

Intergenerational Transmission of Warm-Sensitive-Stimulating Parenting: A Prospective Study of Mothers and Fathers of 3-Year-Olds

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More than 200 New Zealand men and women studied repeatedly since age 3 were videotaped interacting with their own 3-year-old children to determine (a) whether childrearing and family climate experienced in 3 distinct developmental periods while growing up (i.e., early childhood, middle childhood, early adolescence) predicted parenting and (b) whether romantic relationship quality moderated the effect of childrearing history on observed parenting. Support for the first hypothesis emerged across all 3 developmental periods for mothers (only), with no evidence of moderating effects of romantic relationship quality for mothers or fathers. Results are discussed in terms of supportive versus harsh parenting, mother–father differences, and the characteristics of the sample.

It is widely assumed by many developmentally oriented scientists and practitioners, as well as the lay public, that patterns of childrearing and family processes more generally are transmitted across generations (e.g., Patterson, 1998; Serbin & Karp, 2003). Indeed, clinicians dealing with abusive and neglectful parents, and scientists studying them have long contended that persons who seriously mistreat their offspring were themselves mistreated as children (Belsky, 1978, 1980; Spinetta & Rigler, 1972). Nevertheless, it is well appreciated that much of the evidence seeming to substantiate this claim is severely limited because of its retrospective nature

(e.g., Belsky, 1993; Belsky & Jaffee, in press; Hardt & Rutter, 2004; van IJzendoorn, 1992).

As it turns out, evidence that harsh parenting by mothers or by fathers or high levels of family discord are intergenerationally transmitted also emerges from investigations that do not rely on retrospective reports of childrearing and family relations while growing up (Capaldi, Pears, Patterson, & Owen, 2003; Caspi & Elder, 1988; Chen & Kaplan, 2001; Conger, Nell, Kim, & Scaramella, 2003; Dowdney, Skuse, Rutter, Quinton, & Mrazek, 1985; Huesmann, Eron, Lefkowitz, & Walder, 1984; Quinton & Rutter, 1984; Smith & Farrington, 2004; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003). Moreover, several recent prospective studies initiated in adolescence indicate that it is not just angry-aggressive-hostile parenting that seems to be intergenerationally transmitted (Chen & Kaplan, 2001; Thornberry et al., 2003). The research reported herein seeks to extend this more recent work that shifts attention to the intergenerational transmission of supportive, growth-promoting mothering and fathering by considering childrearing experiences dating back to early childhood, the time when the parents who are the focus of this inquiry were first enrolled in a birth cohort study in New Zealand. Warm, sensitive, and stimulating parenting is regarded as a worthy focus of inquiry because of

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extensive evidence that such parenting promotes children's developmental well-being (e.g., National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network, 2002). In a sense, then, the current report casts the issue of the intergenerational transmission of parenting in positive psychology terms while applying lessons learned from studying the etiology of child maltreatment (Belsky, 1980, 1993; Belsky & Jaffee, in press).

Breaking the Intergenerational Cycle: Conditions of Discontinuity

Whether considering research on harsh-insensitive parenting or documented child maltreatment, it is by no means the case that every parent with a problematical childrearing history proceeds to mistreat their own offspring (Belsky, 1978, 1980; Kaufman & Zigler, 1987, 1989). The fact that not all mistreated children grow up to parent their own offspring in a harsh manner has stimulated developmentalists to consider explanations as to why for some individuals continuity characterizes the developmental process whereas for others it is discontinuity (Belsky, 1993; Main & Goldwyn, 1984). Widely acknowledged now is the need to think in terms of stresses and supports as multiple determinants of parenting (Belsky, 1984; Belsky & Jaffee, in press) or, in the terminology of developmental psychopathology, risk and protective factors (Cicchetti & Toth, 1998).

The protective factor that has received the most theoretical attention and empirical support in recent years with regard to the intergenerational transmission of problematic parenting involves positive relationship experiences (Belsky, 1993; Belsky & Jaffee, in press), sometimes referred to as "corrective emotional experiences." Although attachment theory posits that relational expectations are forged in childhood and that these internal working models come to influence subsequent relationship experiences, including parenting (Bowlby, 1969, 1982; Bretherton, 1985; Sroufe & Fleeson, 1986), it is also acknowledged by attachment theorists (Main & Goldwyn, 1984) and others working from compatible theoretical perspectives (Epstein & Erskine, 1983; Malatesta & Wilson, 1988) that developmental trajectories are subject to modification if experience provides a basis for altering expectations about self, others, and relationships.

There is thus good reason to suppose that when individuals who have experienced problematic relationships within their families of origin subse-

quently encounter and participate in affectively positive and ego-affirming relationships, their internal working models can be revised (Bowlby, 1988) and "lawful discontinuity" should characterize the developmental process (Belsky & Pensky, 1988). Evidence from preselected, high-risk samples showing that victims of maltreatment who had not mistreated their own young children were disproportionately likely, relative to women who succumbed to the intergenerational cycle, to have had an emotionally supportive and nonabusive adult available during early childhood, to have undergone extensive therapy during their lives, or to be involved in a supportive spousal relationship are consistent with this claim (Caliso & Milner, 1992; Crockenberg, 1987; Egeland, Jacobvitz, & Papatola, 1987; Hunter & Kilstrom, 1979; for a low-risk example, see Belsky, Youngblade, & Pensky, 1990). Pertinent, too, are data showing that mothers with histories of insecure internal working models of attachment (as measured via the Adult Attachment Interview) parent better than expected when involved in an emotionally supportive marital or partner relationship (Cohn, Cowan, Cowan, & Pearson, 1992; Das Eiden, Teti, & Corns, 1995). Conceivably, then, the emotional support and nurturance offered by a caring partner enhances the parent's self-regulatory capacities, enabling the parent to decenter from his or her own perspective, view the world more as the child sees it, and thereby treat the child in a more patient and sensitively responsive manner. Additionally, a parent with a supportively reared and emotionally nurturing partner could directly learn how to parent by observing and coparenting with a more skilled parent. One of the primary goals of the current inquiry was to determine whether the documented protective effects of a supportive emotional relationship emerge with respect to the intergenerational transmission of parenting when fathers as well as mothers are the focus of inquiry, when the sample is not preselected for being at risk for problematic parenting, and when only prospective measures of childrearing history are considered.

