extensive covariate adjustment. Study findings highlight the importance of close parent-child relations during adolescence in preparing an individual for the challenges of caring for and parenting their own children when they themselves become parents.

Key words: adolescence, parent-child, parenting, attachment, family functioning, intergenerational, longitudinal study

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A central tenet of developmental theory is that an individual's experiences in their family of origin play an important role in shaping their later adult functioning, especially within close interpersonal relationships (Belsky, 2005; Bowlby, 1982). With respect to parenting, it is argued that children draw upon experiences with their parents to form an internal working model or mental representation of self and others, which in turn influences their capacity to nurture and care for their own children when they themselves become parents (George & Solomon, 1999; Mikulincer & Shaver, 2007). To date, much of the evidence supporting this process has focused on the intergenerational transmission of specific parenting behaviours such as aggression (Conger, Neppl, Kim, & Scaramella, 2003) and parental sensitivity (Belsky, Jaffee, Sligo, Woodward, & Silva, 2005), as well as associations between adult representations of earlier attachment relationships and concurrent parenting behaviour (van IJzendoorn, 1995). Extending on this work, the present study examines the long-term impacts of the quality of parent-child relations during adolescence on subsequent adult parenting attitudes and behaviour.

Prospective longitudinal studies examining intergenerational continuities in parenting are relatively rare. However, there is evidence for some degree of continuity for both negative and positive parenting behaviours (Capaldi, Pears, Kerr, & Owen, 2008; Chen & Kaplan, 2001; Hops, Davis, Leve, & Sheeber, 2003; Kovan, Chung, & Sroufe, 2009; Pears & Capaldi, 2001; Shaffer, Burt, Obradovic, Herbers, & Masten 2009). For example, Kovan and colleagues (2009) examined the intergenerational transmission of supportive parenting in a small ethnically diverse sample of low-income families. Results revealed a moderately strong correlation ($r=.43$) between the extent of parental supportive presence and quality of assistance ~~in~~ across the first generation (G1) and second generation (G2) parents, with this association being only slightly reduced following adjustment for parent IQ, child IQ, and family stress. In another study, Neppl, Conger, Scaramella, and Ontai (2009) examined the transmission of both punitive and positive parenting in a sample of rural youth first

recruited in early adolescence. Results showed that harsh parenting by the ~~first generation (G1)~~ predicted harsh parenting in ~~second generation (G2)~~, and similarly, positive parenting by G1 predicted positive parenting by G2. Adult externalizing problems mediated associations between G1 and G2 harsh parenting, ~~while and~~ adult academic attainment mediated the association between G1 and G2 positive parenting. These cross-generational parenting studies suggest that parents in successive generations of the same families tend to employ similar parenting strategies, with individual characteristics and/or later life-course experiences playing an important mediating role (Conger, Belsky, & Capaldi., 2009).

Alongside this body of research, several studies also highlight the important influence of an adult's internal working model of earlier childhood attachment relationships on their current parenting behaviour (for reviews see Mikulincer & Shaver, 2007; van IJzendoorn, 1995). Parents' classified as having a dismissive and preoccupied attachment representations on the Adult Attachment Interview (AAI) are less warm and sensitive towards their children than parents with an autonomous attachment style (Cohn, Cowan, Cowan & Pearson, 1992; Pederson, Gleason, Moran, & Bento, 1998; Raval, et al., 2001). For example, Cohn and colleagues (1992) found that both mothers and fathers classified as insecure were less warm and provided their children with less structure than parents classified as secure. Furthermore, those families with both parents classified as insecure were characterized by the lowest levels of maternal warmth and most difficult child behaviour. ~~While Although~~ these studies lend support to the importance of earlier family of origin parent-child relationship experiences in shaping the way they care for and protect their own children, it is important to note that ~~most existing~~ the majority of attachment research is based on cross-sectional or short-term longitudinal designs (e.g., Green, Furrer, & McAllister, 2007).

