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Effects of Parenting and Deviant Peers on Early to Mid-Adolescent Conduct Problems

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Abstract

We investigated the influence of effective parenting behaviors (father and mother reports) and deviant peer association (adolescent reports) on subsequent young adolescent conduct problems (teacher reports) during grades 7–9, using structural equation modeling. Data were from a sample of 226 rural adolescents (n=112 boys; n=107 girls; n=7 gender unknown), their parents, and teachers. Both effective parenting and association with deviant peers influenced later conduct problems; however, the pattern of influence varied across time and between fathers and mothers, with complex patterns of interactions between effective parenting and peer deviance. From seventh to eighth grade, effective parenting by both mothers and fathers buffered the effect of higher levels of peer deviance on conduct problems across adolescent gender. From eighth to ninth grade (i.e., transition into high school), fathers' effective parenting buffered the effects of deviant peer association on their daughters' conduct problems, whereas both fathers' and mothers' influence was stronger for sons when deviant peer associations were lower. Analyses also evaluated bi-directional longitudinal effects among adolescents, parents, and peers. Although varying by parent and adolescent gender or adolescent age, results generally supported the protective effects of parenting on their children's conduct problems during early to mid adolescence.

Keywords

Effective parenting; peer deviance; adolescent conduct problems; buffering effects; bi-directional effects

Conduct problems refer to a broad range of externalizing or "acting-out" behaviors, including aggression, rule-breaking, and other discipline problems (Connor, 2002). They typically escalate in early adolescence and may be associated with both concurrent and subsequent adjustment problems. Concurrent problems include poor academic performance,

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truancy, and school dropout (Furlong, Morrison, & Jimerson, 2004), as well as substance misuse (Angold & Costello, 2001). Subsequent problems include later-life antisocial behavior or criminal activity, family instability, and poor educational and health outcomes (Maughan & Rutter, 2001). Considering the disruptive influences and negative sequelae of conduct problems, it is crucial to understand the important developmental predictors of these sets of behaviors, in part to guide the design of preventive interventions and treatments (Kimonis & Frick, 2006; Lansford et al., 2006). The two major socializing influences on children and adolescents are parent and peer relationships (Vandell, 2000). This study examined parent and peer influences on conduct problems in a rural general population sample across two developmental stages—early and mid-adolescence—with the expectation that peer influences would increase as students transitioned from middle school into high school (Snyder, 2002). The study also included evaluation of reciprocal effects among adolescents, parents, and peers, as well as interactions between parent and peer influences. A unique component of the study was the evaluation of parent-child gendered dyads; that is, the evaluation of effects separately by both parent and child gender.

Overview of the Current Study

The period of early to mid-adolescence is important developmentally, as adolescents are experiencing multiple life changes and new sources of stress, including physical and sexual maturation, increased autonomy, and growing peer influences (Wolfe & Mash, 2006). Partially because of these changes, conduct problem prevalence rates increase during early adolescence, prior to leveling off and decreasing thereafter (Lahey et al., 2000). Students who demonstrate conduct problems at school are at risk for failure in the classroom setting and for developing later antisocial behavior (Stage & Quiroz, 1997). Longitudinal studies have found that individuals with high levels of teacher-reported conduct problems display multiple social and health impairments throughout adult life (Colman et al., 2009; Fergusson, Boden, & Horwood, 2009). In this report, we explore influences on conduct problems observed in the school setting.

Parenting influences

The protective influence of effective parenting behavior on conduct problems is well supported in the literature (e.g., Granic & Patterson, 2006; McMahon & Kotler, 2006). Parenting behaviors have been found to influence conduct problems directly and indirectly as well. Research has shown that there are specific types of parenting behaviors that are positively associated with lower levels of adolescent conduct problems, namely monitoring, warmth, and behavioral control (Brown & Bakken, 2011). A recent meta-analysis reviewed dimensions of parenting behavior that can be classified as *support* (e.g., affectionate, communicative, non-rejecting) or *control* (e.g., consistent discipline, monitoring, knowledge, rule setting) and their association with delinquency, defined as behavior prohibited by law (Hoeve et al., 2009). Conclusions were that both parental support and control were associated with lower levels of delinquency, with stronger effects for parental monitoring (including parental knowledge, child disclosure, and active monitoring) and positive support (lack of hostility and rejection).

A limited number of studies have focused on bidirectional parent-child effects in relation to conduct problems. Using longitudinal data from multiple reporters, Ge et al. (1996) found a reciprocal effect between parenting variables—discipline practices in particular—and child conduct problems. Later research confirms this finding (Burt, McGue, Krueger, & Iacono, 2005; Larsson, Viding, Rijsdijk, & Plomin, 2008). In their longitudinal study, however, Reitz, Dekovic, Meijer, & Engels (2006) found that children's conduct problems at age 13 affected parenting behaviors after one year, while there was no effect from parenting to later child conduct problems. They attributed this finding to the one-year time frame and

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suggested that parenting effects might take time to develop. Typically, studies examining the influence of children's behavior on parenting have found increases in negative parenting in conjunction with child problem behaviors. Albrecht, Galambos and Jasson (2007) attribute an increase of perceived parental psychological control following a child's problem behavior to either the parent's reaction to their child's behavior (e.g., criticizing, blaming, and guilt induction) or to cognitive bias on the part of the reporting child. Other studies (Stice, Barrera & Chassin, 1993) have demonstrated that, while inversely related to conduct problems in children, parental support and control were intertwined dimensions positively correlated with one another, hence, likely to develop in the same direction. We evaluated parent-child bidirectional effects where possible within the confines of our study (see Pettit & Arsiwalla, 2008, for an overview on bi-directional effects).