Even though the parents in our sample were not selected on the basis of their high-risk status, neither can they be described as truly low risk relative to the population of parents in New Zealand. On average, New Zealanders make the transition to parenthood around age 30 (Statistics New Zealand, 2003), and other work in our sample has shown that mothers and fathers who make an early transition to parenthood relative to this demographic norm are disproportionately characterized by a history of family disadvantage, poor school achievement, and behavior

problems (Jaffee, 2002; Jaffee, Caspi, Moffitt, Taylor, & Dickson, 2001). As young adults, these relatively young parents were at increased risk of experiencing financial and relationship problems as well as symptoms of depression and anxiety (Jaffee, 2002; Jaffee et al., 2001). Although this portrayal draws a bleak portrait of our sample, it must be noted that the majority of these relatively young parents have at least some school qualifications, grew up in middle-class families, have no history of behavior problems, and are not experiencing significant psychosocial difficulties in young adulthood (Jaffee, 2002; Jaffee et al., 2001). Moreover, it is important to remember that in the studies cited earlier, relatively young parents were compared with their birth cohort peers who were not yet parents by their mid-20s, not with individuals who made the transition to parenthood at relatively older ages.

Developmental Periods

As a result of the unique nature of the longitudinal sample being studied (i.e., derived from a birth cohort study), a further purpose of the current investigation was to determine whether the effects of childrearing history on parenting in adulthood are specific to one developmental period rather than another. That is, when it comes to predicting parental functioning in adulthood, is the inferred influence of childhood experience greater when childrearing and family climate measurements are obtained in the preschool, middle-childhood, or early adolescent years? In fact, no study has been in a position to address this fundamental developmental issue, as retrospective measurements of childrearing history have referred to childhood in general rather than one or more particular periods of childhood, and prospective assessments have typically been restricted to a single developmental period, usually adolescence (e.g., Capaldi et al., 2003; Chen & Kaplan, 2001; Conger et al., 2003; Smith & Farrington, 2004; Thornberry et al., 2003). Because the parents under investigation in the current inquiry were repeatedly studied during three distinct developmental periods in childhood, we are in a unique position to address issues of developmental timing.

To the extent that earlier experiences matter most, as some thinking about early human brain development and animal research suggests might be the case (Meaney, 2001; Shonkoff & Phillips, 2000), the prediction would be that preschool measurements of parenting and family relations should prove most predictive of parenting in adulthood. To the extent that adult functioning is most influenced by proximal

life experiences (Lewis, 1997), the contrasting prediction would be that measurements of family climate and relationships during early adolescence would be more predictive of eventual parenting. Not to be ruled out, of course, is the possibility that different developmental periods make distinctive—and additive—contributions to the intergenerational transmission of parenting.

The Current Study

In summary, the purpose of the research reported herein was to extend work on the intergenerational transmission of parenting by focusing on warm-sensitive-stimulating parenting rather than angry-harsh parenting in a sample of mothers and fathers derived from a birth cohort study whose experiences in their families of origin were measured repeatedly during three distinct developmental periods, and in so doing, test two general hypotheses: (a) that a positive childrearing history will forecast warm-sensitive-stimulating mothering and fathering and (b) that a supportive partner or spouse relationship will protect against the experience of relatively un-supportive parenting and family relations in the family of origin being intergenerationally transmitted. To address these issues, study members of the Dunedin Multidisciplinary Health and Development Study (DMHDS) who had become parents of 3-year-olds by late 2003 were videotaped interacting with their child at home in a series of semistructured situations when the child was 36 months of age. They also provided self-report information on the quality of their marital or partner relationship if living with another adult in such a relationship over the preceding 12-month period.

We chose to study observed parenting because much research on the intergenerational transmission of parenting relies on either categorical classifications of parents as abusive-neglectful or on self-reports of parenting provided by parents themselves. Because the former can be imprecise and the latter are subject to reporting biases, the current inquiry was designed around observational assessments of mothering and fathering. To reduce the likelihood that unrepresentative patterns of parenting would be observed, parents were videotaped in a variety of (easy and challenging) situations in their own homes (see the Method section). A target age of 36 months for the child was selected to reduce variation in child behavior and to account for the challenges involved in rearing toddlers. Moreover, because even children of the same age vary enormously in their behavior in ways that can affect parenting, the coding of

videotapes was designed to capture aspects of child behavior likely to affect parenting. By proceeding in this way, analyses addressing the intergenerational transmission of observed parenting could discount effects of observed child behavior on parenting before evaluating effects of a parent's childrearing experiences in his or her family of origin on parenting. To our knowledge, no investigation of the intergenerational transmission of parenting has ever implemented such (admittedly conservative) controls for such an important determinant of parental behavior.

To address the questions at hand, three sets of analyses were undertaken. The first, using hierarchical regression and including data on all parent-child dyads for whom videotaped observational assessments were available, examined whether—and how—childrearing history measured in three different developmental periods predicted observed parenting after statistically controlling for relations between observed child behavior and observed parenting. The second set of analyses focused on parents with partners and used, because of a smaller sample size, a mixture of hierarchical and stepwise regression procedures. It was designed to determine whether romantic relationship quality contributed to the prediction of observed parenting over and above child behavior and parent childrearing history (by entering relationship quality variables in hierarchical fashion as a third block of predictors) and whether childrearing history interacted with romantic relationship quality in predicting observed parenting (by allowing significant interactions to enter the equation in stepwise fashion). All analyses were carried out separately for mothers and fathers.

Method

Participants

Participants were drawn from the 1,019 surviving study members of the original DMHDS, a longitudinal investigation of a complete cohort of consecutive births between April 1, 1972, and March 31, 1973, in Dunedin, New Zealand, an urban area of approximately 120,000 inhabitants in the South Island of New Zealand (Silva & Stanton, 1996). The 1,037 original study members are representative of the 1,139 children born in Dunedin during the dates indicated in terms of socioeconomic status and perinatal complications. With regard to social origins, the children's fathers were representative of the social class distribution in the general male popula-

tion of similar age in New Zealand. With regard to ethnic distribution, the sample members are of predominantly European ancestry. Approximately 7% of the study members now identify themselves as Maori or Polynesian, which matches the ethnic distribution of New Zealand's South Island.