Long-term prospective longitudinal research provides a better test of the theoretical linkages between early parent-child experiences and subsequent parenting behaviour. ~~A further issue with respect to the prospective examination of the effects of earlier parent-child relations on later parenting attitudes and behaviour concerns the timing of the measurement of parent-child~~

~~relations. To date, In this regard,~~ prospective studies of the psychosocial sequelae of parent-child attachment in infancy and early childhood have yielded mixed results. A review by Thompson (1999), highlights the inconsistency of early attachment measures in predicting later outcomes apart from parent-child relationship functioning. It has been argued that very early attachment measures may be insufficient to fully capture the dynamic quality of an individual's parent-child attachment experiences over the course of childhood and adolescence (Thompson, 1999). An alternative approach is to assess the quality of the parent-child relationship when the child reaches adolescence, when they are still reliant on their parents in a number of ways but attachment relations have become relatively stable and more internalized (Allen, 2008).

Long-term prospective research ~~Such~~ designs also allow ~~the influence of~~ important individual and family of origin covariates to be examined. This is important given the possibility that these factors may either partially, or fully, help to explain associations between the quality of earlier parent-child relations and later parenting outcomes. In other words, perhaps early childhood experiences in the family of origin predict both the quality of parent-child relationships as well as later parenting characteristics, and after these experiences are included, the association between parent-child relationship quality with later parenting behaviors is largely reduced or even fully accounted for. ~~Although most studies include some control for confounding factors, Even in recent~~ often this does not go beyond broad demographic variables ~~intergenerational research~~ (e.g., Neppl et al., 2009; Shaffer et al., 2009). ~~the issue of confounding factors has only been considered with broad demographic variables.~~ Nevertheless, there is good reason to expect that a number of factors from a parent's early family of origin experiences, other than explicit parenting and parent-child relationship factors, may be significantly associated with their later parenting behaviors towards their own children. Theoretically, life-course developmental theory (Elder, 1998) stresses the importance of accumulated life-course experiences linked to later developmental outcomes, and recent advances in evolutionary developmental theory (Belsky, Schlomer, & Ellis, 2011; Ellis, Figueredo, Brumbach, & Schlomer, 2009) have pointed towards ecological factors in early childhood

that produce harsh (e.g., sustained socioeconomic hardship) or unpredictable (e.g., frequent parental change or family instability) developmental environments. In the present study we included early child and family of origin covariates from three domains: early family socioeconomic conditions, the early family psychosocial environment, and individual characteristics and maltreatment experiences.

Sustained socioeconomic hardship has been linked with a wide variety of poor developmental outcomes (Bradley & Corwyn, 2002) including poorer parenting. Recent theoretical models (e.g., Conger, Conger, & Martin, 2010) and evidence (Conger et al., 2002) suggest that this association is mediated by parental mental health and adjustment factors, although a direct link between the two has also been found (Belsky et al., 2011). Belsky and colleagues used longitudinal data from a large U.S. birth cohort and structural equation modelling to test links between early (1 month to 5 years) environmental harshness and unpredictability (when children were 1 month to 5 years of age) and later maternal depressive symptoms (when children were aged 4.5 years) and maternal sensitivity (when children were aged 6 to 8 years), which combined predicted subsequent adolescent sexual activity. Among the independent variables, the direct paths between the early environmental risk factors and later maternal sensitivity remained significant and stronger than the mediated paths via maternal depressive symptoms. In the present study, the possible influence of economic hardship on parenting behaviors was extended beyond the family of origin and examined for intergenerational influences.

Similar to early socioeconomic conditions, there are a number of influential early life-course experiences in the family environment that seem to be significantly associated with a variety of later developmental outcomes, including parenting. For example, it is well established that the children of young parents, especially teenage parents, have an increased risk for a number of adverse developmental outcomes across childhood, adolescence, and into adulthood (Fergusson & Woodward, 1999; Hardy, Astone, Brooks-Gunn, Shapiro, & Millar, 1998; Pogarsky, Thornberry, & Lizotte, 2006). In like manner, exposure to family instability and parental adjustment problems in the

family of origin predicts later marital instability and conflict and parenting difficulties (Amato & Cheadle, 2005, Bouchard & Doucet, 2011; Doucet & Aseltine, 2003). Finally, exposure to child maltreatment has been linked to later parenting strategies that are less positive and more punitive than in comparison to parents individuals not exposed to maltreatment in childhood (Banyard, 1997; Locke & Newcomb, 2004; Pears & Capaldi, 2001).