Peer influences

Many empirical studies have demonstrated a strong relationship between deviant peer association and adolescent conduct problems (Elliott & Menard, 1996; Mason, Hitchings, & Spoth, 2009). Studies by Elliott and colleagues (1985, 1996) found that involvement in a deviant peer group accounted for more variance in adolescent conduct problems than any other variable. Deviant peers, often self-selected by adolescents already displaying conduct problems, may reinforce problem behaviors (Scaramella, Conger, Spoth, & Simons, 2002; Vitaro, Tremblay & Bukowski, 2001). Further, as adolescents move from middle school to high school and experience increasing autonomy, peer effects may become more influential (Snyder, 2002).

Relationship between parent and peer influences

Previous research concurrently examining parenting and peer influences on conduct problems has not found consistent results. Some studies have found primarily main effects; that is parent and peer effects independently predict conduct problems (Dekovic, 1999). Other studies have supported varying mediating effects. In one example of mediation, parents' can influence their child's conduct problems by directing their child away from deviant peer environments and encouraging healthy peer group affiliations (Brown, Mounts, Lamborn, & Steinberg, 1993; Reitz, Prinzie, Dekovic, & Buist, 2007; Scaramella et al., 2002). There also is evidence that parents may increase their parental support and control if their child's negative peer association increases. Parents may more closely monitor their child, or they may actively discourage or prohibit their child from such associations (Mounts, 2000). Lastly, there is evidence for moderation; that is, effective parenting can provide a buffering effect for children exposed to peer deviance (Kung & Farrell, 2000; Lansford, Criss, Petit, Dodge & Bates, 2003; Véronneau & Dishion, 2010).

Gender differences

Several studies found that among early-onset youth, males demonstrated a rate of conduct problems 4 to 15 times that of females and among late-onset youth, between 1.5 and 4 times the female rate (Moffit, 2006). However, mixed findings regarding the influences of parenting and peer factors by gender have been found. For example, some research has found that peer influences are a stronger predictor of conduct problems among adolescent females than among adolescent males (Kung & Farrell, 2000; Moffit, 2006), while other research has found no gender difference (Pepler, Jiang, Craig, & Connolly, 2010). Similarly, some research has found that parental influences are more important for females, others have found stronger parental influences for males, and still others have found no gender differences in family risk factors (see Hoeve et al., 2009). Marshal and Chassin (2000) found that parental support and control can serve as a protective factor for girls, while interpreted as a threat to autonomy for boys. In addition, Hoeve et al.'s meta-analysis found that parental support was a more important predictor of conduct problems if the parent and child

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are of the same sex; however, other research has found greater cross-gender influences (Kosterman, Haggerty, Spoth & Redmond, 2004). Although there is some evidence of differential parenting effects on conduct problems by parent and child gender (Hoeve et al., 2009), no studies could be found that addressed gendered parent-child bidirectional effects on conduct problems in the context of deviant peer influences. Importantly, we were able to compare mothers' and fathers' parenting separately on their sons' and daughters' association with deviant peers and conduct problems.

Methodological considerations

We found no reports that tested main effects, mediation, and moderation in a longitudinal modeling procedure that included reciprocal effects among all variables; this would be helpful to describe more specifically how influences on conduct problems interrelate longitudinally. Further, several limitations noted in previous research were addressed. For example, in many cases, there was exclusive or almost exclusive use of self-reports for all variables, possibly resulting in method bias (Albrecht et al., 2007; Reitz et al., 2006, 2007). The use of manifest instead of latent variables and cross-sectional data also have been noted as limitations (Dekovic, 1999; Kung & Farrell, 2000). The current study addressed a gap in the literature by evaluating longitudinal bi-directional relationships and direct effects, mediation and moderation among key parent and peer influences on child conduct problems. We utilized separate reporters and latent variables for each construct to address some previous methodological shortcomings.

Children who display conduct problems during the elementary grades demonstrate more conduct problem severity and a greater degree of later adjustment problems than later-onset youth (Moffit, 2006). Because our initial assessment was conducted during seventh grade, distinguishing between childhood early-onset and later-onset pathways for conduct problem development was not possible. A recent study, however, suggested that continuous measures of the aggressive/destructive and non-aggressive/rule-breaking behavioral dimensions predicted adult outcomes more strongly than the age-of-onset dichotomous measure (Burt, Donnellan, Iacono, & McGue, 2011); therefore, teacher reports of those behavioral dimensions were chosen for this report. Our parenting scales were modeled after those parenting constructs associated with decreased conduct problems. We analyzed a latent variable comprised of four parent-reported scales. One scale measured supportive parent-child relationships (i.e., parent-child affective quality), and three scales measured aspects of child management or behavioral control (i.e., consistent discipline, standard setting, and monitoring). Similar scales have predicted conduct problems in past research (Chung & Steinberg, 2006; Scaramella et al., 2009). For this study, adolescents identified deviant peer association with three scales measuring close friends' substance use, aggressive/destructive behavior, and non-aggressive/rule-breaking behavior, specified as indicators of a latent variable.

Hypotheses

Based on the literature reviewed above, we tested longitudinal models of parent and peer influences on adolescent conduct problems across early to mid-adolescence; that is, from seventh to eighth grade and also from eighth to ninth grade, when students transitioned from middle school to high school. Hypotheses across both time periods were: (H1) Effective parenting will decrease—and deviant peer association will increase—the subsequent level of conduct problems; (H2) Effective parenting will buffer the effects of association with deviant peers on subsequent conduct problems (i.e., an interaction effect will be observed); (H3) Child conduct problems will have a negative effect on subsequent effective parenting and a positive effect on subsequent deviant peer association (i.e., peer selection hypothesis); (H4) Effective parenting will have a negative influence on subsequent deviant peer

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association, likely demonstrating indirect parenting effects on subsequent conduct problems; and (H5) Higher levels of deviant peer association will lead to a subsequent increase in effective parenting. Gender differences on the hypotheses also were explored.