In 1994 a study of parenting was initiated targeting study members whose children were younger than 5 years of age. For 90% of parents in the current study, the child who was assessed was the parent's firstborn. On average, parents were 23 years old when their child was born (range = 21–27 years). Parents and their children were visited in the home by a research worker who videotaped the parent interacting with his or her child. By late 2003, 228 parents had participated in videotaped sessions (60% mothers, 40% fathers, average age = 26 years). Five parents (3 fathers, 2 mothers) refused to participate in the parenting study; 2 parents (1 mother, 1 father) did not consent to be videotaped; 15 parents (10 mothers, 5 fathers) were not seen by the time their children turned 6 years old; and 7 fathers and 1 mother did not participate in the videotaped sessions because they were in prison, did not live with or have access to their children, or lived beyond the geographic reach of the home visitor (i.e., outside New Zealand and Australia). Most of the videotaped sessions were conducted, as planned, within 2 months of the child's third birthday ($n = 194$). The remaining 34 children were beyond this narrowly targeted age by the time the parenting study was initiated, but the decision was made to collect parent-child interaction data anyway, using the same protocol, as long as the child was less than 60 months of age. Parents were paid NZ\$40 for their participation.

Data Collection and Design

Three sets of data need to be distinguished: (a) measurements of parenting (and child behavior) obtained during the videotaped observations of the parent-child interaction; (b) measures of parenting, family climate, or parent-child relationships gathered during the broader, longitudinal investigation of the parents when they were 3, 5, 7, 9, 13, and 15 years of age (i.e., childrearing history); and (c) measures of the quality of the partner or spouse relationship among study members involved in an enduring, intimate relationship.

Parent-Child Interaction

During the home visit to each participating parent-child dyad, parents and children were

videotaped in three, increasingly demanding, semi-structured situations, each lasting 10 min. The first, defined as free play, involved setting out a standard and varied set of age-appropriate toys on the floor in a quiet area of the home for parent and child to use in play. Instructions to the parent were simply to engage the child as he or she might if he or she had free time on his or her hands. The second, competing-task situation involved the parent sitting on a chair (near where the toys had been) while (a) completing a questionnaire and (b) not permitting the child to engage a second set of clearly visible and attractive toys that were (purposefully) placed within easy reach; the child was given only a single object left over from the free-play session to play with (i.e., smooth, soft stuffed toy). Finally, parent and child were seated at a table (or on the floor if no table was available) and the parent was provided with a set of activities, each contained in a plastic box, and asked to provide whatever assistance the child needed to complete them. In this teaching task, the parent was instructed to have the child work on one activity at a time (e.g., duplicate tower made of colored blocks) before moving onto the next (e.g., nine-piece puzzle) but not to do the task for the child. Tasks were designed to be increasingly challenging as the parent and child moved through them.

A copy of the videotape of the entire 30-min session was shipped to the United States for coding. Each of the three situations was coded using a set of ten 7-point scales developed for the NICHD Study of Early Child Care (NICHD Early Child Care Research Network, 1999). Six scales were used to evaluate parental behavior: sensitive responsiveness, intrusiveness/overcontrol, detachment/disengagement, stimulation of cognitive development, positive regard for the child, and negative regard for the child. Four scales were used to evaluate child behavior: positive mood, negative mood, activity level, and sustained attention.

To assess intercoder reliability, 15% of the videotapes were randomly selected and coded by a second coder. Scores given by the two raters for each code were correlated. These measures of interrater agreement ranged from .77 to .96 across the 10 ratings. When scores on each of the 10 ratings were summed across the three episodes to create the across-episode total scores used in data analysis (see the following discussion), the resultant reliability coefficients were modestly higher on average. Evidence of the validity of these measurements comes from NICHD study findings linking individual differences in parenting with children's cognitive-linguistic and socioemotional functioning (NICHD Early Child Care Research Network, 1999, 2002).

To reduce the number of dependent parent-child interaction variables subject to analysis, the 10 scores for each dyad summed across the interaction episodes were subject to varimax factor rotation. A three-factor solution, accounting for 70% of the variance, proved most interpretable. The first factor, labeled *Warm-Sensitive-Stimulating Parenting*, comprised high positive loadings on sensitivity (.96), cognitive stimulation (.66), and parent positive regard (.90), and moderate to high negative loadings on detachment (–.88), intrusiveness (–.55) and parent negative regard (–.53). The second factor, labeled *Child Negativity*, comprised a high positive loading on child negative regard (.90) and a high negative loading on child sustained attention (–.71). The third factor, labeled *Child Positivity*, comprised high positive loadings on child positive regard (.74) and child activity (.88). Composite scores for these three constructs were made by summing the positive loading variables and subtracting the negative loading variables. The internal consistency reliability of the Warm-Sensitive-Stimulating Parenting composite was $\alpha = .81$. The items loading on Child Positivity correlated .49 ($p < .001$), and the items loading on Child Negativity correlated –.48 ($p < .001$).

Childrearing History

Measures of childrearing practices, parent-child relationships, or family climate were available at multiple ages in the DMHDS archive, in particular, when children were 3, 5, 7, 9, 13, and 15 years of age. These measurements were organized in terms of three developmental periods by creating composites of measures available at ages 3 and 5 (early childhood), 7 and 9 (middle childhood), and 13 and 15 (early adolescence). By adolescence, children also provided information on their relationships with their parents. The multiple indexes of each construct were standardized and averaged to create a total of six measures of the childrearing environment of the family of origin, as detailed later (for information on reliability and validity, see Belsky, Jaffee, Hsieh, & Silva, 2001).

Early childhood. At ages 3 and 5, mothers completed an abbreviated version of Schaefer and Bell's (1958) Parental Attitude Research Instrument (PARI). This 35-item questionnaire yielded six internally consistent subscales when factored on the DMHDS sample, which were combined to form two higher order constructs (Silva, 1976; Stanton & Silva, 1992). *Egalitarian parenting* represents the average of the subscales labelled encouraging verbalization, egalitarianism, and comradeship and sharing, and reflects

the extent to which the mother is open to communications from her child and views the parent–child relationship as a two-way street in which influence flows not only from parent to child but from child to parent. *Authoritarian parenting* represents the average of subscales labeled excluding outside influences, intrusiveness, and acceleration of development, and reflects the extent to which the parent is overcontrolling and excessively demanding of the child, expecting the child to be well behaved and highly obedient, strictly following the unyielding edicts of the parent. The internal consistency reliability of the egalitarian and authoritarian constructs were .79 and .83, respectively.

