The Role of Depression and Social Relationships in the Intergenerational Transmission of Observed Parenting

A DISSERTATION
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL
OF THE UNIVERSITY OF MINNESOTA
BY

Brianna Sue Coffino

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

Adviser: L. Alan Sroufe, PhD, Co-Adviser: Bruce Cuthbert, Ph.D

June 2010

Acknowledgements

I would like to thank the following individuals who supported me in completing my dissertation:

Alan Sroufe, for the guidance, perspective, insight, and support that he offered me while I completed this dissertation and throughout graduate school. His commitment to the field inspired me to pursue a Ph.D. and reaffirmed my dedication in moments of discouragement.

Betty Carlson, for hallway conversations that provided some of the most enriching moments of my graduate training.

Byron Egeland, for encouragement and support on my dissertation, professional development, and multiple other projects.

Andy Collins, for support across various endeavors on the Parent-Child Project.

Michelle Englund and Judy Cook, for knowing how to resolve both my detailed and general questions about Parent-Child data.

Ann Masten and Bruce Cuthbert, for providing constructive feedback as members of my dissertation committee.

Abstract

Using prospective, longitudinal, multimethod, and multireporter data, this study examined the role of depression and social relationships in the intergenerational (dis)continuity of observed parenting. Parenting was measured twice (at age 24 and 42 months) at parallel ages in each generation. Results indicated that parenting measured at 42 months related to measures of depression and social relationship indicators while parenting at 24 months generally did not. Using parenting measured at 42 months in both generations, there was a direct link in parenting across generations after accounting for continuities in depression both within and across generations but no mediation through depression. Both experiences of being parented and adolescent peer experiences appeared to independently influence the development of parenting behavior in the next generation. The findings provide support for the enduring effects of early parent-child experiences but suggest that relationships across childhood and adulthood contribute to individual differences in parenting.

Table of Contents

List of Tables

List of Figures

The Role of Depression and Relationship Factors in the Intergenerational Transmission of Observed Parenting

Compelling relationships between parenting and child outcomes have been documented and have led to an increasing interest in the antecedents of parenting (Sroufe, Egeland, Carlson, & Collins, 2005; Collins, Maccoby, Hetherington, & Bornstein, 2000; Putallaz, Costanzo, Grimes, & Sherman, 1998; O'Connor, 2002). Recent efforts have moved from studying the sequelae of parenting to include the predictors of parenting itself. While many studies have considered contemporaneous contributing factors, there is a trend to look at developmental history as a predictor of individual differences in parenting. In fact, a current focus in the parenting literature is on the contribution of child-rearing history to individual differences in parenting. Both the lay public and the developmental scientists have embraced the notion that childrearing practices are repeated across generations (Belsky, Jaffee, Sligo, Woodward, & Silva, 2005). While the public and researchers have wondered what factors "break the cycle" of maltreatment, it is also relevant to consider what developmental processes support the continuity of positive parenting across generations.

Additional factors have fostered the burgeoning interest in (dis)continuities of parenting. Continuities in parenting may help explain the documented continuities in social disadvantage and the transmission of risk factors across generations (Rutter, 1998; Serbin, Cooperman, Peters, Lehoux, Stack, & Schwartzman, 1998; Serbin & Karp, 2004). Therefore, empirically supported mechanisms of discontinuity may be especially valuable in indicating candidates for interventions to disrupt intergenerational

cycles of social disadvantage. Identifying protective factors that promote resilience to contextual adversity will be the first step in designing preventive interventions.

Various theories support the notion that intergenerational continuity in parenting exists and in fact, there are modest continuities in the literature. However, the processes and mechanisms through which parenting styles repeat or change across generations is less clear. Indeed, various predictors for change are proposed but remain to be rigorously tested. This study will extend this body of literature to consider how depression and social relationship experiences affect the intergenerational continuity of parenting. While both theory and empirical work suggest that depression and relationship factors influence the intergenerational continuity of parenting behavior, this is the first prospective, longitudinal study with parallel observational measures of parenting in both generations to explore these factors. Based on the compelling and distinct bodies of literature that suggest that depression and relationship experiences contribute to intergenerational patterns of parenting, these factors will be investigated separately.

Literature Review

Theoretical Foundations for the Intergenerational Stability in Parenting

Psychodynamic Theory: Ghosts and Angels in the Nursery

Selma Fraiberg's metaphor of "ghosts in the nursery" provides an image to capture the intergenerational stability in negative caregiving (Fraiberg, Adelson, & Shapiro, 1975). She proposed that, "in every nursery there are ghosts. They are visitors from the unremembered past of the parents: the uninvited guests at the christening" (Fraiberg et al., 1975, p. 387). These ghosts explain the mechanism that fosters the

unintentional repetition of negative caregiving experiences across generations. Fraiberg explained that parents reenact early experiences of fear and helplessness with their own children. When parents are unable to confront negative memories from their own childhood, they repress these memories. Functionally, repression provides distance from the painful feelings that negative childhood memories evoke. However, repression of painful early care-receiving experiences encourages parents to identify with their own abusers and prevents parents from hearing and responding to their children's developmental needs (Fraiberg, 1980). These distortions cause parents to misinterpret their children's signals and ascribe negative intention to their children's behaviors. In turn, parenting quality is compromised. Over time, children internalize their parents' rejection.

Lieberman and her colleagues (Lieberman, Pardón, Van Horn, & Harris, 2005) proposed the foil to Fraiberg's "ghosts in the nursery." While ghosts may cause parents to reenact negative aspects of their own childhood, "angels in the nursery" can be sources of strength that help parents to interrupt cycles of maltreatment. Therefore, "ghosts and angels coexist in a dynamic tension with each other, at times actively struggling for supremacy and at other times reverting to a quiescent state…" (Lieberman et al., 2005, p. 506). Through this manner, angels may be protective regarding intergenerational influences.

Lieberman and colleagues describe that "angels in the nursery" originate from benevolent care-receiving experiences in which the caregiver and child are attuned and connected. This synchrony allows the child to feel loved, protected, and perfectly understood. Instances of intense shared affect provide the child with a sense of self-

worth and security (Lieberman et al., 2005). When the parent cannot provide these nurturing experiences, they may occur with other sensitive, responsive caregivers. Parents may unknowingly reenact these experiences with their own children; thereby, invoking the angels from their own childhood in an "effortless recapitulation" (Lieberman et al., 2005).

Lieberman and her colleagues (2005) suggest that angels in the nursery serve as both a protective intergenerational influence and a potential source of therapeutic change. They propose that identifying angels can be a focus of intervention efforts. People may suppress both painful memories as well as memories of intimacy and joy; both can be uncovered in the therapeutic context. By incorporating memories of feeling cared for and protected by an attachment figure, the parent may gain a more complex recollection of early experiences, even if those memories are situated in a traumatic history that includes abuse and neglect. Lieberman and colleagues suggest that therapeutic efforts include explicit searching for angels; that is, that therapists solicit and identify benevolent care-receiving experiences to serve as growth-promoting experiences in parents.

Social Learning Theory

Social learning theory also has been invoked to explain the intergenerational transmission of parenting practices (Simons, Whitbeck, Conger, & Chyi-In, 1991; Van Ijzendoorn, 1992; Chen & Kaplan, 2001; Burgess & Youngblade, 1988). Various learning mechanisms may underlie the continuity of parenting across generations. These mechanisms include direct training, reinforcement, modeling, and observing. Parenting may depend on direct experience with one's own parents, modeling parents'

behavior with other children (e.g. siblings) through observational learning, and direct coaching by parents when children interact with other children (Crittenden, 1984). Modeling suggests that children imitate their parents' behavior when they become parents (Bandura, 1997). Direct learning may cause people to adopt the beliefs and attitudes of their parents or to imitate the behaviors of their parents. (Simons et al., 1991). With limited models of parenting, people may reflexively repeat the behaviors of their parents or they may adopt parental attitudes that endorse the practices of their parents (Simons et al., 1991).

Rather than specific parenting behaviors or beliefs, experiences with parents may foster certain personality features or interaction styles that people use with everyone, including their own children (Simons et al., 1991; Caspi & Elder, 1988: Elder, Caspi, & Downey, 1986). These explanations will be explored further in later sections of this paper.

Dyadic Self-Regulation Theory

Dyadic self-regulation theory (Sanders, 1975; Sroufe, 1989) brings together the social learning and psychodynamic perspectives. It posits that emotion regulation begins as a dyadic construct. Initially, emotion regulation is coordinated between caregiver and infant. Over time, the infant become increasingly participatory and active in the organization of emotion regulation and ultimately, these experiences become internalized in the child (Sroufe, 1989; Sanders, 1975). The child approaches novel situations based on its history of experiences. Patterns of affect regulation are established and entrained in the early caregiving relationship but carried forward, with consequences for the development of neural systems, for affect regulation, for

expectations, and for behavior. These established, pre-verbal patterns guide subsequent social encounters and emotional reactions, but may be especially influential in interactions with one's own child. That is, these preverbal patterns of emotion regulation may become "reactivated" when one is called on to regulate the emotions of one's own child (Kovan, Chung, & Sroufe, in press). In this way, internalized early relationship experiences may underlie intergenerational patterns of parenting behavior (Sroufe et al. 2005).

Empirical Findings on Intergenerational Parenting Continuities

Intergenerational parenting studies generally require at least three generations of participants. To facilitate readability, authors have embraced the following expressions to refer to subsequent generations of study participants: G1 (Generation 1) refers to the earliest generation (often the grandparents), G2 (Generation 2) refers to their children, and G3 (Generation 3) refers to the third generation (often the grandchildren of G1). In cases where only two generations are discussed, the terms G1 and G2 will be maintained.

The Intergenerational Transmission of Child Maltreatment

Early studies of the etiology of child maltreatment made bold assertions about the intergenerational transmission of abusive and neglectful parenting. Indeed a general assumption held by scientists and the public regarded the likelihood that a childhood maltreatment history led to being an abusive parent. However, since the 1960s and 1970s, conclusions about the cycle of maltreatment have become much more conservative (for review, see Belsky, 1993). Concerns about the methodology of abuse studies motivated this caution. Limitations of early studies included their reliance on

retrospective reports and case studies, their absence of adequate control groups, their use of clinical samples, and not keeping researchers blind to maltreatment history (for discussions, see Simons et al., 1991; Belsky & Jaffe, 2006).

Recent conclusions consider maltreatment history a risk factor for perpetrating abuse but not deterministic. As Belsky states "even though a history of maltreatment is a risk factor of considerable significance in the etiological equation, some, perhaps many, even most parents do not repeat the cycle of maltreatment." (Belsky, 1993, p. 417). In general, rates of intergenerational maltreatment continuity vary widely across studies but are considerably higher than for the general population (Belsky, 2006). Estimations of maltreatment may underestimate maltreatment rates because they cannot account for abuse parents may perpetrate in the future or for marginal caregiving since maltreatment is treated as a dichotomous variable.

In spite of these methodological challenges, recent inquiry has sought to understand the processes whereby some maltreated individuals go on to abuse their own children while others do not. Several factors have been proposed to underlie the intergenerational transmission of abuse as well as to explain lawful discontinuities in cycles of maltreatment. These include parenting philosophies, parent personality, modeling, internal working models, involvement in therapy, a history of having emotionally supportive relationships, and romantic relationship quality (for reviews, see Belsky, 1993 and Putallaz et al., 1998).

Studies using improved methodology have presented compelling findings regarding the rates and processes underlying intergenerational maltreatment patterns. For instance, Egeland and colleagues found support for several mechanisms that

predicted lawful discontinuity in maltreatment perpetration (Egeland, Jacobvitz, & Sroufe, 1988). Using a prospective, longitudinal design, reported history of abuse was related to perpetration of abuse (Egeland et al., 1988). However, several factors emerged that distinguished the repeaters from the non-repeaters. Discriminating factors included involvement in therapy at any time, current involvement in an emotionally supportive romantic relationship, and a relationship with a supportive adult in childhood. Overall, these results suggest the potential for supportive relationships to buffer individuals from the effects of early adversity. The role of relationships as a mediator of parenting behavior will be discussed more specifically later in this paper.

Other research supports the role of direct-modeling in the intergenerational transmission of abuse and harsh parenting. Simons et al. (1991) used a sample of adolescents and their parents to investigate intergenerational pathways of harsh parenting. Parents reported retrospectively on their own parents' (G1) harsh parenting. A measure of G2 parenting was derived from adolescent and parent report. After controlling for several potential mechanisms of transmission including parent personality, parenting beliefs, and socioeconomic status, a direct intergenerational pathway in harsh parenting remained significant. The authors interpreted this finding as supporting that predominant parenting experiences in childhood create a model that people ultimately use in a reflexive way with their own children. In addition, they found only weak support for the mediating role of personality and parenting beliefs in the continuity of harsh parenting. Although the retrospective nature limits this impact of these findings, the attempt to explore processes underlying (dis)continuity in parenting is a goal that should be broadly pursued.

Parenting Continuity in Non-Human Primates

In general, prospective, longitudinal, and intergenerational studies are logistically difficult to realize; they are costly and time-intensive. Nevertheless, they are the type of study required to satisfactorily answer questions about the developmental processes involved in the transfer of parenting across generations. Animal studies therefore emerge as a viable candidate to provide the foundation for this research. Non-human primates reach maturity much more quickly than humans and experimental conditions can be more rigorously controlled.

In a review of intergenerational parenting research, Putallaz and colleagues (1998) concluded that animal studies did not support genetic factors as mechanisms underlying the transmission of parenting. Rather, existing research nominated domain specific mechanisms including social learning (i.e. observational learning, modeling) and early experience in the intergenerational continuity of parenting.

