

Parental Personality as an Inner Resource That Moderates the Impact of Ecological Adversity on Parenting

Grazyna Kochanska, Nazan Aksan, Sara J. Penney, and Lea J. Boldt
University of Iowa

Parents' personality was examined as a moderator of the impact of demographic risk on parenting in a longitudinal study ($N = 102$ families). Parents' personality and demographic risk (i.e., education level, age, family income, and family size) were assessed when children were infants, and parents' power assertion, warmth, and positive affect were observed in naturalistic interactions 2.5 years later. Parents' personality moderated the adverse impact of demographic risk on parenting. For parents who had memories of unstable and unhappy childhood experiences and who reported low conventionality, higher risk was linked to more power assertion, but there was no such link for those parents who recalled happy childhood experiences and who embraced conventions. For both parents who lacked a sense of optimism and social trust, and for fathers who reported low conventionality, higher risk was linked to less affectively positive parenting, but there was no such link for parents who were optimistic and trusting or for fathers who were conventional. Higher risk was linked to more power assertion, but only for mothers low in Extraversion and for fathers high in Neuroticism.

Keywords: personality, parenting, adversity

Since the advent of the ecological approach (Belsky, 1984; Bronfenbrenner, 1979), researchers have increasingly recognized that parents and children are best studied in the network of early family relationships. Consequently, developmental research has shifted from an exclusive focus on the mother–child dyad to a broader approach that includes both mother–child and father–child relationships (Lamb, 1997; Parke & Buriel, 2006; Phares & Compas, 1992). This shift has been accompanied by a growing interest in the role of parents' personality in parenting and child development (Clark, Kochanska, & Ready, 2000; Halverson & Wampler, 1997; Kochanska, Clark, & Goldman, 1997; Kochanska, Friesenborg, Lange, & Martel, 2004). Belsky and Barends (2002) recently reviewed the extant research and proposed an agenda for its future.

The ecological approach has also emphasized the role of a family's broader demographic niche. Objective indicators of that niche, such as parents' income, education, occupation, or age, have been implicated as beneficial or detrimental aspects of a broader child-rearing environment. Many scholars have focused on demo-

graphic risk factors that may adversely impact parent–child relationships. There is a consensus that parents' young age and low education, family's low income, and large family size create adverse conditions for parenting and child development (O'Connor, 2002). Scholars in developmental psychopathology have proposed that a confluence of such factors, often labeled a *multiple risk index*, is associated with poor parenting and child outcomes (Lengua, 2002; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987).

A complementary interest has developed in factors that may counter such risks. Anecdotal as well as empirical evidence shows that high-risk families can nevertheless produce well-adjusted, competent, or even highly successful people (Rolf, Masten, Cicchetti, Nuechterlein, & Weintraub, 1990).

What, then, can moderate the impact of demographic risks? Increasingly, scholars have studied factors that may offset or buffer parents and children from unfavorable demographic circumstances. Most of that research has focused on qualities of the child, including intelligence, gender, temperament, emotionality, and self-regulation (Baldwin, Baldwin, & Cole, 1990; Lengua, 2002; Rolf et al., 1990; Rutter, 1990).

Virtually nothing, however, is known about parents' personality as a potential moderator of the effects of demographic adversity, despite some progress of research on links between parents' personality and behavior (Belsky & Barends, 2002; Clark et al., 2000; Kochanska et al., 1997). Caspi, Roberts, and Shiner (2005) noted, in the overall context of relative dearth of research on parents' personality, that "most of the research has focused on the main effects of personality and has not addressed the conditions under which particular personality attributes are more or less important in explaining parenting behavior" (p. 472). Parenting is believed to have important systematic implications for children's development, although this assumption has been both disputed (Harris, 1998) and defended (Collins, Maccoby, Steinberg, Hetherington,

Grazyna Kochanska, Nazan Aksan, Sara J. Penney, and Lea J. Boldt,
Department of Psychology, University of Iowa.

This research was supported by National Institute of Mental Health Grants RO1 MH63096 and KO2 MH01446 to Grazyna Kochanska. We thank the following students and staff for their help with data collection and coding: Emily Abramsohn, Erin Adams, Sarah Benson, Jennifer Carlson, Anne Conlin, Alissa Chisholm, Amanda Friesenborg, Laura Harrison, Krista Kohl, Margaret Ortmann, Theresa Prisco, and Ryan Schiffer. We also thank the participants in the Family Study for their enthusiastic commitment to this research and Lee Anna Clark and David Watson for their helpful input.

Correspondence concerning this article should be addressed to Grazyna Kochanska, Department of Developmental Psychology, E18 SSH, University of Iowa, Iowa City, IA 52240. E-mail: grazyna-kochanska@uiowa.edu

& Bornstein, 2000). Therefore, the elucidation of how demographic adversity affects parenting and whether those effects are moderated by parental personality will contribute significantly to the understanding of the nature of risk and protective factors in child development.

In this study, we examine whether parents' personality traits moderate the adverse impact of demographic risk, conceptualized as a combination of parents' low education, young age, low family income, and large family size. We included the Big Five personality traits—Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness—and assessed them by using the NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992). Further, heeding Belsky and Barends's (2002) advice to expand the range of studied parental traits, we also considered Socialization, a trait measured by the California Personality Inventory (CPI; Gough, 1957).

To predict how parental traits may moderate the adverse impact of demographic risks on parenting, we drew from two literatures. One was research on the role of personality dispositions in coping and resilience in the face of adversity (Suls, David, & Harvey, 1996; Watson & Hubbard, 1996). Presumably, the same traits that are associated generally with either impaired or resilient behavior under adverse conditions also apply to one's functioning as a parent. The other source was research on personality and parenting, including our own; although to date, most of that work has focused on main effects of personality (Belsky & Barends, 2002; Kochanska et al., 1997) or, occasionally, on interactions between parents' and children's traits (Clark et al., 2000).

We anticipated that Neuroticism may serve as a moderator of the adverse impact of demographic risk. Neuroticism encompasses generally a disposition to experience a variety of negative affects, including anxiety, guilt and depression, sadness, in addition to somatic complaints and negative cognitive biases that accompany and help perpetuate such negative affective experiences. More important, high Neuroticism also implies a relatively poor capacity to cope with stressors (Watson & Clark, 1984, 1992; Watson, Clark & Harkness, 1994). Empirical research has shown that individuals with high Neuroticism scores recover more slowly and react less adaptively to stress than those with low scores (David & Suls, 1999; Gunther, Cohen, & Armeli, 1999). Thus, we expected that when faced with demographic adversity, parents with high Neuroticism scores would be more impaired in their abilities to create a positive child-rearing environment than would low-scoring parents. Generally, negative emotionality has also been broadly linked to poor parenting and child outcomes (Belsky & Barends, 2002; Belsky, Crnic, & Woodworth, 1995; Cummings & Davies, 1994; Goodman & Gotlieb, 1999; Kochanska, Aksan, & Nichols, 2003; Kochanska et al., 1997).

Further, we expected parents with high Extraversion and Agreeableness to show more resilience in the face of adversity, perhaps because such individuals are likely to experience more positive affect and have more positive social relationships, both of which are linked to adaptive coping (Campbell-Sills, Cohan, & Stein, 2006; David & Suls, 1999; Watson & Hubbard, 1996). Notably, Extraversion predicted adaptive coping in a parenting context (Lee-Baggley, Preece, & DeLongis, 2005). Note, however, that Watson and Hubbard (1996) reported only modest links between Agreeableness and coping. In parenting research, both Extraversion and Agreeableness have been linked to more adaptive inter-

actions with children (Belsky & Barends, 2002; Kochanska et al., 2004).

Conscientiousness has been shown to be a robust predictor of resilience (Campbell-Sills et al., 2006; Watson & Hubbard, 1996; but see David & Suls, 1999), mostly because of active, task-oriented coping. When faced with parenting stress, high scorers coping was empathic and sensitive (Lee-Baggley et al., 2005). Consequently, we expected that high-scoring parents would be less impaired by adversity than would low-scoring parents.

Finally, the findings regarding Openness and resilience have been mixed and complex (David & Suls, 1999; Watson & Hubbard, 1996). Therefore, we treated the respective analyses as exploratory.

Moving beyond the Big Five, we anticipated that Socialization traits would be associated with the parents' adaptive functioning under stress, including the style of parenting in the face of adversity. The original goal of the Socialization scale was to distinguish between socially deviant, delinquent, undersocialized, and psychopathic individuals and those who were well socialized and well integrated in society. A body of research has confirmed the external validity of this scale (Gough, 1994).

Unlike the Big Five, Socialization is conceptually heterogeneous and multifactorial in nature. It includes diverse qualities. High scorers report optimism, self-confidence, and positive outlook. Further, they are also seen by others as dependable, methodical, self-disciplined, and organized (Gough, 1994). The trait of Socialization overlaps with the constructs of ego-control and ego-resiliency (Block & Block, 1980; Letzring, Block, & Funder, 2005). The examples of shared traits include high predictability; planfulness; dependability; responsibility; capacity to delay gratification; general contentment with one's life and relationships; and avoidance of uninhibited, unconventional, impulsive behavior. Those qualities are associated with competent and flexible functioning and adaptive response to adversity. Thus, we expected that individuals with high Socialization scores would be better able to mobilize their inner resources when faced with adversity than would individuals with low scores; although, to our knowledge, there is little empirical evidence to support this prediction.

Further, high scorers are likely to be competent parents. Our earlier study of links between mothers' Socialization and their parenting and child outcomes in another comparable community sample (Kochanska et al., 1997) was one of the few to examine the Socialization trait in relation to parent-child relationship. We found robust effects. High-scoring mothers, compared with those with lower scores, rated their toddlers as more securely attached and better internalized. In observed contexts, those mothers used less verbal power assertion, and their children showed less defiance and anger and more compliance.