Middle childhood. When children were age 7 and 9, mothers were interviewed about the discipline practices used on the day before the interview, about their own and their husband's or partner's consistency in disciplining the child, and about consistency across mother and father in disciplining the child. Mothers also completed the three-subscale Family Relations Index of the Family Environment Scales (FES; Moos & Moos, 1981) that assesses the family atmosphere with 90 true–false items that form 10 subscales. The median Kuder–Richardson internal consistency for the scales was .75.

From these sets of measurements, two composites were generated (Belsky, Jaffee, Hsieh, & Silva, 2001). *Positive family climate* was constructed by summing the cohesion and expressiveness subscales of the FES at ages 7 and 9 and subtracting from them the conflict subscale scores at these two ages ($\alpha = .69$). *Negative discipline* was created by combining four scores obtained at ages 7 and 9 ($\alpha = .61$): mother's rating of (a) her consistency in disciplining the child (i.e., changeable vs. always the same), (b) her husband's or partner's consistency in disciplining the child, (c) the degree of consistency across mother and father in disciplining the child, and (d) the number of negative discipline behaviors (e.g., smacking, shouting, threatening) used on the day before the 7- and 9-year-old interviews.

Early adolescence. Two sets of measurements obtained when children were 13 or 15, or both, were used to generate a measure of *family climate* and of the quality of the child's relationship with his or her parents. At both 13 and 15 years of age, mothers' scores on the three subscales of the Family Relations Index of the FES were composited to generate an index of family climate ($\alpha = .73$). In addition, when children were 13 and 15 they reported on their *attachment to parents* using a 24-item shortened version of Armsden and Greenberg's (1987) 53-item Inventory of Parent and Peer Attachment, which assesses the

extent to which the adolescent believes that he or she has a (a) trusting, (b) communicatively open, and (c) nonalienated relationship with his or her parents ($\alpha = .78$; Raja, McGee, & Stanton, 1992).

Romantic Relationship Quality

To assess the quality of the parent's intimate relationships at the time of the home visit, Braiker and Kelley's (1979) four-factor questionnaire assessing intimate relations was administered (whenever the parent had a stable, live-in relationship with a partner over the 12-month period before the home visit). This scale assesses two relationship activities—maintenance/communication and conflict—and two relationship sentiments—love and ambivalence. This 25-item instrument taps the interpersonal character of the relationship with regard to how much spouses attempt to enrich, improve, and thereby maintain the relationship (“How much do you tell your partner what you want or need in the relationship?”) and how much couples engage in disputes (“How often do you and your partner argue?”). In addition, feelings for the partner and about the relationship are assessed using questions such as: “To what extent do you have a sense of belonging with your partner?” (love) and “How confused are you about your feelings toward your partner?” (ambivalence). The internal consistencies of the scales ranged from .64 (maintenance subscale) to .87 (love subscale). The Braiker–Kelly (1979) measurement was selected for this study because prior work on the transition to parenthood has shown it to be more sensitive to variation in marital quality during the child's first several years of life than Spanier's (1976) commonly employed Dyadic Adjustment Scale (Belsky, Rovine, & Fish, 1989).

For purposes of data reduction, the four scales were subject to factor analysis, yielding two clear factors accounting for 85% of the variance, one labeled *Negative Relationship Quality*, with high positive loadings on conflict (.93) and ambivalence (.80), and the other labeled *Positive Relationship Quality*, with high positive loadings on love (.65) and maintenance (.96). Two factors scores reflecting these distinct dimensions of romantic relationship quality were created by summing the items on the subscales that loaded on each factor.

Results

The results of a preliminary set of analyses are reported first, dealing with mother–father differences and the intercorrelation of variables. Thereafter, two

sets of primary analyses are reported. The first presents the results of ordinary least squares (OLS) regression analyses, separately for mothers and fathers, designed to test whether childrearing history predicted observed warm-sensitive-stimulating parenting. The second primary set of analyses tested whether romantic relationship added to the prediction of observed parenting over and above child behavior and parent childrearing history, and whether romantic relationship quality moderated the effect of childrearing history on observed warm-sensitive-stimulating parenting. Whereas the former analysis included parenting data from all mothers and fathers studied, the latter included only parents who had been cohabiting with a live-in partner or spouse for the past 12 months.

Preliminary Analyses

Table 1 presents the means and standard deviations of all variables used in the analyses, separately for mothers and fathers. Mothers and fathers differed on only one measure: During early childhood, fathers experienced more egalitarian rearing than did mothers. Recall that mothers and fathers come from different families, as only one parent in each family was studied, namely, the parent who had been enrolled as a 3-year old in the DMHDS and on whom prospective childrearing history data were available.

Table 2 presents the bivariate correlations among the predictor and outcome variables included in the analyses, separately for mothers (below diagonal) and fathers (above diagonal). For both mother-child

and father-child dyads, child positivity and negativity proved unrelated to each other, but child positivity was positively and significantly associated with warm-sensitive-stimulating parenting, and child negativity was negatively and significantly associated with the parenting construct. Moreover, fathers' childrearing histories proved unrelated to their observed parenting in this bivariate analysis, whereas mothers' childrearing histories were significantly associated with their observed parenting, such that more supportive rearing histories predicted more warm-sensitive-stimulating mothering. Measures of positive and negative romantic relationship quality were inversely related to each other for both men and women, but they were unrelated to observed parenting for both mothers and fathers. Measures of childrearing history obtained in early childhood were unrelated to those obtained thereafter. Several measures taken in middle childhood and adolescence, however, were significantly correlated with one another, thereby raising concerns about multicollinearity of predictors used in the OLS regression analyses reported next. These proved unfounded, though, as unreported analyses showed that the effects of childrearing history variables reported herein emerged irrespective of which predictor variables were included in analyses.

Does Childrearing History Predict Observed Parenting?

