Published in final edited form as:
Child Dev. 2010 March ; 81(2): 503–516. doi:10.1111/j.1467-8624.2009.01410.x.

Coercive and Prosocial Fathering, Antisocial Personality, and Growth in Children's Post-Divorce Noncompliance

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Abstract

The study employed multiple methods including direct observation of fathering behaviors and child noncompliance to better address our understanding of the quantity and quality of divorced father contact. A weighted county sample of 230 divorced-father families with a focal child aged 4 to 11 years was employed to test whether fathers' antisocial personality (ASP) moderated effects of monthly contact with children in predicting children's observed noncompliance over 18 months. Latent growth models obtained significant individual differences in levels of noncompliance and growth rates. ASP significantly moderated the beneficial impact of fathers' monthly contact. Fathers' observed parenting practices significantly predicted levels but not growth rates. Parenting did not account for the effect of Contact × ASP suggesting both environmental and potentially genetic influences on child adjustment. Findings were robust across boys and girls and age levels. Implications for preventive intervention are discussed.

Recent representative findings are showing that fathers' involvement is beneficial for children following divorce; however, this influence is not beneficial if father contact is influenced or moderated by fathers' antisocial behaviors or antisocial personality (Coley & Medeiros, 2007; Jaffee & colleagues, 2003; King & Sobolewski, 2006). The existing research testing these effects has focused mainly on adolescents and little research has been done focusing on father's actual parenting behaviors in addition to fathers' amount of contact. The present study tests whether fathers' monthly contact following divorce is moderated by antisociality for younger children and whether parenting practices account for this relationship. Multiple methods were used including direct observation of fathering behaviors and child noncompliance to better address our understanding of the quantity and quality of divorced father contact.

Father Involvement and Child Adjustment following Divorce

A generative fathering perspective focuses on a positive growth-promoting model seeking to transcend the deficit model of men in families (Brotherson, Dollahite, & Hawkins, 2005; Hawkins & Dollahite, 1997). This perspective is particularly relevant for divorced fathers (Pasley & Minton, 1997) given that for some, the role of father may increase in importance and fathers may become more involved with their children; while for others, factors such as increased role strains, ambiguities over parenting, conflict with the former spouse, and lack of institutional and personal supports can contribute to decreases in father contact and post-divorce parenting (Braver, Wolchick, Sandler, Sheets, Fogas, & Bay, 1993; Stephens, 1996).

Contributing to the pervasive dichotomy of the good-father bad-father is research on fathers' influence on children following divorce or separation. Studies on resident and nonresident

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fathers (divorced and never married), have produced mixed findings showing that fathers' involvement can contribute both positively and negatively to child development. A generative perspective is supported from studies showing that quality father involvement of non-resident fathers has beneficial impacts children's adjustment (Simons, Whitbeck, Beaman, & Conger, 1994). For example, in a meta-analysis of younger and older children, Amato and Gilbreth (1999) found that nonresidential father involvement and authoritative parenting (e.g., instructive, noncoercive parenting) were associated with higher levels of children's academic success and lower levels of internalizing and externalizing. More recently, King and Sobolewski (2006) found that father involvement and father-child relationship quality in the National Survey of Households and Families (NHSF) predicted lower levels of internalizing problems for adolescents with high father involvement compared to adolescents with low-involved fathers. Similarly, data from the Three-City representative study of low-income fathers also found that greater nonresident father involvement predicted subsequent decreases in adolescent delinquency, particularly for high-delinquent adolescents (Coley & Medeiros, 2007). Similar results were found for father involvement in the UK for families at risk for children's conduct problems (Dunn, Cheng, O'Connor, & Bridges, 2004).

In contrast, father involvement can have a detrimental impact on children's well-being. Key findings from an epidemiological twin study found that the negative impact of fathers' contact and parenting on children's problem behaviors was conditioned by fathers' own antisocial behaviors. Jaffee and colleagues (2003) found that the more time children lived with fathers, the fewer conduct problems children had; however, this finding was moderated by antisocial behaviors of fathers measured from interview data of lifetime prevalence of antisocial behaviors (e.g., stealing, fighting, antisocial beliefs). Jaffe et al. (2003) report a “double whammy” of genes and environments for antisocial fathers influencing child behaviors. They found that antisocial behaviors are highly heritable, at the same time, however, effects of father antisocial on children's behavior problems remained significant controlling for (a) any genetic influence of the father, (b) influence of resident nonbiological father figures, and (c) influence of maternal antisocial characteristics, thus suggesting the importance of parenting. Also supporting an environmental effect, Simons et al. (1994) found main effects showing that nonresident divorced fathers' positive reinforcement and noncoercive discipline were associated with lower levels of adolescent conduct problems. Fathering effects were also independent of the mothers' parenting and co-custody conflict in the sample of coparenting couples. These findings showing the impact of antisocial fathers and coercive discipline are consistent with the coercion model of family process (Patterson, 1982).

Together these studies suggest that the impact of nonresident father involvement is beneficial on children's problem behaviors in the absence of fathers' antisocial behaviors or in the absence of coercive parenting practices. With the exception of the Simons et al. (1994) study, very little research has been done on divorced fathers' actual fathering behaviors or parenting practices. Until recent federal fatherhood initiatives, the majority of prior studies has relied on single sources of data or mother reports of father involvement (Parke et al., 2004); chiefly, the frequency or amount of contact and child support (Dunn et al., 2004; Pasley & Braver, 2004). Furthermore, studies on divorced fathers' parenting are still relatively small in number compared to studies of fathers in general. Research has also focused mainly on the period of adolescence. The present study attempts to add to our understanding of fathering impacts on child development by operationalizing father contact as a continuum and father's effective parenting as a continuum to test generative and coercion model perspectives in a sample of recently divorced fathers and their young pre- and elementary-school-aged children, a group shown to be more vulnerable to the effects of divorce (Hetherington & Clingempeel, 1992).

Theoretical Model of Fathers' Parenting and Growth in Children's Problem Behaviors

Several studies have shown how the marked and significant changes in parenting routines, residence, and social roles during marital separation, divorce, and repartnering directly interfere with effective parenting and subsequent child adjustment (Capaldi & Patterson, 1991; Hetherington & Clingempeel, 1992; Simons & Associates, 1996; Simons, Beaman, Conger, & Chao, 1993). The present study employs Patterson's (1982) coercion model specifying how parents' antisocial characteristics are linked to coercive parenting behaviors that are the mechanism reinforcing the development of and growth in children' antisocial behaviors. The theoretical model is also more broadly known as the social interactional-social learning model of child development (Patterson, 1982; 2005; Reid, Patterson, & Snyder, 2002) because it focuses on the influence of the family social environment in shaping over-learned patterns of behavior that can generalize across social settings for the child. Parenting practices are seen as the key agent of child socialization. Parent-child interaction patterns (i.e., *a social interactional perspective* of parenting) are the behavioral mechanism reinforcing the child's likelihood of engaging in future prosocial or antisocial behaviors (i.e., *the social learning perspective* of child development). A child's interpersonal style and behavioral repertoire learned within the family is presumed to carry over to his or her interactions with peers and adults in other settings.

