Published in final edited form as:

J Abnorm Child Psychol. 2016 August ; 44(6): 1097–1109. doi:10.1007/s10802-015-0091-y.

Intergenerational Transmission of Maladaptive Parenting Strategies in Families of Adolescent Mothers: Effects from Grandmothers to Young Children

Danielle M. Seay¹, Laudan B. Jahromi², Adriana J. Umaña-Taylor¹, and Kimberly A. Updegraff¹

¹Arizona State University

²Teachers College, Columbia University

Abstract

The current longitudinal study examined the effect of the transmission of maladaptive parenting strategies from grandmothers to adolescent mothers on children's subsequent development. Mexican-origin adolescent mothers ($N = 204$) participated in home interviews when the adolescent's child (89 boys, 60 girls) was 2, 3, 4, and 5 years old. Grandmothers' psychological control toward the adolescent mother was positively related to adolescents' potential for abuse 1 year later, which was subsequently positively related to adolescents' punitive discipline toward their young child. In addition, adolescent mothers' punitive discipline subsequently predicted greater externalizing problems and less committed compliance among their children. Adolescent mothers' potential for abuse and punitive discipline mediated the effects of grandmothers' psychological control on children's externalizing problems. Finally, adolescent mothers' potential for abuse mediated the effect of grandmothers' psychological control on adolescent mothers' punitive discipline. Results highlight the salience of long-term intergenerational effects of maladaptive parenting on children's behavior.

Keywords

adolescent mothers; externalizing behavior; compliance; intergenerational issues; Mexican American families; parenting

An increasing body of research suggests that maladaptive parenting strategies are transmitted across generations, which occurs when parenting practices (e.g., harsh parenting) in one generation influence parenting practices in the subsequent generation (Capaldi, Pears, Patterson, & Owen, 2003). However, few studies have looked prospectively at long term intergenerational transmission of maladaptive parenting (e.g., from grandmother

Correspondence should be addressed to Danielle Seay, T. Denny Sanford School of Social and Family Dynamics, Program of Family and Human Development, Arizona State University, P.O. Box 873701, Tempe, Arizona, 85287. Danielle.Seay@asu.edu. Office Number: 480-727-8766. Cc: Laudan Jahromi; Teachers College, Columbia University, 525 W. 120th Street, Box 223, New York, NY, 10027, Adriana J. Umaña-Taylor; Arizona State University, P.O. Box 873701, Tempe, AZ, 85287. Kimberly Updegraff; Arizona State University, P.O. Box 873701, Tempe, AZ, 85287.

Conflict of Interest: The authors declare that they have no conflict of interest.

to mother to child) to examine what impact these processes have on children's adjustment (Bailey, Hill, Oesterle, & Hawkins, 2009; Hops, Davis, Leve, & Sheeber, 2003; Neppl, Conger, Scaramella, & Ontai, 2009). Even less is known about the transmission of maladaptive parenting in at-risk families (Bailey et al., 2009), such as those of adolescent mothers, who may experience poverty and inadequate preparation for parenting, which might cumulatively confer risk for harsh parenting and poor child outcomes (Hoffman, 2008). Thus, in the current study, we focus on the intergenerational transmission of maladaptive parenting strategies in the families of Mexican-origin adolescent mothers, who have the highest teenage birthrate among all U.S. ethnic groups (National Vital Statistics Report, 2012), and who are likely to live in multigenerational households (U.S. Census Bureau, 2012).

Compelling evidence suggests that exposure to maladaptive parenting is associated with children's developmental outcomes. The present study focused on two behavioral indices of children's functioning: externalizing problems and committed compliance. Children exposed to maladaptive parenting, including harsh discipline and child abuse, are at risk of developing externalizing behavior problems (Cicchetti & Manly, 2001; Gershoff, 2002; Lansford et al., 2002) or aggressive and disruptive reactions to experiences of stress (Achenbach & Edelbrock, 1981; Campbell, Shaw, & Gilliom, 2000). Committed compliance, on the other hand, refers to a child's ability to whole-heartedly comply with requests, and is believed to reflect an internally-driven eagerness to accept parental agendas as their own (Kochanska, Aksan, & Koenig, 1995). Research has shown that children who experience physical abuse and harsh discipline exhibit significantly less committed compliance (herein referred to as compliance) than their peers (Braungart-Rieker, Garwood, & Stifter, 1997; Koenig, Cicchetti, & Rogosch, 2000). Understanding how maladaptive parenting contributes to individual differences in children's externalizing behaviors and compliance early in development is a critical step toward creating interventions that facilitate more optimal outcomes later in childhood.

Transmission of Maladaptive Parenting in Families of Adolescent Mothers

A number of studies have demonstrated intergenerational continuity in maladaptive parenting styles (e.g., Bailey et al., 2009; Capaldi et al., 2003; Hops et al., 2003; Neppl et al., 2009; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003). These studies have demonstrated a direct connection between specific parenting behaviors (e.g., harsh discipline) in one generation and the same parenting behaviors in the next, with correlations ranging from .17 to .47. In addition, these studies have shown that this continuity is robust to characteristics of the families' social context (e.g., SES), measurement of maladaptive parenting (i.e., parent reports and observer ratings), and length of time between measurement of parenting in the first generation and that in the second generation. However, because the same maladaptive parenting practices were assessed in the first and second generation of previous studies, the question remains whether it is specific forms of maladaptive parenting practices that are intergenerationally transmitted (e.g., through learning) or whether it is a tendency to use maladaptive parenting strategies in general that is transmitted. The current study will extend work in this area by examining whether different

forms of maladaptive parenting are transmitted across generations and by studying these processes in families of adolescent mothers.

Belsky's social-contextual model (1984) of the determinants of parenting provides one useful framework for understanding how childrearing practices are transmitted across generations and why the study of such processes is particularly warranted in families of adolescent mothers. First, this model highlights that parent characteristics, such as personal maturity (i.e., a mother's age), may impact parenting capacities (Belsky, 1984). Indeed, there is evidence suggesting that, in general, adolescents have a greater risk for maladaptive parenting practices than adult mothers (e.g., Berlin, Brady-Smith, & Brooks-Gunn, 2002; Jaffee, Caspi, Moffitt, Belsky, & Silva, 2001). Specifically, in studies comparing mothers of varying ages, age of mother was significantly associated with more negative and hostile parenting even when controlling for sociodemographic variables (e.g., family type, income and race/ethnicity; Berlin et al., 2002). Moreover, in a longitudinal study, de Paúl and Domenech (2000) noted that these findings held across early childhood, such that adolescent mothers continued to be at greater risk for abuse potential than adult mothers when their children were 6, 12, and 18 months of age.

According to Belsky's model (1984), an individual's developmental history (i.e., experiences of being parented) may also help to explain how parenting strategies could be transmitted. One potential mechanism for transmission is that parents model particular parenting behaviors that children repeat in the next generations. In addition to the direct effects of exposure to parenting practices (e.g., modeling of negative behavior), internal working models may be another mechanism whereby parenting practices are transmitted across generations. Specifically, experiences of poor parenting practices place an individual at risk of developing dysfunctional internal working models (i.e., cognitive representations) of self and parent-child relationships, and these internal working models then make it more likely that individuals will display poor parenting practices (Azar, 2002). Research shows that negative parenting experiences increase the likelihood that children will develop internal working models of the world as a hostile place, which leads to a misinterpretation of others' behaviors and more hostile responses in conflict situations (e.g., Crick & Dodge, 1994). These results are in line with a number of studies indicating that intergenerational continuity is mediated by aggressive behavior toward others (Neppel et al., 2009). Relatedly, individuals' experiences with their own parents may impact their parenting attributions (i.e., interpretations and evaluations of children's behavior), which guide parenting behavior (Milner, 2003). Indeed, there is evidence that individuals at high risk for child physical abuse have greater accessibility to negative child-related schemata as compared to low risk individuals (Montes, de Paúl, & Milner, 2001), which may explain their increased likelihood of negatively interpreting and evaluating their children's behavior.