The first set of analyses predicting warm-sensitive-stimulating parenting were estimated in two hierarchical OLS regression analysis, one for mothers and one for fathers (see Table 3), and included as

Table 1
Mean Differences Between Mothers and Fathers on Measures of Parenting, Childrearing History, and Relationship Quality

	Mothers (<i>n</i> = 146)	Fathers (<i>n</i> = 99)	<i>t</i> (<i>df</i>)	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Observed warm, sensitive parenting	17.15 (21.05)	17.03 (18.46)	0.05 (224)	<i>p</i> = .96
Observed child positivity	24.52 (6.52)	23.75 (6.94)	0.86 (225)	<i>p</i> = .39
Observed child negativity	-9.15 (5.88)	-10.20 (4.50)	1.43 (225)	<i>p</i> = .15
Early childhood authoritarianism	0.15 (0.98)	0.12 (0.97)	0.23 (243)	<i>p</i> = .82
Early childhood egalitarianism	-0.12 (0.82)	0.15 (0.76)	-2.56 (243)	<i>p</i> = .01
Middle childhood positive family climate	0.01 (0.66)	-0.12 (0.72)	1.41 (229)	<i>p</i> = .16
Middle childhood negative discipline	0.01 (0.56)	0.13 (0.70)	-1.31 (229)	<i>p</i> = .19
Early adolescent positive family climate	-0.10 (0.71)	-0.11 (0.76)	0.12 (239)	<i>p</i> = .91
Early adolescent parent-child attachment	-0.12 (0.80)	-0.16 (0.78)	0.41 (237)	<i>p</i> = .69
Positive relationship quality ^a	105.76 (15.57)	102.51 (16.64)	1.34 (177)	<i>p</i> = .18
Negative relationship quality ^a	32.26 (12.29)	31.76 (12.65)	0.27 (177)	<i>p</i> = .79

Note. Degrees of freedom for *t* tests differ because of differential patterns of missing data across variables.

^aFor the relationship quality variables, *n* = 104 for mothers and *n* = 75 for fathers.

Table 2

Pearson Correlations Among Warm-Sensitive-Stimulating Parenting, Child Behavior, Childrearing History, and Romantic Relationship Quality for Mothers (Below Diagonal) and Fathers (Above Diagonal)

	1	2	3	4	5	6	7	8	9	10	11
1. Observed warm-sensitive-stimulating parenting	—	.28**	-.23*	.05	.04	.00	-.16	.05	.09	.22	-.03
2. Observed child positivity	.26**	—	-.19	.04	.12	.11	.02	-.01	.06	-.09	.10
3. Observed child negativity	-.44***	-.07	—	.09	-.12	-.05	-.03	.09	.07	.03	-.12
4. Early childhood egalitarianism	.06	.09	.13	—	-.10	.04	-.09	.18	.13	.01	.17
5. Early childhood authoritarianism	-.29***	-.19*	.08	-.15	—	-.09	-.01	.01	-.09	.04	-.03
6. Middle childhood positive family climate	.18*	.11	-.08	.16	.03	—	-.50***	.11	.67***	.12	-.16
7. Middle childhood negative discipline	-.08	.07	.02	-.01	-.07	-.28***	—	-.14	-.49***	-.19	.13
8. Adolescent parent-child attachment	.20*	.08	-.01	-.06	-.09	.06	-.25**	—	.40***	.16	-.12
9. Adolescent positive family climate	.11	.18*	.01	.06	-.11	.44***	-.37***	.39***	—	.28*	-.02
10. Positive relationship quality	.07	-.09	-.004	-.03	.07	.20*	-.17	.16	.21*	—	-.43***
11. Negative relationship quality	-.08	-.02	-.12	-.07	.02	.11	.14	-.06	-.22*	-.56***	—

Note. For mothers, *ns* = 97 to 141; for fathers, *ns* = 69 to 99.
p* ≤ .05. *p* ≤ .01. ****p* ≤ .001.

predictors the two child behavior scores and the six childrearing history scores. Child positivity and negativity scores were entered at the first step in the model to control for immediate effects of child behavior (in the semistructured interaction sessions) on observed parenting. Child positivity and negativity were significantly associated with observed parenting, accounting for 26% of the variance in mothers' parenting, $F(2, 118) = 21.21, p \leq .001$, and for 13% of the variance in fathers' parenting, $F(2, 76) = 5.46, p \leq .01$. More specifically, greater positive child be-

havior predicted more warm-sensitive-stimulating parenting and greater negative child behavior predicted less warm-sensitive-stimulating mothering.

To assess the effect of childrearing history on observed parenting, the six childrearing history variables representing parenting, family climate, or parent-child relations in early childhood, middle childhood, and early adolescence were entered as a block in the second step in the hierarchical regression model. Although this approach reflects a desire to discount the effects of child behavior on parenting

Table 3

Regressing Observed Warm-Sensitive-Stimulating Parenting on Observed Child Behavior and the Six Childrearing-History Variables for Mothers and Fathers

	Mothers				Fathers			
	Model 1		Model 2		Model 1		Model 2	
Observed child behavior	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β	<i>B</i> (<i>SE</i>)	β
Child positivity	0.72 (0.26)	.22**	0.49 (0.25)	.15	0.79 (0.28)	.31**	0.87 (0.30)	.34**
Child negativity	-1.67 (0.30)	-.45***	-1.63 (0.28)	-.44***	-0.51 (0.43)	-.13	-0.57 (0.46)	-.14
<i>R</i> ²	0.26				0.13			
Early childhood								
Egalitarianism			0.55 (2.03)	.02			0.26 (2.95)	.01
Authoritarianism			-6.12 (1.69)	-.28***			-1.40 (2.28)	-.07
Middle childhood								
Positive family climate			6.28 (2.88)	.19*			-2.34 (4.24)	-.09
Negative discipline			-1.88 (3.19)	-.05			-6.08 (3.60)	-.22
Early adolescence								
Parent-child attachment			6.74 (2.23)	.25**			-0.58 (3.21)	-.02
Positive family climate			-5.47 (3.00)	-.18			-1.37 (4.21)	-.05
<i>R</i> ²			0.41				0.16	

p* ≤ .05. *p* ≤ .01. ****p* ≤ .001.

behavior before estimating the effects of childrearing history, it must be acknowledged that it risks controlling for actual effects of parent behavior (in the immediate situation and historically) on child behavior. Nevertheless, with the effects of child behavior discounted, childrearing history significantly contributed to the prediction of mothers' parenting, F change(6, 112) = 4.48, $p \leq .001$. Moreover, the same was true (and in exactly the same manner to be reported) when the regression analyses were repeated without controlling for child behavior. Table 3 shows that significant predictors of mothers' observed warm-sensitive-stimulating parenting emerged in every developmental epoch. Mothers who experienced less authoritarian parenting when they were of preschool age, who experienced more positive family climates in middle childhood, and who had more trusting, communicative relationships with their parents when they were young adolescents (i.e., positive attachments) were in turn observed to engage in more warm-sensitive-stimulating parenting when interacting with their own young children. In contrast to the results for mothers, those for fathers showed that the block of childrearing history variables did not account significantly for additional variance in observed parenting, F change(6, 70) = 0.53, $p > .05$, and that this was true even when the effects of child behavior were not controlled.