More specifically, a coercion model focuses on how harsh punitive and ineffective discipline is associated with growth in children's problem behaviors. There are several ways in which a child's problem behaviors can be reinforced. A classic example is a child requesting candy in the grocery store. When a parent says “no” to the child's request, a child may throw a tantrum that is aversive to the parent. An unskilled parent may reward the child with candy to terminate the aversive tantrum, thus reinforcing the likelihood of future tantrums and a child learning to be rewarded. Similarly, an unskilled parent may use hitting, yelling, and harsh punishment to discipline a child to extinguish an aversive child behavior when a child misbehaves. Coercive discipline works in the short run; however, a child can learn that coercion among family members can be used to terminate aversive behaviors of other family members. A child may then learn to apply coercion in relationships with peers and other adults. In the absence of skilled parenting, a child may progress from trivial displays of aversive behaviors to growth in aggression and future delinquency (Patterson & Yoerger, 1999).

The coercion model is relevant for understanding fathering. Studies have shown that antisocial behaviors of fathers and coercive parenting are associated with increased child and adolescent behavior problems over time (Dishion, Owen, & Bullock, 2004; Jaffee et al., 2003). Relative to mothers, one study reported that fathers' inept discipline can explain twice the variance in children's problem behaviors (Patterson & Dishion, 1988). Dishion et al. (2004) employed the Oregon Youth Study (OYS) to test competing models of a direct effect of parenting (a family management model) or a direct effect of father's deviance (a cultural deviance model) on the early adolescent deviant peer association. They found a direct link between father antisocial behaviors and the selection of deviant peers suggesting that fathers have an important leadership and modeling role in the socialization of sons with respect to norms, values, and deviance, with antisocial fathers potentially encouraging it. Dishion et al. (2004) also found significant associations from father antisocial characteristics to less effective parenting and boys' antisocial behaviors in early childhood as shown previously in the OYS.

The broader social interactional-social learning model also specifies a methodological paradigm using multiple-method assessments including observation to more reliably measure parent-child interaction patterns. Most recently, this model has also focused on evaluation of parenting training outcomes in randomized intervention trials (Patterson, 2005). For fathering, an experimental evaluation of parent training for a sample of 110 recently married stepfather families produced medium effect sizes demonstrating improvements in observational-based

measures of stepfathers' prosocial parenting and coercive parenting at 6 and 12 months post-intervention follow ups (DeGarmo & Forgatch, 2007). These improvements in stepfathering predicted reductions in children's reported internalizing and reductions in observed noncompliance, independent of mothers' parenting. In another report of the same study, the intervention produced significant improvements in mother-father coparenting behaviors, which were associated with reductions in mother-, stepfather-, and teacher-reported problem behaviors at the two-year follow up (Forgatch, DeGarmo, & Beldavs, 2005).

The present study based on the social interactional-social learning model of child development is not an experimental trial but is the first effort to test the hypothesized coercion model with a sample of recently divorced fathers. Like the stepfather intervention study discussed above, the focus here is on children's noncompliance, a primary marker in young children for the development of later conduct disorder (Martinez & Forgatch, 2001; Vuchinich, Hetherington, Vuchinich, & Clingempeel, 1991). The present study was designed to examine fathering effects across a range of custodial responsibility and father-child contact. In the first report of this data set, the amount of contact and time spent with children varied according to custody as expected: Full-custody fathers reported more time with children than shared-custody, and each respectively more time than no-custody fathers. However, no differences were obtained by custody on coercive parenting practices (DeGarmo, Patras, & Eap, 2008). That is, the amount of time varied by custody but not the level of coercive fathering. Because no-custody fathers can have regular contact with children, and therefore potential impact, the social interactional parenting model is tested using father contact as a continuum rather than court-defined custody status.

Present Study Hypotheses

The following hypotheses were developed based on the literature above:

1. Divorced fathers' monthly contact is expected to have a beneficial impact preventing growth in children's noncompliance over time but is hypothesized to be moderated by level of fathers' antisocial personality (ASP), such that contact by fathers with high ASP is expected to be detrimental and contact by fathers with low ASP is expected to be beneficial.
2. Fathers' coercive parenting practices are expected to predict children's noncompliance over time and will account for effects of fathers' ASP and levels of contact.

Method

Participants

Two-hundred-thirty fathers were recruited to participate in a study focusing on father and child adjustment to divorce, the Oregon Divorced Father Study (ODFS). A unique aspect of the study was to evaluate adjustment for divorced fathers including a range of father-child contact including custodial and noncustodial fathers. Therefore, all divorced fathers with children in the focal age range were eligible for selection within the county sampling frame. Fathers were recruited through public court records. Eligible fathers had a focal child between the ages of 4 and 11 (boy or girl) and had obtained a divorce decree within the prior 24 months. Court records were screened for children within the targeted age range. We randomly selected the focal child if there was more than one eligible child. If the father could not enroll that child, we randomly selected the next eligible child for potential participation until we either enrolled a child or exhausted all eligible children.

After selecting eligible records, fathers were invited to participate with their child through a recruitment letter explaining the study and how they were selected. Among the 230 enrolled

fathers, 180 (78%) chose to and were able to enroll the focal child. For comparison of nonparticipants, custody status was defined as legal custody reported in the court records. We found that 92% of full-custody and 95% of shared-custody fathers enrolled the targeted focal child, while 41% of no-custody fathers enrolled their focal child. Therefore, not all full- and shared-custody fathers had their children participate in the center assessments. However, all fathers, including no custody, filled out questionnaires and interview data on their children's behavior and their own parenting practices. The large majority of fathers (96%) reported contact with the focal child with in-person visitation, email, telephone, or written correspondence.

Fathers' age ranged from 22.9 to 63.4 (M = 37.8, SD = 7.7), education from 1 (< *8th grade*) to 13 (*advanced doctorate*) (M = 7.2, SD = 2.9), and income from 1 (< *$5K*) to 10 (> *$100K*) (M = 5.4, SD =2.2). Children's age ranged from 4.0 to 12.0 (M = 7.6, SD = 2.0). Forty-seven percent of the enrolled children were girls. Thirteen percent of the fathers identified themselves as a racial minority and 17% of their children reflective of county demographics. The county sampling frame consisted of 37% no-, 54% shared-, and 10% full-custody. The ODFS was comprised of 32% no-, 53% shared-, and 14% full-custody fathers with an overall participation rate of 40% (35% no-, 41% shared-, and 55% for full-custody).