According to Belsky's (1984) model, several contextual variables may also contribute to continuity in maladaptive parenting. Studies suggest that attribution biases are associated with negative parenting behaviors, but only in contexts marked by stress (i.e., high family chaos; Wang, Deater-Deckard, & Bell, 2013). Furthermore, prior research has demonstrated that parents who are exposed to more stressors and receive less emotional support are at particular risk for maltreating (Coohey & Braun, 1997). Thus, in the case of adolescent

mothers, who are simultaneously balancing stressors of parenthood with the normative developmental tasks of adolescence, the risk of continuation of poor or harsh parenting may be particularly high.

Adolescent Mothers' and Grandmothers' Maladaptive Parenting

Because child maltreatment is difficult to directly assess, research on abuse often relies on an individual's child abuse potential, or self-reported personal attitudes and interpersonal features that tend to increase one's likelihood of abusing (Milner, 1994). A commonly used and validated measure of child abuse potential is the Child Abuse Potential Inventory (CAPI; Chaffin & Valle, 2003; Milner, Gold, & Wimberley, 1986). Parental risk markers related to an individual's potential for abuse include distress, feeling isolated, negative concept of the child, rigidity, and ineffective coping and problem-solving skills (Milner, Gold, Ayoub, & Jacewitz, 1984; Williamson, Borduin, & Howe, 1991). Studies have demonstrated that CAPI scores differentiate abusers from non-abusers (Milner et al., 1986) and a history of maltreatment is associated with scores on the CAPI in young adults (Milner, Robertson, & Rogers, 1990) and adults (Crouch, Milner, & Thomsen, 2001).

The prevailing view is that abusive and nonabusive parents interact with their children differently (Milner, 2003; Urquiza & Timmer, 2002). In particular, abusive parents use physical punishment with their children more often than nonabusive parents (Bennett, Sullivan, & Lewis, 2006; Kelley, Grace, & Elliot, 1990). Thus, in the present study, in addition to measuring adolescent mothers' abuse potential, we measure their reports of punitive discipline, or spanking, slapping, and yelling in response to misbehavior (Bailey et al., 2009), which have been directly linked to parents' child abuse potential (Montes et al., 2001; Trickett & Kuczynski, 1986). For example, Chilamkurti and Milner (1993) found that mothers with high CAPI scores were more likely to use power assertion (e.g., verbal and physical force) and less likely to use inductive strategies (e.g., reasoning and explanation) than mothers with low CAPI scores. Moreover, in a study of abusive mothers (recruited from social services) and non-abusive mothers, Caselles and Milner (2000) reported that abusive parents were relatively more likely to engage in punitive practices and behavior.

In the present study, we focus on the adolescent-grandmother relationship in our conceptualization of the origins of the transmission of maladaptive parenting. Specifically, we focus on adolescents' perceptions of the psychological control they experienced from their own mother figures, herein referred to as children's "grandmothers," as a predictor of adolescent mothers' child abuse potential and punitive disciplinary practices with their young child. Whereas behavioral control involves regulating and supervising specific behaviors, psychological control consists of several parenting strategies, including regulating and negating the adolescent's emotions and opinions, personal attacks, guilt induction, erratic emotional behavior, and efforts to manipulate the adolescent's emotional bond with the parent (e.g., love withdraw; Barber, 1996). Barber and Harmon (2002) suggested that parents use psychological control in an attempt to maintain power by keeping the adolescent emotionally dependent on them. These maladaptive boundaries undermine the adolescent's feeling of security in the parent-adolescent relationship and intrude on the adolescent's emerging autonomy (Barber 1996; Barber & Harmon, 2002). In turn, these individuals are

likely to develop internal working models characterized by low sense of self value and/or they embrace these controlling strategies as their own (Wolfe & McIsaac, 2011). Furthermore, punitive aspects of psychological control (e.g., anger and rejection) may evoke anger in adolescents, leading them to act in response to this intrusion on their autonomy (Conger, Conger, & Scaramella, 1997). Researchers have found that psychologically controlling parenting practices are positively associated with European American and Latino adolescents' physical aggression against peers (Loukas, Paulos, Robinson, 2005) and externalizing problems (Barber, 1996; Conger et al., 1997).

Given previous work revealing intergenerational transmission of harsh parenting practices (i.e., hostility, antisocial, and angry coercion; Neppl et al., 2009), grandmothers' psychologically controlling parenting strategies may directly influence adolescents' maladaptive parenting. Indeed, in a longitudinal study, Crockenberg (1987) found that a history of childhood maternal rejection was associated with adolescent mothers' punitive discipline. Moreover, Pettit, Laird, Dodge, Bates, and Criss (2001) demonstrated that mothers' harsh parenting behaviors in early childhood were associated with psychologically intrusive, but not behaviorally intrusive, behaviors in adolescence. This cross-time association suggests that both psychological control and harsh parenting are characterized by enduring hostile parent-child relationships. Work by Baumrind (2012) and her colleagues found that psychological control is consistent with other forms of maladaptive parenting and discipline in its relations to outcomes. These authors' findings suggest that, in contrast to the detrimental effects of coercive control (i.e., the imposition of control by arbitrary discipline, psychological control, severe physical punishment, and verbal hostility), confrontive control (i.e., monitoring child's compliance with rules and structure) is related to positive outcomes (Baumrind, Larzelere & Owens, 2010). Finally, several studies have included psychological control, or aspects of psychological control (e.g., love withdrawal) into their conceptualization of emotionally maladaptive parenting strategies (May-Chahal & Cawson, 2005; Wolfe & McIsaac, 2011). Scholars suggest that the abovementioned research provides evidence of the convergent and divergent validity of psychological control as a form of harsh or maladaptive parenting (Pettit et al., 2001).

Together, these results support the notion that psychological control represents a maladaptive parenting style, and that experiences of parental psychological control may place adolescent mothers at greater risk of using physical forms of discipline with their own children. There is less clarity, however, on the mechanisms through which adolescents' experiences of psychological control predict their own use of punitive discipline. Understanding these mechanisms can inform interventions aimed at breaking intergenerational cycles. Because parents with higher child abuse potential are more likely to use punitive disciplinary strategies, we examined whether potential for abuse mediated the relation between adolescents' experiences of psychological control and their own future discipline practices.

Children's Outcomes

Turning to the child outcomes that may be impacted by maladaptive parenting, the present study focused on children's externalizing problems and compliance. Although externalizing problems may be normative in early childhood (Campbell, 1995) and have few long-term

implications for adjustment for some children, approximately half of the children who exhibit early behavior problems will continue to have problems upon entering school (Campbell et al., 2000). There is evidence that externalizing problems are more likely to endure in the context of high family stress (Campbell, Pierce, Moore, Marakovitz, & Newby, 1996), and that these problems often occur within the context of poor mother-child relationships characterized by harsh discipline (Belsky, Woodworth, & Crnic, 1996). Indeed, a meta-analysis revealed that punitive discipline was one of the strongest predictors of children's later externalizing problems (Loeber & Stouthamer-Loeber, 1986). Moreover, both punitive discipline and child abuse have been linked to child aggression and externalizing behavior problems across development (Cicchetti & Manly, 2001; Gershoff, 2002; Lansford et al., 2002). For instance, Shaw and colleagues (2003) found that experiences of maternal rejection during the first 2 years of development were associated with an increase in externalizing problems in preschool.

From a theoretical perspective, the relation between maladaptive parenting, including punitive discipline and abuse, and children's externalizing behaviors may be explained through a social learning framework. As described by Bandura (1977), behavior is learned vicariously through observation of other people's behavior. Thus, abusive parents' modeling of aggressive behavior is a potential mechanism that drives child aggressive behavior (Patterson, Reid, & Dishion, 1992). Children who witness frequent hostile behaviors are more likely to view hostile behaviors as appropriate reactions to distress (Deater-Deckard & Dodge, 1997). Further, through modeling, these problem behaviors may be transmitted across generations (Capaldi et al., 2003; Scaramella & Conger, 2003; Thornberry et al., 2003). For instance, in a multigenerational study of the transmission of harsh parenting, Bailey and colleagues (2009) found that harsh parental discipline was associated with child externalizing behavior across three generations. In addition, grandparents' harsh discipline was indirectly associated with children's (ages 6 to 14) externalizing problems via parents' harsh parenting. The current study extends this work by examining these processes prospectively across early childhood, prior to children's transition to kindergarten. In addition, the current study extends this work by examining multiple indicators of children's developmental functioning.

