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Trajectories of Adolescent Mother–Grandmother Psychological Conflict During Early Parenting and Children's Problem Behaviors at Age 7

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Abstract

This study extends the *determinants of parenting model* to adolescent mothers by examining how adolescent mother–grandmother psychological conflict and perceptions of infant fussiness from birth through age 2 years relate to children's problem behaviors at age 7. Participants were 181 adolescent mother, child, and grandmother triads living in multigenerational households and recruited at delivery. Psychological conflict was characterized by two stable trajectories. In multivariate models that included maternal depression, both psychological conflict and perceptions of infant fussiness predicted externalizing behavior at age 7. Perceptions of infant fussiness, but not psychological conflict, predicted internalizing behavior at age 7.

Adolescent parenting is a major public health concern in the United States, given the large public costs (National Campaign to Prevent Teen Pregnancy, 2006) and long-term negative outcomes for mothers and children (Furstenburg & Crawford, 1978). In 2007, the rate of births among adolescents 15 to 19 years of age was 42.5 per 1,000 and 63.7 per 1,000 among African American adolescents (Heron et al., 2010; Moore, 2009). Many African American adolescent mothers remain single and share caregiving with their mothers (grandmother of the baby; Sadler, Anderson, & Sabatelli, 2001). This pattern is reinforced by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, which requires adolescent mothers to live with a parent or guardian to qualify for public assistance. The Personal Responsibility and Work Opportunity Reconciliation Act requirement reflects the assumption that shared care-giving reduces parenting burden, thereby benefiting adolescent mothers and their children. However, evidence has been mixed, demonstrating both positive (Voight, Hans, & Bernstein, 1996) and negative associations between coresidence in multigenerational households and the health and well-being of adolescent mothers and their children (Black et al., 2002; Chase-Landsdale, Brooks-Gunn, & Zamsky, 1994; Oberlander, Black, & Starr, 2007). The goal of this study is to further our understanding of adolescent mother–grandmother parenting in the context of multigenerational households.

DETERMINANTS OF PARENTING MODEL

The *determinants of parenting model* provides a theoretical framework to investigate parenthood with extensions to child development (Belsky, 1984). By using this model to conceptualize parenting as a process that extends beyond the personal psychological resources of the parent, to include the characteristics of the child and the contextual sources of stress and support, the determinants of parenting model recognizes that competent parenting is the result of multiple direct and indirect processes that vary across individual parents. Parental competence influences child development, but the process may be modified by child characteristics and family stress and support (Belsky, 1984; Sadler et al., 2001). The model was originally applied to married couples but has been adapted to other family structures.

To capture the unique parenting issues of adolescents, particularly African American adolescents, adaptations of the determinants of parenting model include the family of origin, particularly grandmothers, as they often take on roles of support and responsibility, traditionally assumed by partners (Nath, Borkowski, Whitman, & Schellenbach, 1991; Sadler et al., 2001). Unlike married parents who are typically of similar age and have similar experiences with parenting, adolescent mothers often live with their own mothers, who are older and have years of parenting experience. This structure results in an inherent power differential (Sadler et al., 2001), requiring adolescent mothers and grandmothers to renegotiate their roles (Apfel & Seitz, 1991; Oberlander et al., 2007) and often creating a context for conflict.

Adolescent mothers and grandmothers may engage in supplemental parenting as caregiving responsibilities are shared (Apfel & Seitz, 1991). Responsive caregiving and maternal confidence are fostered when grandmothers impart a sense of trust, self-worth, acceptance, self-efficacy, and responsibility to the adolescent as she grows into the role of a parent herself (Sadler et al., 2001). When caregiving is shared and grandmothers are supportive, adolescent mothers report feeling competent in their parenting role (Oberlander et al., 2007). Although grandmothers are an important source of support for many adolescent mothers, they can also be a source of conflict and negative interactions (i.e., psychological conflict; Caldwell, Antonucci, & Jackson, 1998).

According to the determinants of parenting model, child development is influenced by maternal psychological resources, maternal perceptions of child characteristics, and contextual sources of stress and support. Children of adolescent mothers face vulnerability in many areas of their lives, such as behavior problems (Black et al., 2002). However, when exposed to warm, responsive parenting and a positive caregiving environment, they often fare well. To test the determinants of parenting model as adapted for adolescent mothers living in multigenerational families, we identified perceptions of infant temperament, maternal depressive symptoms, and adolescent mother–grandmother psychological conflict as representative constructs of the three determinants (i.e., characteristics of the child, parent, and contextual sources).