Because of the heterogeneity of the Socialization scale, it is unclear which characteristics of high-scoring individuals accounted for those positive effects on parenting. To examine how the different aspects of Socialization may influence parenting and moderate the impact of demographic risks, in the present study we decomposed the overall scores into three more homogeneous subscales, following Stein, Gough, and Sarbin (1966): Stable Home and School Adjustment versus Waywardness and Dissatisfaction with Family; Optimism and Trust in Others versus Dysphoria, Distrust, and Alienation; and Observation of Conventions versus Asocial Role and Attitude.

Our research design and choice of parenting measures were theoretically driven and consistent with current priorities in the social development field. We examined the family as an ecological network of interconnected relationships, and we studied both mother-child and father-child dyads. Although the need to include fathers has been repeatedly stressed, research that includes both parents continues to lag substantially behind that exclusively focused on mothers (Phares, Fields, Kamboukos, & Lopez, 2005).

We drew from extensive developmental literature to select the type and timing of parenting measures. Reliance on power assertion in discipline encounters is a critical aspect of parenting. Despite some ethnic and cultural variations (Chao, 1994; Deater-Deckard, Dodge, Bates, & Pettit, 1996), vast developmental literature has documented maladaptive consequences of forceful, power-assertive parenting for child development, including children's behavior problems, including anger, resentment, coercive interactions, aggression, and deficient internalization and commitment to parental values (Campbell, Pierce, Moore, & Marakowitz, 1996; Gershoff, 2002; Grusec & Goodnow, 1994; Hoffman, 1983; Kochanska et al., 2003; Kochanska, Padavich, & Koenig, 1996; Maccoby & Martin, 1983; McCord, 1995; Patterson, 1982). We observed parental power assertion in naturalistic discipline contexts.

Parental positive emotions, warmth, and affection while interacting with the child have been traditionally seen as another critical aspect of parenting (Maccoby & Martin, 1983; Maccoby, in press), associated broadly with adaptive developmental outcomes. We have defined this dimension as *affectively positive parenting* and observed it in lengthy naturalistic diverse interaction contexts.

Research on differences between mothers' and fathers' parenting has been on the rise (Parke, 2002), but its focus has been mainly on mean differences in parenting strategies and their implications for children's development. Few studies have addressed determinants of mothers' and fathers' parenting behavior, such as personality, stress, or social ecology. When those factors have been examined, findings have been by and large inconsistent and weak (Belsky & Barends, 2002; Deater-Deckard, 2005; Deater-Deckard & Scarr, 1996; Hoff, Laursen, & Tardif, 2002). Therefore, we approached this topic in an exploratory manner.

We selected the toddler period for behavioral observations because of its importance for parent-child relationships and child development. Toddlerhood is the context for rapid developmental changes in broadly ranging emotional and cognitive competencies, including self and autonomy, connectedness and relationships, self-regulation of emotions and behavior, conscience and internalization. Because of those broad shifts, toddlerhood is the time of unique challenges in the parent-child relationship. The second year marks the onset of parental discipline, which comes increasingly to permeate the parent-child relationship throughout the toddler years (Edwards & Liu, 2002; Kagan, 1981; Kopp, 1982; Kuczynski & Kochanska, 1990).

Method

Participants

Two-parent families ($N = 102$) of normally developing infants volunteered for the study (details are in Kochanska et al., 2004). The families

were seen several times from infancy to preschool age. Measures of parents' personality traits and the families' demographic risk were obtained upon entering the study, when children were 7 months old (51 girls, 51 boys); behavioral data on parenting were obtained at toddler age, when children were 38 months ($N = 100$; 50 girls, 50 boys).

The families were diverse in terms of education and income; 28% of mothers and 32% of fathers had a high school education, 15% of mothers and 18% of fathers had an associate's degree, 39% of mothers and 33% of fathers completed college, and 21% of mothers and 20% of fathers had a postgraduate education. Most infants were first (42%) or second (35%) born. The annual family income ranged as follows: under \$10,000 (2%); \$10,001–\$20,000 (6%); \$20,001–\$30,000 (9%); \$30,001–\$40,000 (8%); \$40,001–\$50,000 (17%); \$50,001–\$60,000 (9%); \$60,001–\$70,000 (15%); over \$70,001 (34%). Mothers' average age was 30.80 years ($SD = 5.30$; range: 17–45), and fathers' average age was 32.23 ($SD = 6.03$; range: 19–49). In terms of race, 91% of mothers were White; 3% were Hispanic; 1% were African American, Asian, or Pacific Islander, respectively; and 3% were "Other" non-White. Among fathers, 84% were White, 8% Hispanic, 3% African American, 2% Asian, and 2% "other." In 20% of families, one or both parents were non-White.

Overview

At the entry to the study, parents provided information about themselves and the family that served as the basis for the construction of the demographic risk measure, and they completed personality self-reports. Parental power assertion and affectively positive parenting were observed when children were 38 months, during two 3-hr sessions, one at home and one in the laboratory, with each parent taking part in half of each session. The order of mother versus father session was counterbalanced within child gender. All sessions were conducted by female staff members.

Multiple independent teams were involved in coding parents' behavior from videotapes. At least 15%–20% of cases were used for reliability (more for rare codes). After satisfactory reliability was established, coders frequently conducted "realignment checks" to prevent observer drift. The numerous coded variables were substantially aggregated across coded segments, contexts, and occasions of measurements to yield final overall constructs, parental power assertion, and affectively positive parenting.

The Family's Demographic Risk: 7 Months

We created the demographic risk index by assigning graded "risk points" for the mother's and the father's education level and age, family income, and number of children. The risk points were assigned in the following manner (higher scores denote higher risk): parental education (for each parent)—*did not complete high school* = 3, *completed high school* = 2, *associate's degree* = 1, *completed college and/or beyond* = 0; parental age (for each parent)—*younger than 20* = 3, *younger than 21 or 22* = 2, *younger than 23 or 24* = 1, *older than 24* = 0; family annual income—*less than \$10,000* = 5; *\$10,000–\$20,000* = 4; *\$20,000–\$30,000* = 3; *\$30,000–\$40,000* = 2; *\$40,000–\$50,000* = 1; *more than \$50,000* = 0; number of children—*five children* = 3, *four children* = 2, *three children* = 1, and *one or two children* = 0. For each family, all those scores were then summed into the score of demographic risk. This score's theoretical range was 0–20. The following are the numbers of families (in parentheses) that earned the given risk scores: 0 (24), 1 (14), 2 (16), 3 (15), 4 (9), 5 (5), 6 (7), 7 (4), 9 (2), 10 or 11 (1 each), 12 (2), and 13 or 15 (1 each).

Measures of Parents' Personality Traits: 7 Months

The Big Five. At the home visit when the infant was 7 months, parents were given the NEO-FFI (Costa & McCrae, 1992), a 60-item self-report that captures Neuroticism (proneness to negative affect), Extraversion (a tendency to be sociable, assertive, active), Conscientiousness (tendency to

be playful, organized, purposeful), Agreeableness (tendency to be prosocial, altruistic, kind), and Openness (intellectual curiosity, active imagination, aesthetic sensitivity). Parents sent back the completed NEO-FFI questionnaires in stamped envelopes. During the home visit, mothers and fathers completed the 54 true-false item version of the Socialization scale (CPI; Gough, 1957). Cronbach's alphas ranged from .66 to .85 for mothers and from .75 to .84 for fathers.

Socialization traits. We have followed the Stein et al. (1966) analysis of the three main clusters comprising the overall Socialization scores. To create the corresponding subscales, we summed the relevant items, reversing those keyed as *false*. Examples of the *true* items in the first, 12-item cluster, Stable Home and School Adjustment versus Waywardness and Dissatisfaction with Family, include the following: "My home life was always happy" and "I keep out of trouble at all costs." Examples of *false* items include "I sometimes wanted to run away from home" and "I used to steal sometimes when I was a youngster." We refer to this construct as *Stable Home*.

The *true* items in the second, 11-item cluster, Optimism and Trust in Others versus Dysphoria, Distrust, and Alienation, include, for example, "Most of the time I feel happy"; and examples of *false* items include "Life usually hands me a pretty raw deal" and "A person is better off if he doesn't trust anyone." We refer to this construct as *Optimism*.

The third cluster, Observance of Convention versus Asocial Role and Attitude, includes eight items. Examples of *true* items are "I have never done any heavy drinking" and "My table manners are not as good at home as when I am out in company"; examples of *false* items are "I have been in trouble one or more times because of my sex behavior" and "When I was going to school I played hooky quite often." We refer to this construct as "Conventuality."

Intraparent correlations among personality traits. There were intraparent correlations among the Big Five traits. For mothers, Neuroticism correlated with lower Extraversion ($-.35, p < .001$) and lower Conscientiousness ($-.28, p < .01$). Extraversion correlated with Conscientiousness ($.23, p < .025$). For fathers, Neuroticism correlated with lower Extraversion ($-.35, p < .001$), Conscientiousness ($-.24, p < .025$), and Agreeableness ($-.25, p < .025$). Extraversion correlated with higher Conscientiousness ($.28, p < .01$) and Agreeableness ($.27, p < .01$). Conscientiousness and Agreeableness were correlated ($.21, p < .05$).