In contrast to externalizing behavior, children's committed compliance tends to increase during early childhood (Kochanska et al., 1995) and is consistently linked with more adaptive child outcomes (e.g., Kochanska, Aksan, & Joy, 2007). Kochanska (2002) argues that children who are compliant increasingly take on their parents values as their own so that socially acceptable behavior is motivated by internal factors rather than external consequences. It is well established that internal commitment to the parent's agenda (i.e., committed compliance) is hindered by parenting strategies characterized by low warmth and high control (Crockenberg, & Litman, 1990; Kochanska & Knaack, 2003). However, the findings regarding the relations of maladaptive parenting to child compliance in different contexts are somewhat mixed. Specifically, Braungart-Rieker and colleagues (1997) found that harsh discipline was related to less compliance in a don't demand setting (prohibited toy), but was unrelated to compliance in a do setting (clean-up). On the other hand, in a study of abuse, Koenig and colleagues (2000) found that maltreated children exhibited less committed compliance during a clean-up task than non-maltreated children. We aimed to

extend this work by examining how the transmission of maladaptive parenting impacted two important dimensions of children's functioning. Examining the relations between parenting and children's outcomes prior to the transition to kindergarten is important because individual differences in these outcomes are well established by the time children reach kindergarten (Aksan & Kochanska, 2005; Shaw et al., 2003), and are considered crucial predictors of children's ability to navigate the transition to the school setting (e.g., Campbell et al., 2000).

The Current Study

The present study examined the intergenerational transmission of maladaptive parenting from grandmothers to children's externalizing problems and compliance, via adolescents' maladaptive parenting. Given that prior studies have linked subjective reports of being parented with later parenting behavior (Belsky, Youngblade, & Pensky, 1989), and because an individual's perception of those experiences may be meaningful in how those experiences are interpreted, we relied on adolescent reports of their mother figures' psychological control. We utilized four waves of data collected annually, when the child was 2 (W3) to 5 years old (W6). Given that emerging adulthood is a time during which individuals not only desire, but also work toward greater self-reliance (Arnett, 2007), parenting behaviors like psychological control that limit autonomy during this time may be particularly relevant to understanding young mothers' subsequent outcomes, including their parenting behaviors. Thus, we measured grandmothers' psychological control at W3 when adolescent mothers were between 17 and 21 years of age and entering young adulthood. We tested the hypothesis that grandmothers' psychological control (W3) would relate to children's externalizing problems and compliance (W6) through associations with high levels of adolescents' potential for abuse (W4) and high levels of punitive discipline (W5). In addition, we examined whether adolescents' potential for abuse contributed to the mediation of grandmothers' psychological control on children's externalizing problems and compliance via adolescents' potential for abuse. Given the limited research in this area, this component of the study was exploratory in nature. Our second goal was to understand whether grandmothers' psychological control promoted higher levels of adolescents' punitive discipline by increasing adolescents' potential for abuse. We hypothesized that increases in grandmothers' psychosocial control would predict higher adolescent potential for abuse, which would in turn predict high levels of adolescents' punitive discipline.

We controlled for several sociodemographic characteristics. Economic hardship was included as a control, given its link to more frequent use of corporal punishment (Simons, Lorenz, Wu, & Conger, 1993). We controlled for adolescent age based on research suggesting that younger mothers are at higher risk for harsh parenting (Berlin et al., 2002). Moreover, because cultural processes may shape the occurrence and meaning of psychological control, which has been proposed to be consistent with the traditional Mexican American values of respect and familism (Halgunseth, Ispa, & Rudy, 2006), we controlled for adolescents' nativity. We controlled for co-residence and primary caregiver based on work suggesting that children of adolescent mothers raised in three-generation households have fewer behavior problems (Leadbeater & Bishop, 1994). To account for possible child effects on the hypothesized relations, we controlled for child negativity at W4,

given previous work showing a positive association between temperamental negativity and harsh parenting (Clark, Kochanska, & Ready, 2000), and child negativity at W5 to account for prior work noting that child temperament introduces variability into the association between harsh discipline and child adjustment (e.g., Lengua, 2006). Finally, child gender was included as a control given prior work noting that boys may be at greater risk for harsh discipline than girls (Dodge, Pettit, Bates, Valente, 1995).

METHOD

Sample and Procedure

Data were from a longitudinal study focused on Mexican-origin adolescent mothers (Umaña-Taylor, Guimond, Updegraff, & Jahromi, 2013)). Adolescents were recruited from schools and community centers located in a metropolitan area in the southwestern United States. Adolescents who returned a contact card expressing interest in participating were contacted via phone and screened for eligibility. Of the 321 potential participants, 260 adolescent mothers were able to be contacted, met the eligibility requirements for this study (being 15 to 18-years of age, currently pregnant, unmarried, identifying as Mexican origin, and having a female family member (FFM) willing to participate in the study). Eighty percent ($n = 207$) of eligible participants agreed to participate, and 204 comprised the longitudinal sample. The initial interview (Wave 1; W1) involved 204 adolescent mothers and their children (58% boys). At W1, adolescents averaged 16.80 years of age ($SD = 1.00$) and most (62.25%) were born in the United States.

The current study used data from the last four waves of data collection. Adolescent participation in these four waves was as follows: 84.80% ($n = 173$) at W3, 83.82% ($n = 171$) at W4, 84.80% ($n = 173$) at W5, and 84.31% ($n = 172$) at W6. Seventy-three percent ($n = 149$) of children participated at W6. Children (89 boys, 60 girls) were on average of 60.48 months old ($SD = .42$) at W6. At W3, most adolescents (59.3%) resided with the FFM. Across the study the percentage dropped to 50.6% at W4, 43.9% at W5, and 36.3% at W6. Approximately, 13.2% of the adolescents resided with the FFM at all four waves. Data were collected through face-to-face in-home interviews by trained female interviewers. Interviews were conducted in participants' preferred language, and most (61.4%) adolescents participated in English at W1. At W6, children were observed during a cleanup compliance task that was videotaped for later coding. Mothers were instructed to interact with their child in their language of choice (i.e., English or Spanish). The study protocol was approved by the university's institutional review board. Parental consent and youth assent were obtained for participants who were younger than 18 years old, and informed consent was obtained for participants who were 18 years and older.

Measures

Maternal psychological control—At W3, perceived maternal psychological control was measured by the eight item Psychological Control Scale Youth Self-Report (PCS-YSR; Barber, 1996; Barber & Harmon, 2002). Adolescents were asked to think about their mother figures when responding to these questions. A majority of mother figures were the adolescents' biological mothers (88.2%) and for clarity we will refer to mother figures as

“grandmothers”. Item responses were measured using a 5-point Likert-type scale (1 = *almost never* to 5 = *almost always*). Items comprised multiple components of psychological control including personal attack (e.g., “Blame you for other family members’ problems?”), love withdrawal (e.g., “Less friendly with you if you do not see things her way?”), invalidating feelings (e.g., “Try to change how you feel/think about things?”) and verbally constraining behaviors (e.g., “Interrupts you, whenever you have something to say?”). A mean score was calculated across the eight items, and higher scores indicated greater psychological control. Cronbach’s alpha was .77.

Adolescent Potential for Child Abuse—At W4, adolescents’ risk for potential child abuse was measured using the Brief Child Abuse Potential Inventory (BCAP; Ondersma, Chaffin, Mullins, & LeBreton, 2005; 2006). The BCAP inventory abuse scale consists of 24 items (e.g., “I sometimes act without thinking”). Items on the abuse scale are scored on a dichotomous scale (1 = *agree* and 2 = *disagree*), and coded and summed such that higher values indicate greater abuse potential. In the current study, Kuder-Richardson 20 coefficient was .81.