Child's Perceived Temperament

A child's early perceived temperament is predictive of later behaviors. Specifically, infants perceived as fussy are at risk for externalizing and internalizing behaviors during childhood (Bradley & Corwyn, 2008; Rubin, Burgess, Dwyer, & Hastings, 2003; Wakschlag & Keenan, 2001). Adolescent mothers are more likely than adult mothers to report temperament problems with their children (Whitman, Borkowski, Keogh, & Weed, 2001). In addition, children of adolescent mothers are at risk for internalizing and externalizing problem behaviors (Black et al., 2002; Coley & Chase-Lansdale, 1998; Vando, Rhule-Louie, McMahon, & Spieker, 2008). For example, within a longitudinal sample of adolescent mothers, 60% of children were classified as having difficult temperaments by 6 months of age (Whitman et al., 2001). By 3 years of age, not only did approximately 30% have internalizing and externalizing problems in the borderline or clinical range, but temperamental problems at 6 months predicted subsequent internalizing and externalizing problems (Whitman et al., 2001).

Early temperamental difficulties can increase the risk for behavior problems by school age. However, among children of adult parents, the relationship between temperamental difficulty in infancy and behavior problems during school age may be attenuated by positive parenting behaviors (i.e., responsiveness to the infant's needs, relationships with high warmth and affective enjoyment; Olson, Bates, Sandy, & Lanthier, 2000; Rubin et al., 2003; Wakschlag et al., 2001).

Maternal Depression

The finding that maternal depression may negatively affect both parenting behavior and children's development (Paulson, Dauber, & Leiferman, 2006) is of particular concern to adolescent mothers because their rates of depression are double those of adult mothers (Deal & Holt, 1998). Mothers who are depressed may have difficulty engaging in warm, responsive interactions with their infants, thereby increasing their infants' likelihood of suboptimal cognitive development (Field et al., 1996; Murray, Fiore-Cowley, Hooper, & Cooper, 1996). Children of depressed mothers tend to be nonresponsive and irritable as infants (Field et al., 1996) and to have internalizing and externalizing problems as children (Koblinsky, Kuvalanka, & Randolph, 2006; Lovejoy, Graczyk, O'Hare, & Neuman, 2000). Therefore, maternal depression can jeopardize parenting behaviors and, as a result, child behaviors.

Psychological Conflict Between Caregivers

Although adolescent mothers and grandmothers often share daily caregiving responsibilities, some adolescent mothers view this situation as intrusive, resulting in mother–grandmother psychological conflict (Voight et al., 1996). Psychological conflict (insulting, swearing, threatening, name-calling, and destroying property) is relatively common in multigenerational situations where adolescent mothers and grandmothers fill multiple roles differing in power (Sadler & Clemmens, 2004). In cross-sectional research, psychological conflict, a prevalent form of conflict typically studied in heterosexual relationships with the man as the perpetrator, is associated with externalizing problems in children and adolescents (Fantuzzo et al., 1991; Panuzio, Taft, Black, Koenen, & Murphy, 2007). Children who

witness even moderate levels of psychological conflict between family members often model these aggressive behaviors (Koblinsky et al., 2006), and it is a stronger predictor of child behavior problems than witnessing physical assault (Panuzio et al., 2007). Although research among adult, married couples suggests psychological conflict has a significant impact on child externalizing problems, this association has not been well researched among adolescent mother–grandmother households, and there is little longitudinal research on this topic.

Internalizing problems are often overlooked in children but may be a significant concern in children who witness psychological conflict in their homes. Like the research on externalizing problems, much of the research involving psychological conflict and internalizing behavior involves married adult caregivers. Cross-sectional studies yield conflicting findings regarding the association between psychological conflict among caregivers and children's internalizing behavior. Some studies report direct associations (McCloskey, Figueredo, & Koss, 1995), and others report no associations (Koblinsky et al., 2006). One study found that conflict among married couples was associated with self-blame in children, but this occurred in a context of other negative parenting factors such as maternal coercive, controlling, and dismissive behaviors (Deboard-Lucas, Fosco, Raynor, & Grych, 2010). Overall, the research regarding the association between family psychological conflict and children's behavior is cross-sectional, scarce, inconsistent, and mainly conducted among married, adult parenting couples.