In one elegant study, Fairbanks (1989) investigated the mechanisms underlying patterns of intergenerational parenting in captive vervet monkeys. To do so she measured the amount of mother-infant contact in two successive generations. Indeed, there was a correlation between the amount of time infant monkeys were held and the amount of time they were observed to be in contact with their own infants. Fairbanks was able to rigorously test several putative mechanisms of transmission in a way that would have been impossible with humans. Factors she considered as underlying intergenerational parenting patterns included genetic factors, contextual similarities across generations (i.e. dominance rank), early mothering experience, and observational learning. Maturity rates in non-human primates allow for especially compelling

measures of observational learning. Reproductive rates of vervets are such that generations may overlap; offspring may have infants while their mothers are simultaneously raising younger infant siblings. Her findings indicated that genetic similarity, early experience, and observational learning (i.e. of mothers holding younger siblings) correlated with adult mothering time. However, early experience with the mother predicted adult parenting behavior after partialling out the influence of genetic factors and observational learning; the latter two factors became nonsignificant when considered with early experience. Fairbanks suggested that early mothering experiences may foster expectations about the environment and about successful parenting that are ultimately expressed with offspring.

In contrast, work by Berman (1990) suggests that observational learning may be an explanatory factor in the intergenerational transmission of rejecting parenting in free-ranging rhesus monkeys. In this study of free ranging rhesus monkeys, the number of times the mother prevented nipple contacts with her infant was used as a proxy for maternal rejection. After considering genetic factors, dominance rank, early experience, and observational learning (i.e. mother interacting with younger siblings), results indicated a similarity between the target sample's rejection rates and the rejection rates of their mothers. Berman did not find support for the influence of early experience on adult behavior; rather, she concluded that the grandmothers' behavior with younger siblings was the best explanation for intergenerational consistencies in maternal rejection. In summary, compelling animal research suggests that observational learning and early experience underlie the transmission of parenting behaviors. It remains to be seen whether these mechanisms are domain specific in humans.

Intergenerational Continuity in Parenting Behavior

Two reviews of the intergenerational parenting literature (Putallaz et al., 1998; Van Ijzendoorn, 1992) present support for the stability of parenting behavior across generations. Van Ijzendoorn summarizes the literature as providing modest evidence for intergenerational stability; however, he cautions that methodological limitations reduce the impact of the findings. Further, he advises that studies utilizing observational methods, attachment constructs, and consideration of causal mechanisms are the most promising.

Much of the literature on intergenerational continuities considers negative parenting behavior. Two prospective longitudinal studies found stability in aggressive parenting across generations. Huesmann and colleagues found a significant relationship between G1 parental aggression and G2 aggression in parenting 20 years later (Huesmann, Eron, Lefkowitz, and Walder, 1984). Parents in both generations were asked how severely they would discipline their children in response to certain aggressive actions. Weaknesses in this study related to the measure of parental aggression. The measure of aggressive parenting was derived from hypothetical situations presented on a self-report questionnaire. The G2 measure of parental aggression also included items that rated general aggression, rather than specifically aggression in parenting which the authors suggest may have inflated the relations. Similarly, Conger and colleagues found a direct link between G1 and G2 angry, hostile, and aggressive parenting that was not explained by social conditions or G2 problem behavior (Conger, Neppl, Kim, & Scarmella, 2003). Based on these results, the authors concluded that there was support for a specific learning effect for parenting behavior.

Historically, research on the transmission of harsh parenting outweighs research on the transmission of positive parenting practices. The mechanisms that underlie the transmission of harsh parenting practices may also explain the continuity in positive parenting practices (Chen & Kaplan, 2001). However, researchers are careful to warn that these processes must be tested before being extended (Chen & Kaplan, 2001). Positive parenting practices are not simply the opposite of harsh parenting; rather, harsh parenting or maltreatment may be absent without positive parenting being present.

Much data has been gathered from adult recollections of childhood experiences and some have focused on predictors of infant-parent relationships. For instance, women who recalled their parents as being supportive, low on intrusiveness, and sensitive had better overall adaptation to their infants (Cox et al., 1985). Similarly, recalled conflict has been inversely related to mothers' responsiveness with their infants (Heinicke, Diskin, Ramsey-Klee, & Given, 1983). Recalled acceptance and warmth from childhood has been associated with parent responsiveness to infants (Main, Kaplan, & Cassidy, 1985; Van Ijzendoorn, 1992).

While most of the early studies on the continuity of positive parenting were retrospective in nature, recent work on intergenerational patterns has used prospective designs. In one example, Chen and Kaplan (2001) tested models of the intergenerational transmission of constructive or supportive parenting. They used a prospective longitudinal design that began when participants were early adolescents and included three waves of data collection. In the initial wave of data collection, seventh graders reported on their "perception of good parenting." The latent construct was composed of 3 indexes: happiness at home, perception of receiving good parenting at

home, and perceived parental acceptance and love. At Time 2, young adults (in their 20s) reported on intervening variables (i.e. psychological state, interpersonal relations, and social participation). In the third wave, participants were in their mid- to late- 30s and reported on their own constructive parenting. The latent construct of constructive parenting was composed of 5 indexes: monitoring, communication, involvement in children's education, discipline, and parent-child affection. They found that the direct effect from adolescent "perception of good parenting" to "constructive parenting" accounted for more than half of the total effect even after controlling for intervening variables.

Multiple studies have similarly begun data collection when G2 participants were adolescents. In the context of investigating the transmission of risk factors across generations, Brook and colleagues found consistencies in certain parenting dimensions (Brook, Whiteman, & Brook, 1999). Grandmothers (G1) were interviewed regarding their parenting practices when their children (G2) were 15 years old. Their children (G2) were interviewed about their own child-rearing practices when they were in their mid-twenties and had a 2-year-old child. Various self report questionnaires were completed; consistent across both generations were measures of conflict, authoritarianism, and affection. Findings indicated a relationship between grandparents' (G1) and parents' self-reported parenting practices.

The validity of the findings necessarily depends on methodology and design. It appears that reporter bias is a particular problem in the intergenerational literature. Intergenerational continuities in parental support and control may vary as a function of the reporter. For example, Chassin and colleagues found modest evidence for the

intergenerational transmission of parenting practices but only when using the same reporter for both variables (Chassin, Presson, Todd, Rose, & Sherman, 1998). Adolescent girls (G1) were interviewed about the parenting they received and then in adulthood, they and their adolescent offspring (G2) reported on the original participants' parenting. Mothers who reported higher levels of support during their adolescence reported that they gave higher levels of support. There was no observed continuity of parental support when using adolescent report. This suggests that reporter bias may have inflated the findings. Reporter bias and other methodological concerns will be expanded later in the paper.

Because of these methodological concerns, recent findings from prospective, longitudinal studies, using observational measures of parenting are especially compelling (Belsky et al., 2005; Kovan, et al., in press; Kovan, Kempner, & Carlson, 2004,). Belsky and colleagues (2005) used a subsample of parents from the Dunnedin longitudinal study. This longitudinal study provided an archive of measures of childrearing history and family climate. In addition, the researchers measured the parenting the original participants provided once they became parents in a series of observational, parent-child laboratory tasks. They found that mothers with supportive developmental histories were observed to provide more warm-sensitive-stimulating parenting to their own children than other mothers. Notably, these results held after controlling for observed child behavior in the interaction tasks. Contrary to predictions, romantic relationship quality did not impact the intergenerational transmission of parenting. However, results did not support intergenerational consistency in positive parenting for fathers. While this study raises questions about how gender may influence

intergenerational patterns of parenting, it calls for further work to investigate moderators of intergenerational pathways.

In another compelling study Kovan et al. (in press) presented findings from the Minnesota Longitudinal Study of Parents and Children on a subsample of participants who had become parents to toddlers. Strengths of this study included the prospective longitudinal design and the use of parallel, observational parenting measures in both generations. The authors found that first generation measures of parent-toddler interactions predicted parenting in the next generation after controlling for first generation life stress, SES, and parent IQ. These results suggest that observed continuities are not simply due to contextual factors, IQ, or reporter bias. Together, the Belsky et al. (2005) and Kovan et al. (in press) studies provide methodological improvements over previous studies thereby presenting findings that withstand common criticisms of intergenerational designs.

Processes Underlying the Transmission of Parenting

While the literature coalesces to suggest some continuity in parenting across generations, the processes that underlie this transmission are not fully elucidated. Researchers have begun to wonder what circumstances predict maintenance or change in parenting styles across generations (Patterson, 1998). Specifically, questions have been posed, but not resolved, regarding factors that may mediate or moderate the contribution of childhood experiences to parenting competence.

Models of parenting competence have been used to nominate several promising factors that may affect the intergenerational transmission of parental functioning. Indeed, a growing body of literature has targeted the factors that have been shown to

relate to contemporaneous parenting competence including life stress, parent psychopathology, and relationships (for review, see Belsky & Jaffe, 2006).

Belsky (1984) proposed a process model of the individual determinants of parental functioning. In this model, the intergenerational transmission of parenting is indirect and not simply due to a modeling effect. Developmental history, including experiences of being parented, influence adult personality and mental health which delimit the quality of caregiving one can provide. Sources of stress and support including relationships, the social network, and employment impact parenting directly and also indirectly by influencing parents' psychological well-being.

According to Belsky's model (1984), parental functioning is multiply determined; factors interact in complex ways to buffer parents from risk and to amplify the probability of competent parenting. The three categories of factors (i.e. parent characteristics, child characteristics, contextual stress/support) are mutually influential and weaknesses in one do not necessarily imply compromises in another. In this multiply determined model, parent characteristics are conceived to be the most influential because they impact parenting directly and also affect social support. Positive parent personality, well-being, and mental health have the ability to compensate for challenges that come from child temperament and contextual stress/support.

Parental Personality

Relationships and personality are interdependent: relationships influence personality and well-being while personality affects interpersonal relationships. Change in one area likely generates adaptations in the other. Because of this robust link, the

interplay of personality and parent-child relationships has been widely studied (for review, see Belsky & Jaffe, 2006). As a note, repeated findings indicate that psychopathology and personality are linked (Watson, Clark, & Harkness, 1994). Although the overlap in functioning is acknowledged, for ease of presentation these domains will be discussed separately.

Two processes have been proposed to explain the robust relationships between personality and parenting: attributions and emotions (for review, see Belsky & Jaffe, 2006). Personality influences the causes parents ascribe to their children's behavior. These attributions thus constrict the range of responses. A parallel process is that personality affects mood which impacts parental functioning.

Various aspects of personality and interpersonal style have been related to broad domains of parenting (Clark, Kockanska, Ready, 2000; Kockanska, Clark, & Goldman, 1997). Although the measurement of personality has varied across studies, certain personality factors have predicted observed parenting behavior. For instance, general measures of adaptive parenting are negatively related to mothers' neuroticism and negative affectivity (Kockanska et al., 1997). Supportive parenting appears to parallel levels of positive affectivity (Mangelsdorf, Gunnar, Kestenbaum, Lang, & Andreas, 1990).

Trends also suggest that specific parenting behaviors are predicted by certain aspects of personality. For instance, personality has been linked to discipline and responsivity. Using a prospective longitudinal design, maternal personality was predictive of future parenting behaviors (Clark et al., 2000). Specifically, mothers completed personality measures when their infants were 8-10 months old. Parent-child

interaction was coded 5 months later. Findings indicated that mothers who were high in neuroticism or extraversion were observed to be more power assertive with their toddlers. Other work by these authors indicated that mothers' negative emotionality and disagreeableness was positively related to power-assertion and negatively related to responsivity (Kockanska et al., 1997). A review of research on personality and parenting suggests that the following profile of personality has been related to parenting competence: low neuroticism, high in openness, high in conscientiousness, high in extraversion, and high in agreeableness. Overall, these personality traits are associated with sensitive, nurturing, and responsive caregiving (for review, see Belsky & Jaffe, 2006).

An extension of the intragenerational relationship between personality and parenting is a cyclical model in which personality is the predictor of parenting in both generations (Elder et al., 1986; Caspi & Elder, 1988). That is, experiences of being parented may influence the development of personality and interpersonal style which may in turn affect the kind of parenting one can provide. Specifically, multi-generational, longitudinal research supports a cyclical model in which irritable and explosive parent personality concurrently compromises parenting competence which impacts the personality development of the next generation. Ultimately, this generation's parenting behavior will be influenced by their own irritable personality (Elder et al., 1986; Caspi & Elder, 1988). This study explores the relation between personality and parenting by considering the relation between aggressive personality and observed parenting in G1.

Parental Psychopathology

There is compelling evidence that parents' functioning both within the clinical and normal range is a predictor of parenting behavior. Much research has investigated how parents' emotional functioning influences parenting (e.g., Cicchetti, Rogosch, & Toth, 1998). Poor emotional adaptation and mental illness interfere with optimal parenting. Parents with emotional problems are less nurturant, show less positive affect to their children, and are less supportive than parents without emotional problems (Conger, Elder, Lorenz, & Simons, 1994; Simons, Beaman, Conger, & Chao, 1993; see Belsky & Jaffee, 2006, for review). Specific domains of psychopathology have been related to parenting behaviors. Considerable attention has focused on depression. Depression has been repeatedly related to parenting weaknesses (e.g., Cummings & Davies, 1994), while other forms of psychopathology have generated less consistent findings. Hallmarks of depression, such as flat affect, negativity, inconsistency, and irritability interfere with optimal parenting. Depressed mothers have been found to be more withdrawn, irritable, and rejecting than other mothers (see Belsky & Jaffe, 2006 for review).

Elder and colleagues' life course model of the intergenerational transmission of problem behaviors (Elder et al., 1986; Caspi & Elder, 1988) provides a way to conceptualize the role of psychopathology in intergenerational models of parenting. In this conception, unstable family relationships relate to children's problem behaviors which ultimately influence how these children parent their own children. In this way, the likelihood of child problem behavior and poor parenting are fostered across generations. Elder and Caspi's model (Elder et al., 1986; Caspi & Elder, 1988) of the intergenerational transmission of problem behaviors has influenced studies of parenting

continuity (Whitbeck, Hoyt, Simons, & Conger, 1992). They propose a cyclical model in which irritable, aggressive parent personality relates to the development of unstable family relations, evidenced by marital conflicts and non-optimal parenting, which in turn relates to the development of an irritable, explosive personality in the next generation and so on (Elder et al., 1986; Caspi & Elder, 1988). The conceptual model proposes that contemporaneously, psychopathology affects parental functioning. In turn, the quality of caregiving children receive will foster their development of psychopatholgy. This generation will mature and provide parenting that likewise, is influenced by their own psychopathology. There are also two direct paths. Psychopathology in the first generation will be directly related to psychopathology in the second generation. In addition, parental functioning will be transmitted directly due to modeling or internal working models. Therefore, a cyclical transmission process emerges in which psychopathology compromises caregiving which in turn leads to a greater likelihood of psychopathology in the next generation. This process may repeat in subsequent generations.