Adolescent Punitive Discipline—At W5, three items from the Parental Responses to Child Misbehavior—Revised (Holden, Coleman, & Schmidt, 1995) were used to assess adolescents’ use of punitive responses in reaction to common child misbehaviors. Adolescents reported how frequently they used each response in an average week (e.g., “Slap hand”, “Spank”, and “Yell”). Item responses were measured using a 7-point scale (1 = *never* to 7 = *nine or more times/week*). Cronbach’s alpha in the current study was .77.

Child Externalizing Problems—The Externalizing Syndrome scale of the Child Behavior Checklist was used to measure externalizing problems at W6 when the child was 5 years old (CBCL; Achenbach, & Rescorla, 2000). The CBCL consists of 34 items (e.g., “Defiant, talks back”) assessing adolescent mothers’ reports of children’s externalizing problems. Responses were scored on a 3-point scale (0 = *not true* to 2 = *very true*); a sum score was calculated and higher scores indicated higher externalizing problems. The measure demonstrated high internal consistency with the current sample (Cronbach’s alpha = .92).

Child Compliance—At W6 children’s compliance was observed in a clean-up task, consistent with Kochanska et al.’s (1995) protocol. Following a free play session, mothers were asked to instruct their child to pick up all the toys and return them to a basket. The segment lasted 5 minutes or until all the toys were placed back in the basket, whichever occurred first. During 1-minute intervals, coders scored the predominant form of observed child compliance. For the current study, we used the proportion of time the child demonstrated committed compliance, defined as instances when the child eagerly picked up toys. Inter-rater reliabilities were calculated on 15% of the data, and the average Intraclass Correlation Coefficient (ICC) for committed compliance across 5 minutes was .92.

Control Variables—Control variables included adolescents’ age, nativity (i.e., country of origin; 0 = *Foreign born*, 1 = *U.S. born*), coresidence with FFM at W3 (0 = *Do not live together*, 1 = *Live together*), primary caregiver (1 = *grandmother primarily responsible* to 5 =

adolescent primarily responsible) and economic distress. Economic distress was assessed at W3 with the Economic Hardship measure (Barrera, Caples, Tein, 2001), which consists of 17 items (“Didn’t go to see the doctor when you needed to because you had to save money”) that address the extent to which the family experienced economic hardship over the past 3 months, measured on a 5-point Likert scale (1 = *almost never* to 5 = *almost always*). Control variables capturing child characteristics included child gender (1 = *Female*, 2 = *Male*) and children’s temperamental negativity, which was assessed at W4 and W5 using adolescents’ reports on the Negative Affect subscale of the Children’s Behavior Questionnaire –Very Short Form (CBQ; Putnam & Rothbart, 2006). The subscale is comprised of 12 items (e.g. “Gets quite frustrated when prevented from doing something s/he wants to do”) measured using a 7-point Likert scale (1 = *Extremely False* to 7 = *Extremely True*). Items were summed (α ’s = .69 at W4 and .67 at W5).

RESULTS

Analytic Plan

The hypothesized model was tested using Mplus v.7.3 (Muthén, & Muthén, 1998–2014). In preliminary analysis, we examined the effects of demographic variables (e.g., nativity) on the likelihood that families had missing data at each wave using multivariate logistic regression (Goodman & Blum, 1996). Results indicated that demographic variables were not associated with an increased likelihood of missing data, suggesting that the data are missing at random (MAR). Thus, full information maximum likelihood estimation (FIML) was used to account for missing data and maintain optimal sample size for analyses (Enders, 2010). FIML is an appropriate procedure for handling missing data because it yields unbiased parameter estimates that are generally superior to those obtained with other methods (Enders, 2010). Model fit was considered acceptable when RMSEA and SRMR < .08, and CFI > .90 (Hu & Bentler, 1999). Mediation was tested using the model indirect command in Mplus.

Relations between Grandmothers’ Psychological Control and Child Outcomes via Adolescent Mothers’ Potential for Abuse and Punitive Discipline

Descriptive statistics and zero-order correlations of the study variables are presented in Table 1. To address our first goal, we examined whether grandmothers’ psychological control at W3 predicted children’s externalizing problems and compliance at W6 via adolescents’ potential for abuse at W4 and punitive discipline at W5 (see Figure 1). This model showed good fit to the data: $\chi^2(27) = 29.90$, $p = .32$; CFI = .99; SRMR = .04; RMSEA = .02. Regarding the covariates in the model, child negativity at W4 was concurrently related to adolescents’ potential for abuse and significantly predicted child negativity at W5. Child negativity at W5 was marginally concurrently related to adolescents’ punitive discipline and marginally predicted children’s externalizing behavior at W6. Child gender significantly predicted adolescents’ potential for abuse at W4 and children’s externalizing behavior at W6. Further, economic hardship significantly predicted adolescents’ potential for abuse and coresidence marginally predicted potential for abuse. Primary caregiver negatively predicted children’s externalizing behavior.

Results revealed that there was a total effect (i.e., not adjusted for the effect of the mediators) of grandmothers' psychological control on children's developmental outcomes. Specifically, grandmothers' psychological control was significantly related to children's externalizing behavior ($b = .25$, $p = .001$) and children's compliance ($b = -.18$, $p = .030$). Additionally, as expected, adolescents' potential for abuse was positively associated with children's externalizing problems. However, contrary to expectations, adolescents' potential for abuse was not significantly related to children's compliance. Mediation of grandmothers' psychological control on children's externalizing via adolescents' potential for abuse was tested by examining the indirect effects. As hypothesized, the mediated effect of psychological control on children's externalizing problems via adolescents' potential for abuse was significant ($b = .06$, $p = .037$, 95% CI [.01, .11]; see Figure 1).

With respect to mediation of grandmothers' psychological control on children's developmental outcomes via adolescent punitive discipline, grandmothers' psychological control was not significantly related to adolescent's punitive discipline. However, in line with our hypothesis, adolescents' punitive discipline was positively related to children's externalizing behavior and negatively related to children's compliance (see Figure 1). Thus, punitive discipline was not a significant mediator of the relation between grandmothers' psychological control and children's externalizing behavior ($b = -.01$, $p = .604$, 95% CI [-.05, .03]) or between grandmothers' psychological control and children's compliance ($b = .01$, $p = .613$, 95% CI [-.02, .04]). However, punitive discipline contributed to the mediation of grandmothers' psychological control on children's externalizing problems via adolescents' potential for abuse. Specifically, the path from high potential for abuse to high punitive discipline mediated the effect of grandmothers' psychological control on children's externalizing ($b = .02$, $p = .042$, 95% CI [.01, .03]; see Figure 1). With all mediators in the model, the final direct effect of grandmothers' psychological control on children's externalizing was significant (see Figure 1), thus suggesting partial mediation. Finally, the final direct effect of grandmothers' psychological control on children's compliance was marginally significant (see Figure 1).

Potential for Abuse as a Mediator of Grandmothers' Psychological Control on Adolescent Punitive Discipline

As noted above, grandmothers' psychological control was not significantly related to adolescent's punitive discipline ($b = .04$, $p = .658$). However, as hypothesized, adolescent mothers' potential for abuse was positively related to their punitive discipline at W5 (see Figure 1). Further, potential for abuse significantly mediated the effect of grandmothers' psychological control on adolescents' punitive discipline ($b = .07$, $p = .016$, 95% CI [.01, .13]; see Figure 1). The adjusted effect of grandmothers' psychological control on adolescents' punitive discipline was not significant suggesting full mediation (see Figure 1).

DISCUSSION

The current study extends our knowledge of the multigenerational transmission of maladaptive parenting by examining long-term intergenerational processes in the families of Mexican-origin adolescent mothers. Overall, findings provide partial support for the

mediating role of adolescent mothers' potential for abuse and punitive discipline in the relation between adolescents' perceptions of grandmothers' psychological control and children's developmental outcomes. Specifically, adolescent mothers' potential for abuse and punitive discipline mediated the impact of their perceptions of grandmothers' psychological control on children's externalizing problems, but not children's compliance. In addition, it was through adolescent mothers' potential for abuse that grandmothers' psychological control impacted adolescent mothers' punitive disciplinary strategies with their own children. Our findings highlight the intergenerational consequences of maladaptive parenting strategies in one generation on the development of externalizing problems and compliance in the next generation and, importantly, identify potential targets for preventive interventions with adolescent mothers and their children.