Methods

Participants

We analyzed data collected from a preventive intervention outcome study designed primarily to influence substance use and other problem behaviors (see Spoth, Redmond, Trudeau, & Shin, 2002). At the start of the study in 1998, participants were seventh grade students, their parents, and teachers from 36 rural schools in a Midwestern state. School inclusion criteria were participation in the free or reduced-cost school lunch program (≥ 20%), school district enrollment (< 1,200), and middle school grades (6–8) located in one building. A randomized block design guided assignment to three experimental conditions, including two intervention conditions; only control group students participating in the in-home assessment (described below) were selected for this study (N=226). We concluded that choosing a non-intervention sample would be the best option, given the complications involved in examining and controlling for intervention effects.[1]

Approximately 20 randomly selected families per school were recruited for in-home assessments. Baseline assessments were conducted with control group participants (n=112 boys; n=107 girls; n=7 gender unknown) during the first semester of seventh grade [T1]. Two hundred and three (92%) of the control group families completed the assessment six months following baseline [T2]; and 198 (90%) completed the follow-up assessment one year later, in the spring semester of eighth grade [T3]. Students averaged 13.3 years of age at T1, 52% were male, 98% were White and 76% lived with both biological parents. Teachers were surveyed regarding student behavior beginning at assessment T2 (n = 204), at T3 (n = 179), and at T4, one year after T3 (n=174). Over 90% of the reporting teachers were classroom teachers, some of whom were also extracurricular activity sponsors. At T2, 93% of teachers surveyed reported they knew the student moderately to very well; that proportion was 97% at T3 and 94% at T4.

Attrition analyses found some significant differences between those who participated in every wave of data collection and those who did not. The percentages of those who did not participate at every assessment were 17.6% for mothers, 31.3% for fathers, 16.3% for adolescents, and 30% for teacher reporters. For mother-, father-, adolescent-, and teacher-reports, those who participated in every wave were associated with higher levels of parent-reported socio-economic status at T1, a control variable (t-values ranged from 2.91 to 6.84). For adolescents and their mothers, no significant differences on teacher-reported conduct problem variables or on their own reports were found between those who participated at every wave and those who did not. For fathers, however, there were some significant differences, with adolescents of fathers who did not participate at every wave displaying generally higher levels of conduct problems (t-values ranged between 1.25 and 3.91 on the three teacher-reported indicators across three time points). However, no differences were found on their assessment of their own parenting across waves.

[1]A supplemental model was tested comparing the control group with a combination of the two intervention groups on correlations among the variables in the ninth grade model. The model was stacked by condition, both mother and father latent variables were included in the model, and the constrained and unconstrained models were compared (factor loadings for the indicator variables were constrained across both models). A significant difference was found, indicating the relationship among the variables was not similar between the control and intervention conditions ($\Delta\chi^2_{(22)} = 137.35$, $p < .001$), supporting our decision to analyze the control group only.

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Procedure

The university's Institutional Review Board approved the study. Family members and teachers signed consent forms; families were compensated for their time and schools were compensated with funding for classroom supplies. Family members completed written questionnaires independently. (A student assessment conducted in the schools was shorter to accommodate the classroom schedule and did not include the questionnaire items utilized in the current study.) Teachers completed reports on the in-home assessed students beginning with the second wave of data collection. Questionnaire items addressed observations regarding students' behaviors and feelings.

Measures

Adolescents, parents and teachers provided separate questionnaire reports for each construct to decrease method bias and the diffusion of distinct patterns of behavior that may emerge by context; that is, including all reporters for all constructs would attenuate the unique patterns of results that may emerge between observers or observational settings (Bank, Dishion, Skinner & Patterson, 1990; Dishion, & Stormshak, 2007).

Effective parenting—Twenty items were adapted from the Iowa Youth and Family Project (Conger, 1989; Spoth, Redmond & Shin, 1998) with subscales for *Parent-Child Affective Quality, Consistent Discipline, Standard Setting*, and *Monitoring*. Mother and father reports were examined separately and, where no parent gender differences were found, each scale was constructed by averaging the parents' reports. When only one parent's report was available, it was used. Approximately 14% of the sample did not include father reports.

Parent-Child Affective Quality included seven items with responses from 1 (*always*) to 7 (*never*). The stem was "During the past month when you and your child have spent time talking or doing things together, how often did you …" Three items related to positive affect (e.g., "Let him/her know you really care about him/her") and three items related to negative affect (e.g., "Got angry at him/her"). Items were recoded so that higher scores represented higher levels of positive affect. An additional item asked how often the parent lost his/her temper and yelled at the adolescent; responses ranged from 1 (*almost always*) to 5 (*almost never)*. The item was rescaled to a 7-point scale by using the formula $y = (6/4)(X-1) + 1$; scaling [1, 2, 3, 4, 5] becomes [1, 2½, 4, 5½, 7]. Items were averaged; average reliability for the combined mother/father report across assessments was $\alpha = .90$.

Consistent Discipline was composed of four items, scaled from 1 (*always*) to 5 (*never*) and coded so that a higher value represented a greater degree of consistent discipline. The stem was "Please circle the number that best indicates how you relate to your child in the study and what kind of expectations you have for him/her." Items included "How often do you give up when you ask this child to do something and he or she doesn't do it right away?" and "Once a discipline has been decided, how often can your child get out of it?" Items were rescaled to a 7-point scale, as above, to correspond to the *PCAQ* measure. Combined mother and father reports across assessments averaged $\alpha = .82$.

Standard Setting included four items with the same stem as the *Consistent Discipline* subscale, which were coded and scaled in the same manner as the *Consistent Discipline* subscale. Items included "How often do you give reasons to this child for your decision?" and "When he or she doesn't know why you make certain rules how often do you explain your reasons?" Combined mother/father report across assessments averaged $\alpha = .73$.