The research that has addressed adolescent mother–grandmother psychological conflict typically has focused on associations with the adolescent mother's parenting behavior rather than the child's behavior. Several studies reported that adolescent mother–grandmother psychological conflict was associated with low parenting competence, high parenting stress, and high maternal depressive symptoms (Hess, Papas, & Black, 2002; Kalil, Spencer, Spieker, & Gilchrist, 1998; Nitz, Ketterlinus, & Brandt, 1995; Spencer, Kalil, Larson, Spieker, & Gilchrist, 2000; Voight et al., 1996). The combination of low parenting competence, high parenting stress, and depressive symptoms among adolescent mothers has also been associated with children's developmental and behavior problems (Knoche, Givens, & Sheridan, 2007; Spencer et al., 2000). Although the direction of effect is not clear because most studies are cross-sectional, the combination of caregiver psychological conflict and children's behavior problems can have long-lasting negative effects on children's well-being. Therefore, longitudinal research is needed to examine whether adolescent mother–grandmother psychological conflict impacts children's behaviors over time.

CURRENT STUDY

The adaptation of the determinants of parenting model (Nath et al., 1991; Sadler et al., 2001) provides a conceptual framework for a longitudinal examination of adolescent mother–grandmother psychological conflict trajectories from birth to 24 months, including the relationship between psychological conflict and children's behavior at school age. Models that incorporate maternal perceptions of infant temperamental fussiness, maternal depressive symptoms, and adolescent mother–grandmother psychological conflict may contribute to understanding internalizing and externalizing problems in children of adolescent mothers

who live in multigenerational households. Therefore, our objective was to extend the determinants of parenting model to adolescent mother–grandmother households. Support for our first hypothesis, that perceived fussiness during infancy is positively associated with children's internalizing and externalizing behavior problems at age 7, lays the groundwork for consistency between perceived temperamental fussiness and children's subsequent behavioral problems. Support for our second hypothesis, that psychological conflict over the first 2 years of parenting is positively associated with children's internalizing and externalizing behavior problems at age 7, is a test of the association between parenting behavior and children's behavior. Support for our third hypothesis, that children's risk for internalizing and externalizing behavior problems at age 7 is heightened in the presence of two conditions (maternal psychological conflict and maternal depressive symptoms) represents the synergism embedded in the determinants of parenting model and is therefore a test of the model. Maternal depressive symptoms may also influence parenting behavior and parents' assessments of their children's behavior. Therefore we included a measure of maternal depressive symptoms at the 7-year assessment in all models.

METHOD

Participants

The present study utilized data from a longitudinal, randomized control trial designed to promote parenting and adolescent development (Black et al., 2006; Black, Siegel, Abel, & Bentley, 2001). Eligible mothers were younger than 18 years of age at delivery, primiparous, African American, low income (defined as eligible for WIC—family income under 185% of poverty level), and had no chronic illnesses that would interfere with parenting or adolescent development. Because national policies require that eligibility for public services be restricted to adolescent mothers who are in the guardianship of an adult, we limited our sample to adolescent mothers who were living with their mothers. Infants of eligible adolescent mothers were required to be full-term (≥ 37 weeks) with a birth weight above 2,500 g and no health problems. Mean birth weight of the infants was 3,086 g ($SD = 414$ g); infants were evenly divided by gender (50% male). At delivery, the age of adolescent mothers ranged from 13.54 to 17.98 years, with a mean of 16.33 years ($SD = .98$). At baseline, 97% of adolescent mothers received public assistance, 98% were in school or completing a general educational development (GED) program, 9% had a paying job outside of the home, 66% were romantically involved with the father of the baby, and all adolescent mothers were unmarried. The mean age of the grandmothers at baseline was 39 years, 70% were single, 64% had completed high school or earned a GED, and 61% were employed (Table 1).

Procedures

Adolescent mothers were recruited shortly after delivery from three urban hospitals in Baltimore, Maryland, between June 1997 and September 1999. Adolescent mothers were given information regarding the study, and those who chose to participate were scheduled for a baseline evaluation in their homes within 3 weeks of delivery. More than 83% of the eligible adolescent mothers agreed to participate, and 181 completed the baseline evaluation. There were no differences in maternal age or education between those who completed the

baseline evaluation and those who did not. All evaluations were conducted in the participants' homes.

Baseline measures included family demographics, personal and mental health, perceived infant temperament, adolescent mother–grandmother relationships, access to public services, and early adjustment to parenting. Participants completed these measures on laptop computers, and items were presented both visually on the computer screen and aurally through headphones. Participants recorded responses with a mouse.

Using a randomization procedure, adolescent mothers were assigned to either the intervention or control group. Families in the intervention group received home visits every other week for 1 year. The manualized curriculum was designed to promote healthy adolescent development and positive parenting (Black et al., 2001; Black et al., 2006). Families in the control group received no contact other than the follow-up evaluations. Data were collected at baseline ($N = 181$), 6 months ($N = 148$, 82%), 13 months ($N = 127$, 70%), 24 months ($N = 147$, 81%), and 7 years ($N = 120$, 66%) postpartum. Families who participated through 24 months did not differ on baseline demographic variables, compared to nonparticipating families. Families who participated in the 7-year evaluation had higher maternal education than nonparticipating mothers (10.28 vs. 9.91 years, $r = .16$, $p = .04$), with no differences on other variables.