In this study, we report the results of a 30-year prospective longitudinal study examining the links between the quality of parent-child relations at ages 14 and 15 years and cohort members' later parenting attitudes and behaviour at age 30. The specific aims of this study were:

1. To examine associations between the quality of parent-child relations in adolescence and subsequent parenting attitudes and behaviour in adulthood. Parenting outcome measures included self-reports of parental warmth, sensitivity, over-reactivity, inconsistent discipline, and physical punishment and abuse, and interviewer observational ratings of parental responsiveness, warmth, sensitivity, and child management.
2. To examine the extent to which associations between parent-child relationship quality in adolescence and later parenting outcomes may be explained by a range of confounding social, family or individual factors from the cohort members' family of origin, that together represent a range of adverse childhood experiences.

METHOD

Participants & Procedure

Participants were members of an unselected birth cohort that has been extensively studied as part of the Christchurch Health and Development Study (CHDS). The CHDS is a longitudinal study of 1,265 children (630 females) born in the Christchurch (New Zealand) urban region over a four month period during 1977. The cohort was assessed at birth, ages 4 months, 1 year, and then annually until age 16. Additional follow-up assessments were carried out at ages 18, 21, 25, and 30 years. has been studied at regular intervals from birth until age 30. At age thirty, 987 (78%; 507

females) of the original cohort members were interviewed as part of the main follow-up. All cohort members who were parenting biological or non-biological children were invited to participate in an additional interview concerning parenting and family life. In total, 397 (40.2% of the 30 year sample) were eligible and 360 (90.7%) agreed to participate. Informed consent was obtained in writing for both interviews from all cohort members who participated at the 30 year follow-up. Data for the present study were confined to the 337 (206 female) parents who were regularly residing with and actively parenting at least one of their children. Parenting cohort members generally had small families with only one or two children (76.6%). Child ages ranged from <1 to 17 years, with 35.3% of first born children aged < 3 years and 81.3% < 10 years.

Measures

Parent-child relationship quality in adolescence. At ages 14 and 15 years, cohort members were interviewed about their relationship with their parents using the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). A composite score for the IPPA was computed by summing the trust and communication subscale scores and subtracting the alienation subscale score from the total. The parental attachment scale showed good internal consistency at both 14 ($\alpha = .91$) and 15 years ($\alpha = .87$). Given a strong correlation across the two assessments ($r = .66, p < .001$), respondents scores were averaged to create a composite measure of parent-child relationship quality.

Self-reports of positive and negative parenting. At age 30, cohort members were questioned extensively about their parenting attitudes and behaviours using a series of previously validated scales including the Parenting Practices Questionnaire (Robinson, Mandlco, Olsen & Hart, 1995), the Attachment Questionnaire (Kunce & Shaver, 1994), the Child Rearing Practices Report (Dekovic, Janssens, & Gerris 1991), and the Parenting Scale (Arnold O'Leary, Wolf, & Acker, 1993). Items from these scales were successively refined using exploratory and confirmatory factor analyses (CFA) to form four scale measures of self-reported parenting behaviours. In each case CFA revealed that the selected items conformed well to a unidimensional scale reflecting the construct of interest.

Parental *warmth* was assessed with 13 items and reflected the extent to which parents enjoyed spending time with their children, joking and playing together, expressing affectionate care by hugging, kissing or holding their children ($\alpha = .84$). [Sample items include: “My child and I have warm and intimate times together”, and “I give comfort and understanding when my child is upset”.](#)

Parental *sensitivity* comprised 6 items reflecting the extent to which parents were able to recognize and respond appropriately to their child’s needs and cues. In general it is an index of parents’ ability to recognize their children’s verbal and non verbal signals and respond in an appropriate way ($\alpha = .70$). [Sample items include: “I am very attentive to my child’s non-verbal signals for help and support”, and “I am good at knowing when my child needs my help or support and when he/she would rather handle things alone”.](#)