Does Romantic Relationship Quality Moderate the Effect of Childrearing History?

Having examined main effects of childrearing history for all the mothers and fathers studied, a second set of analyses was conducted to test whether positive or negative romantic relationship quality added to the prediction of observed parenting (as a main effect) and whether romantic relationship quality moderated the effects of childrearing history on warm-sensitive-stimulating parenting. These analyses used data only from parents who were living with a partner or spouse in a reasonably stable relationship over the 1-year period preceding the home visit data collection ($n = 179$), and again, they were conducted separately for mothers and fathers. The parents included in these analyses did not differ from those who were unpartnered with respect to their observed warm-sensitive-stimulating parenting, $t(224) = .05$, $p > .05$.

To test whether relationship quality contributed to the prediction of observed parenting or moderated the effect of early childrearing history, we conducted a hierarchical linear regression analysis in which child characteristics were entered at the first step, the

childrearing history variables were entered at the second step, and measures of positive and negative relationship quality were entered at the third step. At the fourth step, we entered a block of six interaction terms that crossed positive relationship quality with each of the childrearing history variables. The childrearing history and positive relationship quality variables were centered before the interaction term was generated. In a second hierarchical model, we entered a block of six (centered) interaction terms at the fourth step that crossed negative relationship quality with each of the childrearing history variables. These analyses were conducted separately for mothers and fathers. For both mothers and fathers, no significant contribution was detected in the prediction of observed parenting when any of these blocks of predictors, including romantic relationship quality variables, as either main effects or interaction terms were tested. In other words, although childrearing history was found to predict observed mothering, romantic relationship quality failed to predict observed mothering or fathering, either when considered as a main effect or in interaction with childrearing history.

Discussion

In this article we sought to extend investigation of the intergenerational transmission of mothering and fathering, an arena of inquiry that has traditionally focused on problematic parenting, in an effort to illuminate the etiology of child maltreatment (Belsky, 1993; Spinetta & Rigler, 1972) or problem behavior more generally (e.g., Capaldi et al., 2003; Huesmann et al., 1984). In studying a sample of men and women followed longitudinally since age 3 who were, on average, 23 years old at the time their firstborn child was born, we addressed two core questions about the intergenerational transmission of parenting: Do childrearing experiences in the family of origin predict warm-sensitive-stimulating parenting? Does romantic relationship quality moderate the impact of childrearing history?

Before addressing each of these questions, the following three points related to the sample studied and the research design employed in this inquiry need to be kept in mind. First, the mothers and fathers whose parenting was videotaped were raised in Dunedin, New Zealand in the 1970s and 1980s, and much social change in family functioning has occurred there and elsewhere over the past three decades. Second, these parents averaged 23 years of age at the time of their first child's birth, and the mean age of first childbirth is increasing through the

Western world, with many of the DMHDS birth cohort still to become parents. Finally, we relied exclusively on videotaped observations of parent-child interaction—in the context of diverse situational demands—when children were 3 years of age to address the intergenerational transmission of parenting. All this is not to say that the findings reported herein are without significance, but these comments should remind readers that developmental processes detected in this inquiry, like many others, may be context bound rather than broadly generalizable across time and space.

Do Childrearing Experiences in the Family of Origin Predict Warm-Sensitive-Stimulating Parenting?

In the main, results of this inquiry proved consistent with expectations derived from research on the intergenerational transmission of dysfunctional parenting and harsh discipline, at least with respect to mothers. Recall that mothers' own parenting appeared less developmentally facilitative when, during early childhood, their own mothers endorsed child-rearing attitudes that placed undue emphasis on obedience, strict discipline, and unyielding edicts as to how the child was to behave (i.e., authoritarianism). Furthermore, when, during middle childhood, the emotional climate of the family was marked by cohesion, positive expressiveness, and low levels of conflict (i.e., positive family climate), girls grew up to become warm, sensitive, and stimulating parents of their own young children rather than intrusive, negative, and overcontrolling parents. Finally, the same was true when, during early adolescence, daughters reported a trusting, openly communicative, and nonalienated relationship (i.e., positive attachment) with their parents. In other words, mothers who experienced more supportive rearing throughout their own childhoods provided more such care when interacting with their young children.

Note that these results emerged from an analysis that examined the effects of childrearing history after controlling for child behavior in the observational context and in which the effects of earlier childrearing experiences (e.g., early childhood) were evaluated before effects of later experiences (e.g., middle childhood). It is important that findings were unchanged, including those pertaining to fathers, when in analyses not presented, controls for child behavior were not implemented and earlier experiences were not granted privileged positions in the statistical model.

Although findings related to mothers were broadly consistent with expectations derived from research

and theory on dysfunctional parenting, the same could not be said for fathers. Even though the intergenerational transmission of fathering behavior has not been as well studied as that of mothers, recently published work following at-risk youth into adulthood led us to hypothesize that fathering, like mothering, would show evidence of intergenerational transmission (Capaldi et al., 2003; Smith & Farrington, 2004). This clearly did not prove to be the case.