Potential for Abuse and Punitive Discipline as Mediators in the Link between Grandmothers' Psychological Control and Children's Externalizing Problems

What are the intergenerational mechanisms through which parenting practices may lead to children's behavior problems? Our findings supported the notion that continuity in maladaptive parenting explains the association between grandmothers' psychological control and children's externalizing problems. Put differently, when adolescents perceived their mothers as psychologically controlling, adolescents had higher potential for abuse, which in turn related to their children's higher externalizing problems, suggesting that across 4 years, negative parenting practices in one generation promoted maladaptive outcomes in the next generation.

The negative impact of grandmothers' psychological control is not only in line with a growing body of literature demonstrating that maladaptive parenting is transmitted across generations (Capaldi et al, 2003; Neppl et al., 2009; Thornberry et al., 2003), but also importantly supports the notion that different forms of maladaptive parenting can be transmitted across generations (Berzenski, Yates, & Egeland, 2014). Thus, such a process may involve more than simply learning a particular parenting behavior and repeating the behavior. Indeed, as Cicchetti and Toth (1995) have proposed, the mechanism underlying the association between mothers' experiences of maltreatment and children's experiences of maltreatment may be dysfunctional representations of parent-child relationships. For adolescent mothers, who may be ill-prepared and misinformed as they develop their identity as mothers of young children, the consequences of experiencing an unhealthy relationship with their own mother may be particularly salient to their own risk of becoming a maltreating parent. Through attention to the ways in which aversive aspects of internal representational models guide parenting behavior, clinicians may assist young mothers in resolving negative parenting experiences, thereby reducing the likelihood that these mothers will engage in maltreatment.

Our findings also point to the potential that, for adolescent mothers, having a history of psychological control experiences may evoke negative responses that are carried out into their relationship with their own child. Thus, in line with evidence from normative samples indicating that experiences of psychological control have been associated with aggressive behaviors (Barber, Olsen, & Shagle, 1994; Hart, Nelson, Robinson, Olsen, & McNeilly-

Choque, 1998), lower well-being (Conger et al., 1997), and depression (Barber & Olsen, 1997), our finding suggests that the experience of psychological control among adolescent mothers may promote behaviors and traits that are proximal indices of later potential for abuse. Indeed, the CAPI items reflect many of the outcomes that characterized experiences with psychological control including feelings of depression (i.e., "I often feel very upset") and feelings of low self-worth ("I often feel worthless"). Finally, experiences with psychological control, in particular, may have contributed to adolescent mothers' endorsement of control as an important parenting practice, as reflected in a number of CAPI items (e.g., "Children should never disobey"). In summary, there are various theoretical explanations for our finding that grandmothers' psychological control predicted adolescents' abuse potential. An important next direction for this line of research will be to examine possible mediators (i.e., depression, self-worth, parenting identity resolution) of the relation between experiences of psychological control and potential for abuse in this and other high risk samples. In addition, our finding highlights the importance of examining specific types of maladaptive parenting experiences and future work should examine how specific types of childhood maltreatment experiences (e.g., physical abuse, sexual abuse, psychological maltreatment, and neglect) add to the prediction of maternal potential for abuse.

Interestingly, grandmothers' psychological control did not directly relate to adolescent mothers' use of punitive disciplinary strategies, nor did punitive disciplinary strategies mediate the association between grandmothers' psychological control and children's developmental outcomes when controlling for adolescents' potential for abuse. Instead, our findings suggest that grandmothers' psychological control exerts its influence on adolescent disciplinary practices *through* adolescents' increased risk for abuse. Furthermore, our findings are consistent with previous work showing that potential for abuse promotes the likelihood of engaging in punitive disciplinary practices (Bennett et al., 2006; Kelley et al., 1990). This finding has implications for parenting interventions designed to reduce maladaptive parenting practices, and suggests that the target of such interventions should be the underlying risk factors (e.g., aggression, depression, parenting beliefs centered around control, and low self-worth) that may increase parents' likelihood of using punitive disciplinary strategies with their children. Research has shown that a number of intervention and prevention programs lead to a reduction in potential for abuse scores (e.g., Begle & Dumas, 2011; Harnett & Dawe, 2008). For instance, Begle and Dumas' (2011) study of a behaviorally oriented intervention program found that high-risk families who regularly attended sessions had lower CAPI scores a year later and fewer child behavior problems. In addition, results from a randomized control trial showed that the "Parents Under Pressure" program (Harnett & Dawe, 2008), a case management model which focuses on factors related to maltreatment (e.g., parental depression and anxiety, family conflict, and financial stress), led to a clinically significant reduction in CAPI scores for a third of the families. These results suggest that optimal interventions for parents at risk for abuse and subsequent increases in punitive discipline may be those focused on the parent-child relationship as well as factors that impact family functioning.

Finally, it is important to note that the relationship between grandmothers' psychological control and children's externalizing behaviors was significant even when controlling for the effect of adolescents' potential for abuse and punitive discipline. Given that the link between

grandmothers' psychological control and children's externalizing behaviors is mediated partially, but not completely, by adolescents' potential for abuse and punitive discipline, it is important to examine other mechanisms by which grandmothers' psychological control, as perceived by adolescent mothers, influences children's externalizing problems. Children of Mexican-origin adolescent mothers are more likely to live in multigenerational households (U.S. Census Bureau, 2012) and to have grandmothers who coparent with them (Williams & Torrez, 1998). Thus, within these families, grandmothers who are psychologically controlling their adolescent daughters may also be psychologically controlling their grandchildren, thereby directly contributing to the child's externalizing problems. Although we controlled for coresidence of the adolescent and grandmothers, and for primary caregiver, future work should examine associations between grandmothers' maladaptive parenting strategies with the young child and children's subsequent outcomes. It is also interesting that in families in which adolescents (versus grandmothers) took on the greater primary caregiver role, children had fewer externalizing behaviors. This finding may reflect the fact that grandmothers stepped in as primary caregiver for the most underprepared adolescents, whose children may have been at relatively greater risk for poorer outcomes. Further work exploring the unique role of grandmothers explaining children's outcomes is warranted.

The Influence of Potential for Abuse and Punitive Discipline on Children's Outcomes

Our findings provide support for the social learning (Bandura, 1977) notion that maladaptive parenting may contribute to children's externalizing behaviors through the modeling of aggressive behavior within the mother-child dyad (Patterson et al., 1992). Specifically, our findings suggest that children were more likely to exhibit externalizing problems when their adolescent mothers used punitive discipline and had higher potential for abuse, which supports previous findings of a link between punitive discipline and abuse with externalizing behaviors across development (Cicchetti & Manly, 2001; Gershoff, 2002; Lansford et al., 2002). When mothers engage in maladaptive parenting practices, they may promote children's externalizing behaviors by indirectly teaching children that hostile behaviors are appropriate, thereby increasing the child's likelihood of endorsing and engaging in these behaviors.

Another goal of the current study was to examine whether punitive discipline and potential for abuse were related to children's compliance. Based on prior work (Crockenberg & Litman, 1990; Kochanska, & Knaack, 2003; Koenig et al., 2000), we expected children would be less compliant when their mothers used punitive discipline and had higher potential for abuse; the results only partially supported our hypothesis. With respect to the relation between punitive discipline and child compliance, findings suggest that children are less likely to be compliant when their adolescent mothers use punitive discipline. Previous research has demonstrated that power assertive parenting is related to lower levels of committed compliance (Crockenberg, & Litman, 1990; Kochanska, & Knaack, 2003). Moreover, this finding is in accordance with the notion that children who experience harsh parenting may feel resentment toward the parent and, in turn, reject parental messages and demands (Hoffman, 1983). Regarding the lack of a direct relation between adolescent potential for abuse and child compliance, this finding was surprising given that prior

research has found that maltreated children exhibit less committed compliance during a clean-up task than non-maltreated children (Koenig et al., 2000). It is possible that potential for abuse is most salient in the early stages of children's development, particularly when children's compliance is rapidly developing. Together, our findings highlight the importance of maladaptive parenting strategies as a potential target in interventions aimed at reducing childhood externalizing problems and noncompliance, and suggest that in the case of families of adolescent mothers, there is a particular need for such interventions to consider the significant role of grandmothers and target the triad and multigenerational effects.