Neighborhood demographics were collected for eligible participants and nonparticipants. There were no differences between participants and nonparticipants when comparing neighborhood characteristics from census tract and geo-coded police call response data near the father's address (e.g., unemployment rates, proportion homeownership, poverty rates, racial makeup, and police call frequency and severity ratings). To generalize beyond the community level to a county level, sample weights were obtained as correction factors for selection bias based on county proportions of custody. In short, the sampling weights adjust for differential participation, eligibility, and location rates by custody and potential selection bias. Details provided in DeGarmo et al. (2008).

Data Collection and Assessment Procedures

Data were collected during a father-child visit at each wave. Each center visit took approximately 2.5 hours. All participants were provided childcare, transportation, and a meal if requested (delivered local take out). Father and child were each paid approx. $25 an hour for their time. Data were from paper-and-pencil questionnaires, face-to-face interviews, self-administered and computer questionnaires, and observational coding of father-child interaction. Observational data were obtained from a total of 24 minutes of videotaped interaction scored across 4 structured interaction tasks during the father-child visit. The tasks were a refreshment task lasting 5 min., a problem-solving discussion focusing on a parenting issue lasting 7 min., a play task with the father lasting 7 min., and an academically challenging teaching task lasting 5 min. The refreshment task was a “warm up” in which father and child were asked to take a break from interviews and filling out questionnaires. Each of the problem-solving discussions focused on current father-selected topics from a checklist of common parent-child issues. They were asked to resolve issues rated as “hottest.” In the teaching task, fathers were asked to work with the child on a typical homework problem. Children were provided a homework problem that was one grade level beyond the child's current grade.

Trained observers scored father-child interaction with the Family and Peer Process Code (FPP: Stubbs, Crosby, Forgatch, & Capaldi, 1998) obtaining data on discrete positive, negative, and neutral behaviors in real-time coding along with data on the initiator, recipient, sequence, and affect. Fifteen percent of videotapes were randomly selected for blind reliability checks. For all content and affect codes, two coefficients of intercoder reliability were assessed: percent agreement and Cohen's Kappa, an indicator of agreement above chance. Reliabilities are reported below (FPP manual available at http://www.oslc.org/resources/codingsystems.html).

Father Antisocial Personality (ASP)

Fathers' antisocial characteristics were measured using two self-report instruments. The first indicator was the 20-item *Acting Out* subscale of the Minnesota Multiphasic Personality Inventory-TRI (MMPI-TRI: Swanson, Templer, Streiner, Reynolds, & Miller, 1995). The MMPI-TRI is a shortened version of the MMPI/MMPI-2 self-report personality inventories. The MMPI-TRI has demonstrated construct validity with the full MMPI and has been normed with inmate and psychiatric populations (Swanson et al., 1995). Twenty acting-out items evidencing content validity and the highest point-biserial item-total correlations were retained for the shortened MMPI. Statements were rated true or false and then summed. Items included: *was suspended from school one or more times; when people do me wrong I feel I should pay them back; when I was young I stole things; at times I feel like picking a fist fight with someone; I can easily make people afraid of me and sometimes do it for fun*, and so on. Cronbach's alpha for the ODFS was .82.

The second indicator was the *Agreeableness* subscale (NEO-A) from the NEO-Five Factor Inventory (NEO-FFI: Costa & McCrae, 1995). The NEO is a standard personality inventory with alpha coefficients of internal consistency ranging from .89 to .92 for extroversion, openness, and agreeableness in validation studies of men and women (Costa & McCrae, 1995). The NEO-A was chosen because it has been validated with the DSM IV manual as a marker of ASP for men scoring low on the NEO-A (Costa & McCrae, 1992). Agreeableness was a 12-item subscale rated from 5 (*disagree*) to 1 (*strongly agree*). Items included: *I often get into arguments with my family and co-workers; if I don't like people I let them know it; if necessary I am willing to manipulate people to get what I want; I try to be courteous of everyone I meet; most people I know like me*, and so on. Items were rescaled 0 to 4 and summed to obtain norming scores. Data from the norming sample of 500 adult men produced a mean of 31.93 (SD = 5.03) for the NEO-A (Costa & McCrae, 1992). ODFS fathers revealed no significant difference in mean or variance (M =31.74, SD = 5.31, t = .43). Cronbach's alpha for the ODFS was .82 for the NEO-A.

Father-Child Monthly Contact

The central focus of the present analyses is fathers' monthly contact with child indexed by day and night visits. Contact was measured from a computerized interview with the father adapted from Braver et al. (1993) and was computed as the mean total number of weekday and weekend days per month of contacts with the child and the number of overnight stays and visits during the typical school year. Time use measures were not collected, therefore, each visit may have varied from father to father and monthly contact was therefore a discrete time index of involvement. Monthly contact is confounded with custody status, to illustrate variation within custody, Figure 1 plots the histogram distributions of monthly contact by custody and provides the boxplot distribution of variation for the total sample.

Children's Observed Noncompliance

Noncompliance was the rate per minute (RPM) of a noncomply scored across all father-child interaction tasks. FPP coders first coded any directive or command provided by the father. A toggle code then records whether the child was compliant or cooperative or not. Compliance is defined as the act of clearly obeying a father's request or command and noncompliance the act of clearly disobeying a father's request or command. Only one compliance behavior (either comply or noncomply) may be entered in response to each directive. Hypothetical, ambiguous, or unclear responses to a directive are not coded. For father command or directives the percent agreement ranged from .84 to .86 from baseline to the 18-mo. follow up. Kappas ranged from . 85 to .86. For noncompliance, percent agreements ranged from .66 to .77 over time with Kappas of .75 to .77.

Fathers' Parenting Practices

Fathers' parenting was assessed using previously validated indicators assessing “coercive” and “prosocial” fathering using multiple sources of data (DeGarmo & Forgatch, 2007; DeGarmo et al., 2008) including self-report, discrete or microsocial behavior codes from the FPP coding system, and coder Likert-type ratings of parenting. These measures of the latent variable was operationalized with four indicators: ratings of coercive harsh discipline during the structured interaction tasks, coded rate per minute of verbal and physical aggression of the father directed to the child, self-reported harsh discipline, and ratings of prosocial parenting during the interaction tasks.

Harsh discipline ratings was a 5-item scale of the coder's impression of discipline after scoring FPP discrete behaviors. Rated from 1 (*very untrue*) to 5 (*very true*), items included overly strict, authoritarian, expressed hostility during discipline, used nagging, hovered too closely, and used inappropriate discipline. Cronbach's α was .86.

Father total aversives from the FPP coding system included cluster scores of father-initiated behaviors directed to the child that included physical and verbal aggression codes (e.g., physical aggression, verbal aggression, negative tease, negative interpersonal, physical attack, verbal attack. Coding system history and details are available for download on the web). The FPP percent agreement for reliability checks for content codes was .87, .87, and .89 for content behavior codes and was .95, .96, and .96 for affect codes. Cohen's Kappa was .78, .79, and . 81 for content codes over time, and .80, .78, and .76 respectively for affect codes.