Differences between our study and others could account for the absence of main effects of childrearing history on fathering in the research reported herein. First, parents in our sample were rearing children much younger than the adolescents studied in previous investigations of the intergenerational transmission of fathering (e.g., Chen & Kaplan, 2001, Conger et al., 2003). Second, the focus of our inquiry was on warm-sensitive-stimulating parenting rather than harsh parenting. Third, the childrearing history measures available in the longitudinal data archive may have better reflected the behavior and child-rearing attitudes of mothers than of fathers in the family of origin. Recall that except for the adolescent report of attachment to (both) parents, all parenting and family climate measures were provided by the mother. Conceivably, then, significant main effects of childrearing history on fathering might have emerged had children been older when parenting was assessed, had emphasis been placed disproportionately on disciplinary practices, or had child-rearing data highlighted more than it did the nature and quality of fathering in the family of origin. Not inconsistent with the last point is evidence from Thornberry et al. (2003) suggesting that intergenerational transmission processes may be gender specific, with fathering predicted by the experience with father in childhood and mothering predicted by the experience with mother.

Does Romantic Relationship Quality Moderate the Impact of Childrearing History?

Perhaps the most notable way in which the current investigation was directly informed by work on the intergenerational transmission of child maltreatment was in its focus on the role of romantic relationship quality in moderating effects of childrearing history. Theory about emotionally corrective relationship experiences and prior evidence led to the prediction that parents of toddlers who themselves had problematic childrearing histories, relative to other parents studied, would be less likely than their counterparts with similar developmental histories to treat their toddlers insensitively if they

were in emotionally supportive relationships with a partner or spouse (Belsky & Jaffee, in press; Main & Goldwyn, 1984). Despite considerable efforts to detect interactions between childrearing history and romantic relationship quality, no evidence of such protective effects of romantic relationship quality emerged in this inquiry.

In fact, it may make perfect sense, given the nature of our sample, that we could not, while testing interactions, detect any evidence that romantic relationship quality moderated the effect of childrearing history on observed mothering and fathering. After all, evidence of such protective effects of a corrective emotional experience has emerged exclusively in studies with truly at-risk samples, that is, those preselected for study based on their known risk of mistreating their offspring (see the Introduction). Thus, for this protective effect to emerge, not only might there need to be true maltreatment in the parents' childrearing history or extraordinary conflict in their family of origin but there probably also needs to be a sufficient number of cases with such a developmental history for any moderational effects to be detected. This line of argument is consistent with what Wright, Caspi, Moffitt, and Silva (2001) discovered when studying another protective process using the DMHDS sample: Even though factors such as education, employment, and partnerships deter crime for those who have a history of low self-control, these protective effects get progressively weaker as self-control increases. All this leads us to conclude, at least until further data on this subject are reported, that although a supportive romantic relationship may function protectively in the case of truly adverse childrearing histories, it does not otherwise appear to do so. Moreover, irrespective of such potential moderating effects of romantic relationship quality, we could only detect effects of childrearing history on mothering, as neither childrearing history nor romantic relationship quality predicted warm-sensitive-stimulating fathering.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. London: Sage.
- Armsden, G., & Greenberg, M. (1987). The Inventory of Parent and Peer Attachment. *Journal of Youth and Adolescence*, 16, 427–453.
- Belsky, J. (1978). Three theoretical models of child abuse: A critical review. *International Journal of Child Abuse and Neglect*, 2, 37–49.
- Belsky, J. (1980). Child maltreatment: An ecological integration. *American Psychologist*, 35, 320–335.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55, 83–96.
- Belsky, J. (1993). Etiology of child maltreatment: A developmental-ecological analysis. *Psychological Bulletin*, 114, 413–434.
- Belsky, J., & Jaffee, S. (in press). The multiple determinants of parenting. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology* (2nd ed.). New York: Wiley.
- Belsky, J., Jaffee, S., Hsieh, K., & Silva, P. (2001). Child-rearing antecedents of intergenerational relations in young adulthood: A prospective study. *Developmental Psychology*, 37, 801–814.
- Belsky, J., & Pensky, E. (1988). Developmental history, personality, and family relationships: Toward an emergent family system. In R. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families: Mutual influences* (pp. 193–217). London: Cambridge University Press.
- Belsky, J., Rovine, M., & Fish, M. (1989). The developing family system. In M. Gunnar & E. Thelen (Eds.), *Minnesota Symposia of Child Psychology: Vol. 22. Systems and development* (pp. 119–166). Hillsdale, NJ: Erlbaum.
- Belsky, J., Youngblade, L., & Pensky, E. (1990). Childrearing history, marital quality and maternal affect: Intergenerational transmission in a low-risk sample. *Development and Psychopathology*, 1, 291–304.
- Bowlby, J. (1969). *Attachment and loss. Attachment* (Vol. 1). New York: Basic Books.
- Bowlby, J. (1982). Attachment and loss: Retrospect and prospect. *American Journal of Orthopsychiatry*, 52, 664–678.
- Bowlby, J. (1988). Developmental psychiatry comes of age. *American Journal of Psychiatry*, 145, 1–10.
- Braiker, H., & Kelley, H. (1979). Conflict in the development of close relationships. In R. Burgess & T. Huston (Eds.), *Social exchange and developing relationships* (pp. 86–104). New York: Academic Press.
- Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), *Growing points in attachment theory and research. Monographs of the Society for Research in Child Development*, 50(1–2, Serial No. 209), 3–36.
- Caliso, J., & Milner, J. (1992). Childhood history of abuse and child abuse screening. *Child Abuse and Neglect*, 16, 647–659.
- Capaldi, D., Pears, K., Patterson, G., & Owen, L. (2003). Continuity of parenting practices across generations in an at-risk sample: A prospective comparison of direct and mediated associations. *Journal of Abnormal Child Psychology*, 31, 127–142.
- Caspi, A., & Elder, G. H. (1988). Emergent family patterns: The intergenerational construction of problem behavior and relationships. In R. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families* (pp. 218–240). Oxford, England: Oxford University Press.
- Chen, Z., & Kaplan, H. (2001). The intergenerational transmission of constructive parenting. *Journal of Marriage and the Family*, 63, 17–31.