Over-reactive child management comprised 10 items reflecting the extent to which parents reported engaging in negative and reactive parenting. It reflects parents’ negative regard for the child, disapproval, anger, irritation, negative tone of voice, harsh language, and impatience ($\alpha = .82$). [Sample items include: “Things build up and I do things I don’t mean to”, and “I explode in anger towards my child”.](#)

Inconsistent discipline was assessed with 7 items and reflected lax and permissive parenting and inconsistency in behaviour management, guidance and engagement. Parents who scored high on this scale provided a general lack of guidance, showed passive and inconsistent behaviour in stating punishment or rules for the child and reported being hesitant and slow to respond to their child’s behaviour and requests ($\alpha = .76$). [Sample items include: “I give in to my child when s/he causes a commotion about something”, and “I state punishments to my child don’t actually carry them out”.](#)

Physical punishment and abuse. The Parent-Child Conflict Tactics Scale (CTS-PC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998) is a well validated and frequently used measure of parental discipline behaviours. For this analysis items from the physical assault subscale were used to create a diversity score of the number of different physical punishment and abusive behaviours used by each parent with any of their children.

Interviewer observational ratings. When the cohort member's children were awake and present during the parenting interview, the interviewers observed and noted family interactions during the times prior to, during, and after the interview. Immediately after their home visit and interview, ~~the~~ with each cohort member, trained interviewers completed a series of observational ratings of their interaction with the parent and the parent's interactions with his or her family members. These ratings were made for each dependent child on a scale from 1-5 based on interviewer observations and the detailed questioning of parents about their behaviour. In order to foster an informal and relaxed atmosphere during the home visit, these observational times were not structured and varied in length depending on the time of the interview, the age of the child, and family circumstances. Interviewers received specific training and ongoing follow-up concerning the observations, and ~~C~~ children who were asleep or not present were not scored. Parental w Warmth assessed the extent to which parents displayed affection and enjoyment of their children. Parental s Sensitivity assessed the extent to which a parent recognised and responded to child's worries and concerns, modified their behaviour in response to a child's needs, and helped the child to anticipate and confront problematic situations. Child management assessed the extent to which a parent monitored their child's behaviour and made use of effective child management strategies. These scales have been shown to discriminate parents of children with and without behaviour problems (Woodward, Taylor, & Dowdney, 1998) and to correlate well with other observational measures of parenting behaviour (Dowdney, Mrazek, Quinton, & Rutter, 1984). An examination of those measures for which there were both self and interviewer ratings showed moderate correlations (parental warmth $r = .42$, $p = .001$; parental sensitivity $r = .47$, $p = .001$).

Early family and childhood covariates. To assess the extent to which associations between parent-child relationship quality in adolescence and later parenting behaviours could be explained by the effects of confounding factors, a wide range of measures based on previous research and theory were chosen from the CHDS database. These included the following:

a) Shortly after the birth of the cohort member, the parents participated in a general intake interview that assessed a wide variety of early family characteristics. At this intake interview, parents' level of education was recorded in addition to the mother's age at the birth of her first child (provided the cohort member was not her first child).

b) From the cohort member's birth to age 10 years, family material living standards were recorded annually through interviewer ratings on a five point scale that ranged from 'very good' to 'very poor'. A composite measure of material living standards was computed by averaging the interviewer ratings over this ten year period. For the purposes of the present study, scale scores were coded so that lower scores were indicative of poorer living standards.

c) When cohort members were age 11 years, their parent(s) were questioned about the extent to which they had used cannabis or other illicit substances. When cohort members were age 15 years, parent(s) were questioned about any history of alcoholism or alcohol problems, and any history of criminal offending. Scores on these items were combined to create a composite measure of parental adjustment problems ranging from zero to four.

e) Comprehensive data on family placement and changes of parents were collected at annual intervals from birth to age 15 years. In the present analysis, all changes of custodial parents from birth to age 15 years were recorded.

f) When cohort members were 18 years old, they were interviewed about the extent of their exposure to interparental violence during childhood. Eight items from the Conflict Tactics Scale (CTS; Straus, 1979) were used and participants were questioned separately about father-initiated and mother-initiated violence. An overall measure of interparental conflict and violence was created by summing the responses for both father- and mother-initiated violence ($\alpha = .88$).