The procedures were approved by the Institutional Review Boards at the University of Maryland School of Medicine and all participating hospitals. At each time point, the procedures and purpose of the study were explained to all participants. Written consent was obtained from grandmothers. Adolescent mothers also provided written consent for themselves and their children as they were treated by the Institutional Review Board as emancipated minors. At the 7-year assessment, children provided verbal assent. Evaluators were not aware of the participants' intervention status, and participants were compensated for evaluation visits.

Measures

Temperament—Perceived infant fussy/difficult temperament was measured at baseline, 6, 13, and 24 months postpartum using a subscale of the Infant Temperament Questionnaire (Bates, Bennett Freeland, & Lounsbury, 1979). The Fussy subscale consists of six items designed to measure perceived infant temperament, such as, “How much does your baby cry and fuss in general?” Cronbach's alpha was .70 at baseline, .75 at 6 months, .72 at 13 months, and .76 at 24 months. Items were summed, with higher scores indicating greater infant fussiness=difficulty. The mean fussiness scores were fairly consistent over the first 2 years. The means were 18.13 ($SD = 5.36$) at baseline, 18.19 ($SD = 5.19$) at 6 months, 20.60 ($SD = 5.42$) at 13 months, and 19.54 ($SD = 5.86$) at 24 months. A Z score for perceived infant fussiness at each time point (baseline, 6, 13, and 24 months) was calculated, and a mean of the four Z scores was used in each analysis to capture perceived infant fussiness over time (see Table 1).

Psychological conflict—Six items from the Conflict Tactics Scale (CTS; Straus, 1979) were used to measure psychological conflict among adolescent mothers and grandmothers

over the first 24 months postpartum (baseline, 6, 13, and 24 months). The CTS was designed to measure the tactics respondents and family members use in response to conflicts. Examples of psychologically aggressive tactics include insulting, swearing, shouting, threatening, name-calling, and destroying property. The CTS was administered to both adolescent mothers and grandmothers at each assessment, and they indicated how many times (never, once, twice, three to five, or more than five) the other person employed each tactic over the past 3 months. Responses to items were summed, with higher scores indicating greater use of psychological conflict tactics. The internal consistencies of psychological conflict at each time point were high for adolescent mothers (Cronbach's $\alpha = .78-.86$) and grandmothers (Cronbach's $\alpha = .74-.84$).

At each of the four time points (baseline, 6, 13, and 24 months), 64% to 76% of adolescent mothers reported that the grandmothers engaged in psychological conflict (e.g., psychological conflict occurred at least once in the past 3 months), and 77% to 83% of grandmothers reported that the adolescent mothers engaged in psychological conflict (see Table 2). At each time point, there was significant agreement between adolescent mothers and grandmothers regarding the level of psychological conflict in their relationship, baseline ($r = .40, p < .001$), 6 months ($r = .33, p = .001$), 13 months ($r = .43, p < .001$), and 24 months ($r = .28, p = .002$). To incorporate both respondents, scores on the CTS were averaged to obtain a combined adolescent mother–grandmother psychological conflict score for each time point.

Developmental trajectory models were estimated for psychological conflict in the adolescent mother–grandmother relationship assessed at baseline, 6, 13, and 24 months postpartum. Model selection requires a determination of the number of groups that best describes the data. The Bayesian Information Criterion (BIC) is one method of identifying the optimal model (Jones, Nagin, & Roeder, 2001; Nagin, 1999, 2005). The BIC calculations indicated that the two-group model (BIC = -1809.61) was a slightly better fit for the data than the three-group model (BIC = -1812.21). The two-group model was also selected based on parsimony and sample size. One group ($N = 25$) had high psychological conflict that increased slightly from baseline to 6 months, then remained fairly stable over time. The other group ($N = 156$) had low levels of psychological conflict at baseline that remained low and stable through 24 months postpartum. Figure 1 graphs the actual versus predicted trajectories by psychological conflict.

Psychological conflict group membership was used in subsequent analyses to represent high or low adolescent mother–grandmother psychological conflict over the first 24 months of parenting. The psychological conflict groups did not differ by adolescent maternal age at delivery, intervention status, child gender, adolescent maternal depressive symptoms at 7 years postpartum, number of children born to the adolescent mother at 7 years postpartum, or highest year of education completed by 7 years postpartum.