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Monitoring was measured with five items, coded and scaled in the same manner as the *Consistent Discipline* and *Standard Setting* subscales. Items included "In the course of a day, how often do you know where this child is?" and "How often do you know when this child gets into trouble at school or someplace else away from home?" Combined mother/father report across assessments averaged $\alpha = .69$.

Deviant Peer Association—Items completed by the adolescent were adapted from Elliott, Huizinga, & Ageton (1985) for the Iowa Youth and Family Project (Conger, 1989). Adolescents responded to 15 questions about their closest friends using a 4-point scale from 1 (*none of them*) to 4 (*all of them*), with the stem "During the past 12 months, how many of your close friends have…" Subscales were formed based on item content to reflect friends' *Substance use*, *Aggressive/destructive behavior*, and *Non-aggressive/rule-breaking behavior*, with the latter two scales designed to correspond to similar measures in the *Child Behavior Checklist: Teacher Report Form* (CBCL-TRF; Achenbach & Rescorla, 2001).

Friends' substance use included seven items related to friends' past year use of alcohol (and drunkenness), tobacco, inhalants, and other illicit substances (e.g., marijuana, crack, LSD, speed). Items were averaged; reliability across the three assessments was $\alpha = .91$.

Friends' aggressive/destructive behavior was comprised of two items related to friends' past year behavior: "Hit someone with the idea of hurting them," and "Purposely damaged or destroyed things that do not belong to them." Items were averaged: reliability across the three assessments was $\alpha = .82$.

Friends' non-aggressive/rule-breaking behavior was comprised of six items related to friends' past year behavior (e.g., "Cheated on a test," "Skipped school without an excuse"). Items were averaged; reliability across the three assessments was $\alpha = .91$.

Conduct Problems—We used a measure of conduct problems observed in the classroom by teachers that can reliably capture conduct problem severity, based on empirically-verified aggressive/destructive and non-aggressive/rule-breaking dimensions (Achenbach & Rescola, 2001; Tremblay, 2010). The three subscales were drawn from teacher reports on adolescent classroom behavior. The first subscale was *Compared to Classmates*, a single item the teacher completed to compare the student to others in the classroom. It was scored on a 7-point scale from 1 (*Much worse*) to 7 (*Much better*); "Compared to other students, at what level was the student's ability to avoid discipline problems and behavior difficulties." This item was reverse scored to indicate a higher level of conduct problems. Correlations across time were $r = .59$ (T2-T3) and .64 (T3-T4).

The two syndrome subscales were taken from the Externalizing Problems section of the CBCL-TRF (Achenbach & Rescorla, 2001). Those items were scaled from 0 (*Not true*) to 2 (*Very true or often true*). *Adolescent Aggressive/Destructive Behavior* included seventeen items (e.g., "Physically attacked other people," "Started fights," "Destroyed things belonging to others"), which were averaged across the three assessments; $\alpha = .92$. *Adolescent Non-Aggressive/Rule-Breaking Behavior* included nine items (e.g., "Lied or cheated," "Was truant or had unexplained absences," "Was disruptive"), which were averaged across the three assessments; $\alpha = .84$. Comparisons indicate this sample is comparable to a normal population (Achenbach & Rescorla, 2001).

Analyses also controlled for baseline family *Socioeconomic Status (SES)*, which has been associated with conduct problems (D'Onofrio et al., 2009). Three parent-reported variables —combined household income, parent education, and a measure of family financial strain— were averaged for a single SES scale (two parents' reports were averaged, where available,

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or single parent report was used). The combined scale was normally distributed. *Household Income* was measured on a 7-point scale from 1 (*less than $8000/year*) to 7 (*greater than $100,000/year*). *Parent Education* was measured on a 7-point scale from 1 (*less than 10 years*) to 7 (*more than 18 years*). *Family Financial Strain* consisted of six items measured on a 5-point scale, rescaled to a 7-point scale. Items included "My family has enough money to afford the kind of home [clothing, food, medical care] we should have." The reliability for the combined SES measure was $\alpha = .62$.

Gender was coded 0 (*girls*) and 1 (*boys*). Adolescent gender differences were compared, and if no significant differences were found, gender was specified as a covariate.

Data Analysis

Analyses controlled for multilevel effects (individual data were nested within schools; Raudenbush & Bryk, 2002; Snijders & Bosker, 1999) and adjusted for non-normality (Satorra-Bentler statistic; Kline, 2005). Some of the indicator variables did demonstrate skew and kurtosis (e.g., the peer deviance indicators), but not so severe as to bias results (Curran, West, & Finch, 1996). For data analysis, missing data percentages ranged between 12% for the seventh to eighth grade model and 27% for the eighth to ninth grade father/son model. Full-information maximum likelihood estimation (FIML) was used to address missing data. This method has become a preferred strategy for dealing with missing data (Allison, 2003; Enders & Bandalos, 2001; Schafer & Graham, 2002).

Hypotheses were investigated utilizing structural equation modeling (SEM) conducted with *Mplus* 6.1 (Muthén & Muthén, 1998–2010), using MLR estimation (maximum likelihood fitting function with robust standard errors and a mean-adjusted chi-square test statistic). We constructed latent variables with multiple indicators, thereby limiting measurement error and increasing statistical power to detect interaction effects (McClelland & Judd, 1993). Model fit was assessed using Chi-square and the CFI and RMSEA fit indices (CFI > .95 and RMSEA < .06 are considered good fit; Hu & Bentler, 1999), as well as the Bayesian Information Criteria (BIC) for model comparison in the interaction models. First, we estimated measurement models for the latent variables. Next, we evaluated structural models specifying main effects, bi-directional effects (where possible), mediation, and moderation, controlling for SES.