g) At ages 18 and 21 years, cohort members were questioned about their exposure to any forms of childhood sexual abuse prior to age 16 (Fergusson, Horwood & Lynskey, 1996; Fergusson, Lynskey, & Horwood, 1996). From this assessment, a dichotomous variable of any exposure to contact or severe sexual abuse at either age point was created.

h) At ages 18 and 21 years, cohort members also reported on the extent to which their mother and/or father used physical punishment during their childhood (< 16 years) (Fergusson & Lynskey, 1997). For the present analysis a dichotomous variable was created indicating any exposure to regular or frequent/severe physical punishment.

i) The gender and ethnicity of the cohort member were also included as additional individual variables.

Missing Data and Sample Selection Bias

As noted previously, the present analyses were based on available data from CHDS cohort members who participated in the 30 year parent interview (360/397 participants). To assess the possible effects of sample selection bias, tests were conducted to examine the extent to which the parenting cohort differed from the unrecruited parents ([one-way analysis of variance for continuous measures and chi-square tests of independence for dichotomous variables](#)). No significant differences were found on family of origin demographic or family structure variables (ethnicity, parental marital status, family size, socio-economic status, parental education). However, comparisons of early childhood individual and family characteristics suggested that cohort members who did not participate in the parenting study had lower childhood IQ scores ($p < .01$), and had parents with higher adjustment problems ($p < .001$). No significant differences were evident in terms of parenthood onset or current family structure.

[In order to estimate how the CHDS sample of recruited parents compared to their nonparenting peers, we conducted additional tests comparing the parenting cohort members with their nonparenting peers across the early family and childhood covariates. The results revealed that the parenting cohort members early experiences in their family of origin were characterised by much-greater psychosocial adversity than their nonparenting peers. Specifically, parenting cohort members were more likely to be born to parents with lower educational qualifications \(\$ps < .001\$ \), lower living standards \(\$p < .001\$ \), and to younger mothers \(\$p < .001\$ \). Among the cohort members who had become parents by age 30, their parents \(G1\) had higher levels of adjustment problems \(\$ps\$](#)

= .002), higher rates of family stability problems ($ps < .001$), and increased interparental conflict ($p < .001$) compared to the parents of CHDS cohort members who were not parents by age 30. Finally, parenting cohort members were also exposed to higher levels of physical punishment and sexual abuse ($ps < .001$) compared to their nonparenting peers.

RESULTS

Bivariate Associations between Parent-child Relationship Quality and Parenting Outcomes

Table 1 shows the sample of cohort member parents classified into quartiles based on their composite parental attachment score from the IPPA (1=low relationship quality, 4=high relationship quality) measured 15 years prior when they were adolescents. Associations between the quality of parent-child relations in adolescence and each parenting outcome at age 30 were assessed using one-way analysis of variance with tests for linear trend, with the strength of association shown by the Pearson product-moment correlation coefficient. To enable direct comparisons across outcomes, all measures were scaled to a mean of 100 and standard deviation of 10.

The results in Table 1 indicate significant associations between the composite score of the IPPA and each of the parenting outcomes, whereas while the magnitude of these associations was generally small. Closer parent-child relations in adolescence were associated with higher self reported warmth and sensitivity, lower levels of over-reactive and inconsistent parenting, and lower scores on the CTS-PC physical assault subscale. Interviewer ratings of parental behaviour also showed similar associations, with higher IPPA scores associated with higher ratings on parental warmth, sensitivity, and more effective child management.

Associations between Attachment and Early Family and Childhood Covariates

Table 2 shows the bivariate associations between the extent of parent-child relationship quality in adolescence and a series of potential confounding factors from cohort members' family of origin and childhood experiences. As in Table 1, each association was tested for trend using either the Mantel-Haenszel chi-square test of linearity for dichotomous measures, or one-way analysis of

variance for continuous measures. Adolescent perceptions of parent-child relationship quality were significantly associated with 6 of the 11 covariates. Specifically, lower scores on the IPPA were associated with lower living standards, increased parental changes and early parental separation, exposure to regular or severe physical punishment, contact sexual abuse, and Maori ethnicity. For two covariates, maternal age at first birth and inter-parental conflict and violence, associations did not reach the standard five percent threshold for statistical significance. However, due to the size of the Pearson correlation coefficients ($r \geq .15$) these variables were also included in subsequent multivariate analyses.