Maternal depressive symptoms—Depressive symptoms in mothers were measured at 7 years postpartum with the Beck Depression Inventory, a 21-item scale that has been used widely to characterize depressive symptoms among adolescents and adults (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). A measure of maternal depressive symptoms at 7

years postpartum was included to investigate the impact of current depressive symptoms on maternal reports of their child's internalizing and externalizing behaviors. The internal consistency of the scale for our sample was Cronbach's $\alpha = .88$. Scores ranged from 0 to 31 ($M = 6.12$), with higher scores reflecting more depressive symptoms. In the current sample, at 7 years postpartum, the mean maternal depressive symptoms score was 5.22 ($SD = 6.12$), and 18% ($n = 21$) of adolescent mothers reported depressive symptoms above the clinical cutoff of 9.

Child internalizing and externalizing behavior—The child's emotional and behavioral adjustment was assessed at 7 years postpartum using the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), based on maternal report. The BASC-2 was selected because it includes rating forms for attention and conduct problems, learning problems, and depression, as well as leadership and social skills. The two BASC-2 composites used in this study were Internalizing Behaviors (anxiety, depression, somatization) and Externalizing Behaviors (hyperactivity, aggression, conduct problems). Raw scores were converted to t scores. Scores from 60 to 69 are considered “at risk” and scores greater than 69 are considered “clinically significant.” Based on the standardization sample, the composites on the BASC-2 have internal consistencies ranging from .90 to .94 and are correlated with scales on the Child Behavior Checklist (Internalizing $r = .69$, Externalizing $r = .82$; Achenbach, 1991; Reynolds & Kamphaus, 2004). In this sample, Cronbach's alphas were .71 (Internalizing) and .88 (Externalizing).

Data Analysis

We used descriptive statistics and correlational analyses to examine maternal depressive symptoms, perceived infant fussy temperament, adolescent mother–grandmother psychological conflict, and child externalizing and internalizing behavior. Developmental trajectories of adolescent mother–grandmother psychological conflict from baseline through 24 months were estimated using PROC TRAJ (Jones et al., 2001; Nagin, 1999, 2005). Maximum likelihood estimation was used to estimate the trajectories. This method identifies the shape of each group's trajectory, the proportion of the population belonging to each group, and the posterior probability of group membership for each participant. Like hierarchical and latent curve modeling, this semiparametric, group-based method uses a polynomial function to model the association between age at assessment and psychological conflict (Nagin, 1999, 2005). Based on these calculations, participants were assigned to the group that best conformed to their trajectory of psychological conflict. Two psychological conflict groups, one high and one low, were estimated. There were no differences between the intervention and control groups on maternal depressive symptoms (5.61 vs. 4.89, $p > .10$), internalizing problems (50.33 vs. 48.47, $p > .10$), and externalizing problems (50.81 vs. 49.94, $p > .10$), and, therefore, the intervention and control groups were collapsed in subsequent analyses.

Linear regression analyses were conducted to test hypotheses and examine the association between (a) perceived fussiness and children's internalizing and externalizing behavior problems, (b) psychological conflict and children's behavior problems, and (c) possible synergy between psychological conflict and perceived infant fussiness predicting children's

behavior problems. Covariates of intervention status, child age, and child gender were included in all models as Step 1. Step 2 included the addition of variables of interest: maternal depressive symptoms, infant temperament, and adolescent mother–grandmother conflict. Finally, Step 3 included the infant temperament by adolescent mother–grandmother psychological conflict trajectory interaction term. Significance was set at $p < .05$, with marginal significance at $p < .10$.

RESULTS

Descriptive Statistics

One hundred twenty mothers and children participated in the 7-year follow-up assessment, representing 66% sample retention over 7 years. At 7 years, children were a mean age of 7.80 ($SD = 0.53$). The mean BASC-2 externalizing t score was 50.34 ($SD = 12.29$), 7% scored in the at-risk range of 60 to 69, and 6% scored in the clinically significant range of 70 or above. At 7 years, the mean BASC-2 internalizing t score was 49.32 ($SD = 11.03$), 8% scored in the at-risk range of 60 to 69, and 4% scored in the clinically significant range of 70 or above.