Further, for both parents, there were meaningful relations between the Socialization subscales and the Big Five traits. High scores on Optimism correlated with low Neuroticism (mothers: $r = -.56, ps < .001$; fathers: $r = -.41, p < .001$) and with high Extraversion (mothers: $r = .32, p < .001$; fathers: $r = .32, p < .001$); high scores on Stable Home correlated with high Agreeableness (mothers: $r = .44, p < .001$; fathers: $r = .21, p < .05$); high scores on Conventuality correlated with high Agreeableness (mothers: $r = .31, p < .01$; fathers: $r = .20, p < .05$). Additionally, mothers who scored high on Stable Home had low Neuroticism scores ($r = -.25, p < .01$) and high Extraversion scores ($r = .33, p < .001$); and those who scored high on Conventuality had lower Openness scores ($r = -.27, p < .01$). Fathers who had high Stable Home ($r = .31, p < .025$) and Optimism ($r = .24, p < .025$) scores were also highly Conscientious. For both mothers and fathers, Stable Home and Conventuality correlated, (mothers: $r = .40, p < .001$; fathers: $r = .32, p < .001$). For mothers, Stable Home and Optimism correlated ($r = .21, p < .05$).

Parental Power Assertion: 36 Months

Observed contexts. Lengthy segments of the sessions were scripted with the goal of eliciting discipline interactions between parents and children (total coded time 84 min for each child; 42 min with each parent). Those parts of the home and lab visits were "saturated" with typical toddler-age control issues. In the "Do" contexts (toy cleanups: for each parent, 10 min during home session and 5 min during lab session), the parent asked the child to put the toys in a basket after play. In the "Don't" contexts, upon the entry to the laboratory, the parent asked the child not to

touch attractive toys placed on a low shelf in the laboratory, and enforced it throughout the session. We coded parents' discipline relevant to the prohibition during naturalistic situations (e.g., snack, parent busy, free time: for each parent, cumulatively 27 min). Details of the paradigms and coding (in another sample) are in Kochanska, Coy, and Murray (2001).

Coding. Coding was done for every 30-s segment. In "Do" contexts, we coded the entire time allotted to the cleanup. In "Don't" contexts, the coding of a string of segments began when the child oriented toward the prohibited toys and ended when he or she reoriented.

For each segment, a global rating of parental power was given; physical interventions were also coded. In the order of increasing pressure, the global ratings included the following: no interaction, social interaction but no control (parent talks, plays with child), gentle control (asks gently, reminds child), control (assertive, firm commands), and forceful control (threats, negative or angry control). The physical interventions included the following: assertive physical interventions (holds child firmly, moves child decisively, removes a toy from child hand, etc.) and forceful physical interventions (shakes, spansks, handles roughly, yanks toys, gestures angrily). Reliability (kappas) across several teams of coders ranged from 0.64 to 0.88 for the global ratings and from 0.65 to 1.00 for the physical interventions. The coders also reliably identified the onset of episodes in the "Don't" contexts ($\alpha = .99$).

Data aggregation. Composites of power assertion were created for each "Do" and "Don't" context (note that there were two "Do" toy cleanups for each parent, home and lab). We first weighted and summed the tallies of all codes (that had been divided by the numbers of coded segments to account for differences in the coded times across dyads, especially in "Don'ts," where child behavior triggered the coded episodes). The weights reflected the degree of power applied: -2 for no interaction, -1 for social interaction, 1 for gentle control, 2 for control, 3 for forceful control, 4 for assertive physical interventions, and 5 for forceful physical interventions. Thus created scores were first averaged across the home and lab settings for the "Do" contexts. The correlations across the "Do" and "Don't" contexts were $.19$ ($p < .10$), for mothers, and $.30$ ($p < .05$) for fathers. Second, the "Do" and "Don't" power scores were standardized and averaged to create an overall power assertion score for each parent.

Affectively Positive Parenting: 36 Months

Observed contexts and coding. Affectively positive parenting was coded during diverse naturalistic contexts that encompassed situations such as snack, play, making, baking, and decorating cupcakes by using standard supplies we provided, free time, et cetera. The total coded time was 154 min, 77 min for each parent across both sessions. For each 30-s segment, the parent's affect was coded as a discrete positive emotion (joy, affection) or a discrete negative emotion. More than one discrete emotion could be coded, but each only once. If no clear discrete emotion was present, a neutral positive or a neutral negative code was used. Particularly intense or pervasive discrete emotions were marked. Reliability (kappas) ranged from $.72$ to $.86$.

Data aggregation. For each parent, we created an overall composite of positive and negative emotional tone (Clark, Kochanska, & Ready, 2000). The codes were tallied across all segments and weighted (neutral codes were multiplied by 1, the nonintense discrete emotions by 2, and the intense emotions by 3). Thus weighted scores were added; the positive emotional tone was the sum of neutral positive codes, nonintense discrete positive codes ($\times 2$), and intense positive emotions ($\times 3$). This sum was divided by the number of coded segments. The negative emotional tone score was created in an analogous manner. Those scores were created for the home and lab interactions, were standardized, and were then averaged across those two settings (the intersetting correlations for the positive and negative emotional tone scores were $.24$ and $.31$ for mothers and $.36$ and $.42$ for fathers [all $ps < .05$]). Finally, we subtracted the negative emotional tone from the positive emotional tone to create an overall score of affect-

tively positive parenting for each mother and father. All descriptive data are in Table 1.

Results

Overview

Data analyses proceeded from broadly exploratory to increasingly focused. We began by examining correlations between the demographic risk scores and other measures in the study and the interparent correlations for the personality traits and parenting measures.

Next, for each of the two outcomes (power assertion and affectively positive parenting), we conducted eight separate exploratory regressions. A separate regression was performed with each parental personality trait (the Big Five and the three Socialization subscales) as a predictor. Each equation included also demographic risk. The goal of these regressions was to examine whether risk and the given trait predict the parenting outcome and whether the trait moderates the effect of the demographic risk for the outcome.

Each significant interaction effect between the demographic risk and the outcome found in exploratory regressions was followed up by using simple slope tests (Aiken & West, 1991). Specifically, for

each two-way interaction we computed two simple slopes and tested the significance of each slope and interpreted each in exactly the same way an ordinary least squares regression coefficient would be interpreted. When a significant overall interaction exists, those follow-up tests produce one of two outcomes: Both simple slopes are significant but have opposite signs, or one of the slopes is statistically significant and the other is not.

Any significant interaction can be interpreted in more than one way. In the discourse below, we decided consistently to adopt the interpretation that highlighted the association between demographic risk and the parenting outcome variable for parents who differed on a given personality trait (rather than, for example, focusing on the equally legitimate associations between parental personality trait and the outcome variable for parents who differed in demographic risk). Consequently, for each significant interaction, we computed and tested the significance of two slopes; each of those slopes represented the direction of association between demographic risk and the outcome variable for parents who differed in a given personality trait (specifically, one standard deviation below and one standard deviation above the mean on the trait).

Following those analyses, for each outcome we conducted comprehensive regressions that were informed by the findings of the

Table 1
Descriptive Statistics for All Measures

Measure	<i>M</i>	<i>SD</i>	Range
Measures at 7 Months			
Family demographic risk	3.07	3.20	0.00–15.00
Mother Personality			
Big Five			
Neuroticism	18.47	7.44	2.00–36.00
Extraversion	29.35	4.93	16.00–42.00
Agreeableness	34.45	4.92	22.00–46.00
Conscientiousness	33.41	6.68	14.00–48.00
Openness	26.11	5.99	9.00–41.00
Socialization subscales			
Stable Home, School Adjustment	8.92	2.69	2.00–12.00
Optimism and Trust	9.76	1.24	6.00–11.00
Conventionality	4.93	1.45	2.00–8.00
Father Personality			
Big Five			
Neuroticism	15.23	7.19	2.00–35.00
Extraversion	29.01	5.77	14.00–44.00
Agreeableness	31.55	6.18	11.00–44.00
Conscientiousness	33.23	5.95	11.00–47.00
Openness	26.36	6.77	12.00–39.00
Socialization subscales			
Stable Home, School Adjustment	8.10	2.93	2.00–12.00
Optimism and Trust	9.52	1.24	6.00–11.00
Conventionality	4.25	1.50	1.00–8.00
Measures at 36 Months			
Mother–Child relationship ^a			
Power assertion	0.00	0.77	–2.16–2.52
Affectively positive parenting	0.00	1.53	–5.42–2.42
Father–Child relationship ^a			
Power assertion	0.00	0.81	–1.69–2.32
Affectively positive parenting	0.00	1.61	–4.30–3.61

^a Means represent composites of standardized constituent variables.

separate equations conducted in the previous step. In these comprehensive regressions, we entered, for each outcome, the demographic risk score and only those personality traits that had produced significant effects (either main effects or interactions). For each such trait, both the main and interaction effects were entered.

Preliminary Correlations: Demographic Risk and Interparent Associations for All Measures

Higher demographic risk was associated with lower scores on several maternal traits: Agreeableness, $r(101) = -.45, p < .01$; Openness, $r(101) = -.24, p < .025$; and Stable Home, $r(101) = -.30, p < .01$, but not with scores on paternal traits. Higher risk was associated with both parents' less affectively positive parenting—mothers: $r(99) = -.24, p < .025$; fathers: $r(99) = -.23, p < .025$ —and with more power assertion for fathers only, $r(99) = .26, p < .01$.

Interparent correlations are in Table 2. Regarding same-trait inter-spouse similarity (assortative mating), only one Big Five trait (Openness) modestly positively correlated across two spouses. The two spouses, however, were significantly (if modestly) similar on all three Socialization subscales. Further, women and men with higher Stable Home scores were married to more agreeable partners. Women who were more optimistic were married to less neurotic and more conscientious men, and those who were more conventional were married to more agreeable men. Men who scored highly on Stable Home had wives who were more extraverted, and those who were less conventional had wives who were higher on Openness. Both parents' power assertion scores were correlated. Their affectively positive parenting scores were marginally correlated.