Whitbeck and colleagues (1992) tested the above model with a focus on depression and rejecting parenting. They hypothesized a model of intergenerational continuity of depression and parental rejection that included both mediated and direct paths. This was a multimethod and multireporter study. Parents (G2) reported on the parenting they received as children. G2 parent rejection was coded using a combination of observer ratings of structured interaction tasks, parent self-reports, and child reports. Considering links between parental rejection in both generations, they found support for both a mediated path through depression and a direct path. That is, recollection of

parental rejection was related to parent depression which in turn predicted parental rejection of the next generation.

In summary, a growing body of evidence suggests that parent-child interactions influence the development of personality, interpersonal style, and psychopathology, which subsequently affect how these individuals parent their own children. Collectively, these studies do not discredit a direct effect, perhaps based on modeling, observational learning, or through representation of dyadic regulation, between parenting in both generations but rather suggest additional mechanisms of intergenerational transmission. This study will extend these findings by using prospectively obtained measures of depression and parenting in both generations, thereby measuring the relationship between depression and parenting in both generations as well as the association between depression across generations. In addition, this study will consider the continuity of depressive symptomatology from childhood, adolescence, and adulthood.

Close Relationships and Social Support

Well-functioning relationships emerge as a protective factor in studies of samples at high-risk for parenting problems (Rutter & Quinton, 1984; Egeland et al., 1988; Caliso and Milner, 1992). Childhood supportive relationships and adult social support may intervene in the intergenerational transmission of parenting. Belsky (1984) proposed that contemporaneous social support can buffer parents from contextual stress. However, the ability to elicit social support and form positive relationships rests on parent characteristics: personality and interpersonal style.

Some have suggested that reciprocal maintaining processes facilitate similar parenting across generations (Caspi & Elder, 1988; Elder et al., 1986). Children develop interaction styles based on early parent-child interactions. Children are active and seek situations and relationships that are consistent with their experience. In addition, children interpret interactions so that they are congruent with their histories (Sroufe, 1983; Sroufe, Egeland, & Carlson, 1999). In this way, early interactional styles are generalized to include broader social partners.

Patterson and colleagues at the Oregon Social Learning Center provide a related conception of how family interaction styles have implications in broader social interactions (Patterson, DeBaryshe, & Ramsey, 1989; Dishion, Patterson, Stoolmiller, & Skinner, 1991). Coercive parent child interactions (i.e., interactions characterized by irritability, aggression, and escalation) are related to aggressive behavior children show with parents. Findings suggest that children generalize this aggressive interaction style to include other relational partners (e.g., peers, teachers, siblings) (Patterson et al., 1989). Peer and sibling interactions further foster the development of aggressive interaction styles. In coercive families, sibling relationships may be characterized by aggression and sibling interactions may reinforce a general aggressive interactional style (Patterson, 1986). Based on a history of coercive family interactions, children approach peers lacking a foundation for prosocial interactions. Rather, they may adopt a hostile, aggressive interaction style thereby limiting their opportunities for corrective experiences. This interaction style may underlie peer affiliation patterns: causing prosocial peers to reject them thereby restricting them to deviant peer groups. In turn, the children may form expectations that peers will reject them or that aggressive

behavior is normative thereby amplifying and encouraging their aggressive interaction style. Therefore, coercive parenting may foster aggression in children and influence the way they interact with everyone eventually, including their own children (Patterson, 1982). This study will measure how parenting relates to the development of peer competence across childhood and adolescence and how in turn, peer competence influences the parenting these individuals can provide.

An individual's interpersonal style may facilitate exposure to healthy models of parenting outside of the family. Developmental history influences an individual's interpersonal style which may be generalized to include all relational partners: friends, romantic partners, and children. Therefore, a correlation between social support and parenting may reflect an underlying interactional style, making models of causation difficult to outline.

There is a dearth of prospective research that considers social support in intergenerational models of parenting. However, in one such study, relationships with friends and relatives partially mediated the continuity of constructive parenting across two generations (Chen and Kaplan, 2001). In this study, seventh graders reported on their "perception of good parenting," young adults reported on intervening variables (i.e. psychological state, interpersonal relations, and social participation), and participants reported on their own constructive parenting when they were in their thirties. Findings supported the partial mediating role of interpersonal relations and social participation in intergenerational patterns of positive parenting.

With a developmental perspective, one appreciates that corrective emotional experiences can occur outside of the family and influence developmental pathways. In

fact, Alicia Lieberman and colleagues suggest that sensitive adult-child relationships can partially compensate for poor parent-child relationships (Lieberman et al., 2005). In their clinical work with parents who were maltreated, they suggest explicitly searching for memories of benevolent care-giving experiences as a way to break the cycle of maltreatment. Empirical work by Egeland and colleagues (1988) indicated that maltreated children who had supportive relationships with an adult were less likely to abuse their own children. In addition, social learning perspectives imply that children can observe and learn models of parenting from caregivers or adults other than their parents. Therefore, exposure to healthy models of parenting outside the family of origin may be valuable when parents cannot provide them.

This study will consider both peer competence and adult social support in pathways of intergenerational parenting competence. Based on the idea that relationship competence influences how much social support people attract and maintain, both peer competence (in childhood and adulthood) as well as young adult social support will be modeled together.

Contextual Sources of Stress

Bronfenbrenner's (1979) ecological model of human development presents a set of nested contexts that influence each other. In this way, neighborhood factors (such as crime, access to education, community resources, poverty, unemployment) affect families and therefore parenting. Economic hardship and life-stress interfere with parental functioning and negatively impact the family climate (Conger et al., 1994) whereas effective parenting can buffer children from community stress factors (for review, see Belsky & Jaffe, 2006; for discussion, see Collins et al., 2000). The

observed intragenerational associations between adversity and parenting suggest that contextual factors should be integrated into intergenerational models of parenting.

Continuities in risk factors and social disadvantage are well documented (Rutter, 1998; Serbin et al., 1998; Serbin & Karp, 2003). It may be that parental functioning contributes to the observed transmission of risk factors across generations (Brook et al., 1999; Elder et al., 1986). In fact, recent intergenerational studies consider parenting as a mediator in the transfer of risk (for review, see Serbin & Karp, 2004). On the other hand, intergenerational stability in adversity and SES may inflate parenting correlations across generations. For instance, continuity in lower SES backgrounds could expose subsequent generations to increased stressors which in turn would increase the likelihood of harsh parenting (Burgess & Youngblade, 1988; Simons et al., 1991). In some cases, multiple generations could live in common neighborhoods and cultural environments (Van Ijzendoorn, 1992). In addition, childhood SES may serve as the foundation for attitudes toward parenting and child-rearing.

In spite of the multiple ways that adversity might function in the intergenerational transfer of risk, few intergenerational studies model adversity in a way that allows for causal interpretations (for exceptions, see Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003; Simons et al., 1991; Kovan et al., in press; for review, see Van Ijzendoorn, 1992). However, recent prospective research suggests that continuities in parenting exist after controlling for childhood SES and family life stress (Kovan et al., 2004).

Emerging intergenerational research suggests that it is essential to consider adversity in predictions of parenting. Intergenerational studies support that there is

stability in socioeconomic factors across generations as well as a relation between SES and parenting within generations (Simons et al., 1991; Chen & Kaplan, 2001). Specifically, Chen and Kaplan's (2001) study of the intergenerational transfer of constructive parenting found that socioeconomic factors and family characteristics (e.g., family structure) predicted parental functioning of the second generation. In the context of investigating the intergenerational transmission of antisocial behavior, Thornberry and colleagues (2003) proposed a model that included parenting and financial stress as mediators of antisocial behavior. The relevant portion of this model presented a double mediation. It was hypothesized that poor parenting by G1 would lead to adolescent delinquency. Adolescent delinquency would increase the likelihood of having financial stress in adulthood. Subsequently, financial stress would reduce a person's ability to effectively parent. While the results did not support this pathway, they did find that within both generations, economic adversity related to a less effective parenting style for mothers. On the other hand, economic hardship was not related to less effective parenting in the men's family of origin; however financial stress was related to less effective parenting when these men became fathers. In addition, they found a direct link between poverty in family of origin and financial hardship in early adulthood. In turn, financial stress was related to less effective parenting. They also found direct paths between parenting across generations for mothers but not for fathers. In spite of the different pattern of results for men and women, the findings suggest that adversity interacts in important ways to reduce parenting effectiveness both within and across generations. In order to clarify these findings, this study will control for contextual adversity.

Gender

Gender-specific findings in intergenerational parenting stability suggest that it is crucial to explicitly consider gender in intergenerational models (Rutter, 1998; Simons, Beaman, Conger, & Chao, 1992). In general, it may be that same-sex continuities in parenting (i.e. mother-daughter and father-son) are stronger that cross-sex continuities (for discussion, see Thornberry et al., 2003). Others have suggested that gender findings simply reflect that continuities are stronger for girls than for boys (Dubow et al., 2003; Thornberry et al., 2003; Simons et al., 1991). Simons and colleagues (1991) hypothesize that gender differences are due to the modeling of gender roles. They hypothesize that historically, parenting is more central to women's identity. Therefore, girls may participate in anticipatory socialization and more closely observe and imitate their mothers' behavior. It may also be that contextual factors influence these gender findings. The mother-child relationship may be more stable and resistant to life stress while the father-child relationship may be more likely to include disruptions in caregiving (Thornberry et al., 2003). Due to these theoretical and empirical questions regarding gender-specific patterns of parenting continuity, gender will be examined in this study.

Methodological Considerations in Intergenerational Research

Cairns and colleagues are widely cited for their summary of the minimum criteria required in intergenerational research designs (Cairns, Cairns, Xie, Man-Chi, & Hearne, 1998). They state that data should be collected from two subsequent generations when participants are approximately the same age. In addition, data should be collected prospectively and longitudinally. However, most intergenerational

research does not satisfy the minimum criteria (for review, see Van Ijzendoorn, 1992). Recent studies, utilizing prospective, longitudinal measures and parallel measures of parenting across generations are emerging (e.g. Kovan et al., in press) but additional work with diverse samples is needed.

Commonly, intergenerational designs do not consider the contributions of all adults involved in childrearing (i.e. both parents and additional social parents) even though many intergenerational findings reflect gender differences (Rutter, 1998). For instance, Thornberry and colleagues (2003) report different continuities based on pairings of father/mother and son/daughter pathways. In addition, mother and father reports of child behavior are often different (Duhig, Renk, Epstein, & Phares, 2000) which suggests that it is important to gather multiple reports when measuring intervening variables such as child behavior.

Just as it is important to obtain reports of childrearing from both parents, it is essential to avoid shared method variance by using the same source to report on the parenting of both generations. The use of a single reporter risks inflating the relations between generations simply as an artifact (Conger et al., 2003). People may overgeneralize their perceptions so that the stability of behavior across generations would be exaggerated (Simons et al., 1991). For instance, people who are hostile may be more likely to rate hostility in others. This tendency yields exaggerated correlations between measures.

In general, exaggerated or spurious associations may appear when data is collected from self-report and retrospective measures. Both parents and children may underreport undesirable traits such as adverse parenting (Hardt & Rutter, 2004). Hardt

& Rutter conclude that adult retrospective reports of adverse child experiences are unreliable. To avoid this, Simons and colleagues (1991) advise that data should be observational, prospective, and come from multiple reporters.

In summary, many intergenerational studies are retrospective, rely on a single reporter, do not use comparable measures across generations, are not multimethod, do not control for background factors that relate to parenting (i.e. SES, gender, genetics), are self-report, and do not consider process and mechanisms. In response to these concerns, this study is prospective, longitudinal, multimethod, multireporter, includes observational measures of parenting, controls for contextual factors, and investigates underlying mechanisms.

The Current Study

The overall purpose of this study is to investigate intergenerational patterns of parenting and how social relationships and depression influence these pathways. First, this study examines continuity in parenting and considers whether gender moderates this relation. Parenting was measured twice in each generation (at 24 and 42 months) and continuity will be examined separately for each age in order to maintain parallel observational measures across generations: a design that has been called for by various researchers (e.g. Cairns et al., 1998; Van Ijzendoorn, 1992). The relations between parenting measures and variables of interest will be explored in order to determine if the underlying relations in the models are supported. In addition, the relation between contextual factors (i.e., life stress) and parenting will be measured. Overall, within each domain, multiple measures from different reporters will be combined when available.

Next, a hypothesized model of parenting continuity and depression will be examined (Figure 1). There are multiple ways that parenting behavior, personality, and depressive symptomatology may develop across generations. First, it is possible that parenting and depression develop independent of one another and are parallel across generations (Arrows B, D, E). A previous study in this sample found intergenerational continuity in parenting (Kovan et al., in press). Second, intergenerational parenting continuities may be fully accounted for when depressive symptomatology is considered. Experiences being parented may influence the development of depression in the next generation (Arrow F) which may in turn affect how that generation parents their own children. In addition, it may be that depression is heritable or due to shared risk factors (Arrow C) and that intergenerational similarities in parenting are due to psychopathology in both generations. Findings supporting a direct link between maternal and child depression are inconsistent; however, some prospective studies suggest a link between depression across generations (see Whitbeck et al., 1992 for discussion). In addition, Whitbeck and colleagues (1992) found that depression mediated the continuity of parenting across generations. Third, there may be both a direct link between parenting measures across generations (Arrow B) as well as an indirect path through depression (Arrows F, D, E, H). This finding would not discredit the importance of a direct effect but would suggest that pathology should be considered when predicting parenting competence in the next generation. A repeated relation between depression and compromised parenting has been found (e.g., Belsky & Pensky, 1988; Whitbeck et al., 1992) and may be present in both generations (Arrows G and H). Fourth, personality may influence parenting in both generations (Arrow A). It is

possible that any direct associations between parenting in both generations would disappear when measures of personality are taken into account. Elder and colleagues' (Elder et al.,1986) life course hypothesis of intergenerational parenting continuity, posits that aggressive parent personality influences parent-child interactions across generations (Arrow A).