Zero-Order Associations

Perceived infant fussiness was not significantly correlated with adolescent mother–grandmother psychological conflict trajectories ($r = .03$, $p = .66$). Perceived infant fussiness was positively associated with internalizing behaviors at 7 years ($r = .17$, $p = .04$) and positively associated with externalizing behaviors at 7 years ($r = .31$, $p = .001$). At 7 years, maternal depressive symptoms were not related to internalizing behaviors ($r = .13$, $p > .10$) but were positively, marginally related to externalizing behaviors ($r = .17$, $p = .08$), significantly and positively related to perceived infant fussiness ($r = .18$, $p = .05$) and marginally and positively related to psychological conflict trajectories ($r = .16$, $p = .09$). Infant fussiness was significantly perceived related to maternal depressive symptoms at 7 years adjusting for psychological conflict, infant gender, child age at 7 years, and intervention status ($b = 1.53$, $p = .05$).

Multivariate Analyses

Psychological conflict group membership was used to predict child behavior problems at 7 years. After adjusting for intervention status, child age, and child gender, maternal depressive symptoms were not significantly associated with externalizing behavior. Adolescent mother–grandmother psychological conflict and perceived infant fussiness were significant predictors of child externalizing behavior at age 7. The interaction term was significant and indicated that the association between infant fussiness and child externalizing behavior was moderated by adolescent mother–grandmother psychological conflict ($b = 6.86$, $p = .04$; Table 3). The relationship was probed by estimating the effect of psychological conflict at the highest and lowest levels of infant fussiness (Aiken & West, 1991; see Figure 2). This was accomplished by creating a new dichotomous variable (0 = highest value of perceived fussiness, 1 = lowest value of perceived fussiness) and creating a cross-product of this variable with psychological conflict (Aiken & West, 1991). There was a significant difference in externalizing behaviors in middle childhood between high and

low levels of psychological conflict when infants were perceived as having high levels of fussiness ($b=26.95, p=.01$) but not when infants were perceived as having low levels of fussiness ($b=-4.55, p=.51$). Furthermore, at low levels of psychological conflict, perceived infant temperament significantly predicted externalizing behaviors in middle childhood ($b=3.50, p=.02$), such that higher perceived infant fussiness predicted higher externalizing behaviors.

Analyses were replicated to predict child internalizing behavior. After adjusting for the covariates of intervention status, child age, and child gender, maternal depressive symptoms were not significantly associated with child internalizing behavior ($b=.12, p=.50$). Perceived infant fussiness was a significant predictor of child internalizing behavior at age 7 ($b=3.78, p=.01$). High adolescent mother–grandmother psychological conflict was a marginally significant predictor of internalizing problems ($b=5.69, p=.07$). There was not a significant interaction between psychological conflict and infant fussiness, illustrating that there was no synergy between the two conditions in predicting child internalizing behavior ($b=3.38, p=.31$).

DISCUSSION

In the first 2 years of parenting, psychological conflict (e.g., insulting, swearing, shouting, threatening, name-calling, and destroying property) in these multigenerational households was common, with the majority of adolescent mothers and grandmothers reporting psychological conflict occurring in their relationship one or more times in the past 3 months. Two stable trajectories of adolescent mother–grandmother psychological conflict were identified: low and high. Thus, unique patterns of psychological conflict were sustained throughout the first 2 years of parenting. According to the determinants of parenting model (Belsky, 1984) and previous research with married, parenting adults (Koblinsky et al., 2006; Panuzio et al., 2007), a consistently conflictual parenting environment is likely to have a negative influence on child behavior directly or indirectly.

Our research yielded unique findings related to perceptions of infant temperament, adolescent mother–grandmother psychological conflict, and children's behavior problems at age 7. Children perceived to be temperamentally fussy as infants were at risk for both externalizing and internalizing behavior problems at age 7, but the nature of the relationship differed by the type of behavior problem and by the context of the adolescent mother–grandmother relationship. Children raised in a context of psychological conflict between their adolescent mother and grandmother were at risk for externalizing behavior problems at age 7. When the two conditions—perceived fussiness and psychological conflict—occurred together, the effects were synergistic, not additive, and the risk of externalizing behavior problems was heightened.

Viewed from another perspective, the association between perceived infant fussiness and externalizing behavior at age 7 varied by the degree of psychological conflict between the adolescent mother and grandmother. Although a conflictual relationship increased the likelihood of externalizing problems, relationships low in conflict attenuated the effects of perceived infant fussiness on age 7 externalizing behaviors. In other words, a calm

adolescent mother–grandmother relationship low in conflict reduced, but did not eliminate, the likelihood of externalizing problems among children who were regarded as temperamentally difficult during infancy. This finding is consistent with findings from adult mothers showing that positive parenting can attenuate the potentially negative effects of fussy temperament (Olson et al., 2000; Rubin et al., 2003; Wakschlag et al., 2001) and suggests that the determinants of parenting model applies to adolescent mothers living in multigenerational households.