Demographic Risk, Parental Personality Traits, and Their Interactions as Predictors of Parent–Child Outcomes at Toddler Age

For mothers and children (Table 3) and for fathers and children (Table 4), we report the separate multiple regressions. We adopted

the following strategy to examine the predictions. For each outcome (power assertion and affectively positive parenting), we conducted eight regressions. In each, the main effects (demographic risk and the given personality trait) were entered in Step 1, and the interaction between them was entered in Step 2. Tables 3 and 4 present standardized regression coefficients (betas) for each predictor from the final equation, with all predictors entered.

Mothers and Children

Power assertion. As shown in Table 3, demographic risk did not predict mothers' power assertion at 36 months across the equations, regardless of the personality trait that was entered into any specific equation. Further, no maternal personality trait was a source of a main effect on power assertion. There were, however, three significant interactions with demographic risk, one involving Extraversion and two involving Socialization subscales: Stable Home and Conventionality.

The follow-up simple slope test (Aiken & West, 1991) for the interaction of demographic risk and Extraversion showed that for mothers who were low on Extraversion (one standard deviation unit below the mean), higher demographic risk predicted greater power assertion or had a significant positive simple slope ($\beta = .30, SE = .11, t(94) = 2.80, p < .01$). In contrast, for mothers who were high on Extraversion (one standard deviation unit above the mean), demographic risk was unrelated to power assertion (simple slope: $\beta = -.13, SE = .12, t(94) = -1.14, ns$). These findings are in Figure 1A.

The simple slope test for the interaction of Demographic Risk \times Stable Home indicated that for mothers who had low Stable Home scores, higher demographic risk predicted more power assertion (simple slope: $\beta = .18, SE = .088, t(95) = 2.107, p < .05$). In contrast, for mothers who had high Stable Home scores, demographic risk was unrelated to power assertion (simple slope: $\beta = -.10, SE = .12, ns$). In other words, for mothers who viewed their home and school history as troubled and unhappy, there was a

Table 2
Interparent Correlations for Personality and Parenting Measures

Personality and parenting	Mothers									
	Personality					Parenting				
	N	E	A	C	O	Stable Home	Optimism	Conventionality	Power Assertion	Affectively positive parenting
	Fathers									
N	-.01	.07	-.07	.20**	-.20**	.04	-.23***	-.12	.05	-.05
E	-.01	-.07	.04	-.15	.04	-.00	.11	.14	-.17*	.07
A	-.01	.05	.17*	-.15	-.10	.26****	.13	.28****	-.07	.09
C	-.16	.17*	.23***	-.03	.13	.17	.33****	.17*	-.06	-.10
O	-.13	-.14	-.09	-.04	.22**	-.06	.16	-.06	-.01	.22**
Stable Home	-.09	.27****	.29****	.11	-.13	.31****	.16	.19*	-.11	-.02
Optimism	-.02	-.01	.02	-.07	.02	.01	.24****	.19*	-.13	-.04
Conventionality	.18*	-.02	.19*	-.12	-.25***	.14	-.04	.23***	-.07	-.02
Power assertion	.06	.03	-.15	.05	.01	-.08	-.04	-.07	.45****	-.28****
Affectively positive parenting	-.24***	.02	.14	-.02	.08	.31****	.17	.14	-.05	.19*

Note. N = Neuroticism; E = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness.
* $p < .10$. ** $p < .05$. *** $p < .025$. **** $p < .01$.

Table 3

Demographic Risks and Mothers' Personality Traits as Predictors of Mothers' Power Assertion and Affectively Positive Parenting at 36 Months (Standardized Regression Coefficients)

Predictor	Big Five					Socialization subscale		
	N	E	A	C	O	Stable Home	Optimism	Conventionality
Dependent variable: Mothers' power assertion								
Demographic risk	.11	.10	.15	.13	.13	.05	.14	.11
Personality trait	.01	.12	.03	-.16	-.00	.12	.11	-.12
Demographic Risk × Personality Trait	.13	-.27****	.03	-.07	.04	-.28***	-.11	-.25***
Dependent variable: Mothers' affectively positive parenting								
Demographic risk	-.23**	-.24***	-.26**	-.24***	-.23**	-.26***	-.24***	-.24***
Personality trait	-.07	-.08	.06	.03	.14	-.07	-.05	.09
Demographic Risk × Personality Trait	-.10	.06	-.09	.03	-.09	.01	.20**	.18*

Note. The numbers are standardized regression coefficients (Betas) from separate regressions, with all predictors entered. In each equation (column), demographic risk and one personality trait (listed at the top of each column) were entered in Step 1, and the interaction effect between demographic risk and the given personality trait was entered in Step 2. N = Neuroticism; E = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness. * $p < .10$. ** $p < .05$. *** $p < .025$. **** $p < .01$.

significant positive correlation between demographic adversity and power assertion. However, for those mothers who recalled home and school history as untroubled and happy, there was no significant correlation between demographic adversity and power assertion. These findings are in Figure 1B.

The simple slope test for the interaction of Demographic Risk × Conventionality showed that for mothers with low Conventionality scores, higher demographic risk predicted greater power assertion (simple slope: $\beta = .27$, $SE = .10$, $t(95) = 2.57$, $p < .05$). In contrast, for mothers with high Conventionality scores, demographic risk was unrelated to power assertion (simple slope: $\beta = -.09$, $SE = .10$, ns). In other words, among mothers who described themselves as relatively asocial and unconventional, there

was a significant positive correlation between demographic adversity and the use of power with their toddlers; but among those who were relatively conventional, there was no such association. These findings are in Figure 1C.

We followed these separate equations with a more comprehensive regression conducted for maternal power assertion. At Step 1, we entered demographic risk. At Step 2, we entered the three maternal traits that produced significant effects in the previous phase of the analyses (Extraversion, Stable Home, and Conventionality), and at Step 3, we entered the interactions of these traits with demographic risk. Step 1 or Step 2 did not explain significant variance (respectively, 2% and 3%). Step 3, however, did (12%, $\Delta F(3, 90) = 4.22$, $p < .01$), although none of the three interactions

Table 4

Demographic Risks and Fathers' Personality Traits as Predictors of Fathers' Power Assertion and Affectively Positive Parenting at 36 Months (Standardized Regression Coefficients)

Predictor	Big Five					Socialization subscale		
	N	E	A	C	O	Stable Home	Optimism	Conventionality
Dependent variable: Fathers' power assertion								
Demographic risk	.27****	.26****	.24**	.25****	.32****	.26****	.26***	.26****
Personality trait	.03	.03	.02	.02	.16	-.09	-.06	-.11
Demographic Risk × Personality Trait	.29****	.08	-.11	-.04	.19*	-.28****	-.02	-.28****
Dependent variable: Fathers' affectively positive parenting								
Demographic risk	-.21**	-.21**	-.16	-.22**	-.20*	-.23***	-.23***	-.23***
Personality trait	-.19*	.23**	.22**	-.02	.16	-.05	.20**	.00
Demographic Risk × Personality Trait	-.01	.06	.15	.06	-.06	.01	.31****	.26****

Note. The numbers are standardized regression coefficients (Betas) from separate regressions, with all predictors entered. In each equation (column), demographic risk and one personality trait (listed at the top of each column) were entered in Step 1, and the interaction effect between demographic risk and the given personality trait was entered in Step 2. N = Neuroticism; E = Extraversion; A = Agreeableness; C = Conscientiousness; O = Openness. * $p < .10$. ** $p < .05$. *** $p < .025$. **** $p < .01$. ***** $p < .001$.