Associations between Attachment and Parenting Outcomes after Adjustment for Covariates

Table 3 shows the results of multiple regression analyses examining associations between parent-child relationship quality in adolescence and each of the later parenting outcomes after adjustment for each of the significant covariates shown in Table 2. The standardized Beta coefficient is provided as an estimate of the strength of association after adjustment. The adjusted means can be interpreted as the mean scores for each outcome across the four levels of the IPPA had all cohort members been exposed to equivalent levels of the significant covariates also included in the final models.

Table 3 shows that after including the covariates in the analysis, associations between the quality of parent-child relationships in adolescence and later parenting outcomes were attenuated but remained significant across 5 of the 8 dependent variables. For two dependent variables, inconsistent discipline and physical punishment/abuse, the association with parent-child relationship quality was largely explained by childhood exposure to interparental conflict and violence, maternal age at first child birth, and frequency of parental change. Interestingly, the extent of self-reported parental warmth was not associated with any of the family of origin covariates, while yet over-reactive parenting was significantly associated with lower standards of living and increased parental separation. The associations between the IPPA and the observational parenting measures also remained significant with the frequency of parental change, parental adjustment problems, and

exposure to contact sexual abuse as significant covariates. [Among the six childhood covariates that also significantly predicted later parenting behaviors, increased exposure to parental change was the only confounding factor that consistently predicted parenting behaviors \(included in five of the eight analyses\) along with parent-child relationship quality.](#) Even though the associations between parent-child relationship quality and later parenting remained statistically significant after covariate adjustment, inspection of the standardized regression coefficients suggests that this effect is rather small with absolute values ranging from .15 to .21.

DISCUSSION

The goal of this study was to examine the extent to which parent-child relationships in the family of origin had an influence on an individual's later adult parenting attitudes and behaviour. Results clearly supported the importance of parent-child relationship history for their own parenting behaviour. The bivariate associations showed that cohort members who reported closer relationships with their parents engaged in higher levels of positive and engaging parenting behaviours and lower levels of coercive and inconsistent parenting when caring for their own children. They were also observed by interviewers as being more warm and sensitive towards their children and more effective in managing child behaviour. Similar to previous studies (Conger et al., 2009), these associations were generally small ranging from .11 to .29. With the exception of physical punishment/abuse and inconsistent discipline, these associations remained significant even after statistical control for a range of [adverse](#) child and family factors not previously considered by other studies. [These-The present](#) findings are generally consistent with Chen and Kaplan (2001; Chen, Liu, Kaplan, 2008) who also found that parent-child relationship quality at age 13 was predictive of later constructive parenting in adulthood (age 30-40 years), even after controlling for gender, education, childhood poverty and early family structure.

[The family of origin covariates included in the present study were much more diverse than previous studies, and variables from each of the three domains \(socioeconomic, psychosocial](#)

adversity, and maltreatment experiences) were significant predictors of one or more parenting outcomes. Of all the confounding factors, exposure to increasing frequency of parental change was the most pervasive, featuring as a significant factor in five of the eight analyses. These results further highlight the long-term influence that family instability can have on individual development; as documented in earlier studies (e.g., Amato, 1991; Amato & Cheadle, 2005), and underscores the need to consider the frequency of parental transitions that include cohabiting unions and not just marital separation and divorce (Raley & Wildsmith, 2004). This finding also supports the attachment theoretical perspective discussed earlier. A key precept in attachment theory is that a secure attachment orientation is facilitated by the caregiver's consistent availability and sensitive care, not only during infancy, but throughout childhood as the attachment working model is internalized (Allen, 2008; Weinfield, Sroufe, & Egeland, 2000). When the parental and caregiving system is frequently disrupted, children are more likely to respond with feelings of anger, fear, despair, and eventually, a sense of abandonment (Kobak & Madsen, 2008). Theoretically, both the attachment and caregiving systems are thought to be organized around receiving or providing care, protection, and security and are particularly activated in times of stress or threat. A fundamental difference is that the attachment system of the child acts as a secure base for exploration and developing autonomy, whereas the caregiving system for the parent suppresses autonomous motivations in order to anticipate and provide care and comfort for the child (Mayseless, 2006; Solomon & George, 2006). Better understanding the developmental processes involved in the transition from the attachment to the caregiving behavioural systems is an important undertaking for future research.