We evaluated gender moderation in two ways. For parent gender, both mother and father indicators of separate latent parenting variables were included in the models; factor loadings were constrained to equality across mother and father indicators. We then conducted comparisons on constrained and unconstrained structural paths across mother and father latent variables. For adolescents, gender was the grouping variable in a two-group "stacked" model. Structural parameters were constrained to equality across the gender groups, and then allowed to vary. Model fit for both types of comparisons utilized the Yuan-Bentler T2* test statistic, an empirically-supported test developed to adjust for clustered sampling and conditions of multivariate non-normality (Fouladi, 2000; Muthén & Muthén, 1998–2010). When mother/father differences were not found, combined parent variables were specified. When adolescent gender differences were not found, gender was specified as a control variable.

Next, we evaluated latent variable interactions to test whether effective parenting would moderate (buffer) the effects of deviant peer association on later conduct problems. The control variables were centered and simple slopes were evaluated, with +1 and −1 s.d. comparisons (Preacher, Curran, & Bauer, 2006). The *Mplus* 6.1 program offers a latent variable interaction procedure using a maximum likelihood estimator with robust standard errors and a numerical integration algorithm. Because the chi-square, CFI, and RMSEA tests

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of model fit were not available for the latent variable interaction analyses, the BIC test was used for model comparisons; a lower BIC value indicates a better model. It must be noted, however, that no statistical test is available for the significance level of BIC differences across models. In addition, it is not possible to conduct multiple group analyses in a latent variable interaction procedure, precluding statistical comparisons across subgroups (i.e., males and females; Muthén & Muthén, 1998–2010).

Results

Table 1a presents the means, standard deviations, and ranges of the indicator variables for Model 1 (seventh to eighth grade) and Table 1b presents Model 2 (eighth to ninth grade). The measurement models for the latent variables fit the data well (eighth grade $\chi^2_{(152)}$ =224.33, $p < .001$, CFI=.97, RMSEA=.05, BIC=4519.64 and ninth grade $\chi^2_{(318)}$=428.78, $p < .001$, CFI=.96, RMSEA=.04, BIC= 7478.30). All factor loadings were significant, latent variables were allowed to correlate, and autocorrelated residuals were allowed across time for latent variable indicators. Correlation tables for each model are available from the first author.[2]

Eighth Grade Conduct Problems—To test H1, evaluating main effects of parenting and peer deviance on conduct problems, seventh grade (T2) effective parenting and deviant peer association were specified to predict conduct problems one year later (T3), controlling for baseline effective parenting and peer deviance (T1) and conduct problems at T2 (an assessment of T1 conduct problems was not available). SES was a control variable estimating predictive paths to the latent variables in all models.

First, in order to identify the most accurate model, we evaluated gender differences for both parents and adolescents. To test parent gender differences, we specified two effective parenting latent variables with separate indicators for mothers and fathers. Paths from T1 mother and father effective parenting to T2 peer deviance and T2 conduct problems, and T2 mother and father effective parenting to T3 conduct problems were constrained, then freed. The Yuan-Bentler T2* test statistic indicated that the mother and father latent variable pathways were not significantly different ($\Delta\chi^2_{(3)}$=3.23, p =.36); further, no single pathway differed significantly.

Next, we evaluated adolescent gender differences with a two-group model, stacked by gender, combining the mother and father indicators to specify a latent effective parenting variable. The constrained and freed gender pathways were compared as above and indicated a non-significant overall gender difference ($\Delta\chi^2_{(11)}$=13.90, p =.24) and no single pathway was significantly different.

The tests described above suggested the most appropriate model would combine the mother and father parenting indicators and control for adolescent gender. This model demonstrated a good fit with the data ($\chi^2_{(182)}$=281.46, $p < .001$, CFI=.96, RMSEA=.05 [CI .038, .060], BIC=5510.93). Addressing H1, there were significant paths from T1 effective parenting (β= −.14, p <.05) and T1 deviant peer association (β=.31, p <.01) to T2 conduct problems in the expected direction; that is, effective parenting was negatively associated with later conduct problems and deviant peer association was positively associated with later conduct problems. Contrary to expectations, however, T2 effective parenting and T2 peer deviance were non-significantly related to T3 conduct problems, controlling for earlier levels of

[2]Correlations between parenting and conduct problems ranged between −.01 and −.36; deviant peer association and conduct problems ranged between .15 and .45; and parenting and deviant peer association ranged between .00 and −.33. Correlations across non-adjacent time periods (e.g., T1 and T4) were lower than across either the same time period or adjacent time periods.

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conduct problems. Tests found a marginally significant indirect effect for T1 parenting influences on T3 conduct problems; however, not through effects on T2 deviant peers, but through T2 conduct problems (β=−.09, *p*=.06).

Next, we conducted a test of H2, the buffering hypothesis, evaluating the interaction between T2 parenting and peer deviance predicting T3 conduct problems. The interaction model proved a better fit, as illustrated by the BIC of 4506.16, where a lower BIC indicates a better fit (recall that chi-square, CFI and RMSEA results are not available for latent variable interaction models). Figure 1 illustrates the unstandardized model parameters and the interaction between T2 effective parenting and deviant peer association on T3 conduct problems. The interaction indicates that effective parenting buffered the effects of deviant peer association; adolescents with higher levels of effective parenting in seventh grade had lower levels of conduct problems in eighth grade than did adolescents with lower levels of effective parenting when exposed to higher levels of deviant peer association. An analysis of simple slopes indicated that higher levels of deviant peer association (+1 s.d) significantly predicted conduct problems for adolescents with lower levels of effective parenting (−1 s.d.; *b*=.41, *z*=2.45, *p* =.02), but not for adolescents with higher levels of effective parenting (+1 s.d.; *b*=.18, *z*=1.12, *p*=.27). H3—the hypothesis that child conduct problems would have a negative effect on subsequent effective parenting and a positive effect on subsequent deviant peer association—could not be evaluated in this case, because T1 conduct problem data were not collected. Contrary to the expectations for H4 (i.e., effective parenting would have a negative influence on subsequent deviant peer association), T1 effective parenting did not have an effect on T2 deviant peer association; T1 levels of peer deviance, however, had a marginally significant positive effect on T2 effective parenting, addressing H5 (i.e., higher levels of deviant peer association would lead to a subsequent increase in effective parenting).