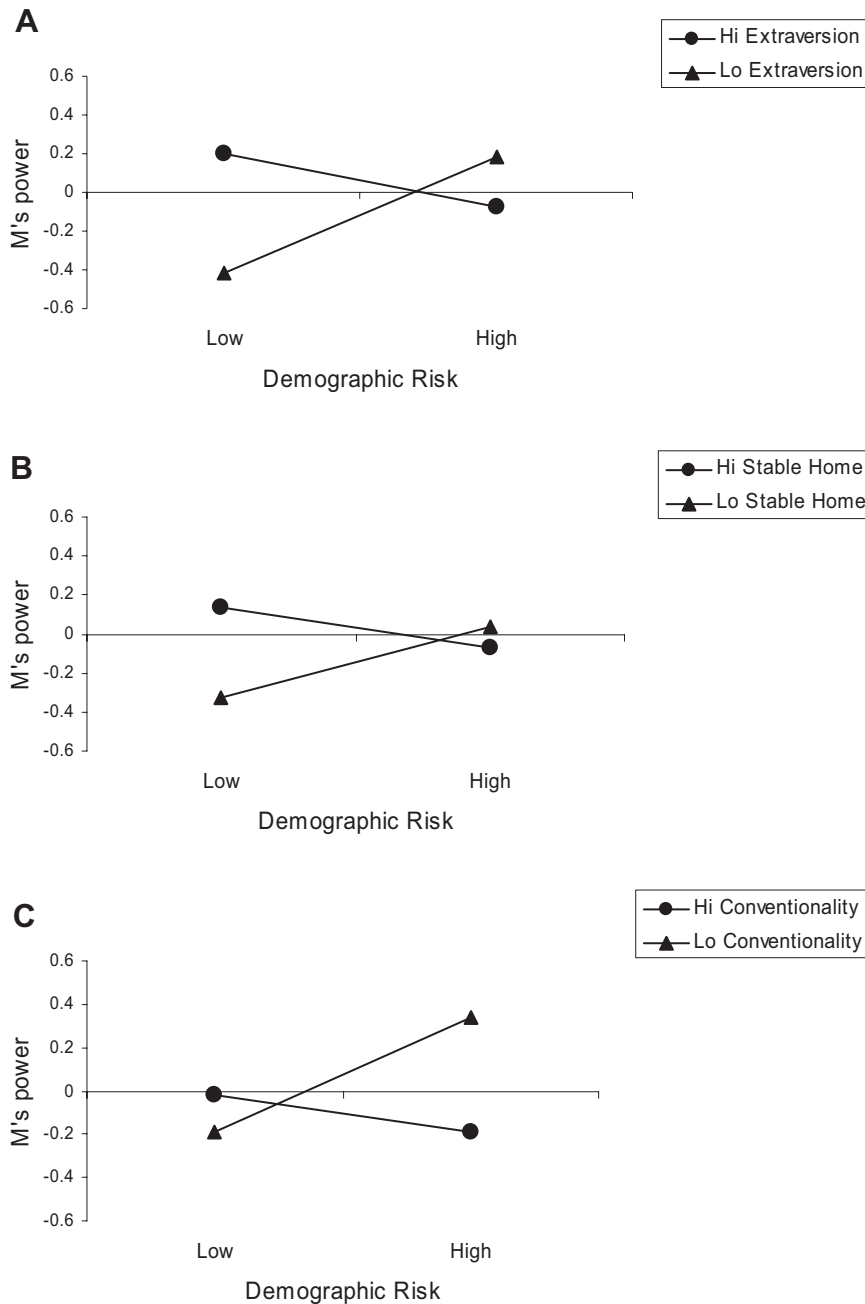


Figure 1. Simple slopes depicting the interaction of demographic risk by mother's (M's) personality on power assertion. A: Simple slopes for M's Extraversion (one standard deviation above and one standard deviation below the mean). B: Simple slopes for M's Stable Home (one standard deviation above and one standard deviation below the mean). C: Simple slopes for M's Conventuality.

was a significant predictor by itself. The interactions involving Conventuality and Extraversion were marginal.

Affectively positive parenting. Demographic risk significantly undermined mothers' affectively positive parenting at 36 months. This effect emerged consistently across all the equations. In families with more demographic risks, mothers were less affectively positive interacting with their children than were mothers in families with fewer risks.

Again, no maternal trait was a source of a main effect on mothers' affectively positive parenting, but the interaction of demographic risk with Optimism was significant. The follow-up simple slope tests revealed that for mothers with low Optimism scores, who described themselves as relatively dysphoric, mistrustful, and alienated, higher demographic risk predicted less warm, positive parenting (simple slope: $\beta = -.70$, $SE = .22$, $t(95) = -3.14$, $p < .005$). In contrast, for mothers with high Optimism

scores, demographic risk was unrelated to affectively positive parenting (simple slope: $\beta = -.07$, $SE = .23$, ns). Because this interaction was the only significant effect for maternal affectively positive parenting, we did not conduct a comprehensive regression (which would have been the same as the corresponding separate regression). These findings are in Figure 2.

Summary of findings on mothers' personality, risk, and parenting. Parenting of mothers with relatively low scores on Extraversion and on the three subscales of Socialization—Stable Home, Optimism, and Conventuality—was negatively affected by increased demographic adversity. Having high scores on those traits appeared to act as protective factors that offset risks for the quality of their parenting, otherwise posed by the family's high demographic adversity.

Fathers and Children

Table 4 shows the findings for father–child dyads. Here, demographic risk was a source of significant effects for both outcome measures, power assertion and affectively positive parenting. This effect emerged consistently across the equations, regardless of the personality trait that was entered. Fathers in families with more risks relied more on power assertion during discipline encounters with their toddlers, and they were less positive during their interactions.

Power assertion. There were no main effects of paternal personality on power assertion. There were, however, three interactions: Demographic Risk \times Neuroticism, Demographic Risk \times Stable Home, and Demographic Risk \times Conventuality.

The follow-up test for the Demographic Risk \times Fathers' Neuroticism interaction showed that for fathers with low Neuroticism scores, higher demographic risk was unrelated to power assertion (simple slope: $\beta = -.01$, $SE = .11$, ns). In contrast, for fathers with high Neuroticism scores, higher demographic risk predicted greater power assertion (simple slope: $\beta = .45$, $SE = .11$, $t(93) = 4.12$, $p < .001$). Highly neurotic fathers used significantly more power assertion when faced with high demographic adversity. These findings are in Figure 3A.

The follow-up simple slope test for the interaction of demographic risk with Stable Home showed that for fathers with low Stable Home scores, who reported troubled home and school histories, higher demographic risk predicted greater use of power with their toddlers (simple slope: $\beta = .45$, $SE = .12$, $t(95) = 3.93$, $p < .001$). In contrast, for fathers with high Stable Home scores, who reported happy home and school memories, demographic risk was unrelated to power assertion (simple slope: $\beta = -.02$, $SE = .11$, $t(95) < 1$, ns). These findings are in Figure 3B.

The follow-up simple slope test for the interaction of demographic risk and Conventuality showed that for fathers with low Conventuality scores, higher demographic risk predicted greater power assertion, simple slope: $\beta = .50$, $SE(\beta) = .12$, $t(95) = 4.01$, $p < .001$. In contrast, for fathers with high Conventuality scores demographic risk was unrelated to the use of power (simple slope: $\beta = -.06$, $SE = .12$, $t(95) < 1$, ns). These findings are in Figure 3C.

Note that regarding power assertion, the findings for fathers for the two Socialization subtraits, Stable Home and Conventuality, parallel the findings for mothers. For parents who reported unhappy and troubled home and school memories and who saw themselves as relatively asocial and unconventional, there was a significant positive correlation between demographic risk and power-assertive discipline. But for parents who had happy memories of home and school life and embraced conventions, there was no such link.

We followed up these findings with a more comprehensive regression predicting fathers' power assertion from demographic risk; the three personality traits that had produced significant interactions, Neuroticism, Stable Home, and Conventuality; and the interaction terms involving risk and those three traits. Step 1, where demographic risk was entered, was significant (7% of variance), $\Delta F(1, 94) = 6.96$, $p < .01$. Step 2, with the three personality traits, did not explain additional significant variance (2%). Step 3, where the three interactions were entered, was significant (15% of variance), $\Delta F(3, 88) = 5.94$, $p < .001$. The interaction of demographic risk and Conventuality was a significant predictor ($\beta = -.21$, $p < .05$). The Demographic Risk \times Neuroticism interaction was marginal.

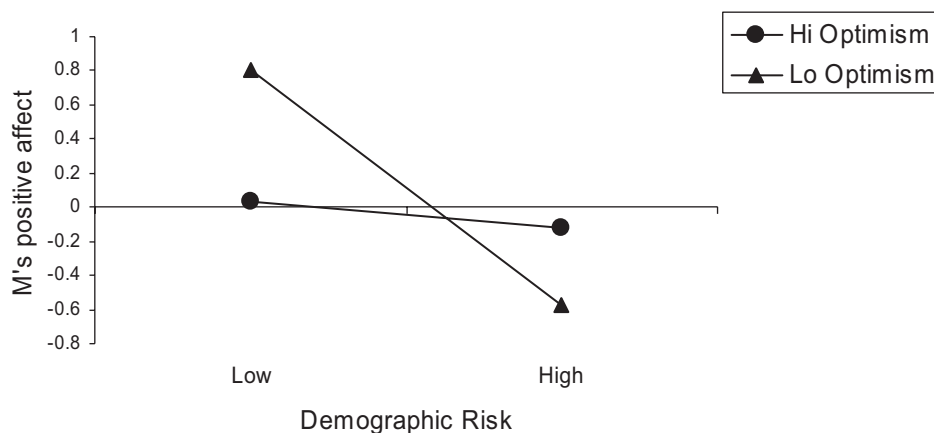


Figure 2. Simple slopes depicting the interaction of demographic risk by mother's (M's) Optimism (one standard deviation above and one standard deviation below the mean) on M's affectively positive parenting (here abbreviated as "positive affect").