- Cicchetti, D., & Toth, S. (1998). Perspectives on research and practice in developmental psychopathology. In I. Sigel & K. A. Renninger (Eds.), *Handbook of child psychology: Vol. 4. Child psychology in practice* (5th ed., pp. 479–583). New York: Wiley.
- Cohn, D., Cowan, P., Cowan, C., & Pearson, J. (1992). Mothers' and fathers' working models of childhood attachment relationships, parenting styles and child behaviour. *Development and Psychopathology*, 4, 417–431.
- Conger, R., Nell, T., Kim, K., & Scaramella, L. (2003). Angry and aggressive behaviour across three generations: A prospective, longitudinal study of parents and children. *Journal of Abnormal Child Psychology*, 31, 143–160.
- Crockenberg, S. (1987). Predictors and correlates of anger toward and punitive control of toddlers by adolescent mothers. *Child Development*, 58, 964–975.
- Das Eiden, R., Teti, D., & Corns, K. (1995). Maternal working models of attachment, marital adjustment and the parent-child relationship. *Child Development*, 66, 1504–1518.
- Dowdney, L., Skuse, D., Rutter, M., Quinton, D., & Mrazek, D. (1985). The nature and qualities of parenting provided by women raised in institutions. *Journal of Child Psychology and Psychiatry*, 26, 599–625.
- Egeland, B., Jacobvitz, D., & Papatola, K. (1987). Intergenerational continuity of abuse. In R. Gelles & J. Lancaster (Eds.), *Child abuse and neglect: Biosocial dimensions* (pp. 255–276). New York: Aldine.
- Epstein, E., & Erskine, N. (1983). The development of personal theories of reality from an interactional perspective. In D. Magnussen & V. Allen (Eds.), *Human development: An interactional perspective* (pp. 133–147). New York: Academic Press.
- Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: Review of the evidence. *Journal of Child Psychology and Psychiatry*, 45, 260–273.
- Huesmann, L., Eron, L., Lefkowitz, M., & Walder, L. (1984). The stability of aggression over time and generations. *Developmental Psychology*, 20, 1120–1134.
- Hunter, R., & Kilstrom, N. (1979). Breaking the cycle in abusive families. *American Journal of Psychiatry*, 136, 1320–1322.
- Jaffee, S. R. (2002). Pathways to adversity in young adulthood among early childbearers. *Journal of Family Psychology*, 16, 38–49.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Taylor, A., & Dickson, N. (2001). Predicting early fatherhood and whether young fathers live with their children: Prospective findings and policy reconsiderations. *Journal of Child Psychology and Psychiatry*, 42, 803–815.
- Kaufman, J., & Zigler, E. (1987). Do abused children become abusive parents? *American Journal of Orthopsychiatry*, 57, 186–192.
- Kaufman, J., & Zigler, E. (1989). The intergenerational transmission of child abuse. In D. Cicchetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect* (pp. 129–150). New York: Cambridge University Press.
- Lewis, M. (1997). *Altering fate: Why the past does not predict the future*. New York: Guilford.
- Main, M., & Goldwyn, R. (1984). Predicting rejection of her infant from mother's representation of her own experience: Implications for the abused-abusing intergenerational cycle. *Child Abuse and Neglect*, 8, 203–217.
- Malatesta, C., & Wilson, A. (1988). Emotion/cognition interaction in personality development: A discrete emotions functionalist analysis. *British Journal of Social Psychology*, 27, 91–112.
- Meaney, J. (2001). Maternal care, gene expression, and the transmission of individual differences in stress reactivity across generations. *Annual Review of Neuroscience*, 24, 1161–1192.
- Moos, R., & Moos, B. (1981). *Family Environment Scale manual*. Palo Alto, CA: Consulting Psychologists Press.
- National Institute of Child Health and Human Development Early Child Care Research Network. (1999). Child care and mother-child interaction in the first three years of life. *Developmental Psychology*, 35, 1399–1413.
- National Institute of Child Health and Human Development Early Child Care Research Network. (2002). Child care and children's development prior to school entry. *American Education Research Journal*, 39, 133–164.
- Patterson, G. (1998). Continuities—A search for causal mechanisms. *Developmental Psychology*, 34, 1263–1268.
- Quinton, D., & Rutter, M. (1984). Parents with children in care: II. Intergenerational continuities. *Journal of Child Psychology and Psychiatry*, 25, 231–250.
- Raja, S., McGee, R., & Stanton, W. (1992). Perceived attachments to parents and peers and psychological well being in adolescence. *Journal of Youth and Adolescence*, 21, 471–485.
- Schaefer, R., & Bell, R. (1958). Development of a parental attitude Research instrument. *Child Development*, 29, 339–361.
- Serbin, L., & Karp, J. (2003). Intergenerational studies of parenting and the transfer of risk from parent to child. *Current Directions in Psychological Science*, 12, 138–142.
- Shonkoff, J., & Phillips, D. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. New York: National Academy Press.
- Silva, P. (1976). *A thousand Dunedin three-year olds: A multidisciplinary study of child development*. Report submitted to the Medical Research Council of New Zealand.
- Silva, P., & Stanton, W. (1996). *From child to adult: The Dunedin Multidisciplinary Health and Development Study*. Oxford, England: Oxford University Press.
- Smith, C., & Farrington, D. (2004). Continuities in antisocial behaviour and parenting across three generations. *Journal of Child Psychology and Psychiatry*, 45, 230–247.
- Spanier, G. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family*, 38, 15–28.

- Spinetta, J., & Rigler, D. (1972). The child abusing parent: A psychological review. *Psychological Bulletin*, 77, 296–304.
- Sroufe, L., & Fleeson, J. (1986). Attachment and the construction of relationships. In W. Hertup & Z. Rubin (Eds.), *Relationships and development* (pp. 36–54). Hillsdale, NJ: Erlbaum.
- Stanton, W., & Silva, P. (1992). The parental attitude research instrument: An approach to use of attitude questionnaires. *Early Development and Parenting*, 1, 121–126.
- Statistics New Zealand (2003). Retrieved March 11, 2003, from <http://www.stats.govt.nz/domino/external/pasfull/pasfull.nsf/web/Media+Release+Births+and+Deaths+March+2003+quarter?open>
- Thornberry, T., Feeman-Gallant, A., Lizotte, A., Krohn, M., & Smith, C. (2003). Linked lives: The intergenerational transmission of antisocial behaviour. *Journal of Abnormal Child Psychology*, 31, 171–184.
- van IJzendoorn, M. H. (1992). Intergenerational transmission of parenting: A review of studies in nonclinical populations. *Developmental Review*, 12, 76–99.
- Wright, B. R. E., Caspi, A., Moffitt, T. E., & Silva, P. A. (2001). The effects of social ties on crime vary by criminal propensity: A life-course model of interdependence. *Criminology*, 39, 321–351.