Ninth Grade Conduct Problems—This model, illustrated in Figure 2, evaluated the influences of T3 effective parenting and peer deviance on T4 conduct problems. Stability and cross-lagged paths were evaluated for the influence of T2 effective parenting, peer deviance, and conduct problems on the T3 and T4 variables. The modeling proceeded in the same manner as did the eighth grade model, first evaluating mother-father and adolescent gender differences in a main effects model. Results differed for mother and father effects from T2 effective parenting to T3 deviant peer association and from T3 effective parenting to T4 conduct problems ($\Delta\chi^2_{(2)}$=8.25, *p* =.02). Although overall adolescent gender differences were non-significant ($\Delta\chi^2_{(12)}$=13.42, *p* =.33), the path from T3 peer deviance to T4 conduct problems differed, with males demonstrating a greater degree of peer influence ($\Delta\chi^2_{(1)}$=4.65, *p*=.03). Because gender differences were found, we conducted models that specified both mothers' and fathers' influence on daughters and sons separately. The model that specified both mothers' and fathers' effective parenting for female adolescents, however, did not converge. We concluded that the most prudent course to follow was to estimate four separate models—mothers' influence on their daughters and sons separately and fathers' influence on their daughters and sons separately. Because the *Mplus* statistical program does not support multiple-group analyses for latent variable interactions, statistical comparisons across the four models were not possible.[3]

[3]A model that evaluated three-way interactions also was tested for the ninth grade conduct problem outcome. That model specified peer deviance and both mother and father direct effects, two-way interactions with mother-peer and father-peer effects, and three-way interactions with father-peer-gender and mother-peer-gender effects. Results supported the significant effect of the father-peer-gender three-way interaction. The interpretation of the three-way interaction was that the two-way father-peer interaction was negative for girls and positive for boys, the same result as was found in the separate parent-child gendered models. The mother-peer-gender interaction, however, did not achieve significance, likely due to controlling for father effects. Nonetheless, gender differences on the two-way interaction (parentXpeer) were not the only gender difference we were interested in exploring. We also were interested in gender differences in other model pathways, including bi-directional effects and stability coefficients.

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Table 2 presents the fit indices. Considering the sample size, fit indices were adequate and comparable to those obtained in similar latent variable longitudinal models (Kosterman et al., 2004; Reitz et al., 2006). The BIC was lower when interactions were specified for all models, indicating model improvement and suggesting further exploration of the moderating influence of effective parenting on conduct problems, in the context of deviant peer associations (H2). Table 3 presents the unstandardized coefficients obtained in the four separate models. (Standardized parameters are not available for latent variable interaction models.) Figure 3 represents the latent variable interactions between T3 effective parenting and deviant peer association on T4 conduct problems for the four models, based on model parameters illustrated with + and − one standard deviation for the interacting latent variables. (Latent variable means are zero). Several differences in the model parameters between mothers' and fathers' influences on their daughters and sons were found.

First, comparing fathers' influences on daughters and sons, regression coefficients and interaction plots found stronger influences on daughters than on sons. For H1, fathers' main effect, fathers' demonstrated a significant and strong negative effect on their daughters' T4 conduct problems, whereas the negative effect on their sons' conduct problems was non-significant. Also related to H1, T3 levels of peer deviance were significant and positively related to T4 conduct problems for girls, but not for boys, who demonstrated a greater degree of stability in conduct problems from T2 to T4. Further, addressing H2, a significant interaction was found for fathers' effects on their daughters, indicating a buffering of the influence of higher levels of deviant peer association on conduct problems when fathers' effective parenting was higher. Analyses of simple slopes for the interaction of fathers' effects on their daughters found a negative but non-significant slope for higher levels of parenting (+1 s.d.; b=−.09, z=−0.40, p =.63), whereas lower levels of parenting (−1 s.d.; b=1.20, z=6.17, p <.001) were significant and demonstrated a positive slope (see Figure 3). This supports the importance of fathers' parenting on girls' conduct problems in the context of deviant peer association. When levels of deviant peer association were higher, girls with lower levels of father's effective parenting were more at risk for demonstrating conduct problems whereas girls with higher levels of father's effective parenting were protected from that risk. We found a significant interaction in the sons' model as well. Simple slopes analyses found a significant effect for higher levels of parenting (+1 s.d.; b=.87, z=2.91, p <. 01), but in the opposite direction of an expected buffering effect; that is, the influence of fathers' effective parenting was stronger when levels of deviant peers were lower. There was a non-significant slope for lower levels of parenting. Interestingly, for girls, the stability coefficient between T2 and T4 conduct problems was non-significant in the father's model, indicating changes in the rank order of girls' conduct problems between 7th and 9th grade, likely predicted primarily by father influences.

Related to H3, girls' T2 levels of conduct problems negatively influenced fathers' T3 effective parenting, as expected; however, that path was non-significant for boys. Unexpectedly, T2 conduct problems did not have a significant influence on T3 deviant peer association; the peer selection hypothesis (H3) was not supported in this analysis for either boys or girls. Related to H4, T2 levels of fathers' effective parenting led to lower levels of T3 deviant peer association for boys; however, that was not the case for fathers' effects on their daughters' T3 deviant peer association. (Indirect effects for T2 fathers' parenting effects on T4 conduct problems through T3 deviant peers were non-significant for both boys and girls). For girls, T2 levels of peer deviance were marginally significant predictors of an increase in fathers' T3 parenting efforts, supporting H5; that path was non-significant for boys.