Although the validity of the IPPA as a measure of attachment has recently been questioned (Crowell, Fraley, Shaver, & Cassidy, 2008; Maier, Bernier, Perkrum, Zimmerman, & Grossman, 2004), our results are also in line with studies documenting links between parental representations of earlier attachment relationships and concurrent parenting, especially parental sensitivity. For example, the majority of studies in van IJzendoorn's (1995) review reported significant associations between attachment representations measured by the AAI and positive aspects of parenting such as

warmth and responsiveness. More recent studies have replicated and extended these results using both the AAI (Pederson et al., 1998) and social psychological assessments of attachment (Green, et al., 2007).

Extending on previous research, study findings suggest that when parent-child relationship quality is measured prospectively and important family of origin and individual covariates are included in the analyses, the associations between earlier parent-child relations and later parenting behaviours may be somewhat smaller than that estimated on the basis of concurrent measures of parent-child attachment representations. For example, van IJzendoorn's (1995) meta-analysis suggested that attachment representations measured by the AAI accounted for about 12% of the variation in parenting outcomes. This is considerably more than the one to three percent of variance explained by the IPPA in the present study. However, each of the studies included in van IJzendoorn's meta-analysis were either cross sectional or short-term longitudinal studies. We could find no recent studies that have prospectively examined long-term linkages between attachment to parents in childhood or adolescence and later parenting behaviour.

The present study has a number of methodological strengths, including the prospective longitudinal design, the use of a multi-method approach to assess later parenting, and the use of a relatively large community sample. To date, many of the studies in this area have been based on small and/or high-risk samples. Alongside these strengths, an important limitation of this study is that we did not assess concurrent attachment representations, precluding an examination of the extent to which links between parent-child relationship quality and later caregiving might be mediated by a parent's internal working model of attachment and caregiving (Belsky, 2005; George & Solomon, 1999; Mayseless, 2006; Thompson, 1999). In addition, the results of the current study should be interpreted in light of the unique characteristics of the sample. Even though participants were drawn from a larger community-based cohort, our analyses of this parenting subsample showed that the current participants experienced greater early adversity than cohort members who

[had not become parents by age 30, but less adversity than parents who did not participate in the 30 year parenting follow-up.](#)

Finally, this study has implications for interventions seeking to foster close parent-child relationships or break intergenerational cycles of poor parenting. Our findings suggest that such interventions are likely to be most effective when embedded within a broad based treatment approach that can also target the additional family experiences and circumstances that may co-occur with poor relationship factors (e.g., parent-child relationship stress due to parental changes, poor living standards, and exposure to family violence including sexual abuse).

In conclusion, the results of this study suggest that the quality of an individual's earlier parent-child relationships in their family of origin has a small but significant influence on their parenting behaviour towards their own children when they themselves become a parent. Furthermore, these associations persisted after control for a wide range of confounding factors from early childhood and the family environment. These novel findings highlight the importance of close parent-child relationships during childhood in helping to foster the skills needed in adulthood to nurture and care for the next generation.

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Table 1. Bivariate associations between parent-child relationship quality and adolescence and parenting outcomes at age 30.

Parenting Measures	IPPA Quartiles (14-15 years)				p	r
	Low		High			
	1	2	3	4		
<i>Self-report</i>						
Warmth (13 items); n=305	M 97.04 (SD) (12.61)	98.93 (10.59)	100.79 (7.63)	102.46 (8.74)	<.001	.20
Sensitivity (6 items); n=305	M 98.56 (SD) (10.48)	97.95 (10.69)	100.41 (8.97)	103.05 (8.91)	.002	.18
Over-reactivity (10 items); n=303	M 102.28 (SD) (10.58)	101.91 (10.36)	99.85 (9.89)	97.20 (8.90)	.001	-.19
Inconsistent discipline (7 items); n=294	M 101.73 (SD) (10.69)	99.99 (10.19)	99.99 (8.56)	98.40 (10.18)	.06	-.11
Physical punishment and abuse (CTS-PC); n=305	M 100.60 (SD) (10.06)	101.62 (11.41)	98.98 (8.29)	98.32 (8.99)	.06	-.11
<i>Observational</i>						
Warmth; n=146	M 95.26	98.72	103.29	100.87	.007	.22