Finally, a hypothesized model of intergenerational parenting and social relationships will be tested in order to investigate how peer relationships and social support influence parenting behavior (Figure 2). There are several possible pathways that consider social relationships and intergenerational parenting. First, intergenerational parenting and social relationships may develop in parallel (Arrow A, C, and D). Theory and empirical work posit that relationship experiences are carried forward and influence how individuals initiate and maintain close relationships (Sroufe, et al., 2005; Patterson et al., 1989). Based on this continuity in social relationships, child peer competence may predict adolescent peer competence (Arrow C), which in turn may influence the quality of social support that young adults have (Arrow D). Second, parenting continuity may be fully mediated by experiences with peers and social support. Parenting has been found to influence children's interactional style and social competence (Patterson et al., 1989) which would be reflected in child peer competence (Arrow B). Social experiences may fully account for contribution of parenting history in predicting parenting behavior (Arrow F and E). Finally, it is possible that both one's history being parented as well as peer experiences and social support make independent contributions to the development of parenting behavior (Arrows A, F, and E). Experiences with peers in adolescence may serve as a

"corrective experience" and influence parenting behavior (Path F) (Lieberman et al., 2005). In addition, social support may contribute to parenting competence by buffering parents from contextual sources of stress and also by providing parents with instrumental and emotional support in raising children (Arrow E) (Beslky, 1984). These childhood and adult social experiences may combine with one's own experiences being parented to influence the development of parenting behavior.

Method

Participants

To facilitate readability, the following expressions will refer to subsequent generations of study participants: G1 (Generation 1) will refer to the earliest generation, G2 (Generation 2) will refer to their children, and G3 (Generation 3) will refer to the third generation (the grandchildren of G1). The participants in this study were part of a prospective, and currently ongoing, longitudinal study of mothers (G1) and their firstborn children (G2) who were recruited from Minneapolis public health clinics (Egeland & Sroufe, 1981). The study began when the mothers were in the third trimester of pregnancy. This community sample was considered to be at high risk due to poverty. It was representative of Minneapolis urban poor in 1977; all mothers qualified for public assistance for prenatal care; 62% of the mothers were single, 86% of the pregnancies were unplanned, and 40% had not completed high school. At the time of delivery, the mothers ranged in age from 12 to 37 years ($M = 20.52$, $SD = 3.65$).

The subsample used in this study is comprised of participants (G2) who became parents and completed parenting assessments with their own children. In order to complete the assessment, G2 participants had to be significantly involved in raising the

G3 child. In this sample, female participants more consistently take on caregiving roles to G3 children than do male participants. As a result, there are more female participants who completed both the 24 and 42 month G2 parenting assessment.

At the 24-month G2 parenting assessment, 61 G2 participants (males= 26, females= 35) completed the assessment with their toddlers. G2 parents ranged in age from 21 to 31 years (*M*=25.66, *SD*= 2.77). G3 children were on average 25.1 months old (*SD*= 2.07 months). Sixty six percent of the G2 participants were Caucasian, 16% were African American, 16% were biracial, and 2% were Native American. Eighty five percent of G3 children were first born and the ratio of boys and girls was about equal (males = 32, females = 29).

Fifty-six G2 participants completed the second generation 42 month parenting assessment (males= 18, females = 38). At the G2 42-month parenting assessment, parents ranged in age from 21 to 31 years old (*M*= 25.61, *SD*= 2.58 years) and G3 children were on average 42.88 months old (*SD*=1.14). The majority of G2 participants at the 42- month assessment were Caucasian (64%). Eleven percent were African American, 20% were biracial, 4% were Native American, and 1 participant had missing paternal data. Of the 56 G3 children who participated in the 42- month assessment, 40 were male and 16 were female. Ninety three percent of the G3 children were first-borns at the 42-month assessment.

Measures

To facilitate consistency, throughout the text, descriptions of participant age refer to the age of G2 participants unless otherwise noted.

Parenting

When G2 and G3 participants were 24 months old, parenting was assessed in a laboratory procedure in which the toddler is presented with a series of four increasingly difficult problem-solving tasks that ultimately exceed toddler's developmental capabilities. The children cannot complete the tasks independently but require parental assistance to finish (Matas, Arend, & Sroufe, 1978). Tools 1 and 2 are fairly easy for most toddlers while Tools 3 and 4 usually require adult scaffolding in order for the child to finish the task and to regulate emotions. Tool 1 presents the child with a stick and an apparatus consisting of two transparent boards with a slot between them. An attractive reward is placed in between the boards and the child must use the stick to push the reward out of the slot. Tool 2 consists of a transparent tube that has a reward inside it. The child is given a stick that must be used to push the reward out of the tube. Tool 3 uses the same Plexiglas tube as in tool 2 but the child is given two short sticks that must be put together in order to be sufficiently long enough to push the prize out of the tube. Tool 4, the most difficult one, consists of a clear Plexiglas box that has a board inserted on one end that forms a lever. A prize is placed on the end of the board inside the box. The child is given a block that must be used as a weight to place on the end of the board outside the box. Placing the weight on the lever raises the prize through a hole in the box so that the child can retrieve the reward.

Similarly, at 42 months, parenting was assessed in another laboratory procedure during which the mother and child were presented with a series of four teaching tasks. The parent was asked to provide the child with instructions and assistance as needed. The tasks are challenging and 42-month-old children require adult assistance in order to complete them. For all tasks, the experimenter explained the task goals in private to the

parent and then the parent gave the instructions to the child. In the first task, the child is given a set of wooden blocks and has to assemble blocks in order to match a target shape in as many combinations as possible. Task 2 requires that the child name things that have wheels. For this task, the parent gives hints or prompts to help the child generate ideas. Task 3 requires the child to correctly place shapes on a board according to three dimensions: size, shape, and color. In task 4, the child is given an "Etch a Sketch" that has a maze drawn on the surface. The child must manipulate the controls to trace a line through the maze.

Each assessment was videotaped and parenting was coded based on several 7-point scales. Three scales were chosen for a parenting composite: Supportive Presence, Hostility, and Quality of Instruction. These scales were chosen for multiple reasons: they were the most emotionally salient, they were used at both the 24 and 42-month assessments in both generations, and they were consistent with scales used in previous intergenerational parenting studies from this dataset (Kovan et al., in press). These scales have shown predictive and discriminate validity (Sroufe et al., 2005). Chronbach's alpha for the 24 month observed parenting composites in G1 and G2 was .82 and .84 respectively. For the observed parenting composite at 42 months, Chronbach's alpha was .85 in G1 and .83 in G2.

The Supportive Presence scale measures the extent to which the parent provides emotional support especially as the child becomes taxed, shows appropriate expressions of affection, supports the child's autonomy while providing adequate help, facilitates an enjoyable learning experience despite the tasks' difficulty levels, and has a calm

teaching style. Indications of supportive presence include the parent giving praise, appropriate physical affection, and reassurance when the child encounters difficulties.

The Hostility scale examines the extent to which the parent rejects, blames, or directs anger at the child. Examples of behaviors that would be considered on this scale include mocking the child, threatening to leave the child, or blaming the child for poor task performance.

The Quality of Instruction scale reflects how the parent structures the task so that the child understands the task objectives and receives appropriate and useful hints when solving problems. Hints that are timely, paced appropriately, and graded in logical steps, and on-task would yield a high rating on this scale. To receive high scores, parents must show that their task assistance follows a plan for helping the child yet demonstrate flexibility in adapting their instructions to their children's needs.

Intraclass correlations were run for the Supportive Presence, Quality of Instruction, and Hostility scales in both G1 and G2. Using a subset of 34 cases, two independent coders rated maternal behavior at the 24-month G1 parenting assessment. Reliability was .71 for Supportive Presence, .69 for Quality of Instruction, and .61 for Hostility. Two independent coders rated the G1 42 month parenting assessment based on a sub-sample of 87 cases. Reliability was .87 for Supportive Presence, .86 for Quality of Instruction, and .80 for Hostility. Independent coders rated second generation 24 and 42-month assessments after being trained on first generation cases. Reliability for G2 24 month parenting scales was .84 for Supportive Presence, .83 for Quality of Instruction, and .65 for Hostility based on a subset of 17 training cases. Three independent coders rated a sub-sample of 30 G2 42-month parenting assessments.

Reliability for the second generation 42-month parenting scales ranged from .82 to .87 for Supportive Presence, .84 to .90 for Quality of Instruction, and .83 to .91 for Hostility. Coding discrepancies were resolved through consensus and the conferenced scores were used in analyses. The three scales, Supportive Presence, Quality of Instruction, and Hostility (reverse coded) were standardized and averaged to create a parenting composite at each parenting assessment.

Life Stress

Life Events Scale. Maternal life stress was assessed using the Life Events Scale (LES) (Cochrane & Robertson, 1973) as adapted by Egeland and Deinard (1975) for use with a low- income population. This scale consists of 40 items related to financial, health, personal, and social stressful life events. Each item is scored on a 3-point scale for its degree of disruptiveness to family functioning and a total life stress score is computed by summing all items. G1 life stress is based on the life stress score measured closest to the parenting assessments. The life stress score closest to the 24-month assessment was administered when G2 was 30 months old. Life stress and parenting were measured concurrently at the 42-month assessment. Due to the range of ages in which G2 participants became parents, a G2 life stress composite score was created after standardizing and averaging the following life stress scores: age 23, 26, and 28 years.

G1 Personality

Personality Research Form (prenatal and 3 months). The Personality Research Form is a 96-item self-report inventory that measures six personality scales (Jackson, 1974). This study used the aggression scale, which assesses an individual's

aggressiveness, irritability, hostility, and revengefulness. This scale was chosen in order to consider Elder and Caspi's (1988) hypothesis that irritable, explosive parent personality underlies the intergenerational transmission of parenting problems. Scores from the aggression scale at the prenatal and 3-month assessment were averaged together.

G1 Maternal Depressive Symptomatology

Center for Epidemiologic Studies Depression Scale (CES-D) (48 months). The CES-D is a 20-item self-report measure of depressive symptomatology (Radloff, 1977). It consists of 20 items describing how the respondent felt or behaved in the prior week. The respondent indicates how often those feelings or behaviors occurred in the prior week. Sixteen items describe negative feelings/behaviors while four items describe positive feelings/behaviors. Negative items are reverse scored and combined with the positive items to yield an overall depression rating for the prior week. This depression measure was chosen because it is the measure of G1 depression closest to the measure of G1 parenting.

G2 Child and Adolescent Depressive Symptomatology

Children's Depression Rating Scale-Revised (CDRS) (Mother and child version)(second and third grade). The Children's Depression Rating Scale-Revised (CDRS) is a semi-structured interview that has two parallel interview forms: one for the parent and one for the child (Poznanski, Cook, & Carroll, 1979). It measures the severity of depression symptomatology based on the frequency, intensity, and range of behavioral manifestations of the symptoms.

Teacher's Report Form (TRF) (kindergarten; grades 1,2,3,6), Child Behavior Checklist (CBCL) (64 months, grade 1, age 16), and Youth Self Report Form (YSR) (age 16). The Teacher's Report Form (TRF), Child Behavior Checklist (CBCL) and Youth Self Report Form (YSR) are used widely to measure child behavior problems and yield scores for specific behavior scales, total problem behaviors, and for two broad-band scales: internalizing and externalizing (Achenbach, 1991a; Achenbach, 1991b; Achenbach & Edelbrock, 1986). The TRF, CBCL, and YSR have been normed on large samples, separately for gender and age. The Depression/Anxiety scale (a behavior scale) was used in the depression composites.

Participants' primary teachers in kindergarten, first grade, second grade, third grade, sixth grade, and at age 16 filled out the TRF. Participants' mothers filled out the CBCL at the following ages: kindergarten, first grade, and age 16. The YSR is a self-report measure that was completed by participants at age 16 and age 23.

The following measures were standardized and averaged to create a G2 child depression composite: CDRS (mother and child versions; grades 2 and 3), TRF (Kindergarten, grade 1, grade 2, and grade 3), parent CBCL (64 months, grade 1). The Anxiety/Depression scale from the TRF and CBCL were used.

A G2 adolescent depression score was based on standardizing and averaging the Anxiety/ Depression scales from the following measures of depression: TRF Grade 6; YSR age 16; CBCL age 16.

G2 Adult Depressive Symptomatology

Youth Self Report (age 23) Young Adult Self-Report (age 26). Participants completed the Young Adult Self Report (YASR) at age 26 and the Youth Self-Report

(YSR) at age 23. These scales are used widely to measure behavior problems and yield scores for behavior scales, total problem behaviors, and for two broad-band scales: internalizing and externalizing (Achenbach, 1991a; Achenbach, 1991b). The Anxiety/ Depression scale was used in the G2 adult depression composite.

Symptom Checklist-90-R (SCL-90-R) (age 23). The SCL-90-R is a widely used research and clinical measure of psychiatric symptomatology (Derogatis, 1993). It consists of 90 psychiatric symptoms. Respondents indicate the presence and severity of symptoms during the prior week. Each item is rated on a 5-point ordinal scale reflecting distress. The SCL-90-R is scored and interpreted based on nine symptom clusters (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism) and three global indices of distress (Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total). The Depression scale was used in the G2 adult depression composite.

Depression scores from YSR, YASR and SCL-90 were standardized and averaged together to create an adult depression composite.

G2 Social Support/ Relationships

Peer Competence (kindergarten; Grade 1, 2, 3, 6; Age 16). The primary teachers' ranked the target child in relation to the rest of the class in peer acceptance/popularity. The classroom teacher was given a short description of a socially competent child and asked to rank order all the children in the class on that dimension. A composite score of child peer competence was based on the average of the following ratings: kindergarten, grade 1, grade 2, and grade 3. A composite rating

of adolescent peer competence was based on the peer competence scores in Grade 6 and at age 16.

Richness of Social Support (Age 19). The Richness of Social Support scale is a composite score based on information gathered in the general 19-year interview in which the participant reports on current relationships, support, and family involvement. This 5-point scale is designed to measure the richness of the adolescent's support network. Relationships with parents, partners, friends, bosses, and teachers/mentors are considered. The scale assesses the number and range of relationships and the degree to which the relationships are sources of support for the individual.