Strengths, Limitations, and Future Directions

A major strength of the current study is its contribution to the limited work on the continuity of maladaptive parenting practices on children's outcomes in a three-generation sample (for exceptions, see Bailey et al., 2009; Hops et al., 2003), and the first to our knowledge to examine these processes in adolescent mothers. This study was also unique in its reliance on a rigorous four-wave longitudinal design beginning in toddlerhood, as previous intergenerational work has focused on parenting behaviors with older children. We also examined different indices of maladaptive parenting (psychological and physical) in different generations, identified a mediator of this process, and used both observed and parent report measures of child outcomes. Finally, our study controlled for salient socio-demographic factors, providing further evidence that transmission of maladaptive parenting is not entirely a function of a family's social context.

Despite these strengths, there are some limitations to consider. First, because the sample was composed of Mexican-origin families of adolescent mothers, findings should be replicated in samples representing other ethnic populations and/or adult mothers. Although it is important to examine these processes in Mexican-origin families, factors such as their greater likelihood to live in multigenerational households (U.S. Census Bureau, 2012) make this sample unique. For instance, the adolescent mothers in our study were simultaneously parenting their own children while, to some extent, being parented by their mother figures. Future work should assess whether different factors and mechanisms operate when the effects occur over longer periods of time, and include, for example, abusive fathers and adult mothers.

Another limitation was our reliance on adolescent reports of maladaptive parenting, which may have reduced measurement validity by increasing shared method bias. Moreover, as ours was a study of adolescent mothers' perceptions of maladaptive parenting experiences and practices, future work should use others' reports or observations. Finally, because our measure of punitive discipline had relatively few items, it may have limited our ability to obtain a full range of disciplinary strategies, which may have contributed to the lack of association between grandmothers' psychological control and adolescents' punitive discipline. Future work could incorporate children reports to avoid the social desirability bias of self-reports.

Conclusion

This is the first study, to our knowledge, to examine the impact of long-term intergenerational transmission of maladaptive parenting on children's externalizing behaviors and compliance in families of Mexican-origin adolescent mothers. We found that grandmothers' psychological control of the adolescent contributed to children's externalizing problems via adolescents' potential for abuse and punitive discipline. Interventions that target early punitive discipline, that address parenting characteristics associated with risk of abuse (e.g., stress, depression, family conflict), and that target triadic relationships (i.e., child, mother, and coparenting grandmothers) might be important for reducing children's risk for externalizing problems among families of adolescent mothers.

Acknowledgements

We thank the families who participated in this study, and the undergraduate research assistants, the graduate research assistants, and staff of the Supporting MAMI project for their contributions to the larger study. **Funding:** This research was supported by grants from the National Institute of Child Health and Human Development (R01HD061376; PI: Umaña-Taylor), the Department of Health and Human Services (APRPA006001; PI: Umaña-Taylor), and the Cowden Fund to the School of Social and Family Dynamics at Arizona State University.

References

- Achenbach TM, Edelbrock CS. Behavioral problems and competencies reported by parents of normal and disturbed children aged four through sixteen [Monograph]. Monographs of the Society for Research in Child Development. 1981; 46:1–82. [PubMed: 7242540]
- Achenbach, TM.; Rescorla, LA. Manual for the ASEBA preschool forms & profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families; 2000.
- Aksan N, Kochanska G. Conscience in childhood: Old questions, new answers. *Developmental Psychology*. 2005; 41:506–516. [PubMed: 15910158]
- Arnett JJ. Emerging adulthood: What is it, and what is it good for? *Child development perspectives*. 2007; 1:68–73.
- Azar, ST. Parenting and child maltreatment. In: Bornstein, MH., editor. *Handbook of parenting: Social conditions and applied parenting*. Mahwah, NJ: Erlbaum; 2002. p. 361-388.
- Bailey JA, Hill KG, Oesterle S, Hawkins JD. Parenting practices and problem behavior across three generations: Monitoring, harsh discipline, and drug use in the intergenerational transmission of externalizing behavior. *Developmental Psychology*. 2009; 45:1214–1226.
- Bandura A. Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*. 1977; 84:191–215. [PubMed: 847061]
- Barber BK. Parental psychological control: Revisiting a neglected construct. *Child Development*. 1996; 67:3296–3319. [PubMed: 9071782]
- Barber, BK.; Harmon, EL. Violating the self: Parental psychological control of children and adolescents. In: Barber, BK., editor. *Intrusive parenting: How psychological control affects children and adolescents*. Washington, DC: APA; 2002. p. 15-22.
- Barber BK, Olsen JA. Socialization in context connection, regulation, and autonomy in the family, school, and neighborhood, and with peers. *Journal of Adolescent Research*. 1997; 12:287–315.
- Barber BK, Olsen JE, Shagle SC. Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development*. 1994; 65:1120–1136. [PubMed: 7956469]
- Barrera M, Caples H, Tein JY. The psychological sense of economic hardship: Measurement models, validity, and cross-ethnic equivalence for urban families. *American Journal of Community Psychology*. 2001; 29:493–517. [PubMed: 11469118]
- Baumrind D. Differentiating between confrontive and coercive kinds of parental power-assertive disciplinary practices. *Human Development*. 2012; 55:35–51.

- Baumrind D, Larzelere RE, Owens EB. Effects of preschool parents' power assertive patterns and practices on adolescent development. *Parenting: Science and Practice*. 2010; 10:157–201.
- Begle AM, Dumas JE. Child and parental outcomes following involvement in a preventive intervention: Efficacy of the PACE program. *The Journal of Primary Prevention*. 2011; 32:67–81. [PubMed: 21170589]
- Belsky J. The determinants of parenting: A process model. *Child Development*. 1984; 55:83–96. [PubMed: 6705636]
- Belsky J, Woodworth S, Crnic K. Trouble in the second year: Three questions about family interaction. *Child Development*. 1996; 67:556–578. [PubMed: 8625728]
- Belsky J, Youngblade L, Pensky E. Childrearing history, marital quality, and maternal affect: Intergenerational transmission in a low-risk sample. *Development and Psychopathology*. 1989:291–304.
- Bennett DS, Sullivan MW, Lewis M. Relations of parental report and observation of parenting to maltreatment history. *Child Maltreatment*. 2006; 11:63–75. [PubMed: 16382092]
- Berlin LJ, Brady-Smith C, Brooks-Gunn J. Links between childbearing age and observed maternal behaviors with 14-month-olds in the Early Head Start Research and Evaluation Project. *Infant Mental Health Journal*. 2002; 23:104–129.
- Berzenski, SR.; Yates, TM.; Egeland, B. A multidimensional view of continuity in intergenerational transmission of child maltreatment. In: Korbin, J.; Krugman, R., editors. *Handbook of child maltreatment*. Netherlands: Springer; 2014. p. 115-129.
- Braungart-Rieker J, Garwood MM, Stifter CA. Compliance and noncompliance: The roles of maternal control and child temperament. *Journal of Applied Developmental Psychology*. 1997; 18:411–428.
- Campbell SB. Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*. 1995; 36:113–149. [PubMed: 7714027]
- Campbell SB, Pierce EW, Moore G, Marakovitz S, Newby K. Boys' externalizing problems at elementary school age: Pathways from early behavior problems, maternal control, and family stress. *Development and Psychopathology*. 1996; 8:701–719. Campbell SB, Shaw DS, Gilliom M. Early externalizing behavior problems: Toddlers and preschoolers at risk for later maladjustment. *Development and Psychopathology*. 2000; 12:467–488. [PubMed: 11014748]
- Capaldi DM, Pears KC, Patterson GR, Owen LD. Continuity of parenting practices across generations in an at-risk sample: A prospective comparison of direct and mediated associations. *Journal of Abnormal Child Psychology*. 2003; 31:127–142. [PubMed: 12735396]
- Caselles CE, Milner JS. Evaluations of child transgressions, disciplinary choices, and expected child compliance in a no-cry and a crying infant condition in physically abusive and comparison mothers. *Child Abuse & Neglect*. 2000; 24:477–491. [PubMed: 10798838]
- Chaffin M, Valle LA. Dynamic prediction characteristics of the Child Abuse Potential Inventory. *Child Abuse and Neglect*. 2003; 27:463–481. [PubMed: 12718957]
- Chilamkurti C, Milner JS. Perceptions and evaluations of child transgressions and disciplinary techniques in high-and low-risk mothers and their children. *Child Development*. 1993; 64:1801–1814. [PubMed: 8112120]
- Cicchetti D, Manly JT. Operationalizing child maltreatment: Developmental processes and outcomes [Special issue]. *Development and Psychopathology*. 2001; 13:755–757. [PubMed: 11771906]
- Cicchetti D, Toth SL. A developmental psychopathology perspective on child abuse and neglect. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1995; 34:541–565. [PubMed: 7775351]
- Clark LA, Kochanska G, Ready R. Mothers' personality and its interaction with child temperament as predictors of parenting behavior. *Journal of Personality and Social Psychology*. 2000; 79:274–285. [PubMed: 10948980]
- Conger KJ, Conger RD, Scaramella LV. Parents, siblings, psychological control, and adolescent adjustment. *Journal of Adolescent Research*. 1997; 12:113–138.
- Coohey C, Braun N. Toward an integrated framework for understanding child physical abuse. *Child Abuse & Neglect*. 1997; 21:1081–1094. [PubMed: 9422828]
- Crick NR, Dodge KA. A review and reformulation of social information processing mechanisms in children's social adjustment. *Psychological Bulletin*. 1994; 115:74–101.