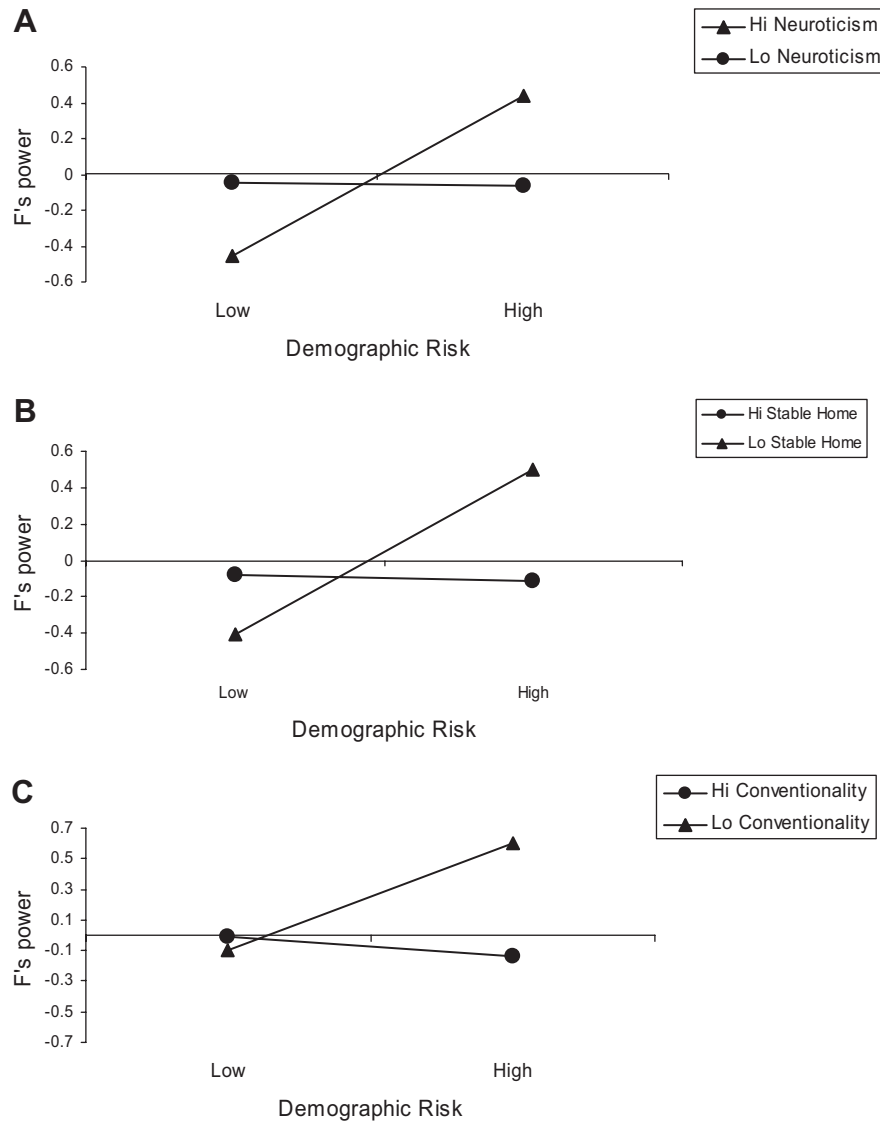


Figure 3. Simple slopes depicting the interaction of demographic risk by father's (F's) personality on father's power assertion. A: Simple slopes for F's Neuroticism (one standard deviation above and one standard deviation below the mean). B: Simple slopes for F's Stable Home (one standard deviation above and one standard deviation below the mean). C: Simple slopes for F's Conventuality (one standard deviation above and one standard deviation below the mean).

Affectively positive parenting. There were three main effects of fathers' personality on their affectively positive parenting. Fathers who were more extraverted, more agreeable, and more optimistic were also more warm and positive with their children. The last effect was qualified by the Demographic Risk \times Optimism interaction. There was also a Demographic Risk \times Conventuality interaction.

The follow-up simple slope tests showed that for fathers with low Optimism scores, higher demographic risk predicted less affectively positive parenting (simple slope: $\beta = -.92$, $SE = .23$), $t(95) = -3.96$, $p < .001$. In contrast, for fathers with high Optimism scores, demographic risk was unrelated to affectively positive parenting (simple slope: $\beta = .17$, $SE = .22$, *ns*). These findings are in Figure 4A.

The follow-up simple slope tests showed that for fathers with low Conventuality scores, higher demographic risk predicted less affectively positive parenting (simple slope: $\beta = -.88$, $SE = .25$), $t(95) = -3.51$, $p < .001$. In contrast, for fathers with high Conventuality scores, demographic risk was unrelated to affectively positive parenting (simple slope: $\beta = .14$, $SE = .25$, *ns*). These findings are in Figure 4B.

Note that regarding affectively positive parenting, the findings for fathers' Optimism parallel those for mothers. For parents who described themselves as low on Optimism, dysphoric, and alienated, more severe demographic adversity was linked to less positive emotion and warmth in interactions with their children, but for parents who were optimistic and trusting, there was no such link.

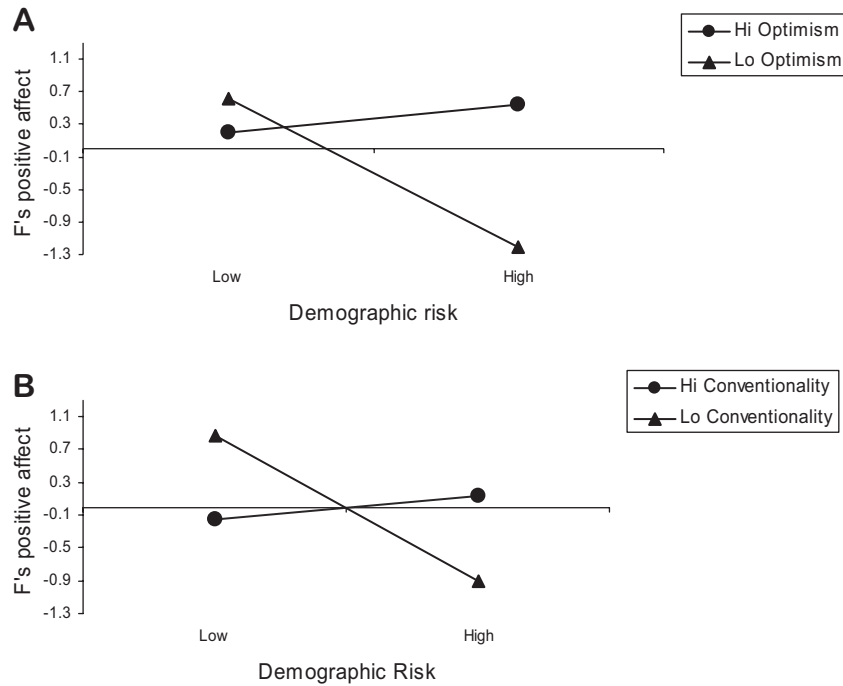


Figure 4. Simple slopes depicting the interaction of demographic risk by father's (F's) personality on F's affectively positive parenting (here abbreviated as "positive affect"). A: Simple slopes for F's Optimism (one standard deviation above and one standard deviation below the mean). B: Simple slopes for F's Conventuality (one standard deviation above and one standard deviation below the mean).

A comprehensive regression followed, predicting fathers' affectively positive parenting from demographic risk and the four personality traits that had produced either the main effects and/or interactions (Extraversion, Agreeableness, Optimism, Conventuality). Step 1, with demographic risk, explained significant 5% of variance, $\Delta F(1, 94) = 5.14, p < .05$. Step 2, where the four personality traits were entered, explained 9% of variance (marginal). Step 3, with the interactions of these traits with demographic risk, was significant and explained 11% of variance, $\Delta F = 3.20, p < .025$, with the interaction between Optimism and demographic risk significant ($\beta = .27, p < .01$).

Summary of findings on fathers' personality, risk, and parenting. The parenting of fathers who had high scores on Neuroticism and low scores on three Socialization subtraits—Stable Home, Optimism, and Conventuality—was negatively affected by increased demographic adversity. Low Neuroticism and high scores on Socialization subtraits acted as buffers against the negative impact otherwise conferred by demographic risk on the quality of fathers' parenting of their toddlers.

Discussion

We explored the links between parents' personalities and their parenting during the important toddler years in the context of the family's ecological risk. Developmental psychopathology research has revealed considerable detrimental impact of adverse ecology on parent-child relationships. Those findings prompted the next question: What factors can moderate that adverse impact?

Most of the extant work has focused on children's qualities that protect them from the effects of environmental risks, and occasionally, on family support systems that serve that function. We asked a new question: Can parents' personality be a source of such moderating effects? Can demographic risk affect differently parents with different personalities? Or, in other words, can parental personality traits buffer the negative impact of adversity on child-rearing environment? We considered the Big Five—Neuroticism, Extraversion, Conscientiousness, Agreeableness, and Openness—most often examined in research on parenting (Belsky & Barends, 2002) and three subtraits of Socialization, capturing memories of stable and untroubled home and school life (Stable Home), Optimism and social trust, and Conventuality (Stein et al., 1966). We examined how demographic adversity affects behavior of parents who differed on those traits. Specifically, we focused on parents' power assertion and warmth and positive affect during interactions with their toddlers. Although the findings of this study should be replicated, this work makes useful preliminary contributions that bridge developmental and personality psychology.

The Construct of Demographic Risk

Extant research has documented adverse effects of the confluence of parental low education, young age, low income, and large family size for child-rearing environment. In most studies that have typically involved high-risk populations, such multiple risk index has been created by assigning and adding points given merely for the presence of each salient risk factor (*yes-no*). For

example, a family would get a point for an extremely low income, a point for a very low education level, et cetera. Following that research, we created the family's demographic risk factor. We adopted a more graded strategy, however, that varied the number of points on each risk dimension, with zero reflecting no risk and higher numbers reflecting increasing risk. The goal was to create a better distributed index, and one better suited to our low-risk community sample. One of the contributions of this study is to demonstrate that the risk construct, to date used mostly for highly vulnerable populations, can also be useful for assessing demographic adversity in research with typical, well-functioning community families. Even in our population, where relatively few families had multiple risks, the cumulative risk measure produced robust and statistically significant effects. Nevertheless, this low-risk nature of our sample, as well as its somewhat limited ethnic diversity, may have constrained variation in the constructs we measured and thus limited generalizability of the findings. Future replications in more ethnically diverse and more stressed families will likely produce stronger and more generalizable effects.

Not surprisingly, demographic risk and parental personality were related. In families with more risks, mothers were more disagreeable and less open and had more troubled memories of their home and school experiences. The causal processes accounting for those links are almost certainly bidirectional. For example, high scorers on all three Socialization subscales are likely to attain higher educational levels, earn more, and marry later rather than earlier. Low education, in turn, may be associated with less Openness.

We robustly replicated the already known negative effects of demographic risk on child-rearing environment. Adversity undermined warm, affectively positive interactions for both mothers and fathers. In families with relatively more demographic risks, both parents' interactions with their children were infused with less positive emotion compared with families with fewer risks.

Demographic adversity appeared to differently affect mothers' and fathers' power assertion. Fathers in families with higher risk resorted more often to power-assertive discipline than did fathers in families with lower risk. Surprisingly, however, we found no effects of higher risk on mothers' use of power. Perhaps, whereas high adversity leads fathers to become harsh and coercive with their toddlers, it leads mothers to become more withdrawn and submissive rather than confrontational when faced with their children's opposition, the most likely trigger for power assertion (Patterson, 1980).