Analytic Procedures (Fit Indices)

Path analyses were run and measures of fit are reported and include the chi-square value (χ^2), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root-mean squared error of approximation (RMSEA). The following values are conventionally interpreted as indicative of adequate fit: a non-significant χ^2, CFI values greater than .95, TLI values greater than .90, and RMSEA values between .06 and .10 (Bentler, 1990; Bentler & Bonett, 1980; Bollen, 1989; Cole, 1987). RMSEA values below .06 are interpreted to reflect close fit (Hu & Bentler, 1999).

Results

The aim of the following analyses was to consider how depression and social relationships affect intergenerational pathways of parenting continuity. There are multiple ways that depressive symptomatology and social relationships could affect the intergenerational (dis)continuity in parenting. However, before testing the hypothesized models (see Figures 1 and 2) multiple exploratory analyses were run. First, the

subsample was explored to determine if this subsample was similar to participants who did not complete second generation parenting assessments. Second, intraconstruct correlations were run to verify that the variables chosen for composites did in fact relate to each other. Third, parenting continuity across generations was explored using bivariate correlations. This was done to ensure that parenting continuity did in fact exist before testing models of mediation. Fourth, the relations between parenting measures (at 24 and 42 months) and predictor variables were explored (i.e. social relationships and depressive symptomatology). Models were only tested for those parenting assessments that related to predictor variables. Fifth, path analyses were run for different models to see which models had adequate fit (See Figures 1 and 2). Results of the path analyses and indicators of goodness of fit suggested the processes that underlie intergenerational (dis)continuities in parenting. Overall, this study considered two distinct models: one featuring depression and one featuring social relationships. Finally, robust regression analyses were run to explore marginally significant findings from the path analyses.

Descriptive Statistics

A series of analyses were run to investigate whether the G2 participants who completed the second generation parenting assessments differed from other participants. Analyses revealed that participants who completed the second generation 24-month parenting assessment did not differ from other participants in terms of ethnicity (χ^2 (4) = 8.89, p = .06), the parenting they received when they were 24 months old, t (170) = 1.39, p = .17, their mothers' life stress scores when they were 30 months old t (197) = -1.40, p = .16, their adult life stress scores t (171) = -1.43, p = .15, their adult depression

scores t (167) = -.84, p = .40, or their social support t (166) = 1.20, p =.23 However, fewer second generation males participated than expected by chance alone, (χ^2 (1) = 4.64, p = .03).

G2 participants who completed the 42-month assessment with their own children did not differ from other G2 participants in terms of terms of ethnicity (χ^2 (4) = 5.96, p = .20), adult depression scores, t (167) = -.30, p = .77, adult social support, t (166) = 1.93, p = .06, or their mother's life stress scores when the G2 participants were 42 months old, t (188) = 1.25, p = .21. However, participants who completed the 42 month second generation parenting assessment had significantly higher rates of adult life stress scores, t (171) = -2.82, p = .005 and had mothers with lower parenting scores at 42 months, t (186) = 2.53, p = .01. In addition, second generation males participated less than expected by chance alone, in the 42 month parenting assessment (χ^2 (1) = 14.53 p = .00).

Intraconstuct Correlations

Due to the small sample size, composite variables (rather than latent variables) were used for model testing. Zero-order correlations were run separately for each domain of interest (i.e., G2 child depressive symptomatology, G2 adolescent depressive symptomatology, G2 adult depressive symptomatology, G2 child peer competence, G2 adolescent peer competence) before creating the composite variables. Results appear below and in Tables 1,2, and 3.

Child Depressive Symptomatology

Most of the nine reports of child depressive symptomatology (from teachers, mothers, and children) were significantly correlated with each other. Complete results appear in Table 1.

Adolescent Depressive Symptomatology

Reports from mothers and adolescents about depressive symptoms at age 16 were significantly related ($r = .31, p = .00$). The mother report was also associated with the reports from sixth grade teachers' ($r = .30, p = .000$). However, these teacher reports were not related to adolescents' self-reports of depression indicators when participants were 16-years old ($r = .14, p = .06$).

Adult Depressive Symptomatology

All adult depression measures at age 23 and age 26 were significantly related to each other. Both depression measures obtained when G2 participants were age 23 (i.e., the YSR and the SCL) were related to each other ($r = .70, p = .000$) and to the age 26 depression measure ($r = .48, p = .000$; $r = .59, p = .000$, respectively).

Child Peer Competence

Results indicate that all peer competence measures in childhood (i.e., peer competence ratings in kindergarten, grade 1, grade 2, and grade 3) were significantly related to each other Complete results appear in Table 2.

Adolescent Peer Competence

The adolescent peer competence measures at grade 6 and age 16 were significantly related to each other ($r = .35, p = .000$).

Preliminary Analyses

Gender and the Intergenerational Continuity in Parenting

There was significant intergenerational stability in the parenting composite when measured at 24 months in both generations (r = .41, p= .001) and at 42 months in both generations (r = .40, p = .003). In addition, there was a significant relationship between the majority of the first and second-generation individual parenting scales at parallel assessment ages. That is, the Supportive Presence and Quality and Instruction scales showed significant stability at the G1 and G2 24-month parenting assessments (r = .40, p = .002, r = .38, p = .003, respectively) while the Hostility scale did not (r = .20, p = .13). Likewise, the Supportive Presence and Hostility scales were related at the G1 and G2 42-month assessments (r = .41, p = .002, r = .40, p = .003, respectively) while the Quality of Instruction scale was not (r = .22, p = .11) (see Table 3).

Correlational analyses were run separately by gender to compare correlation magnitudes in parenting between mothers and sons and mothers and daughters. When the correlations are examined separately by gender, the way that G2 males parented their own children at 24 months was significantly related to the way they were parented at 24 months (r = .65, p = .000); however, the way G2 women parented their toddlers was not associated with the way they themselves were parented at 24 months (r = .22, p = .23). In contrast, there was no similarity between the way G2 men parented at 42 months and the way they were parented at 42 months (r = .18, p = .47) while there was a significant relation between the way G1 mothers parented at 42 months and the way their daughters parented their 42-month old children (r = .50, p = .002). However, Fisher Z transformations were used to determine statistical significance of differences in correlation magnitude and results indicated that the intergenerational parenting

correlations were not significantly different between males and females at 24 months (z = 1.39) or at 42 months (z = -.822).

Associations Among Social Relationship, Depression and Parenting Measures Across Generations

Prior to running path analyses, bivariate correlations were used to investigate the associations among the parenting measures (at 24 and 42 months) and composite variables (i.e., depression and social relationships).

Parenting in toddlerhood, depressive, symptomatology, and social relationships. Results indicated that both the G1 and G2 24-month parenting composites were infrequently related to outcome variables. The 24-month parenting composite was not significantly related to any of the depression or personality indicators in G1 or G2 (see Table 4).

Regarding the social relationship model, although G1 parenting at 24 months was related to G2 peer competence in adolescence (r = .18, p = .02), G1 parenting at 24 months was not related to G2's peer competence in childhood (r = .07, p = .38) or to G2's social support at age 19 (r = .15, p = .07). Similarly, G2's parenting at 24 months was not related to their own peer competence in childhood (r = .06, p = .63), to their peer competence in adolescence (r = .04, p = .77), or to their social support at age 19 (r = .13, p = .35). Complete results appear in Table 4.

Due to the weak associations between the parenting measures at 24 months and the potential mediating variables, path analyses were not run using 24-month parenting measures. Rather, path analyses were run based on the more consistent association between parenting measures at 42 months and indicators of social relationships and

depression. The following analyses are restricted to G1 and G2 parenting measured when G2 and G3 children were 42 months old.

Parenting at 42 months and measures of depression and personality across generations. The G2 measure of parenting was not significantly related to any of the depression or personality measures (see Table 5)in G1 or G2. Results indicated that G1's aggressive personality and parenting at 42 months were related (r = -.20, p = .005). However, G1's parenting at 42 months was not associated with G1's depressive symptomatology (r = -.13, p = .09), G2's depressive symptomatology in adolescence (r = -.08, p = .32) or G2's depressive symptomatology in young adulthood (r = -.01, p = .92). There was a significant relation between the G1's parenting at 42 months and their children's depressive symptomatology in childhood (r = -.27, p = .000).

Parenting at 42 months and measures of social relationships. In terms of the social relationship model, G1 parenting at 42 months was significantly related to G2's childhood peer competence (r = .24, p = .001), G2's adolescent peer competence (r = .16, p = .03), and G2's social support at age 19 (r = .18, p = .02). G2's parenting at 42 months was not related to their own peer competence in childhood (r = .19, p = .17); however, G2's parenting at 42 months was related to their peer competence in adolescence (r = .31, p = .02) and to the social support they received when they were age 19 (r = .29, p = .04).

Associations among measures of depression and personality. The measures of personality and depression were consistently correlated across time. Initially, aggressive personality (measured during the prenatal period and when G2 was 3 months old) was significantly related to G1 depressive symptomatology (r = .25, p = .001).

However, maternal aggressive personality did not significantly relate to their children's depressive symptomatology ($r = .14, p = .06$). G1's depressive symptomatology was associated with their children's (i.e., G2) depressive symptomatology in childhood ($r = .25, p = .001$), which was related to depressive symptomatology in adolescence ($r = .45, p = .000$). Finally, measures of G2 depressive symptomatology in adolescence and adulthood were related ($r = .36, p = .000$) (see Table 4).

Associations among social relationship measures. Social relationship measures showed significant stability across time. Childhood peer competence was related to adolescent peer competence ($r = .49, p = .000$), which was associated with social support at age 19 ($r = .26, p = .001$) Complete results appear in Table 4.

Life stress and parenting across generations. Correlations between parenting measures and life stress were calculated in order to determine if continuities in life stress accounted for continuities in parenting. The G1 measures of life stress were not associated with the G1 parenting measures. Specifically, life stress at 30 months was not associated with parenting at 24 months ($r = -.07, p = .35$). Likewise, concurrent measures of maternal life stress and parenting at 42 months were not related ($r = -.03, p = .73$). The G2 parenting measures at 24 and 42 months were not associated with the composite measure of G2 young adult life stress ($r = -.06, p = .66$; $r = -.02, p = .87$, respectively).

Although G1 measures of life stress taken at 30 and 42 months were related ($r = .43, p = .000$) there was limited stability in life stress across generations. While the G2 measure of life stress was related to the G1 measure of life stress at 30 months ($r = .22, p = .004$) it was not related to the G1 measure of life stress at 42 months ($r = .13, p =$

.10). Due to the lack of association between parenting and life stress measures, in addition to the inconsistencies across generations, life stress was not included in the path analyses.

Model Testing

Model 1: Depression and Parenting

The hypothesized model (Figure 1) predicts that personality style (Arrow A) will influence the parenting that G1 parents provide. Similarly, depression levels are expected to relate to parenting quality in both G1 and G2 (Arrow G and H). The model also controls for direct effects between parenting (Arrow B) and depression across generations (Arrow C); however, the depression pathway considers whether child and adolescent depression scores for G2 mediate the direct path between G1 and G2 adult depressive symptomatology (Arrows D and E). The model also includes a mediated path in which parenting leads to the development of depression in G2 children (Arrow F).

The hypothesized model of intergenerational parenting and depressive symptomatology was fit to the data and is presented in Figure 3. The model demonstrated adequate fit, χ^2 (12) = 15.20, p = .23, CFI = .97, TLI = .93, RMSEA = .03 and is presented in Figure 3. Results indicate that aggressive parent personality predicted parenting in G1 (p = .011) and was related to measures of parent depression (p = .001). There is a direct path from parenting in G1 to parenting in G2 (p =.008). Depression scores predicted later depression scores across time and generations. Specifically, parent depression scores predicted their children's depression ratings in childhood (p =.003) which in turn predicted adolescent depression scores (p <.001).

Consequently, adolescent depression scores predicted young adult depression scores (p <.001). However, parent depression did not relate to observed parenting in G1 (p = .337) or G2 (p =.348). Overall, the predictors explained 12.7% of the variance in G2 parenting behavior.

These findings support that parenting continuity is robust to controls for depression and that depressive symptomatology does not appear to mediate the transmission of parenting across generations. There was continuity of depression both across and within generations. Although the parenting that children received related to their development of depression and adjacent depression measures related to each other, ultimately, depressive symptomatology did not relate to the observed parenting behavior of G2 participants. This finding is consistent with the finding that G1 depressive symptomatology did not relate to G1 parenting.

Model 2: Relationships and Parenting Continuity. The hypothesized model (Figure 2) allows us to look at both the joint and the unique contributions of G1 and G2 parenting and social relationships as well as to find out if these relationships are indirect or direct. This model controls for the direct effects in observed parenting between generations (Arrow A). It is hypothesized that an individual's relationship competence and social support will influence the parenting that individual can provide. Therefore, the model controls for the moderating effects of childhood relationships (i.e. adolescent peer competence) (Arrow F) and adult social support (Arrow E) on parenting. Childhood experience in peer relationships is hypothesized to influence individuals' ability to attract and maintain supportive relationships in young adulthood (Arrow D).

The hypothesized model of social relationships across development and intergenerational parenting was fit to the data. The model demonstrated adequate fit, χ^2 (4) = 7.22, p = .13, CFI = .96, TLI = .85, RMSEA = .055 and is presented in Figure 4. G1 parenting predicted both G2 parenting (p = .02) and G2 child peer competence (p < .001). In turn, peer competence in childhood predicted adolescent peer competence (p = .001) which predicted young adult social support (p < .001). Adolescent peer competence and young adult social support showed a trend in predicting G2 parenting (p = .05 and p = .09, respectively). Overall, the predictors explained 23% of the variance in how G2 participants parented their 42-month-old children.

It appears that the parenting participants received in childhood and their relationships with peers in adolescence make independent contributions to the parenting they provide. Follow up analyses were run to explore the marginally significant findings that suggested that adolescent peer competence and social support predicted parenting behavior even after controlling for histories of being parented.