- Crockenberg S. Predictors and correlates of anger toward and punitive control of toddlers by adolescent mothers. *Child Development*. 1987; 58:964–975. [PubMed: 3608666]
- Crockenberg S, Litman C. Autonomy as competence in 2-year-olds: Maternal correlates of child defiance, compliance, and self-assertion. *Developmental Psychology*. 1990; 26:961–971.
- Crouch JL, Milner JS, Thomsen C. Childhood physical abuse, early social support, and risk for maltreatment: Current social support as a mediator of risk for child physical abuse. *Child Abuse and Neglect*. 2001; 25:93–107. [PubMed: 11214816]
- de Paúl J, Domenech L. Childhood history of abuse and child abuse potential in adolescent mothers: A longitudinal study. *Child Abuse & Neglect*. 2000; 24:701–713. [PubMed: 10819101]
- Deater-Deckard K, Dodge KA. Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*. 1997; 8:161–175.
- Dodge KA, Pettit GS, Bates JE, Valente E. Social information-processing patterns partially mediate the effect of early physical abuse on later conduct problems. *Journal of Abnormal Psychology*. 1995; 104:632–643. [PubMed: 8530766]
- Enders, CK. *Applied missing data*. New York, NY: The Guilford Press; 2010.
- Gershoff ET. Parental corporal punishment and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*. 2002; 128:539–579. [PubMed: 12081081]
- Goodman JS, Blum TC. Assessing the non-random sampling effects of subject attrition in longitudinal research. *Journal of Management*. 1996; 22:627–652.
- Halgunsest LC, Ispa JM, Rudy D. Parental control in Latino families: An integrated review of the literature. *Child Development*. 2006; 77:1282–1297. [PubMed: 16999798]
- Harnett PH, Dawe S. Reducing child abuse potential in families identified by social services: Implications for assessment and treatment. *Brief Treatment and Crisis Intervention*. 2008; 8:226–235.
- Hart CH, Nelson DA, Robinson CC, Olsen SF, McNeilly-Choque M. Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. *Developmental Psychology*. 1998; 34:687–697. [PubMed: 9681260]
- Hoffman, ML. Affective and cognitive processes in moral internalization. In: Higgins, ET.; Ruble, D.; Hartup, W., editors. *Social cognition and social development: A sociocultural perspective*. Cambridge, England: Cambridge University Press; 1983. p. 236–274.
- Hoffman, SD. Updated estimates of the consequences of teen childbearing for mothers. In: Hoffman, SD.; Maynard, RA., editors. *Kids having kids: Economic costs and social consequences of teen pregnancy*. Washington, DC: The Urban Institute Press; 2008. p. 74–119.
- Holden GW, Coleman SD, Schmidt KL. Why 3-year-old children get spanked: Parent and child determinants in a sample of college-educated mothers. *Merrill-Palmer Quarterly*. 1995; 41:431–452.
- Hops H, Davis B, Leve C, Sheeber L. Cross-generational transmission of aggressive parent behavior: A prospective, mediational examination. *Journal of Abnormal Child Psychology*. 2003; 31:161–169. [PubMed: 12735398]
- Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*. 1999; 6:1–55.
- Jaffee S, Caspi A, Moffitt TE, Belsky JAY, Silva P. Why are children born to teen mothers at risk for adverse outcomes in young adulthood? Results from a 20-year longitudinal study. *Development and Psychopathology*. 2001; 13:377–397. [PubMed: 11393652]
- Kelley ML, Grace N, Elliott SN. Acceptability of positive and punitive discipline methods: Comparisons among abusive, potentially abusive, and nonabusive parents. *Child Abuse and Neglect*. 1990; 14:219–226. [PubMed: 2340429]
- Kochanska G. Children's temperament, mothers' discipline, and security of attachment: Multiple pathways to emerging internalization. *Child development*. 1995; 66:597–615.
- Kochanska G. Committed compliance, moral self, and internalization: A mediational model. *Developmental Psychology*. 2002; 38:339–351. [PubMed: 12005378]
- Kochanska G, Aksan N, Joy ME. Children's fearfulness as a moderator of parenting in early socialization: Two longitudinal studies. *Developmental Psychology*. 2007; 43:222–237. [PubMed: 17201521]