When internalizing behavior at age 7 was considered, the relationship between perceptions of infant temperament and subsequent behavior problems was direct and there was not a synergistic effect involving the adolescent mother–grandmother relationship. These findings are consistent with findings that infants whose mothers perceive them as having a difficult temperament are at risk of developing internalizing behaviors (Leve, Kim, & Pears, 2005). The finding of a marginally significant association between caregiver psychological conflict and internalizing behaviors in children at age 7 is consistent with previous research by McCloskey et al. (1995). Other studies such as Koblinsky et al. (2006) did not find a relationship between conflict and child internalizing behaviors. A key difference between these studies is that McCloskey et al. examined a sample of women who were victims of domestic violence, some in shelters, where housing insecurity and abuse may be factors in developing internalizing symptoms. In contrast, Koblinsky et al. examined a sample of African American families with preschool-aged children without these complications. On the other hand, the findings are consistent with a recent study of an ethnically, racially, and economically diverse sample of married couples where conflict between the couples was associated with higher levels of self-blame in the child (Deboard-Lucas et al., 2010). The connection between caregiver psychological conflict and internalizing behavior requires additional research to fully understand the mechanisms within different types of families.

There was no evidence that concurrent maternal depressive symptoms predicted externalizing or internalizing behaviors. This finding is contrary to expectations. One possible explanation is that grandmothers may have buffered the effects of maternal depressive symptoms on the children. In previous research on this sample, two thirds of the sample engaged in shared caregiving at 6 months postpartum, dividing responsibilities between the adolescent mother and grandmother, and mothers self-reported parenting competence benefitted from a supportive grandmother relationship (Oberlander et al., 2007) which could have a potentially positive impact on parenting and child outcomes. This finding deserves further investigation to examine possible mechanisms that may help children avoid the negative impact of maternal depression.

Consistent with the determinants of parenting model, children are at risk for both internalizing and externalizing behaviors based on characteristics measured in infancy (e.g., perceived fussiness) and the quality of the early relationship between their caregivers. During the early years of parenting, children may be developing working models of internalizing and externalizing behaviors through their own interactions. One possibility is that infants' perceived fussiness adds strain to the adolescent mother–grandmother relationship, resulting in psychological conflict. However, the association between fussiness and conflict trajectories was not statistically significant in the present study. Another

possibility is that the mother–grandmother relationship may have been strained prior to the baby's birth, perhaps decreasing mothers' tolerance to their infant's behavior. A third possibility is that, as with the transactional model of development (Sameroff, 2009), the presence of multiple stressors (perceived infant fussiness and adolescent mother–grandmother conflict) resulted in a toxic situation that undermined children's healthy development, putting children at risk for externalizing behavior problems by school age. Regardless of these considerations, the combination of perceived infant fussiness and adolescent mother–grandmother high psychological conflict is harmful and appears to increase the likelihood of externalizing behaviors at school age.

In contrast, a low level of adolescent mother–grandmother psychological conflict reduces, but does not eliminate, the association between perceived infant fussiness and externalizing behavior at age 7. A low level of psychological conflict may include disagreements between the adolescent mother and grandmother about the care of the infant (Apfel & Seitz, 1991). Adolescent mothers and grandmothers have inherent power differentials. Adolescent mothers may be struggling between being an adolescent and becoming a competent parent, and grandmothers may be struggling between parenting her adolescent and parenting her daughter's infant (Sadler et al., 2001). Although these struggles may result in low levels of psychological conflict, they demonstrate the support of the grandmother for the adolescent mother and infant. Supportive relationships help adolescent mothers develop confidence in their parenting abilities (Oberlander et al., 2007) that may contribute to better developmental outcomes for their children (Hess et al., 2002).

The current study had several strengths that should be considered, notably reliance on child developmental theory (i.e., determinants of parenting model) to formulate hypotheses, longitudinal data, multiple informants, and the inclusion of nontraditional caregivers. Examining psychological conflict trajectories over time illustrates the stability of the behavior over the first 2 years of the child's life and the impact of patterns of psychological conflict on multiple child outcomes. The use of multiple informants' (adolescent mothers and grandmothers) of psychological conflict enabled the construction of a comprehensive measure of the psychological conflict within the relationship, rather than relying on a single informant. A final strength is the inclusion of nontraditional caregivers (adolescent mothers and grandmothers). Despite the number of adolescent mothers sharing caregiving with grandmothers after welfare reform, few longitudinal studies have examined adolescent mother–grandmother relationships.