Self-report harsh discipline was a self-administered questionnaire including a 5-item summative index rated from 1 (*never or almost never*) to 5 (*always or almost always*) in which fathers responded to the question “When [focal child] misbehaves, how often do you….?” Rated items were: *raise your voice/scold; yell; spank on bottom; slap; hit*. Cronbach's alpha was .85.

Prosocial parenting was the mean of two scales from coder ratings of positive involvement and skill encouragement. *Positive involvement* was obtained from 14 items rated after each father-child interaction task. Items included ratings on how much the parent treated the child with warmth, empathy, affection, and respect, maintained good eye contact and interactive posture, and so on. Cronbach's alpha was .94. *Skill encouragement* was based on ratings of fathers' ability to promote children's skill development through contingent encouragement and scaffolding strategies observed during the teaching and construction play tasks. In both tasks the child is given challenging problems and the father is asked to assist. The scale includes 11 items such as: *breaks task into manageable steps; reinforces success; prompts; corrects appropriately*. Cronbach's alpha was .92. Both prosocial scale scores were rescaled from 0 to 1 and averaged to form a composite prosocial parenting indicator.

Control Variables

Age of the child in years computed from date of assessment and date of birth. Sex of child coded as 0 for girls and 1 for boys.

Analytic Strategy

The main study hypotheses were tested with structural equation modeling (SEM) specified as latent variable growth models in the MPlus5 program (Muthén & Muthén, 2007). MPlus provides the ability to apply sample weights using the MLR option or maximum likelihood estimation with robust standard errors. MLR standard errors and chi-square model test are robust to non-normality. Latent growth models (LGM) provide advantages for modeling developmental changes over time and are a special case of multi-level modeling in the SEM

framework in which repeated measure outcomes at Level 1 are nested within individuals at Level 2.

Also known as random intercepts models, LGM estimates the individual differences or variation in the levels of noncompliance (random intercepts) as well as the increases or decreases in child outcomes (random slopes) for each individual at Level 1. The individual intercepts and slopes are then summarized as latent variable factor components at Level 2 representing the sample means and slopes. The present LGM analyses were modeled as two factors, the average level intercepts over time and as linear growth slopes (Biesanz, Deeb-Sossa, Papadakis, Bollen, & Curran, 2004). This is obtained by fixing the three random intercept factor loadings at 1, respectively for baseline, 9 mos., and 18 mos., and by specifying chronometric time weights for the slope factor at -1, 0, and 1. Data were modeled using full-information maximum likelihood (FIML) which uses all available information from the observed data in handling missing data. FIML estimates are computed by maximizing the likelihood of a missing value based on observed values in the data. For any individual who has baseline data only and no follow up data, such individuals contribute nothing to the likelihood of estimates and are effectively excluded from change analyses (Brown et al., 2008). Compared to mean-imputation, list-wise, or pair-wise models, FIML provides more statistically reliable standard errors (Wothke, 2000).

To test whether father ASP moderated father contact, variables were entered as centered first order terms and centered cross products of ASP and monthly contact using regression approaches for testing interactions (Cohen, Cohen, West, & Aiken, 2003). In addition, to test latent variable interactions of ASP, two specific approaches were used. First, ASP factors scores were saved and used to compute a centered cross product of monthly contact × ASP. The second method used latent variable interaction modeling in MPlus using maximum likelihood and a numerical integration algorithm (Muthén & Muthén, 2007). Standardized solutions and explained variance are not available for the latent variable interaction approach, therefore, model fit and standardized solutions were reported below using centered cross products but findings were tested using both methods of assessing interaction effects.

Results

Eighty-four percent of the families were retained at the 9 mos. and 82% at the 18 mos. Attrition analyses revealed no significant differences between children in families remaining in the study compared with those lost to follow up by 18 mos. when comparing the baseline rate-per-minute of child noncompliance. Child noncompliance scores were log transformed for the multivariate analyses, although the restricted maximum likelihood estimates are robust to nonnormality. Descriptives of study variables are provided in Table 1.

The first step in the LGM analysis was to estimate the linear growth in child noncompliance. Known as the unconditional model, the LGM analyses describe the pattern of change for the developmental outcomes. The average level intercept factor represents the continuum of low noncompliance levels to chronically high levels averaged over time. Average rate per minute levels of noncompliance were different from zero ($M = .08$, $p < .001$) for the sample and the variance component was different from zero ($\sigma^2 = .005$, $p < .001$), indicating significant individual differences among children's levels of noncompliance.

The linear growth slope or change factor obtained significant variance meaning there were individual differences in the increases and decrease trajectories of noncompliance ($\sigma^2 = .004$, $p < .001$), however, the sample mean was not different from zero. This meant that the sample was characterized by a range of children increasing in noncompliance and children decreasing in noncompliance. The chi-square minimization fit indicated a linear growth model provided

good fit to the repeated measures noncompliance data [weighted MLR Growth Model Fit $\chi^2(1) = 2.26$; $p = .14$; CFI = .95; SRMSR = .02]. Results of the unconditional noncompliance LGM model are provided in Table 2.

The next step of analyses tested hypotheses 1 and 2. The first model specified father ASP, father contact, and the centered cross product term as predictors of levels and growth in child noncompliance. Findings are displayed in Figure 2 in the form of standardized paths. For clarity, only significant paths from the control variables are displayed, and significant paths from the hypothesized constructs are shown in bold. Results supported hypothesis 1 indicating that father ASP moderated the effect of monthly contact in predicting both the average levels over time ($\beta = .31$, $p < .001$) and linear growth rates ($\beta = .30$, $p < .05$). The main effect of fathers' monthly contact was marginally associated with decreases in noncompliance over time at the p .06 level ($\beta = -.19$, $p < .062$), which is interpreted as the effect of contact at average levels of ASP in the presence of a significant interaction (Cohen et al., 2003). Therefore, ASP conditioned the impact of fathers' contact on children's noncompliance. Older children displayed lower levels of noncompliance relative to younger children ($\beta = -.28$, $p < .001$), sex of the child was not associated with noncompliance factors. The overall model predicted 39% of the variance in average levels and 11% of the variance in growth rates.

The next model specified linkages from father antisocial to noncompliance through fathers' coercive parenting practices. It was expected that higher levels of coercive parenting would be associated with higher levels of child noncompliance and growth in noncompliance. Further, it was predicted that coercive parenting practices would account for the interaction effect of Contact × ASP. Results are displayed in Figure 3. Hypothesis 2 was partially supported. Father ASP predicted higher levels of coercive parenting practices ($\beta = .42$, $p < .01$); and fathers' coercive parenting in turn predicted higher levels of noncompliance ($\beta = .43$, $p < .01$). Parenting practices explained an additional 14% of the variance noncompliance levels. Contrary to expectations, coercive parenting did not predict growth rates. In addition, parenting did not account for the Contact × ASP interaction effect on noncompliance. Therefore, ASP was a significant moderator of fathers' monthly contact in predicting noncompliance following divorce and ASP was a contributor indirectly through coercive parenting practices.