Finally, the demographic index in this and other studies represents a heterogeneous and multifaceted combination of factors. Although useful for the purpose of approximating a confluence of unfavorable ecological conditions, it is not conceptually pure, and it may obscure specific mechanisms that link given risk factors with parenting. For example, low educational level may be associated with uninformed, rigid notions of child development and unrealistic parenting expectations. Young parental age may be associated with the parent's own unresolved issues of autonomy, and thus lead to difficulty in dealing with toddlers' assertion of autonomy. Economic disadvantage may be linked with family chaos, violent neighborhood, multiple stresses, and emotional exhaustion, all of which may have specific consequences for parenting. Future investigations that "unpack" the risk construct may be useful.

Parents' Personality Traits and Parenting in the Context of Demographic Ecology

To go beyond the Big Five traits, most often examined in research on parenting (Belsky & Barends, 2002), we considered also CPI Socialization, a trait that has been rarely studied in relation to parenting and child development. In our study with a different sample, Socialization, assessed as a broad trait, predicted adaptive parenting and successful child outcomes across a range of measures (Kochanska et al., 1997). Because of its heterogeneous nature, in this study, we decomposed Socialization to three separate constructs to examine how its specific aspects relate to parenting.

There was relatively little evidence of assortative mating for the Big Five traits, with only one modest interparent correlation for Openness. Mothers and fathers, however, were significantly, if modestly, similar on all three Socialization subtraits.

The links among demographic risk, personality, and parenting were complex and they depended on the parenting dimension considered, the parent (mother vs. father), and the specific analytic strategy (traits examined one at a time vs. simultaneously). Overall, in terms of future parenting, the findings revealed a broad presence of interaction effects, where ecological adversity affected differently parents who were low or high on certain personality traits and a relative absence of main effects of parents' personality. Further, the findings indicated an important role of traits related to the broad construct of Socialization compared with the Big Five. In this study, parental characteristics that generally reflect one's successful and enduring integration with the social system (a history of untroubled childhood adjustment, optimism and social trust, and acceptance of conventional values) appeared to buffer parents against potential adverse effects of demographic risks. For parents with troubled memories of childhood who were pessimistic, mistrustful, alienated, and unconventional, higher demographic risk predicted less optimal parenting observed 2.5 years later. In contrast, for parents who had stable and happy recollections of home and school who were optimistic and trusting and embraced conventions, such links were absent.

Several findings were consistent across both parents. In higher risk ecologies, mothers and fathers whose memories of their own home life were unhappy, whose early school adjustment had been poor (low scorers on Stable Home subtrait), and who endorsed asocial, nonconformist roles and attitudes (low scorers on Conventionality subtrait) resorted to forceful discipline when controlling their children. By contrast, parents with happy memories of their family and school life and who embraced a conventional lifestyle did not adopt a power-assertive style, even when challenged by adversity.

The findings for the affective aspect of parenting—positive emotion, warmth, affection expressed during interaction with their toddlers—were also consistent for mothers and fathers. It was interesting that the aspect of Socialization that was most affective in nature—Optimism—moderated the impact of adverse ecology. A high-risk ecology had a detrimental effect on parents who were relatively low on this trait, who reported little sense of optimism, who distrusted others, and who felt socially alienated. Those parents showed less warmth, affection, and positive affect when interacting with their toddlers. Adversity, however, had no such

detrimental effect on parents who were optimistic, trusting, and well integrated with their social world.

The importance of the Socialization-related traits is not surprising given the origins of that broad scale. Gough's (1957) original goal that guided the development of the Socialization scale was to differentiate, generally speaking, between people who function competently and responsibly in the family and society and those who fail to do so. High scorers combine several personality qualities: They are relatively free of negative emotionality, comfortable and content in their relationships and social roles, accepting of and conforming to rules, and relatively planful, deliberate, disciplined, organized, responsible, and not given to impulsive, unconventional, nonconformist, and unpredictable acts. Such personality patterns resemble to some degree the recently proposed superordinate "alpha" factor (Markon, Krueger, & Watson, 2005) as well as "maturity" (Roberts & Wood, 2006).

Several bodies of research show robust effects of such a multifactorial combination of traits on adaptive social functioning. For example, Socialization consistently correlates negatively with "impulsive antisociality" (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). Advantages of a personality profile that combines low negativity, responsibility, dependability, and predictability in a range of ordinary daily contexts are particularly evident in parents' relationships with infants and toddlers. By contrast, negative, unconventional, unpredictable, and impulsive individuals are particularly ill-suited for early care and nurturance of young offspring (Kochanska et al., 1997).

Most studies to date have used the global Socialization scale and did not examine subtraits. Therefore, for the purpose of comparability with that body of work, we also conducted additional analyses by using one global Socialization scale score (all 54 items), and we compared the findings to those reported for the subtraits. We should note that Stable Home, Optimism, and Conventionality correlated with the global scores: for mothers, respectively, .88, .35, and .54, and for fathers, .79, .26 ($p < .01$), and .49 ($ps < .001$, except where noted).

For mothers, the global score moderated the impact of adversity on power assertion ($\beta = -.34$, $p < .005$; corresponding to the reported effects of Stable Home and Conventionality). It did not, however, moderate the impact of adversity on mothers' affectively positive parenting, the effect we detected for the subtrait of Optimism. For fathers, the global score moderated the impact of adversity on power assertion ($\beta = -.27$, $p < .01$; again, corresponding to the reported effects of Stable Home and Conventionality). But it failed to moderate the effect of adversity on affectively positive parenting, again, the effect we were able to detect for the subtraits of Optimism and Conventionality. Thus, for parental power assertion, the global scores produced similar findings to those reported for subtraits; but for affectively positive parenting, they were less sensitive than were subtraits in terms of detecting the interaction effects.

We found only two of the anticipated effects related to the Big Five. Demographic adversity affected more strongly mothers who were low on Extraversion; those mothers adopted a power-assertive style of discipline, whereas mothers high on Extraversion did not. Adversity affected more strongly fathers with high Neuroticism scores, who adopted a forceful discipline style, than it did

fathers with low scores, who did not adopt a forceful discipline style.

Somewhat surprisingly, by and large, personality traits had no main effects on power assertion, in contrast to other studies, including ours (Clark et al., 2000). In those studies, however, relations between parents' traits and their parenting have been usually assessed concurrently or close in time from each other. Perhaps when more time elapses between such assessments—as in this study, 2.5 years—more complex interactions come to replace main effects. As well, as the nature of the parent-child relationship changes during development, links among family's ecology, parental traits, child traits, and parent-child interaction may continue to change. We plan to address those questions as we follow up this sample.

We found several modest main effects of fathers' personality traits on their future affectively positive behavior with their children, when traits were considered one at a time (although when considered together in comprehensive regressions, none remained significant). Agreeableness had a positive effect—as it did in infancy (Kochanska et al., 2004), and so did Extraversion. To some extent, both traits capture positive social emotions and pleasure derived from social interactions, so it is conceivable that they provide an "emotional core" important for this parenting construct that is primarily affective in nature.

Methodological Contributions

This work makes several methodological contributions. Because Belsky and Barends (2002), consistent with Epstein (1983), stressed that finding links between parental personality and behavior is more likely when behavior is measured across situations and more than once, we observed parents in multiple, lengthy, naturalistic yet carefully scripted contexts, at home and in the laboratory. All behavioral data were coded from videotapes. We programmatically followed the principle of aggregation to produce robust constructs (Rushton, Brainerd, & Pressley, 1983). To that end, numerous coded variables were substantially aggregated across coded segments, contexts, and occasions of measurements to produce robust final overall constructs. Finally, data on parental personality came from parents' self-reports in established questionnaires, measures of demographic adversity were based on objective facts, such as education or age, and parenting data were exclusively behavioral. Thus, associations among those sets of measures were not subject to a shared method variance problem.

Conclusions

Developmental psychopathology has produced a considerable amount of evidence regarding protective and risk factors associated with the child, such as intelligence, temperament, gender, et cetera. This study elucidates little known, but conceptually complementary, parent effects that may attenuate or extenuate the impact of family ecology on family processes. The further bridging of those separate sets of findings will likely enhance our understanding of protective mechanisms. For example, there may be links between parental Socialization subtraits and children's temperament. Parents who have warm memories of their families, who report good school adjustment and are relatively free of negative affect, who feel well integrated in society, and who accept societal

conventions and avoid unpredictable asocial acts likely have children who are well self-regulated, positive, and competent.