Next, concerning mothers' influences on daughters and sons, mothers' T3 effective parenting effects on both daughters and sons was non-significant, whereas deviant peer

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effects were significant for boys only (H1). The interaction effect for mothers' influence on sons was similar to the interaction effect of fathers on sons; that is, mothers' effective parenting was associated with lower levels of conduct problems when levels of deviant peer association were lower, rather than higher (H2). Simple slopes analyses found a significant effect for higher levels of parenting (+1 s.d.; b =1.06, z=3.73, p <.001) and a non-significant slope for lower levels of parenting (See Figure 3). For mothers' influence on their daughters, the interaction effect was non-significant. Regarding H3, the influence of T2 conduct problems on T3 parenting and deviant peer association, paths were non-significant for both daughters and sons; that is, both the previously-supported child-to-parent effect and the peer selection hypothesis were not supported in the mothers' models (Mounts, 2000; Vitaro et al., 2001). For both daughters and sons, however, T2 mothers' parenting significantly lowered the level of T3 association with deviant peers, supporting H4; a marginally significant indirect effect was found for T2 mothers' influence on their sons' T4 conduct problems through effects on T3 deviant peers (b=−.17, p=.10). Finally, for both daughters and sons, the level of T2 peer deviance did not predict T3 levels of effective parenting (H5).

Discussion

Conduct problems include aggression, rule-breaking, and other discipline problems (Connor, 2002) and typically escalate in early adolescence; they are often associated with both concurrent and subsequent adjustment problems (Angold & Costello, 2001; Furlong et al., 2004; Maughan & Rutter, 2001). In order to guide the design of preventive interventions and treatments (Kimonis & Frick, 2006; Lansford et al., 2006), it is crucial to understand the important developmental predictors of these behaviors. We examined parent and peer influences on conduct problems in a rural general population sample across two developmental stages—early and mid-adolescence. A unique component of the study was the evaluation of parent-child gendered dyads. Although similarities and differences in the pattern of findings specific to developmental stage and across parent and child gender could not be statistically compared, findings are instructive and suggest the importance of further study. The first hypothesis (H1)—that effective parenting will decrease and deviant peer association will increase later conduct problems—was generally supported, although interpretation of relevant findings warrants consideration of a larger more complex pattern, including buffering effects (H2), age, and gender differences. Main and interaction effects indicated that parenting and deviant peers had observed influences across both developmental periods. In addition, results suggested a difference between early and mid-adolescent development stages. Effective parenting of mothers and fathers during the seventh grade buffered the influence of higher levels of deviant peer association on eighth grade conduct problems for both boys and girls. In the ninth grade, however, influences differed by both parent and adolescent gender.

The parent-child gender differences that were found in the ninth grade analyses were inconsistent with Hoeve et al.'s meta-analysis findings of stronger same-gender effects. Similar to findings by Kosterman et al. (2004), our results indicated that fathers had a stronger influence on their daughters' conduct problems than on their sons', whereas mothers had a stronger influence on their sons' conduct problems than on their daughters'. Also similar to Kosterman et al., our results suggested that fathers' parenting influence on daughters was stronger than mothers' influence. When fathers' effective parenting was greater, their daughters' conduct problems were lower in the context of higher levels of deviant peer association, demonstrating a buffering effect. For boys, however, higher levels of both mothers' and fathers' effective parenting were more influential when deviant peer associations were lower. Further, results found that deviant peer association was more influential for boys than for girls during this developmental stage, contrary to some earlier research (Kung & Farrell, 2000; Moffit, 2006). This interesting finding suggests that

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parents' support and behavioral control may paradoxically conflict with their sons' desire for autonomy and peer acceptance as they transition into high school. Mounts (2000) has suggested that in the context of an increased desire for autonomy and increased susceptibility to peer influence during adolescence, too much attempted parental control or influence might cause resentment and may not have the desired effect on their adolescent's behavior. Marshal and Chassin (2000) suggest that boys, in particular, might interpret parental support and control as a threat to autonomy.

In the ninth grade mother-daughter analysis, mothers' parenting, peer deviance, and their interaction did not significantly predict later conduct problems when controlling for earlier levels, indicating stability across time in girls' conduct problems when mothers only were included in the model. The absence of strong effects from mothers' parenting in eighth grade to daughters' conduct problems in ninth grade is especially noteworthy, given the strong protective effect of fathers' parenting across this time frame and the expectation that girls would view their mothers, rather than their fathers, as role models (Laible & Carlo, 2004). Perhaps, as suggested by Kosterman et al., although fathers typically are less engaged with their daughters than are their mothers, they may play a key role in dissuading daughters from problem behaviors. Our results support recent suggestions in the literature regarding the importance of including fathers in research and in preventive or treatment interventions, perhaps by developing strategies to better engage fathers (Cowan, Cowan, Pruett, Pruett, & Wong, 2009; Gryczkowski, Jordan, & Mercer, 2009; Pettit & Arsiwalla, 2008). These results also suggest that developmental research on conduct problems should study parent-child gendered dyads, as failing to differentiate gender for either or both parents and adolescents may produce misleading or incomplete findings.

Concerning differences in results from this study and those from Hoeve et al. (2009), the respective methodological approaches and measurement differences may account for some of the discrepancies. For example, Hoeve et al. restricted analyses to behaviors that were prohibited by law, whereas this report also included less serious aggressive and rule-breaking behaviors that may apply to a broader range of adolescents. Also, although other dimensions of parenting were tested in the Hoeve et al. meta-analysis, only supportive parenting behaviors were associated with parent-child same-sex effects. Our analyses assessed effective parenting in a latent variable context that included both parental supportive and behavioral control factors. Further, Hoeve et al. assessed only parenting constructs, whereas this study assessed parenting in conjunction with peer deviance, modeling interactions between the constructs. Because Hoeve and colleagues were unable to test these interactions, important effects of parenting in the meta-analysis may have been missed. It may also be the case that our rural sample differed in important but unexamined ways from the broader sampling base included in the meta-analysis.