Post Hoc Analyses

Due to the small sample size, follow up analyses were run to investigate the marginally significant findings in the path analysis that examined social relationships and parenting. Deviations from normality were suspected in both the adolescent peer competence and social support scale. The adolescent social support variable had different values for the mean and median while the social support variable appeared to have limited values. These deviations from normality can be addressed with a robust regression analysis which corrects for skewness and outliers, and applies a theoretically correct formula for calculating standard error (Wilcox & Keselman, 2003).

For this analysis, G1 parenting was entered first, adolescent peer competence was entered second, and social support was entered in the third step, as predictors of G2 parenting (see Table 5). Results indicated that G1 parenting and adolescent peer competence were significant predictors of G2 parenting when considered individually or together. However, when all 3 predictors were entered in the regression, adolescent peer competence predicted G2 parenting after controlling for the contribution of G1 parenting and adult social support. In contrast to the findings from the path analysis, G1 parenting was marginally significant in predicting G2 parenting when considered with the other predictors. Consistent with the previous findings, young adult social support was marginally significant in predicting G2 parenting after controlling for G1 parenting and adolescent peer competence. These results suggest that peer relationships mediate the continuity of parenting across adjacent generations. Complete results appear in Table 5. The total variance accounted for in G2 parenting by all of the variables entered into the regression equation was 20.2%.

Discussion

Overall, this study explored mechanisms that both directly and indirectly contribute to individual differences in parenting in the next generation. First, there was a significant direct link between parenting across generations. This was consistent when parenting was measured both at 24 and 42 months and generally held for both the composite ratings of parenting as well as indicators of individual parenting features (i.e. supportive presence, quality of instruction, and hostility). This study adds to the literature of intergenerational continuity by investigating determinants of parenting competence after accounting for the contribution of experiences of being parented.

Although some have suggested that same-sex continuities in parenting (i.e., mother-daughter and father-son) are stronger that cross-sex continuities (for discussion, see Thornberry et al., 2003) this study found no significant differences in the way that mother-daughter versus mother-son pairs parented their children. Notably, the sample size limits the ability to detect differences in same sex versus opposite sex pairs. Interpretations of these gender findings should be made with caution and these results should be reexamined when the sample size is larger.

There is a vast body of literature that indicates that economic hardship and life-stress interfere with parental functioning and negatively impact the family climate (Conger et al., 1994). Therefore, the finding that life stress did not relate to observed parenting at any of the four parenting assessments was unexpected. It is possible that demographic factors of this sample contributed to these results. This lower SES sample naturally constricts the range of SES and even the range of life stress found in the sample thereby making relations difficult to detect.

In addition, continuities in risk factors and social disadvantage are well documented (Rutter, 1998; Serbin et al., 1998). However, life stress measures did not consistently relate across generations. In this study, one of the two first generation life stress measures related to life stress in the next generation. It will be important for future studies to investigate the factors that interrupted intergenerational cycles of adversity as well as the factors that predicted increases in life stress across generations.

The association between parenting and indicators of depression and personality depended on the age that parenting was measured. Overall, first generation parenting quality at 42-months related to parent aggressive personality and to the depressive

symptomatology of G2 children. In contrast, the way the first generation mothers parented their 24-month old children did not relate to parent personality or child depressive symptomatology. It may be that toddlerhood is a period of transition in parenting (Edwards & Liu, 2002) while there is more predictive utility at 42 months when parenting is more stable.

Theory and empirical work posit that relationship experiences are carried forward and influence how individuals initiate and maintain close relationships (Sroufe et al., 2005; Patterson et al., 1989). However, parenting in the preschool years may be especially important as a foundation for peer relationships. In fact, this study found that parenting quality at 42 months related to measures of children's peer competence. In contrast, the parenting that children received as toddlers did not relate to their own peer competence. Bowlby's attachment theory may clarify why parenting in the preschool years is crucial to the development of empathy, perspective-taking, negotiation, and cooperation: central features of peer relationships. Bowlby (1968/1982) described the attachment relationship developing through various stages culminating in the "goal-corrected partnership" in the preschool years. During this stage, the relationship between the caregiver and the child evolves based on the child's increasing ability to recognize the needs and perspective of the caregiver. Based on maturing cognitive ability and a history of repeated interactions with the caregiver, the child becomes able to recognize the intentions and goals of the caregiver. This emerging collaborative relationship may serve as the foundation for future cooperative relationships including peer relationships.

This study explored depressive symptoms and parenting quality across generations. There are multiple pathways that could explain how depression and parenting develop in adjacent generations. This study found a direct link in parenting across generations after accounting for depressive symptomatology within and across generations. This suggests that continuities in parenting are not simply due to underlying continuities in psychopathology.

Elder and colleagues (Elder et al., 1986; Caspi & Elder, 1988) proposed a life-course hypothesis for the intergenerational transmission of parenting and problem behavior. They posited that irritable, explosive parent personality influenced parenting which contributed to the likelihood that the children of those parents would develop psychopathology that would persist into adulthood. Consistent with that hypothesis, this study found that aggressive parent personality was related to parenting quality in G1 and related to G1 depression. In turn, the way that children were parented contributed to their own depressive symptoms in childhood. Depressive symptoms remained stable both within and across generations. That is, there was a direct link from G1 depression to G2 child depression. Consequently, depression scores in childhood predicted depression scores in adolescence. In turn, there was a direct link between adolescent and adult depressive symptomatology scores for G2 participants. Caspi and colleagues further hypothesized that psychopathology would influence how the second generation would be able to parent their own children. In fact, depressive symptoms have been repeatedly related to weaknesses in parenting (Cummings & Davies, 1994). Contrary to predictions, there was no relation between parenting and depressive symptomatology in either generation. Measures of depression and parenting were not obtained in the same

assessment and it is possible that this sampling procedure impacted the findings. However, this explanation would imply that depression is 'state-like'. In addition, there was no measure of G2 personality. Associations between parenting across generations may have been due to stability in personality features; however, the G1 measure of personality did not relate to G2 parenting, making this interpretation unlikely.

This study suggests processes that influence the parenting individuals provide. Findings from this study suggest that experiences in close relationships outside of the parent-child relationship influence individual differences in parenting behavior. This study found that experiences of being parented, experiences with peers, and the quality of social support appear to contribute to the development of parenting behavior. Initially, a path analysis indicated significant continuity in parenting. In addition, there was a trend toward significance of peer relationships and social support in predicting parenting behavior. A robust regression was run to correct for deviations from normality and to investigate how parenting experiences, adolescent peer relationships, and social support predicted parenting behavior. In both the path analysis and the robust regression, social support was a marginal predictor of second-generation parenting. In contrast, the direct path between parenting in adjacent generations was significant in the path analysis but moderate in the robust regression. While adolescent peer competence was a marginal predictor of parenting in the path analysis, it explained a significant amount of the variance in G2 parenting after accounting for parenting and social support. Overall, these findings coalesce to suggest that the failure to find significant results in the path analysis may have been a Type II error. Due to the large effect sizes in the robust regression, it is suspected that in a larger sample, parenting

history, adolescent peer competence, and young adult social support would each be independent and significant predictors of parenting behavior. Although these conclusions are preliminary, they provide initial support for the hypothesis that relationships with peers can be a "corrective experience" and influence how people can navigate other close relationships; namely, the parent-child relationship. Relationships with peers and social support may provide individuals with models of healthy relationships that influence how they interact with others, including their own children. Finally, social support may buffer parents from stress or provide them with emotional and instrumental support that contribute to their parenting competence.

Many of the strengths of this study are derived from its prospective, longitudinal design. All measures were obtained age-by-age and concurrent with one another. Notably, measures of depression were obtained prospectively and across generations thereby avoiding retrospective reporter bias that is especially problematic in measuring affective disorders.

Multiple researchers have called for independent, prospective, observational, and parallel measures of parenting (Cairns et al., 1998; Simons et al., 1991); however, most studies have been unable to realize these standards (Van Ijzendoorn, 1992). In contrast, this study had parallel, observational measures of parenting completed at the same age in both generations. Due to methodological design, it is common for researchers to investigate intergenerational similarities in parenting through comparisons of parenting measures obtained at various points of development. Implicit to that type of design is the assumption that parenting behavior is consistent throughout development. However, it is the case that competent parenting may reflect different

skills or be expressed distinctly in different developmental periods. For instance, monitoring may be especially important for parents of adolescents while scaffolding emotion regulation may be more crucial to competent parenting of infants (Steinberg & Silk, 2002). While some parenting factors may be measured across development (e.g. supportive parenting, sensitivity, warmth, hostility), the way they are expressed may change across time. Preliminary analyses need to investigate whether certain parenting factors measured at different ages can be equated. This study revealed that parenting measures at 24 and 42 months had distinct patterns of relations with indicators of depression and close relationships. These findings should caution researchers from equating parenting measures obtained at different ages.

Multiple methods and multiple reporters were used for most indicators of depression and social relationships thereby limiting the risk that significant results were due to shared method variance. The use of a single reporter risks inflating the relations between generations simply as an artifact (Conger et al., 2003). In addition, parenting measures were observational thereby avoiding the same reporter bias that is common in intergenerational studies.

In spite of the notable strengths of this study, there were several limitations. Primarily, the sample size limited the kinds of analyses that could be performed. It is possible that marginal findings would become significant with a larger sample. The sample size is expected to increase as more G3 children become old enough to participate in the assessments. It will be important to replicate these analyses with a larger sample and to test whether these results are altered when the sample includes participants who transition to parenthood at an older age.

There were significantly fewer men than women who completed the second generation parenting assessments. In order to participate, parents had to be significantly involved in the caregiving of their children. In this sample, men are less likely to be consistently present with their children. Therefore, replication with a larger sample of fathers may be particularly important.

In spite of the significant findings, there was considerable variance that was not explained. The prospective nature of the sample limited the availability of certain variables that may be central to explaining how individuals parent better or worse than would be expected based on their own parenting history. For instance, well-functioning relationships emerge as a protective factor in studies of samples at high-risk for parenting problems (Rutter & Quinton, 1984; Egeland et al., 1988; Caliso and Milner, 1992). Two processes may explain how partners can moderate the intergenerational transmission of harsh parenting (Belsky et al., 2005). First, at-risk parents can learn positive parental functioning directly from their partners by watching them interact with their children. Alternatively, it may be that the healthy relationship itself fosters the emotional capacities required for competent parenting. However, this study did not have access to an appropriate, age-linked measure of romantic relationship quality for a sufficient number of participants.

In addition, multiple studies have supported the mediating role of antisocial behavior, adolescent problem behavior, and hostile personality traits in the intergenerational transmission of parenting practices (Capaldi, Pears, Patterson, & Owen, 2003; Conger et al. 2003; Thornberry et al., 2003; Elder et al., 1986; Hops et al., 2003). Essentially, transmission occurs via following pathway: non-optimal parenting

leads to child problem behaviors and subsequently, to poor parenting in the next generation. Parenting that is characterized as aggressive and hostile has been well established to relate to conduct problems and aggression in children (for reviews, see, Capaldi et al., 2003 and Dubow, Huesmann, & Boxer, 2003; Smith & Farrington, 2004; Patterson & Dishion, 1988). In turn, these children grow up to be parents with compromised interpersonal resources, less social support, and higher risks (Serbin & Karp, 2003). They may also be more likely to partner with aggressive or antisocial individuals (Smith & Farrington, 2004). Therefore, they are more reactive as parents and have fewer resources to compensate for their interpersonal weaknesses.

As this sample grows, both romantic relationships and antisocial behavior should be included in studies of intergenerational (dis)continuity in parenting. Finally, it is hoped that future waves of data collections will gather information on how involved the G1 parents are with their own children and with providing caregiving to their grandchildren.

Researchers have called for studies that investigate the circumstances that predict maintenance or change in parenting styles across generations (Patterson, 1998). With knowledge of these processes, we can begin to develop preventative interventions for the most at-risk parents. In addition to documenting intergenerational parenting stability, this study sought to understand factors that accounted for both continuity and change in parenting practices across generations. Overall, findings suggest that relationships across childhood and adulthood predict parenting behavior. While early childhood parenting experiences have impressive and enduring effects that influence the kind of parenting that individuals provide when they themselves become parents, the

outcomes are not inevitable. Rather, experiences with close friends and networks of social support contribute to parenting behavior independent of experiences being parented.

References

Achenbach, T. M. (1991a). *Manual for the Teacher's Report Form and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M. (1991b). *Manual for the Youth Self-Report Form and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M., & Edelbrock, C. S. (1986). *Manual for the Teacher's Report Form and Teacher Version of the Child Behavior Profile*. Burlington, VT: University of Vermont Department of Psychiatry.

Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York: Freeman.

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. (2006). The Multiple Determinants of Parenting. In D. Cicchetti & D. Cohen (Eds.), Developmental Psychopathology, 2nd Ed., Vol. 3: *Risk, disorder and adaptation* (pp. 38-85). NY: Wiley.

Belsky, J., Jaffee, S., Sligo, J., Woodward, L., & Silva, P. (2005). Intergenerational Transmission of Warm-Sensitive-Stimulating Parenting: A Prospective Study of Mothers and Fathers of 3-year Olds. *Child Development, 76,* 384-396.

Belsky, J. & Pensky, E. (1988). Developmental history, personality, and family relationships: Toward an emergent family system. In R. Hinde & J. Stevenson-Hinde (Eds.), *Relationship within families: Mutual influences* (pp. 193-217). London: Cambridge University Press.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88,* 588-606.

Berman, C.M. (1990). Intergenerational transmission of maternal rejection rates among free-ranging rhesus monkeys. *Animal Behavior, 39,* 329-337.

Bollen, K. A. (1989). Structural equations with latent variables. New York: Wiley.

Bowlby, J. (1969/ 1982). *Attachment and loss. Attachment* (Vol. 1). NY: Basic Books.

Brook, J.S., Whiteman, M., & Brook, D. W. (1999). Transmission of risk factors across three generations. *Psychological Reports, 85,* 227-241.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Burgess, R.L. & Youngblade, L.M. (1988). Social incompetence and the intergenerational transmission of abusive parental practices. In G.T. Hotaling, D. Finkelhor, J.T. Kirkpatrick, & M.A. Straus (Eds.), *Family abuse and its consequences: New directions in research* (pp. 38-60). Newbury Park, CA: Sage.