There are also several limitations that should be considered in the interpretation of results. All of the data are self-report and mother-reported child behavior. This concern is balanced by incorporating data collected over several years, by relying on multiple informants, and by including a measure of maternal depression at age 7 when internalizing and externalizing behavior were measured. Future research would benefit from additional investigation into measures of depressive symptoms over time as well as strategies to evaluate infant temperament and adolescent mother–grandmother psychological conflict without relying on self-report. For the 1st year postpartum, half of the mothers in this sample participated in an intervention designed to promote parenting and adolescent development. Although there were no direct or indirect effects of the intervention, there may have been unmeasured

effects. Generalizability may be limited to low-income, African American, multiple-generation households. Future research is needed to examine these associations among other samples of adolescent mothers. Future research also can evaluate other aspects of adolescent mothers' lives to determine how relationships with others (e.g., the infant's father, other romantic partners, or the adolescent mother's friends) impact child development. The reciprocal nature of parenting makes it difficult to determine causality. Although we found no direct association between perceived infant fussiness and psychological conflict between caregivers, future research is needed in this area. For example, an examination of the adolescent mother–grandmother relationship before the birth of the child might help answer the question of causality.

Implications for Research, Policy, and Practice

Within the context of these strengths and limitations, the current findings illustrate why family contextual factors (including child, mother, and grandmother) should be considered when evaluating children's behavior in multigenerational households. The adolescent mother–grandmother relationship influences the child's proximal context and the likelihood that the child will experience behavior problems at school age, favoring households with low psychological conflict. Because perceptions of infant fussiness have relatively strong predictive potential, they provide an opportunity for early intervention. Interventions might extend beyond the mother–infant relationship to include the adolescent mother–grandmother relationship and how conflicts regarding infant temperament (and other issues) are handled and negotiated.

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FIGURE 1.
Trajectories of adolescent mother–grandmother psychological conflict (Psyc Con).

FIGURE 2.
Interaction of temperament and psychological conflict predicting externalizing.

TABLE 1

Sample Characteristics

Variable	M/%	SD	Min–Max
<i>Demographics</i>			
Baseline			
AM Age	16.33	0.98	13.54–17.98
GM Age	38.70	4.74	30.10–54.30
CH Gender (% Male)	50.3%		
7 Years			
AM Employed	9%		
AM in School or GED	98%		
AM Involved With Father of Baby	66%		
GM Single	70%		
GM Employed	61%		
GM High School/GED	64%		
CH Age	7.80	.53	6.91–9.40
<i>Variables of Interest</i>			
CH Fussy Temperament (Z Score)	.04	.74	–1.99–2.60
AM Depressive Symptoms (7 Years)	5.22	6.12	0–31.00
CH Internalizing (7 Years)	49.32	11.03	32–96
CH Externalizing (7 Years)	50.34	12.29	32–102

Note: GM = grandmother; AM = adolescent mother; GED = general educational development; CH = child.

TABLE 2

Adolescent Mother (AM) and Grandmother (GM) Endorsement of Psychological Conflict

			Reported Any Conflict		
			N(%)	M (SD)	Correlation Coefficient
Baseline	AM	62 (36)	112 (64)	7.70 (7.96)	.40 **
	GM	38 (22)	136 (78)	8.36 (6.76)	
6 Months	AM	33 (24)	102 (76)	8.12 (7.67)	.33 **
	GM	20 (17)	96 (83)	8.04 (7.78)	
13 Months	AM	34 (29)	85 (71)	7.59 (8.58)	.43 **
	GM	20 (21)	77 (79)	9.78 (8.97)	
24 Months	AM	43 (32)	93 (68)	8.43 (8.63)	.28 **
	GM	30 (23)	100 (77)	7.70 (7.03)	

 $p < .05$.**
 $p < .01$.

TABLE 3

Psychological Conflict and Perceived Infant Temperament Predicting Externalizing and Internalizing Problems at Age 7

Variable	Externalizing			Internalizing		
	B	SE	t	B	SE	t
Step 1						
Intervention Status	-.534	2.027	-.263	-.786	2.033	-.386
Infant Age	.121	1.964	.061	-2.740	1.974	-1.388
Infant Gender	.390	2.103	.186	2.033	2.106	.965
Step 2						
AM Depressive Symptoms	.168	.170	.990	.117	.171	.682
Fussy Temperament	5.149	1.401	3.676**	3.784	1.409	2.685**
Psychological Conflict	8.303	3.088	2.689**	5.649	3.106	1.819 [†]
Step 3						
Psychological Conflict × Fussy Temperament	6.863	3.246	2.115*	—	—	—

Note: AM = adolescent mother.

[†] $p < .10$ (approached significance).

* $p < .05$.

** $p < .01$.