Exploratory Models of Gender and Age

Three related approaches were used to explore potential gender and age variation in the main findings. These included (a) multiple group SEMs for boys versus girls and youngers (less than 8) and olders (older than 8), (b) computed interaction terms and (c) latent variable interaction models. No moderating effects were obtained comparing boys versus girls as multiple group SEMS. For age, a multiple group split of youngers (n=133) and olders (n=97) would not converge for the older group due to reduced n and variance in the LGM factors. For a computed interaction model, Contact × ASP × Age did not predict growth in noncompliance over and above the significant effect of Contact × ASP. However, the effect for Contact × ASP × Age on the average level intercept factor obtained a significant standardized beta ($\beta = -.159$, $t = -2.09$, $p < .04$). This suggested that the impact of antisocial fathers' contact was lessened for older children relative to younger children in predicting individual differences in average levels of noncompliance. This is consistent with the notion that younger children are both more noncompliant and more vulnerable to the effects of divorce. However, inspection of the explained variance showed that this three way interaction contributed and additional 1% explained variance to the model predicting average levels. Using latent variable interaction terms the two way interaction effect of Contact × ASP was replicated in predicting the intercept ($t = 2.065$) and the growth factor ($t = 2.694$). However, the effect of Contact × ASP × Age on the intercepts term was marginal using the latent variable interaction approach ($t = -1.78$, $p < .08$).

In summary, the findings showed the effect of fathers' ASP moderating his monthly contact was robust in predicting intercepts and growth rates in noncompliance for boys and girls and across child age. Results for the average levels of noncompliance was somewhat stronger for younger children relative to older but this effect was not very meaningful in that one test produced an additional 1% of explained variance and the latent variable interaction test was marginal. To illustrate the main finding, the Contact × ASP effect was plotted using the estimated growth slopes from Figure 3 for one standard deviation above the mean of ASP and one standard deviation below the mean (Figure 4).

Discussion

This study investigated the impact of father involvement indexed as a continuum of monthly contact with his child following divorce and attempted to add to the previous literature by focusing on fathers of young children who are more vulnerable to behavioral effects of divorce. By comparison a majority of prior research has focused less on fathers' actual parenting behaviors and more so on father contact only. The present study employed multiple method assessment including direct observation of fathering and child noncompliance. Further, extant research to date has focused mainly on the period of adolescence.

The theoretical model employed the coercion model of child development and the generative theories of father involvement. Fathers that have regular contact with their children can have a positive developmental impact. However, fathers' ASP was expected to moderate monthly contact, and ASP was expected to be associated with higher coercive parenting.

The unconditional growth models showed significant individual differences in children's noncompliance and individual variation in trajectories of increases and decreases. Supporting the hypotheses, latent growth prediction models showed that monthly contact was negatively associated with children's growth in noncompliance at average levels of antisociality (ASP); however, father ASP significantly moderated the effect of monthly contact. As shown in Figure 4 increased contact of low antisocial fathers was associated with decreases in noncompliance over 18 months and contact with high antisocial fathers was associated with increases. Exploratory models showed this effect was robust for younger and older children and for boys and girls.

Partially supporting the hypotheses, fathers' ASP predicted higher levels of coercive parenting practices, and coercive parenting predicted average levels of noncompliance but not growth rates. Conversely, it should be noted that latent variable models also imply that effective prosocial parenting practices were associated with lower levels of noncompliance underscoring the importance of prosocial parenting skills. From a clinical perspective it is important to note that the coercion model is complimentary and not antithetical to a generative fathering approach. Preventive intervention approaches based on the coercion model emphasize positive parenting as the cornerstone to reducing coercive parenting including positive reinforcement, skill encouragement, and emotion regulation (Patterson, 2005).

Contrary to expectations, parenting practices did not account for the interaction effect of fathers' contact ×ASP. Although this study was not a genetically informed design, the pattern of findings replicated what Jaffee et al. (2003) described as the “double whammy” of environmental and genetic influence of antisocial fathers. Given that parenting did not account for the ASP interaction, this suggested a potential genetic influence on children's problem behaviors. At the same time, controlling for ASP, parenting practices explained an additional 14% of the variance in levels of noncompliance, underscoring the importance of fathers' parenting practices. Parenting did not predict variance in growth trajectories.

Limitations

A key limitation existed regarding the prediction of parenting on change in noncompliance. Pre-divorce levels of parenting and noncompliance were not collected. It is likely parenting effects on growth in noncompliance were more influential during earlier socialization prior to divorce. The fact that fathers' contact conditioned by ASP was predictive of increases in noncompliance also suggested that other potential mechanisms in addition to genetic influence may account for the effects of father's monthly contact effect, such as the child's experience of socio-emotional closeness with fathers or conversely subjective distress associated with divorce related stressors between parents (Wolchik, Tein, Sandler, & Doyle, 2002).

It is important to note that the present study was based on public court records with a divorce decree from a county sampling frame including rural and urban areas. There are known limitations to court records based studies involving participation of families who separate and do not file for divorce and inferences based on families in which the marital dissolution and disruptions to social interactional may have occurred long before filing. As noted above, the present study was limited because it was not a prospective study of divorce and did not have measures of children's pre-divorce functioning, parenting, or mothers' parenting; all of which are likely influencing the average levels of children's problem behaviors and growth. For shared and no custody fathers, mothers' parenting is likely a key predictor children's noncompliance. Further, although recent studies have shown independent effects of nonresidential fathers net of mothers, it is likely that effects of fathers' antisociality may share variance with mother's antisociality influences due to assertive mating.

Another limitation was the measure of monthly contact. A more refined measure of father contact would be time-use diary approaches for measuring father involvement (e.g., Hofferth, Stueve, Pleck, Bianchi, & Sayer, 2002). Recently, however, Wical and Doherty (2005) have shown that fathers are reliable reporters of their contact. Nonetheless, given the limitations, the present findings replicated associations reported for adolescence and included direct observation of fathers' parenting and child adjustment. The findings underscored the impact of residential and nonresidential fathers on children's behaviors following divorce and potential mechanisms of preventive intervention.

Implications

Prevention programs may be designed to be universal, selective, or indicated programs to address child adjustment problems in the hopes of delaying or preventing onset of problem behaviors. As opposed to universal programs for an entire population, selective prevention programs target subsets of the population that are at risk by a common membership, for example, children of divorced parents. As opposed to treatment, selective prevention targets individuals in a group (divorced fathers) regardless of individual risk or without prior screening. Indicated prevention focuses on individuals from a risk group that are showing early signs of problems (e.g., deficient parenting or onset of conduct disorder in children). Currently many individual and community-based programs for promoting effective fathering and preventing child adjustment problems exist due largely in response to the Department of Health and Human Services Fatherhood Initiative (National Center on Fathers and Families, 2006). The majority of fatherhood programs; however, have limited theoretical or evidence-based foundations (McBride & Lutz, 2004).