Cairns , R.B., Cairns, B.D., Xie, H., Man-Chi, L., & Hearne, S. (1998). Paths across generations: Academic competence and aggressive behaviors in young mothers and their children. *Developmental Psychology, 34,* 1162-1174.

Caliso, J.A, Milner, J.S. (1992). Childhood history of abuse and child abuse screening. *Child Abuse & Neglect, 16,* 1992, 647-659.

Capaldi, D.M., Pears, K.C., Patterson, G.R., & Owen, L.D. (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.218240). Oxford: Oxford University Press.

Chassin, L., Presson, C.C., Todd, M., Rose, J.S. & Sherman, S.J. (1998). Maternal socialization of adolescent smoking: the intergenerational transmission of parenting and smoking. *Developmental Psychology, 34,* 1269-1273.

Chen, Z. & Kaplan, H.B. (2001). Intergenerational transmission of constructive parenting. Journal of Marriage and Family, 63, 17-31.

Cicchetti, D. Rogosch, F.A., & Toth, S.L. (1998). Maternal depressive disorder and contextual risk: Contributions to the development of attachment insecurity and behavior problems in toddlerhood. *Development and Psychopathology, 10*, 283-300

Clark, L.A., Kockanska, G., & Ready, R. (2000). Mother's personality and its interaction with child temperament as predictors of parenting behavior. *Journal of Personality and Social Psychology, 79,* 274-285.

Cochrane, R. & Robertson, A. (1973). The life events inventory: A measure of relative severity of psychosocial stresses. *Journal of Psychosomatic Research, 17*, 135-139.

Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research.

Journal of Consulting and Clinical Psychology, 55, 584-594.

Collins, W.A., Maccoby, E.E., Hetheringotn, E.M., & Bornstein, M.H. (2000). The case for nature and nurture. *American Psychologist, 55,* 218-232.

Conger, R.D., Ge, X., Elder G.H., Lorenz, F.O., & Simons, R.L. (1994) Economic Stress, Coercive Family Process, and Developmental Problems of Adolescents. *Child Development, 65*, 541-561

Conger, R.D., Neppl, T., Kim, K.J., & Scaramella, L. (2003). Angry and aggressive behavior across three generations: A prospective, longitudinal study of parents and children. *Journal of Abnormal Child Psychology, 31,* 143-160.

Cox, M.J., Owen, M.T., Lewis, J.M., Riedel, C., Scalf-Michler, L., & Suster, A. (1985). Intergenerational influences on the parent-infant relationship in the transition to parenthood. *Journal of Family Issues, 6,* 543-564.

Crittenden, P.M. (1984). Sibling interaction: Evidence of a generational effect in maltreating infants. *Child Abuse and Neglect, 8,* 433-438.

Cummings, E.M. & Davies, P.T. (2006). Maternal depression and child development. *Journal of Child Psychology and Psychiatry, 35,* 73-122.

Derogatis, L.R. (1993). *SCL-90-R (Symptom Checklist-90-R): Administration, Scoring, and Procedures Manual*. National Computer Systems, Inc., Minneapolis, MN.

Dishion, T.J., Patterson, G.R., Stoolmiller, M., & Skinner, M.L. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology, 27,* 172-180.

Dubow, E.F, Huesmann, L.R., & Boxer, P. (2003). Theoretical and methodological

considerations in cross-generational research on parenting and child aggressive behavior. *Journal of Abnormal Child Psychology, 31,* 185-192.

Duhig, A.M., Renk, K., Epstein, M. & Phares, V. (2000). Interparental agreement on internalizing, externalizing, and total behavior problems: A meta-analysis. *Clinical Psychology: Science and Practice, 4,* 435-453.

Edwards, C.P. & Liu, W. (2002). Parenting toddlers. In M.H. Bornstein (Ed.*), Handbook of parenting: Vol. 1. Children and parenting* (2nd ed., pp. 45-71). New Jersey: Lawerence Erlbaum Publishers.

Egeland, B., & Deinard, A. (1975). *Life Stress Scale and Manual*. University of Minnesota.

Egeland, B., Jacobvitz, D., & Sroufe, L. A. (1988). Breaking the cycle of abuse. *Child Development, 59*, 1080-1088.

Egeland, B., & Sroufe, L. A. (1981). Attachment and early maltreatment**.** *Child Development, 52,* 44-52.

Elder, G.H. Jr., Caspi, A. & Downey, G. (1986). Problem behavior and family relationships: Life course and intergenerational themes. In A.B. Sorenson, F. Weinert, & L.R. Sherrod (eds.), Human development and life course: Multidisciplinary perspectives (pp. 293-340). New York: Erlbaum.

Fairbanks, L. (1989). Early experience and cross-generational continuity of mother-infant contact in Vervet monkeys. *Developmental Psychobiology, 22,* 669-681.

Fraiberg, S. (Ed.). (1980). Clinical case studies in infant mental health. New York: Basic Books.

Fraiberg, S., Adelson, E., & Shapiro, V. (1975). Ghosts in the nursery: A

psychoanalytic approach to the problem of impaired infant-mother relationships. *Journal of the American Academy of Child Psychiatry, 14,* 387-421.

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.

Heinicke, C.M., Diskin, S.D., Ramsey-Klee, D.M., & Given K. (1983). Pre-birth parent characteristics and family development in the first year of life. *Child Development, 54,* 194-208.

Hops, H., Davis, B., Leve, C., & Sheeber, L. (2003). Cross-generational transmission of aggressive parent behavior: A prospective, meditational examination. *Journal of Abnormal Child Psychology, 31*, 161-169.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1-55.

Huesmann, L.R., Eron, L.D., Lefkowitz, M.M. & Walder, L. (1984). Stability of aggression over time and generations. *Developmental Psychology, 20,* 1120-1134.

Jackson, D.N. (1974). *Personality Research Form Manual*. Goshen, NY: Research Psychological Press.

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,* 389-420.

Kovan, N., Chung, A., & Sroufe, L.A. (in press). The intergenerational continuity of

observed early parenting: A prospective, longitudinal, study. *Child Development*.

Kovan, N., Kempner, S., & Carlson, E.A. (2004, August). *Continuity of parenting toddlers across two generations*. Paper presented at the meeting of the American Psychological Association, Honolulu, HI.

Lieberman, A.F., Padrón, E., Van Horn, P., & Harris, W.W. (2005). *Angels in the Nursery: The intergenerational transmission of benevolent parental influences*. Infant Mental Health Journal, 26, 504-520.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: a move to the level of representation. In I. Bretherton & E. Waters (eds.), Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development,* 50, (1-1, Serial No. 209), 66-106.

Mangelsdorf, S., Gunnar, M., Kestenbaum, R., Lang, S., & Andreas, D. (1990). Infancy proneness-to-distress temperament, maternal personality, and mother-infant attachment: Associations and goodness of fit. *Child Development, 61*, 820-831.

Matas, L., Arend, R., & Sroufe, L. A., (1978). Continuity and adaptation: Quality of attachment and later competence. *Child Development, 49*, 547-556.

O'Connor, T.G. (2002). Annotation: The 'effects' of parenting reconsidered: Findings, challenges, and applications. *Journal of Child Psychology and Psychiatry, 43,* 555-572.

Patterson, G.R. (1982). Coercive family process. Eugene, Or: Castilia.

Patterson, G.R. (1986). The contribution of siblings to training for fighting: A

microsocial analysis. In D. Olweus, J. Block, & M. Radke-Yarrow (Eds.), *Development of antisocial and prosocial behavior* (pp. 235-262). Orlando, FL: Academic Press.

Patterson, G.R. (1998). Continuities- A search for causal mechanisms: Comment on the special section. *Developmental Psychology, 34,* 1263-1268.

Patterson, G. R., DeBaryshe, B.D., Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist, 44,* 329-335.

Patterson, G.R. & Dishion, T.J. (1988). Multilevel process models: Traits, interactions, and relationships. In R.A. Hinde & J. Stevenson-Hinde (Eds.), *Relationships within families* (pp. 283-310). Oxford, England: Clarendon Press.

Poznanski, E.D., Cook, S.C., & Carroll, B.J. (1979). A depression rating scale for children. *Pediatrics, 64*, 442-450.

Putallaz, M., Costanzo, P.R., Grimes, C.L., & Sherman, D.M. (1998). Intergenerational continuities and their influences on children's social development. *Social Development, 7,* 389-427.

Radloff, L. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1,* 385-401.

Rutter, M. (1998). Some research considerations in intergenerational discontinuities [Comment on the special section]. *Developmental Psychology, 34,* 1269-1273.

Rutter, M. & Quinton, D. (1984). Long-term follow-up of women institutionalized in childhood: Factors promoting good functioning in adult life. *British Journal of Developmental Psychology, 2*(3), 191-204.

Sander, L. (1975). Infant and caretaking environment. In E.J. Anthony (Ed.),

Explorations in child psychiatry. New York: Plenum.

Serbin, L.A., Cooperman, J.M., Peters, P.L., Lehoux, P.M., Stack, D.M., & Schwartzman, A.E. (1998). Intergenerational transfer of psychosocial risk in women with childhood histories of aggression, withdrawal, or aggression and withdrawal. *Developmental Psychology, 34,* 1246-1262.

Serbin, L.A. & Karp, J. (2003). Intergenerational studies of parenting and the transfer of risk from parent to child. *Current Directions in Psychological Science, 12,* 138-142.

Serbin, L.A. & Karp, J. (2004). The intergenerational transfer of psychosocial risk: Mediators of vulnerability and resilience. *Annual Review of Psychology, 55,* 333-363.

Simons, R.L., Beaman, J., Conger, R.D., & Chao, W. (1992). Gender Differences in the Intergenerational Transmission of Parenting Beliefs. *Journal of Marriage and the Family, 54,* 823-836.

Simons, R.L., Beaman, J., Conger, R.D., & Chao, W. (1993). Stress, support, and antisocial behavior trait as determinants of emotional well-being and parenting practices among single mothers. *Journal of Marriage & the Family, 55,* 385-398.

Simons, R.L., Whitbeck, L.B., Conger R.D., & Chyi-In, W. (1991). Intergenerational transmission of harsh parenting. *Developmental Psychology, 27,* 159-171.

Smith, C.A., & Farrington, D.P. (2004). Continuities in antisocial behavior and parenting across three generations. *Journal of Child Psychology and Psychiatry, 45,* 230-247.

Sroufe, L.A. (1983). Infant-caregiver attachment and patterns of adaptations in preschool. N M. Perlmutter (Ed.), Minnesota Symposia on Child Psychology: Vol. 16. *The roots of maladaptation and competence* (pp. 129-135). Hillsdale, NJ: Erlbaum.

Sroufe, L.A. (1989). Relationships, self, and individual adaptation. In A.J. Sameroff & R.N. Emde (Eds.), *Relationship disturbance in early childhood: A developmental approach* (pp. 70-94). New York: Basic Books.

Sroufe, L.A., Egeland, B. & Carlson, E. (1999). One social world: The integrated development of parent-child and peer relationships. In W.A. Collins & B. Laursen (Eds.), *Relationships as developmental context: The 30th Minnesota Symposium on Child Psychology* (pp.241-262). Hillsdale, NJ: Erlbaum.

Sroufe, L.A., Egeland, B., Carlson, E.A., & Collins, W. A. (2005). *Development of the Person*. NY: Guilford Press.

Steinberg, L. & Silk, J.S. (2002). Parenting adolescents. In M.H. Bornstein (Ed.), *Handbook of parenting: Vol. 1. Children and parenting* (2nd ed., pp. 103-133). New Jersey: Lawerence Erlbaum Publishers.

Thornberry, T.P., Freeman-Gallant, A., Lizotte, A.J., Krohn, M.D., & Smith, C.A. (2003). Linked lives: The intergenerational transmission of antisocial behavior. *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.

Watson, D., Clark, L.A., & Harkness, A.R. (1994). Structures of personality and their relevance to psychopathology. *Journal of Abnormal Psychology, 103,* 18-31.

Whitbeck, L.B., Hoyt, D.R., Simons, R.L., & Conger, R.D. (1992). Intergenerational continuity of parental rejection and depressed affect. *Journal of Personality and Social Psychology, 63,* 1036-1045.

Wilcox, R.R & Keselman, H.J. (2003). Modern robust data analysis methods: measures of central tendency. *Psychological Methods, 8,* 254-274.

Table 1

Inter-Correlations Between Child Measures of Depressive Symptomatology

Variable	1	2	3	4	5	6	7	8	9
1. CDRS-parent rating (2nd grade)	-								
2. CDRS-parent rating (3rd grade)	.66***	-							
3. CDRS- child rating (3rd grade)	.24**	.26**	-						
4. TRF (kindergarten)	.25**	.22**	.11	-					
5. TRF (1st grade)	.30**	.21**	.18*	.27***	-				
6. TRF (2nd grade)	.20*	.20**	.26**	.19*	.29***	-			
7. TRF (3rd grade)	.15†	.30***	.32***	.22**	.32***	.42***	-		
8. CBCL (kindergarten)	.28***	.32***	.12	.14†	.16*	.06	.09	-	
9. CBCL (1st grade)	.40***	.47***	.21**	.23**	.25**	.18*	.17*	.51***	-

Note. †$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 2

Inter-Correlations Between Teacher Ratings of Child Peer Competence

Variable	1	2	3	4
1. G2 peer competence (kindergarten)	-			
2. G2 peer competence (1st grade)	.45***	-		
3. G2 peer competence (2nd grade)	.41***	.48***	-	
4. G2 peer competence (3rd grade)	.41***	.54***	.55***	-

Note. $^{+}p < .1$, $*p<.05$, $**p<.01$, $***p<.001$.