This study, showing empirical associations among demographic risk, parental traits, and parental behavior and affect, is only a preliminary step toward better understanding links among, generally, a broader ecology, parental personality, parental behavior and rearing environment, and children's personality. Although it may be tempting to speculate about causal links among the constructs—for example, proposing, as we have indeed done, that certain parental personality traits may act as buffers against the adverse press of the family's ecology—such speculations may be premature. The actual causal links may be complex and they may involve several mechanisms. For example, genetic factors may underpin parents' traits, their behavior and affect, children's traits, and life events that impinge on the family (Caspi et al., 2005; Wade & Kendler, 2000). Further, children's traits influence their behavior, which in turn influences parental response (Maccoby, in press). To disentangle such multilayered and multidirectional relations is a challenge for future research. Because of the importance of early parent-child relationships for future developmental trajectories, the understanding of the interplay among the family's ecological niche, individual differences in parents' personalities, their parenting styles, and children's outcomes is a worthwhile goal. This study represents an initial step to elucidate some of those complex links.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park: Sage.
- Baldwin, A. L., Baldwin, C., & Cole, R. E. (1990). Stress-resistant families and stress-resistant children. In J. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 257–280). New York: Cambridge University Press.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83–96.
- Belsky, J., & Barends, N. (2002). Personality and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting, Vol. 3: Being and becoming a parent* (2nd ed., pp. 415–438). Mahwah, NJ: Erlbaum.
- Belsky, J., Crnic, K., & Woodworth, S. (1995). Personality and parenting: Exploring the mediating role of transient mood and daily hassles. *Journal of Personality, 63*, 905–929.
- Benning, S. D., Patrick, C. J., Blonigen, D. M., Hicks, B. M., & Iacono, W. G. (2005). Estimating facets of psychopathy from normal personality traits: A step toward community epidemiological investigations. *Assessment, 12*, 3–18.
- Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the Psychopathic Personality Inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15*, 340–350.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *Development of cognition, affect, and social relations: The Minnesota Symposia on Child Psychology* (Vol. 13, pp. 39–101). Hillsdale, NJ: Erlbaum.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Campbell, S. B., Pierce, E. W., Moore, G., & Marakowitz, S. (1996). Boys' externalizing problems at elementary school age: Pathways from early behavior problems, maternal control, and family stress. *Development and Psychopathology, 8*, 701–719.
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy, 44*, 585–599.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56*, 453–484.
- Chao, R. K. (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development, 65*, 1111–1119.
- Clark, L. A., Kochanska, G., & Ready, R. (2000). Mothers' personality and its interaction with child temperament as predictors of parenting behavior. *Journal of Personality and Social Psychology, 79*, 274–285.
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist, 55*, 218–232.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory and NEO Five-Factor Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Cummings, E. M., & Davies, P. T. (1994). Maternal depression and child development. *Journal of Child Psychology and Psychiatry, 35*, 73–112.
- David, J. P., & Suls, J. (1999). Coping efforts in daily life: Role of Big Five traits and problem appraisals. *Journal of Personality, 67*, 265–294.
- Deater-Deckard, K. (2005). Parenting stress and children's development: Introduction to the special issue. *Infant and Child Development, 14*, 111–115.
- Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1996). Physical discipline among African American and European American mothers: Links to children's externalizing behaviors. *Developmental Psychology, 32*, 1065–1072.
- Deater-Deckard, K., & Scarr, S. (1996). Parenting stress among dual-earner mothers and fathers: Are there gender differences? *Journal of Family Psychology, 10*, 45–59.
- Edwards, C. P., & Liu, W. (2002). Parenting toddlers. In M. H. Bornstein (Ed.), *Handbook of Parenting* (Vol. 1., pp. 45–71). Mahwah, NJ: Erlbaum.
- Epstein, S. (1983). Aggregation and beyond: Some basic issues on the prediction of behavior. *Journal of Personality, 51*, 360–392.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin, 128*, 539–579.
- Goodman, S. H., & Gotlib, I. H. (1999). Risk for psychopathology in the children of depressed parents: A developmental model for understanding mechanisms of transmission. *Psychological Review, 106*, 458–490.
- Gough, H. G. (1957). *Manual for the California Psychological Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- Gough, H. G. (1994). Theory, development, and interpretation of the CPI Socialization scale. *Psychological Reports, 75*, 651–700.
- Grusec, J. E., & Goodnow, J. J. (1994). The impact of parental discipline methods on the child's internalization of values: A reconceptualization of the current points of view. *Developmental Psychology, 30*, 4–19.
- Gunther, K. C., Cohen, L. H., & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology, 77*, 1087–1100.
- Halverson, C. F., & Wampler, K. S. (1997). Family influences on personality development. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 241–268). San Diego, CA: Academic Press.
- Harris, J. R. (1998). *The nurture assumption: Why children turn out the way they do*. New York: Free Press.
- Hoff, E., Laursen, B., & Tardif, T. (2002). Socioeconomic status and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting, Vol. 2: Biology and ecology of parenting* (2nd ed., pp. 231–252). Mahwah, NJ: Erlbaum.
- Hoffman, M. L. (1983). Affective and cognitive processes in moral internalization. In E. T. Higgins, D. Ruble, & W. W. Hartup (Eds.), *Social*

- cognition and social development* (pp. 236–274). New York: Cambridge University Press.
- Kagan, J. (1981). *The second year: The emergence of self-awareness*. Cambridge, MA: Harvard University Press.
- Kochanska, G., Aksan, N., & Nichols, K. E. (2003). Maternal power assertion in discipline and moral discourse contexts: Commonalities, differences, and implications for children's moral conduct and cognition. *Developmental Psychology, 39*, 949–963.
- Kochanska, G., Clark, L. A., & Goldman, M. S. (1997). Implications of mothers' personality for their parenting and their young children's developmental outcomes. *Journal of Personality, 65*, 387–420.
- Kochanska, G., Coy, K. C., & Murray, K. T. (2001). The development of self-regulation in the first four years of life. *Child Development, 72*, 1091–1111.
- Kochanska, G., Friesenborg, A. E., Lange, L. A., & Martel, M. M. (2004). Parents' personality and infants' temperament as contributors to their emerging relationship. *Journal of Personality and Social Psychology, 86*, 744–759.
- Kochanska, G., Padavich, D. L., & Koenig, A. L. (1996). Children's narratives about hypothetical moral dilemmas and objective measures of their conscience: Mutual relations and socialization antecedents. *Child Development, 67*, 1420–1436.
- Kopp, C. B. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology, 18*, 199–214.
- Kuczynski, L., & Kochanska, G. (1990). Development of children's non-compliance strategies from toddlerhood to age 5. *Developmental Psychology, 26*, 398–408.
- Lamb, M. E. (Ed.). (1997). *The role of the father in child development*. New York: Wiley.
- Lee-Baggley, D., Preece, M., & DeLongis, A. (2005). Coping with interpersonal stress: Role of Big Five traits. *Journal of Personality, 73*, 1141–1180.
- Lengua, L. J. (2002). The contribution of emotionality and self-regulation to the understanding of children's response to multiple risk. *Child Development, 73*, 144–161.
- Letzring, T. D., Block, J., & Funder, D. C. (2005). Ego control and ego resiliency: Generalization of self-report scales based on personality descriptions from acquaintances, clinicians, and the self. *Journal of Research in Personality, 39*, 395–422.
- Maccoby, E. E. (in press). Historical overview of socialization theory and research. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization*. New York: Guilford.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology, Vol. 4, Socialization, personality, and social development* (4th ed., pp. 1–102). New York: Wiley.
- Markon, K. E., Krueger, R. F., & Watson, D. (2005). Delineating the structure of normal and abnormal personality: An integrative hierarchical approach. *Journal of Personality and Social Psychology, 88*, 139–157.
- McCord, J. (1995). *Coercion and punishment in long-term perspective*. New York: Cambridge University Press.
- O'Connor, T. G. (2002). Annotation: The "effects" of parenting reconsidered: Findings, challenges, and applications. *Journal of Child Psychology and Psychiatry, 43*, 555–572.
- Parke, R. D. (2002). Fathers and families. In M. H. Bornstein (Ed.), *Handbook of parenting, Vol. 3: Being and becoming a parent* (2nd ed., pp. 27–74). Mahwah, NJ: Erlbaum.
- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In W. Damon & R. M. Lerner (Series Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Social, emotional, and personality development* (Vol. 3, pp. 429–504). New York: Wiley.
- Patterson, G. R. (1980). Mothers: The unacknowledged victims. *Monographs of the Society for Research in Child Development, 45*(5, Serial No. 186).
- Patterson, G. R. (1982). *Coercive family process: A social learning approach*. Eugene, OR: Castalia.
- Phares, V., & Compas, B. E. (1992). The role of fathers in child and adolescent psychopathology: Make room for daddy. *Psychological Bulletin, 111*, 387–412.
- Phares, V., Fields, S., Kamboukos, D., & Lopez, E. (2005). Still looking for poppa. *American Psychologist, 60*, 735–736.
- Roberts, B. W., & Wood, D. (2006). Personality development in the context of the neo-socioanalytic model of personality. In D. K. Mroczek & T. D. Little (Eds.), *Handbook of personality development* (pp. 11–39). Mahwah, NJ: Erlbaum.
- Rolf, J. E., Masten, A. S., Cicchetti, D., Nuechterlein, K. H., & Weintraub, S. (Eds.). (1990). *Risk and protective factors in the development of psychopathology*. New York: Cambridge University Press.
- Rushton, J. P., Brainerd, C. J., & Pressley, M. (1983). Behavioral development and construct validity: The principle of aggregation. *Psychological Bulletin, 94*, 18–38.
- Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In J. E. Rolf, A. S. Masten, D. Cicchetti, K. H. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 181–214). New York: Cambridge University Press.
- Sameroff, A. J., Seifer, R., Barocas, R., Zax, M., & Greenspan, S. (1987). Intelligence quotient scores of 4-year-old children: Social-environmental risk factors. *Pediatrics, 79*, 343–350.
- Stein, K. B., Gough, H. G., & Sarbin, T. R. (1966). The dimensionality of the CPI Socialization scale and an empirically derived typology among delinquent and nondelinquent boys. *Multivariate Behavioral Research, 1*, 197–208.
- Suls, J., David, J. P., & Harvey, J. H. (1996). Personality and coping: Three generations of research. *Journal of Personality, 64*, 711–735.
- Wade, T. D., & Kendler, K. S. (2000). The genetic epidemiology of parental discipline. *Psychological Medicine, 30*, 1303–1313.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*, 465–490.
- Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality, 60*, 441–476.
- Watson, D., Clark, L. A., & Harkness, A. R. (1994). Structures of personality and their relevance to psychopathology. *Journal of Abnormal Psychology, 103*, 18–31.
- Watson, D., & Hubbard, B. (1996). Adaptional style and dispositional structure: Coping in the context of the five-factor model. *Journal of Personality, 64*, 737–774.

Received November 14, 2005

Revision received August 10, 2006

Accepted August 16, 2006 ■