Exceptions are programs focusing on father involvement and the reduction of coparenting conflict, the Dads for Life (DFL) program (Braver, Griffin, & Cookston, 2005) and the Strengthening Father Involvement (SFI) program (Cowan, Cowan, Pruett, & Pruett, 2007). Like the DFL, the SFI has demonstrated reductions in coparenting conflict over time and more recently has shown benefits to children's problem behaviors (Cowan, Cowan, Pruett, Pruett,

& Wong, in press). From a parent training perspective, the Oregon Model of Parent Training (PMTO) is another exception (Patterson, 2005). To date, the Forgatch and colleagues intervention was only one of two theory- and evidence-based parent training programs involving stepfathers (Forgatch et al., 2005). One critical finding was that the intervention produced the largest effect size on improved parenting behaviors for stepfathers when compared to effects for mothers (DeGarmo & Forgatch, 2007). It is likely that a selective preventive intervention program for divorced fathers would benefit children's behavioral adjustment over time.

In addition to direct work with fathers or couples, approaches involving direct work with children incorporating father involvement may benefit divorced families. For example, parent child interaction therapy (PCIT) effectively reduces children's problem behaviors. Recent efforts have shown benefits for maintenance of effects involving components of father involvement (Bagner & Eyberg, 2003).

Generative fathering perspectives may be helpful in delivering prevention programs to antisocial fathers. Dishion et al. (2004) argued that it is likely that deviant fathers are underrepresented in prevention research and currently little research exists on how antisocial fathers respond to parenting interventions, and may therefore, show larger effects. Examples from clinical treatment work with maltreating and abusive fathers have shown that fathers are more responsive to interventions pointing out the welfare and needs of the children as a focal point for addressing harmful interactions with spouses and children (Rosenberg & Wilcox, 2006; Scott & Crooks, 2004). A coupling of the social interactional-social learning intervention model with generative fathering perspectives might show great promise. Although the coercion model focuses on a deficit of skilled parenting, the model is not antithetical to generative fathering perspectives in its theoretical approach. For example, PMTO (Patterson, 2005) focuses on positive reinforcement, encouragement, and positive involvement as cornerstones for reductions in coercive parenting and child noncompliance. Because of their desire to stay involved with their children, effective programs may benefit from father-oriented components increasing men's awareness of child-centered needs and parenting (Brotherson et al., 2005; Parke & Brott, 1999).

Finally, given the main effect of parenting practices, it is argued the present findings do not imply that only antisocial fathers would benefit from parenting intervention or that all divorced fathers are in need of parent training. The present findings suggest that both promoting more effective parenting skills would benefit a sample of divorced fathers and a focus on antisociality would be important. Prevention programs are designed to address populations with a range of parenting skills as opposed to screening and targeting fathers with parenting deficiencies. Evidence based programs have benefited single mothers and their children using community and court mandated samples and selected and indicated samples, all of which are comprised of mothers ranging in parenting skill and antisociality. Programmatic intervention with divorced fathers should also prove independently beneficial for divorced families members.

Acknowledgments

Research reported on here was funded by grant R01 HD42115 from the Demographic and Behavioral Sciences Branch, NICHD, and in part by grants P30 DA023920 and P20 DA017592 Division of Epidemiology, Services and Prevention Branch, NIDA, R01 MH38318Child and Adolescent Treatment and Preventive Intervention Research Branch. Content is sole responsibility of authors and does not necessarily represent the views of the NIH.

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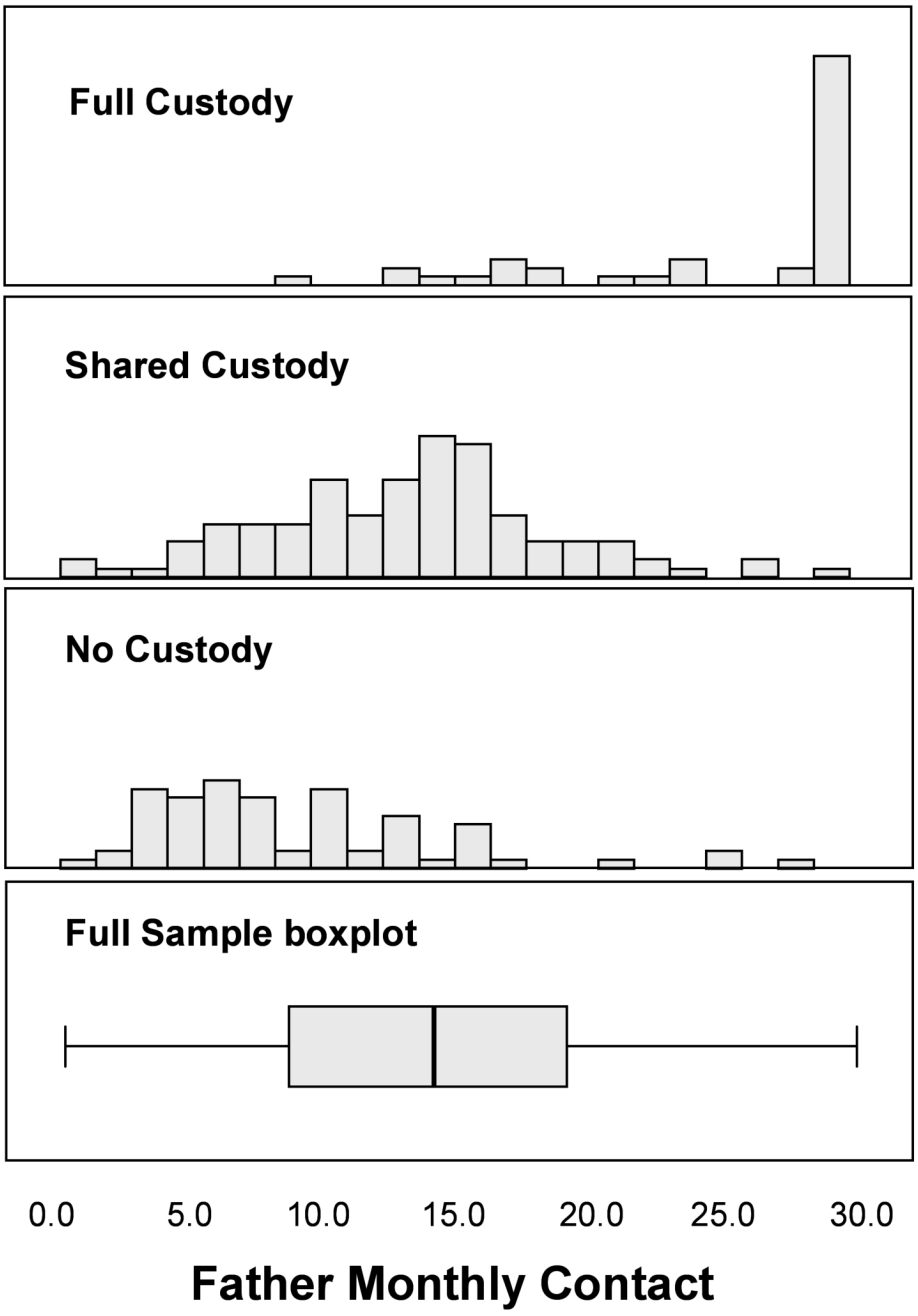

Figure 1.
Histogram distribution of index for fathers' monthly contact with child by custody status and boxplot of monthly contact for full sample.