- Kochanska G, Aksan N, Koenig AL. A longitudinal study of the roots of preschoolers' conscience: Committed compliance and emerging internalization. *Child Development*. 1995; 66:1752–1769. [PubMed: 8556897]
- Kochanska G, Knaack A. Effortful control as a personality characteristic of young children: Antecedents, correlates, and consequences. *Journal of Personality*. 2003; 71:1087–1112. [PubMed: 14633059]
- Koenig AL, Cicchetti D, Rogosch FA. Child compliance/noncompliance and maternal contributors to internalization in maltreating and nonmaltreating dyads. *Child Development*. 2000; 71:1018–1032. [PubMed: 11016563]
- Lansford JE, Dodge KA, Pettit GS, Bates JE, Crozier J, Kaplow J. Long-term effects of early child physical maltreatment on psychological, behavioral, and academic problems in adolescence: A 12-year prospective study. *Archives of Pediatrics and Adolescent Medicine*. 2002; 156:824–830. [PubMed: 12144375]
- Leadbeater BJ, Bishop SJ. Predictors of behavior problems in preschool children of inner-city Afro-American and Puerto Rican adolescent mothers. *Child Development*. 1994; 65:638–648. [PubMed: 8013244]
- Lengua LJ. Growth in temperament and parenting as predictors of adjustment during children's transition to adolescence. *Developmental psychology*. 2006; 42:819–832. [PubMed: 16953689]
- Loeber R, Stouthamer-Loeber M. Family factors as correlates and predictors of juvenile conduct problems and delinquency. *Crime and Justice*. 1986; 7:29–149.
- Loukas A, Paulos SK, Robinson S. Early adolescent social and overt aggression: Examining the roles of social anxiety and maternal psychological control. *Journal of Youth and Adolescence*. 2005; 34:335–345.
- May-Chahal C, Cawson P. Measuring child maltreatment in the United Kingdom: A study of the prevalence of child abuse and neglect. *Child abuse & neglect*. 2005; 29:969–984. [PubMed: 16165212]
- Milner JS. Assessing physical child abuse risk: The Child Abuse Potential Inventory. *Clinical Psychology Review*. 1994; 14:547–583.
- Milner JS. Social information processing in high-risk and physically abusive parents. *Child Abuse and Neglect*. 2003; 27:7–20. [PubMed: 12510028]
- Milner JS, Gold RG, Ayoub C, Jacewitz MM. Predictive validity of the Child Abuse Potential Inventory. *Journal of Consulting and Clinical Psychology*. 1984; 52:879–884. [PubMed: 6501673]
- Milner JS, Gold RG, Wimberley RC. Prediction and explanation of child abuse: Cross validation of the Child Abuse Potential Inventory. *Journal of Consulting and Clinical Psychology*. 1986; 54:865–866. [PubMed: 3794036]
- Milner JS, Robertson KR, Rogers DL. Childhood history of abuse and adult child abuse potential. *Journal of Family Violence*. 1990; 5:15–34.
- Montes MP, de Paül J, Milner JS. Evaluations, attributions, affect, and disciplinary choices in mothers at high and low risk for child physical abuse. *Child Abuse and Neglect*. 2001; 25:1015–1036. [PubMed: 11601595]
- Muthén, LK.; Muthén, BO. *Mplus user's guide*. 7th ed. Los Angeles, CA: Muthén & Muthén; 1998–2014.
- National Vital Statistics Report. Estimated pregnancy rates and rates of pregnancy outcomes for the United States 1990–2008. 2012 Retrieved November 9, 2014 from the Centers for Disease Control and Prevention, National Center for Health Statistics.
- Neppel TK, Conger RD, Scaramella LV, Ontai LL. Intergenerational continuity in parenting behavior: Mediating pathways and child effects. *Developmental Psychology*. 2009; 45:1241–1256. [PubMed: 19702389]
- Onersma SJ, Chaffin MJ, Mullins SM, LeBreton JM. A brief form of the Child Abuse Potential Inventory: Development and validation. *Journal of Clinical Child and Adolescent Psychology*. 2005; 34:301–311. [PubMed: 15901230]
- Onersma SJ, Chaffin MJ, Mullins SM, LeBreton JM. Erratum: A brief form of the Child Abuse Potential Inventory: Development and validation. *Journal of Clinical Child and Adolescent Psychology*. 2006; 35:598.

- Patterson, GR.; Reid, JB.; Dishion, TJ. Antisocial boys: A social interactional approach. Vol. 4. Eugene, OR: Castalia; 1992.
- Pettit GS, Laird RD, Dodge KA, Bates JE, Criss MM. Antecedents and behavior- problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development*. 2001; 72:583–598. [PubMed: 11333086]
- Putnam SB, Rothbart MK. Development of short and very short forms of the Children's Behavior Questionnaire. *Journal of Personality Assessment*. 2006; 87:103–113.
- Scaramella LV, Conger RD. Intergenerational continuity of hostile parenting and its consequences: The moderating influence of children's negative emotional reactivity. *Social Development*. 2003; 12:420–439.
- Shaw DS, Gilliom M, Ingoldsby EM, Nagin DS. Trajectories leading to school-age conduct problems. *Developmental Psychology*. 2003; 39:189–200. [PubMed: 12661881]
- Simons RL, Lorenz FO, Wu CI, Conger RD. Social network and marital support as mediators and moderators of the impact of stress and depression on parental behavior. *Developmental Psychology*. 1993; 29:368–381.
- Thornberry TP, Freeman-Gallant A, Lizotte AJ, Krohn MD, Smith CA. Linked lives: The intergenerational transmission of antisocial behavior. *Journal of Abnormal Child Psychology*. 2003; 31:171–184. [PubMed: 12735399]
- Trickett PK, Kuczynski L. Children's misbehaviors and parental discipline strategies in abusive and nonabusive families. *Developmental Psychology*. 1986; 22:115–123.
- Umaña-Taylor AJ, Guimond AB, Updegraff KA, Jahromi L. A longitudinal examination of support, self-esteem, and Mexican-origin adolescent mothers' parenting efficacy. *Journal of Marriage and Family*. 2013; 75:746–775.
- Urquiza AJ, Timmer SG. Patterns of interaction within violent families use of social interaction research methodology. *Journal of Interpersonal Violence*. 2002; 17:824–835.
- U.S. Census Bureau. Hispanic Heritage Month 2012. U.S. Census Bureau News. 2012. Retrieved from http://www.census.gov/newsroom/releases/archives/facts_for_features_special_editions/cb12-ff19.html.
- Wang Z, Deater-Deckard K, Bell MA. Household chaos moderates the link between maternal attribution bias and parenting. *Parenting*. 2013; 13:233–252.
- Williams, N.; Torrez, D. Grandparenthood among Hispanics. In: Szinovacz, M., editor. *Handbook on Grandparenthood*. Westport, CT: Greenwood Press; 1998. p. 87-96.
- Williamson JM, Borduin CM, Howe BA. The ecology of adolescent maltreatment: A multilevel examination of adolescent physical abuse, sexual abuse, and neglect. *Journal of Consulting and Clinical Psychology*. 1991; 59:449–457. [PubMed: 2071730]
- Wolfe DA, McIsaac C. Distinguishing between poor/dysfunctional parenting and child emotional maltreatment. *Child Abuse & Neglect*. 2011; 35:802–813. [PubMed: 22015202]

Figure 1.

Direct effects in the mediation of grandmothers' psychological control on children's developmental outcomes via adolescent potential for abuse and punitive discipline. Control variables presented in grey boxes. Grey lines indicate non-significant controls, dashed lines indicate non-significant paths, solid lines indicate significant paths, and bolded paths indicate significant mediation. Standardized path estimates are displayed. W3 = Wave 3; W4 = Wave 4; W5 = Wave 5; W6 = Wave 6

* $p < .05$, ** $p < .01$, *** $p < .001$, † $p < .07$

Table 1

Descriptive Statistics and Correlations among Study Variables (N = 204)

	1	2	3	4	5	6	7	8	9	10	11	12	13	M(SD)
1. Adolescent Nativity ^a	—	.07	-.20**	.03	.02	.09	.08	.03	.10	-.04	.11	-.17	-.05	~
2. Adolescent Age W3		—	-.05	-.11	.06	-.05	-.11	-.05	-.04	.06	.08	-.02	-.08	18.93(1.00)
3. Adolescent Economic Hardship W3			—	.13	-.06	-.14	.12	.39***	.03	.07	.07	-.07	.19*	-.001(2.36)
4. Coresidence ^b W3				—	-.34***	.02	-.07	.14	-.11	-.12	-.14	.03	-.02	~
5. Primary Caregiver W3					—	-.02	.05	-.07	.02	.04	-.11	-.07	-.18*	4.20(.73)
6. Child Gender ^c						—	.02	.13	-.02	.01	-.13	-.13	.14	~
7. Grandmother Psychological Control W3							—	.35***	.03	.07	.12	-.22*	.28**	2.26(0.76)
8. Adolescent Potential for Abuse W4								—	.20**	.23**	.16*	-.17*	.39***	6.27(4.68)
9. Child Negativity W4									—	.17*	.62***	-.01	.15	4.20(0.79)
10. Adolescent Punitive Discipline W5										—	.23**	-.19*	.34***	1.67 (0.75)
11. Child Negativity W5											—	-.11	.24**	4.37(0.76)
12. Child Compliance W6												—	-.30**	.26(.34)
13. Child Externalizing Problems W6													—	11.07(8.50)

Note. Means, standard deviations, and correlations were computed in MPLUS accounting for missing data using full information maximum likelihood. W3 = Wave 3; W4 = Wave 4; W5 = Wave 5; W6 = Wave 6;

^a0 = Foreign born, 1 = U.S. born.

^b0 = do not live together 1 = live together.

^c1 = Female, 2 = Male.

* $p < .05$