Table 3

Inter-Correlations Between First and Second Generation Parenting Scales Measured at 24 and 42 Months

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. G1 Supportive presence (24 mo)	-											
2. G1 Quality of Instruction (24 mo)	.86***	-										
2. G1 Hostility (24 months)	-.51***	-.44***	-									
4. G1 Supportive presence (42 mo)	.45***	.43***	-.27***	-								
5. G1 Quality of Instruction (42 mo)	.38***	.40***	-.23**	.79***	-							
6. G1 Hostility (42 months)	-.25**	-.19*	.18*	-.65***	-.54***	-						
7. G2 Supportive presence (24 mo)	.40**	.32*	-.26†	.40**	.23†	-.17	-					
8. G2 Quality of Instruction (24 mo)	.44**	.38**	-.33*	.47***	.40**	-.29*	.79***	-				
9. G2 Hostility (24 months)	-.25 †	-.17	.20	-.30*	-.18	.27*	-.60***	-.50***	-			
10. G2 Supportive presence (42 mo)	.48***	.32*	-.23†	.41**	.32*	-.32*	.57***	.56***	-.50**	-		
11. G2 Quality of Instruction (42 mo)	.34*	.28*	-.20	.24†	.22	-.18	.36*	.54***	-.24	.66***	-	
12. Hostility (42 months)	-.47***	-.40**	.12	-.36**	-.32*	.40**	-.42**	-.45**	.50**	-.74***	-.46***	-

Note. $^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 4

Inter-Correlations between Independent and Dependent Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. G1 observed Parenting (24 months)	-											
2.G2 observed parenting (24 months)	.41**	-										
3. G1 observed parenting (42 months)	.41***	.39**	-									
4.G2 observed parenting (42 months)	.42**	.59***	.40**	-								
5. G1 aggressive personality	-.13†	.24†	-.20**	.03	-							
6. G1 depression	-.10	.11	-.13†	.15	.25**	-						
7. G2 child depression	-.09	.18	-.27***	.07	.14†	.25**	-					
8. G2 adolescent depression	-.04	.04	-.08	-.12	.12	.09	.45***	-				
9. G2 adult depression	-.10	.06	-.01	.11	-.06	-.00	.26**	.36***	-			
10. G2 child peer competence	.07	.06	.24**	.19	-.06	-.06	-.51***	-.20**	-.08	-		
11. G2 adolescent peer competence	.18*	.04	.16*	.31*	-.15*	-.04	-.40***	-.27***	-.08	.49***	-	
12. G2 social support	.15†	.13	.18*	.29*	-.04	-.03	-.25**	-.21**	-.18*	.26**	.26**	-

Note. $^{\dagger}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 5

Summary of Robust Regression Predicting G2 Observed Parenting (42 months) from G1 Parenting and Relationship Factors *(N= 56)*

	Step 1		Step 2		Step 3	
	B	*SE*	B	*SE*	B	*SE*
G1 Observed parenting (42 months)	.31*	(.13)	.27*	(.12)	.23†	(.12)
G2 Adolescent peer competence	-	-	.01*	(.01)	.01*	(.01)
G2 Young adult social support	-	-	-	-	.15††	(.09)

R^2 (Step 1) = .08. ΔR^2 (Step 2) = .07. ΔR^2 (Step 3) = .05. Total R^2 = .20.

$^{\dagger\dagger}p$ <.10. $^{\dagger}p$ < .07. $^{*}p$ < .05.

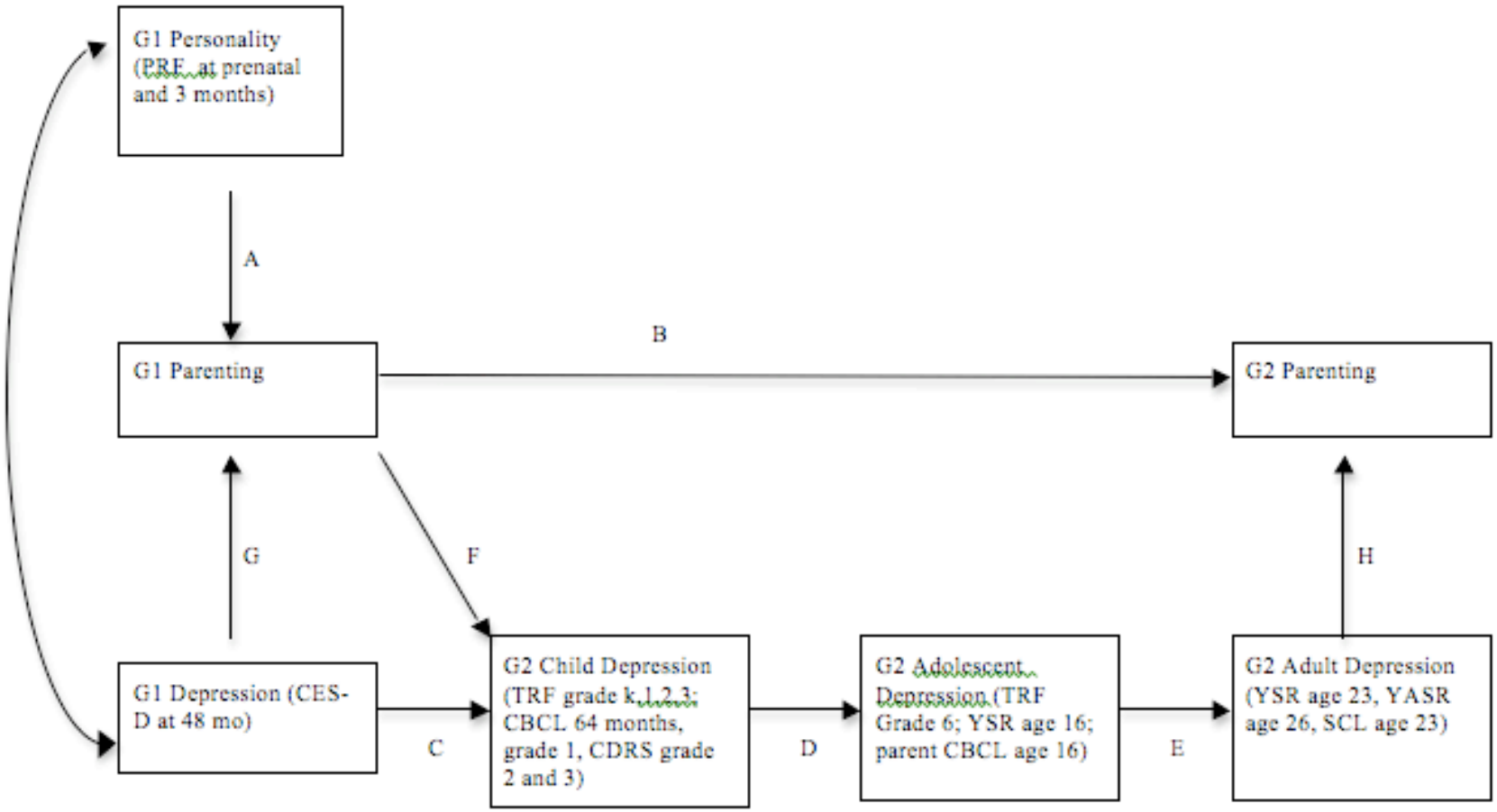

Figure 1. Proposed model of intergenerational transmission of parenting and depressed affect. (G1 and G2= first and second generations, respectively. All ages reflect the age of G2.

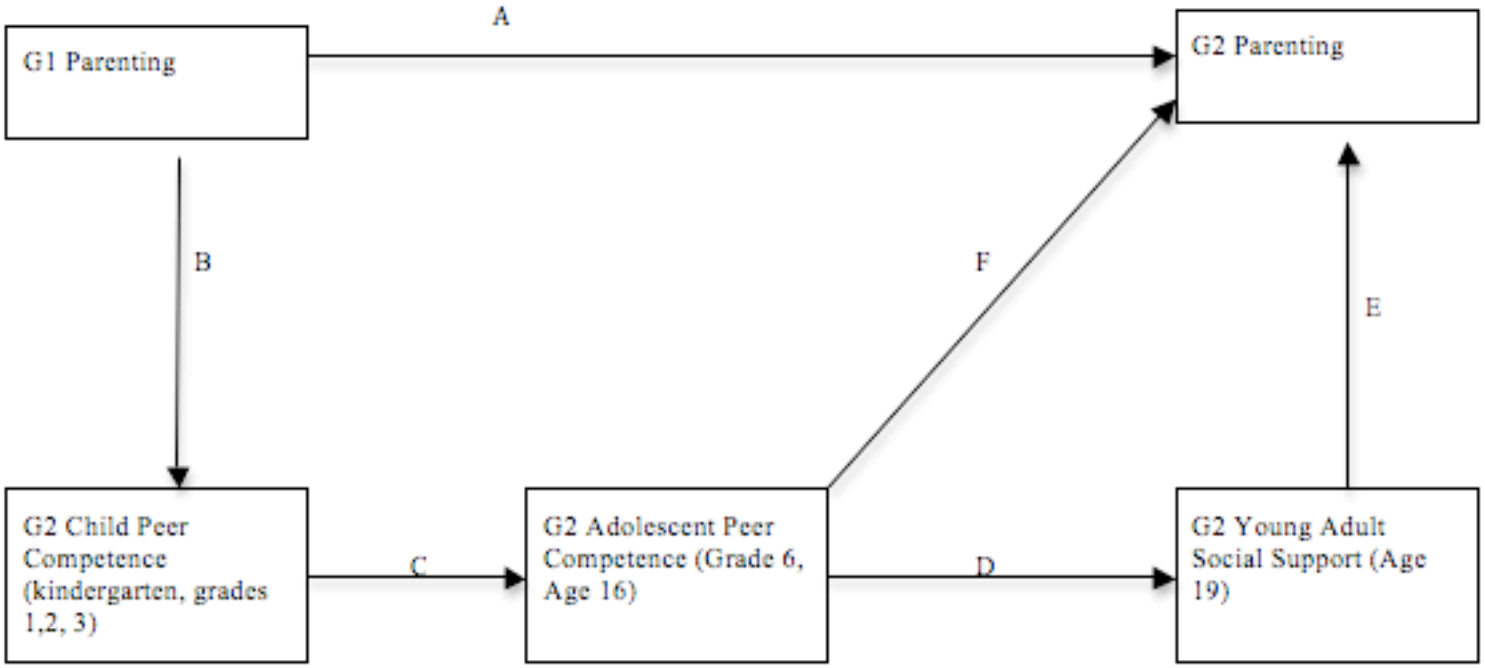

Figure 2. Proposed model of intergenerational transmission of parenting and the impact of social relationships (G1 and G2 = first and second generations, respectively). All ages reflect the age of G2.

Figure 3. Hypothesized model of intergenerational transmission of parenting and depressed affect. *Note:* G1 and G2 = first and second generations, respectively. Parenting was measured at 42 months in both generations. Model fit: χ^2 (12) = 15.20, p = .23, CFI = .97, TLI = .93, RMSEA = .03.
*p <.05, ** p <.01, ***p <.001

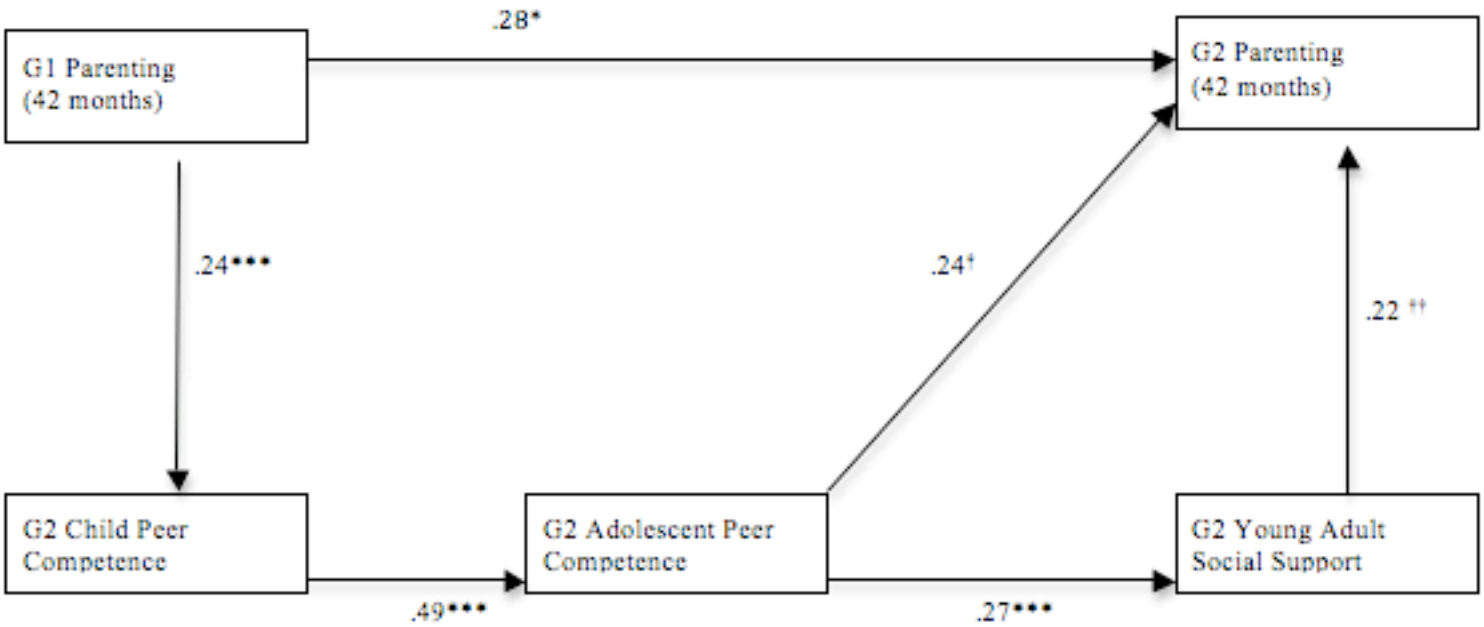

Figure 4. Hypothesized model of intergenerational transmission of parenting and the impact of social relationships (G1 and G2= first and second generations, respectively). *Note:* G1 and G2= first and second generations, respectively. Parenting was measured at 42 months in both generations. Model fit: χ^2 (4) = 7.22, p = .13, CFI = .96, TLI = .85, RMSEA = .055
††p < .10 †p < .06,•p <.05, •• p <.01, •••p <.001