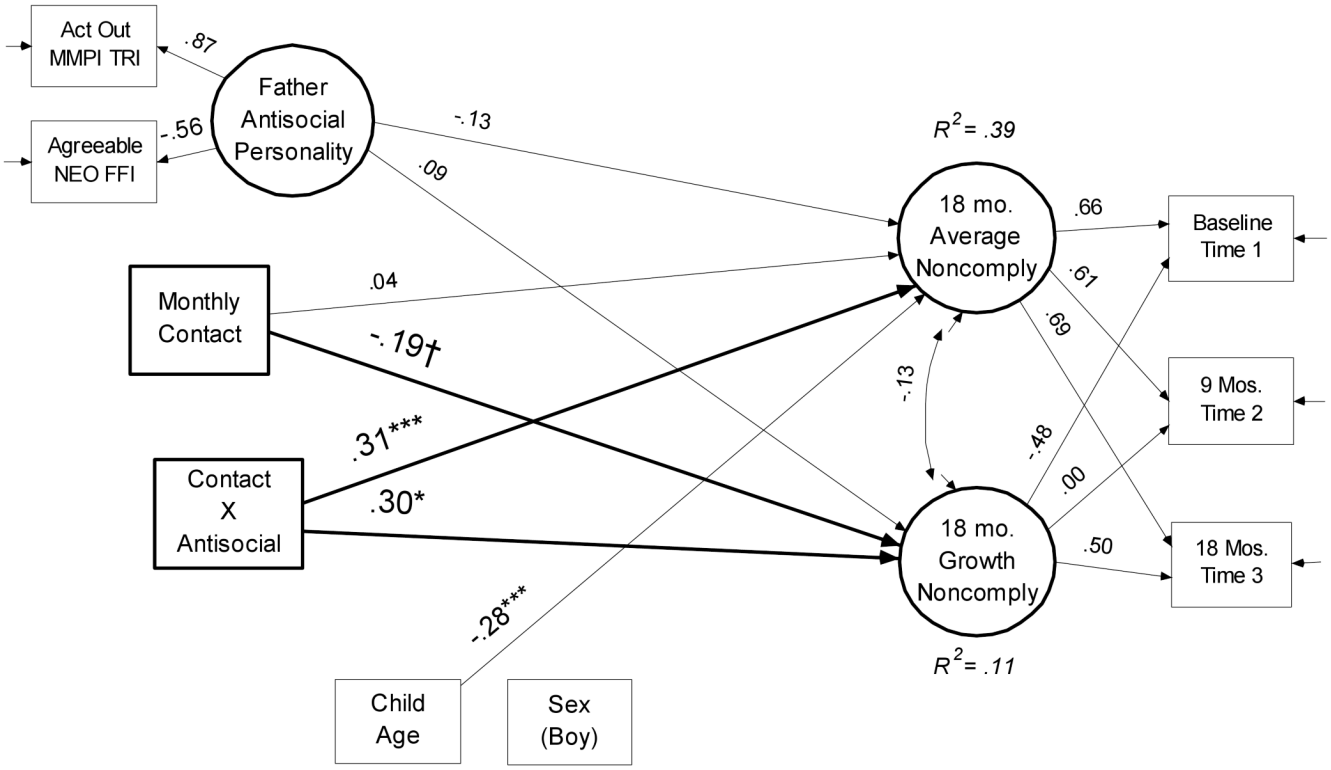

Figure 2.

Weighted MLR growth model specifying father antisocial and monthly contact as predictors of rate per minute of observed child noncompliance over 18 months. Paths are standardized coefficients. †p<.06; *p < .05, **p < .01, ***p < .001; ($\chi^2_{(12)}$ = 21.02, p = .44, χ^2 /df = 1.75, SRMSR = .03; CFI=1.00).