	(SD)	(11.11)	(12.71)	(7.78)	(6.83)		
Sensitivity; <i>n</i> =144	M	94.58	97.79	103.17	102.13	<.001	.29
	(SD)	(11.06)	(11.44)	(8.70)	(7.78)		
Child management; <i>n</i> =142	M	95.42	98.92	102.11	102.03	.004	.24
	(SD)	(10.93)	(10.81)	(7.42)	(9.77)		

Table 2. Bivariate associations between parent-child relationship quality in adolescence and early family and childhood covariates.

Measures	IPPA Quartiles (14-15 years)				<i>p</i>	<i>r</i>
	Low		High			
	1	2	3	4		
<i>Early family socioeconomic conditions</i>						
% Mothers no educational qualifications; <i>n</i> =337	77.0	51.3	57.37	67.1	.38	.09
% Fathers no educational qualifications; <i>n</i> =337	64.9	61.8	52.6	55.7	.15	.09
M (SD) Maternal age at first birth; <i>n</i> = 333	21.74 (4.09)	22.17 (3.96)	22.96 (3.47)	22.59 (4.72)	.11	.15
M (SD) Family living standards (0-10 years); <i>n</i> = 334	2.94 (0.39)	3.00 (0.45)	3.09 (0.44)	3.09 (0.38)	.01	.15
<i>Early family psychosocial development</i>						
M (SD) Parental adjustment problems; <i>n</i> = 337	1.05 (1.02)	0.88 (0.92)	0.82 (1.09)	0.82 (0.94)	.15	-.07

M (SD) Frequency of parental change (0-15 years); <i>n</i> = 303	0.84 (1.02)	0.48 (0.78)	0.54 (0.81)	0.49 (0.73)	.02	-.16
% Parental separation (0-5 years); <i>n</i> = 329	33.3	10.7	14.1	16.7	.03	-.18
M (SD) Inter-parental conflict and violence (0-16 years); <i>n</i> = 324	10.61 (3.70)	9.33 (2.37)	8.91 (1.60)	9.82 (3.30)	.08	-.18

Maltreatment Experiences and Individual characteristics

% Exposed to regular or severe physical punishment; <i>n</i> = 334	35.6	22.4	17.9	20.3	.02	-.23
% Exposed to contact sexual abuse; <i>n</i> = 334	30.1	19.7	6.4	12.7	.001	-.24
% Female; <i>n</i> = 337	68.9	60.5	59.0	58.2	.18	.11
% Maori ethnicity; <i>n</i> = 307	23.0	19.7	11.5	11.4	.02	.13

Table 3. Associations between parent-child relationship quality in adolescence and mean scores on parenting outcomes at age 30 after adjustment for early family and childhood covariates.

Parenting Measures	IPPA Quartiles (14-15 years)				β	p	Significant Covariates
	Low		High				
	1	2	3	4			
<i>Self-report</i>							
Warmth	98.17	99.37	100.56	101.76	.20	<.001	
Sensitivity	99.23	99.73	100.24	100.75	.16	.005	3
Over-reactivity	101.56	100.54	99.52	98.49	-.15	.009	2, 3
Inconsistent discipline	100.86	100.30	99.73	99.17	-.08	.18	4
Physical punishment	100.85	100.21	99.56	98.91	-.07	.22	1, 3
<i>Observational</i>							
Warmth	97.06	98.98	100.91	102.83	.21	.01	3
Sensitivity	96.99	98.96	100.93	102.93	.21	.01	3, 5, 6
Child management	97.73	99.22	100.70	102.19	.16	.04	5, 6

Significant covariates: 1=Maternal age at first birth; 2=Standard of living (0-10 years); 3=Frequency of parental change; 4=Interparental violence; 5=Parental adjustment problems; 6=Sexual abuse