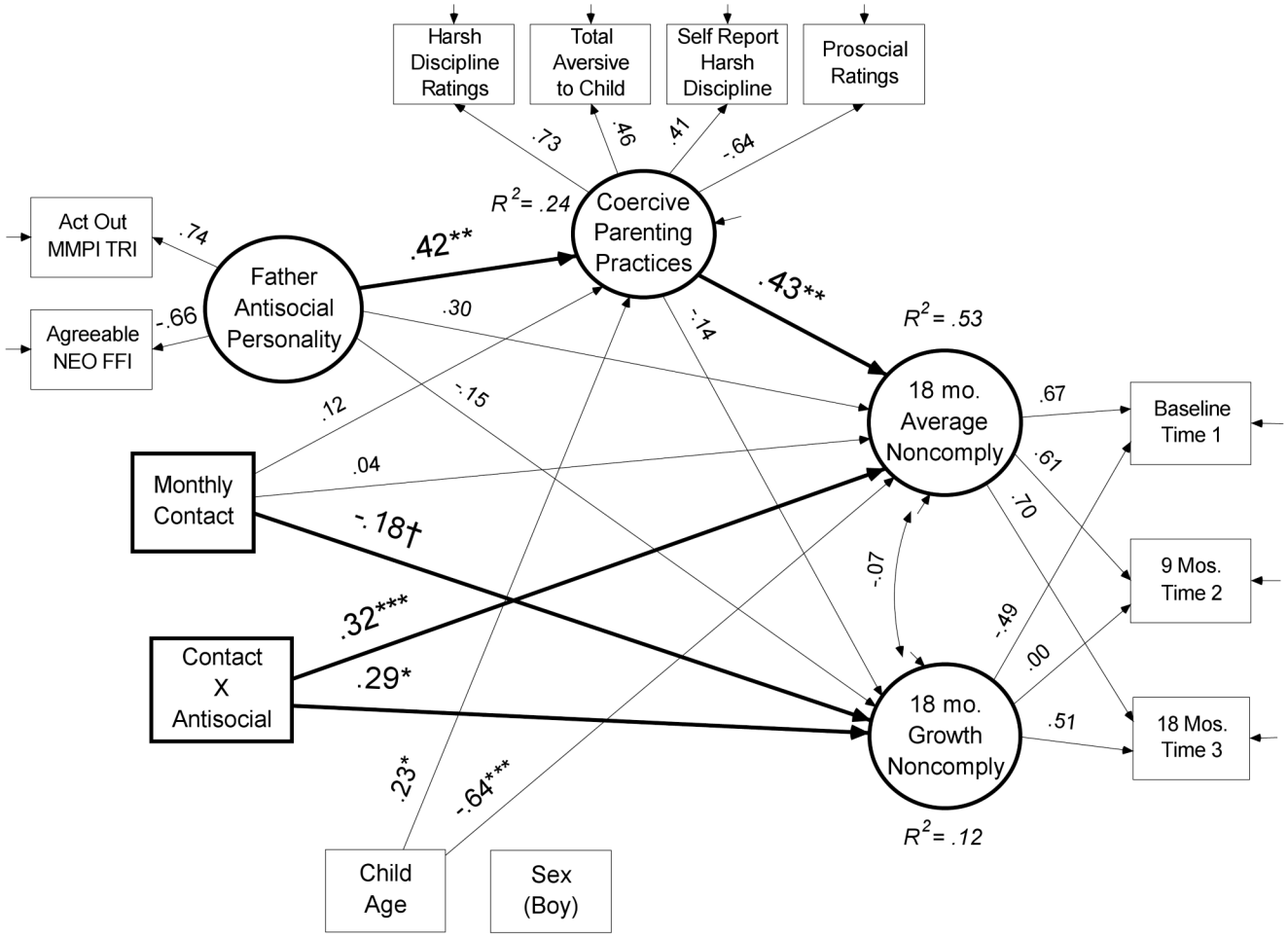

Figure 3.
Weighted MLR growth model entering fathers' parenting as a predictor of rate per minute of observed child noncompliance over 18 months. Paths are standardized coefficients. *$p < .05$, **$p < .01$, ***$p < .001$; ($\chi^2_{(44)} = 99.60$, $p = .000$, $\chi^2/df = 2.26$, SRMSR = .07; CFI=.82).

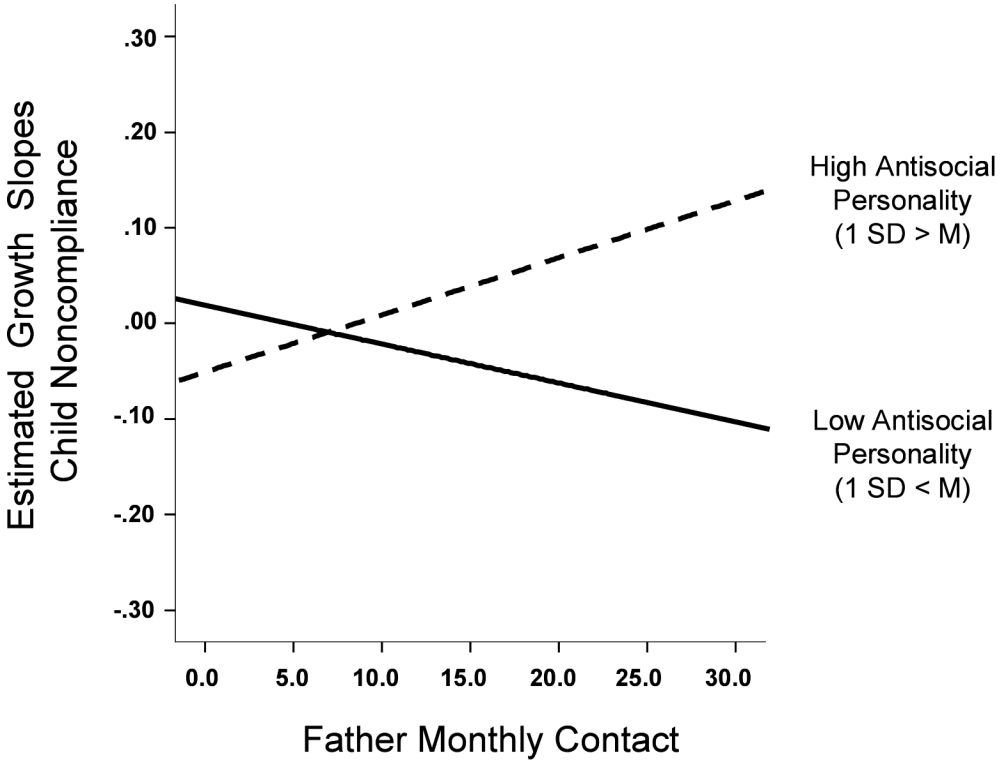

Figure 4.
Plot of estimated linear growth slopes for effect of father antisocial personality as a moderator of monthly contact. Slopes are plotted for one standard deviation above the mean of antisocial personality and one standard deviation below the mean.

Table 1
Sample Descriptives for Observed Variables in Latent Growth Analyses

	Min.	Max.	*M*	*SD*
Child Noncompliance				
Observed Rate Per Minute (rpm) T1	.00	.89	.09	.13
Observed Rate Per Minute (rpm) T2	.00	.97	.10	.16
Observed Rate Per Minute (rpm) T3	.00	.58	.08	.12
Natural log rpm T1	.00	.64	.08	.11
Natural log rpm T2	.00	.68	.09	.12
Natural log rpm T3	.00	.46	.07	.10
Fathers' Parenting				
Observed Harsh Discipline Ratings	.00	.95	.11	.16
Observed Total Aversive to Child	.00	.48	.06	.07
Self-reported Harsh Discipline	5.00	22.00	10.61	2.64
Prosocial Parenting Ratings	.59	.99	.84	.08
Predictors				
Father Acting Out- MMPI-TRI	.00	19.00	4.94	3.77
Father Agreeableness- NEO-FFI	14.00	44.00	31.75	5.29
Father-Child Day and Overnights per month	.00	30.00	14.16	7.92
Sex of child (boy)	.00	1.00	.53	.50
Child Age	3.99	12.00	7.66	1.98

Note: Min.= minimum value; Max. = Maximum value; T1 = Baseline Time 1; T2 = 9 month follow up; T3 = 18 month follow up; rpm = rate per minute.

Table 2

Latent Variable Means, Variances, and Standard Errors for 18 Month Unconditional Growth Model of Child Noncompliance

Estimated Variable Factor	*Mean*	*(SE)*	*Variance*	*(SE)*
Average Level Intercept	0.075***	(.006)	0.005***	(.001)
Linear Growth Slope	-0.004	(.005)	0.004***	(.001)

Note: Weighted MLR Growth Model Fit $\chi^2(1) = 2.26$; $p = .14$; comparative fit index (CFI) = .95; standardized root mean square residual (SRMSR) = .02;

*** $p < .001$;