Results regarding parent and child gender differences indicated that effects of parenting may vary across time and across both parent and adolescent gender. Peer effects may also vary, depending on parent and child gender. Specifically, in the ninth grade, boys demonstrated a greater degree of peer influence than girls overall; however, girls whose fathers demonstrated less effective parenting in eighth grade demonstrated higher levels of conduct problems in ninth grade when negative peer influence was greater.

The hypothesis (H3) that earlier child conduct problems would have a negative effect on later effective parenting was partially supported in the ninth grade (the lack of an earlier conduct problem assessment precluded evaluating this hypothesis in the eighth grade model). In the father-daughter ninth grade analysis, earlier conduct problems decreased the level of later effective parenting, supporting bi-directionality of parent-child effects, as found in some earlier research (Reitz et al., 2006; Petit &Arsiwalla, 2008). However, it

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should be emphasized that fathers' parenting was a very important influence on later conduct problems for their daughters. The Pettit and Arsiwalla (2008) review of bi-directionality did not include studies that assessed gendered dyad-specific patterns; they suggested, however, that future research should include both fathers and mothers (most include mothers only), as well as both boys and girls, as does the current study.

The hypothesis (H3) that earlier child conduct problems would lead to increases in later negative peer association, which could only be tested in the ninth grade, was not supported. Many earlier studies have supported this hypothesis, often referred to as peer selection (Scaramella et al., 2002, Vitaro et al., 2001). It is possible that our use of separately-reported measures, where adolescents reported their peers' behaviors and teachers reported the adolescents' behavior in the classroom setting, was responsible for the lack of support for peer selection. That association would likely be stronger when adolescents report both their own and their peers' conduct problems, possibly reflecting biased reporting or behavior that differs by context (Bauman & Ennett, 1996).

The hypothesis (H4) that effective parenting would have a negative influence on later deviant peer associations was not supported in the eighth grade model, but was supported in three of the four ninth grade models; only in the father-daughter model was this effect absent. A potential explanation for the lack of an effect from seventh grade parenting to later peer deviance was the shorter 6-month time frame between the two assessments. It is possible that parenting influences on peer association may take longer to develop. Regarding the ninth grade results, a supplemental ninth grade model that combined mother and father effective parenting and controlled for gender did find an overall negative effect from parenting to later peer deviance, similar to earlier reports (Brown et al., 1993; Scaramella et al., 2002). When mother and father reports constituted separate latent variables, however, mothers' parenting contributed more to the negative effect on later peer deviance for both boys and girls, and a marginally significant indirect effect from mothers' parenting through deviant peer association to sons' later conduct problems was found. One possible explanation for this pattern of findings is that mothers may have a greater degree of knowledge regarding their adolescent's friendships, and thus may play a more important role in shepherding their adolescents away from deviant peer associations during the transition from middle to high school.

The hypothesis (H5) that higher levels of negative peer association would lead to a subsequent increase in effective parenting also was not well supported. There was a marginally significant trend in the fall of seventh grade for higher levels of negative peer association to increase the level of effective parenting six months later. That same trend was found in the father-daughter analysis across a one year time frame, from the spring of seventh grade to the spring of eighth grade. Mounts (2000) has suggested that parents may more closely monitor their child, or may actively discourage or prohibit their child from negative peers when such associations have increased. Limited and mixed findings suggest that increases in parenting efforts in the context of increases in negative peer association may vary across developmental stages and parent-child gender.

It is important to consider the limitations resulting from characteristics of the study sample. Replication studies with adolescent samples from different geographical and cultural segments of the population are recommended to examine the generalizablity of study results to different populations. Also, the sample was a general population, not a high-risk sample. In addition, fathers who did not participate in every wave of data collection were somewhat more likely to have adolescents with higher levels of conduct problems, suggesting the possibility that analyses of father's influence may be biased; however, fathers who did and did not participate in every wave demonstrated no differences in their estimation of their

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parenting across waves. Although early to middle adolescence is an important developmental stage in the acceleration of conduct problems, patterns of influence on conduct problems differ across stages of child and adolescent development (Vitaro et al., 2001). Future studies should examine these relationships in childhood, as well as in later adolescence.

We constructed latent variables from separate reporters, providing an assessment of effects with less measurement error and method bias confounding the findings. It may be difficult to determine the most accurate reporter for a specific construct; nonetheless, it has been suggested that researchers avoid single reporters whenever possible. Further, combining separate reporters in either manifest or latent variables can diffuse distinct patterns of behavior that emerge by context (Bank et al., 1990; Dishion, & Stormshak, 2007), suggesting that different reporters for the constructs could demonstrate varied findings. This specific reporting context should be supplemented by examining alternative reporters for each construct so that differences among reporters can be compared more systematically. A final and important limitation is the inability to compare the parent-child gendered dyad models statistically. The results found in these parent-child gendered analyses do not statistically account for the combined influences of both parents, and differences in significance levels of paths cannot be compared statistically across models, due to analytical constraints. Analyses with larger samples are recommended as well.

In summary, it is noteworthy that parenting effects on conduct problems during middle school and early high school generally were strong, even with the increasing levels of peer influence. It is especially noteworthy that fathers' influence on their daughters' conduct problems was strong during the transition to high school, when behavior patterns are becoming more firmly established, supporting the importance of the father-daughter relationship during this developmental stage. At the same time, mothers were more influential in dissuading their children from associating with negative peers during that transition. The current study highlights the positive effect parents can have on their adolescents and supports the development and evaluation of family-focused, parenting-training interventions to reduce young adolescent conduct problems, along with the importance of involving fathers in treatment and prevention efforts (see Spoth, Redmond & Shin, 2000; Webster-Stratton, Reid, & Hammond 2004).

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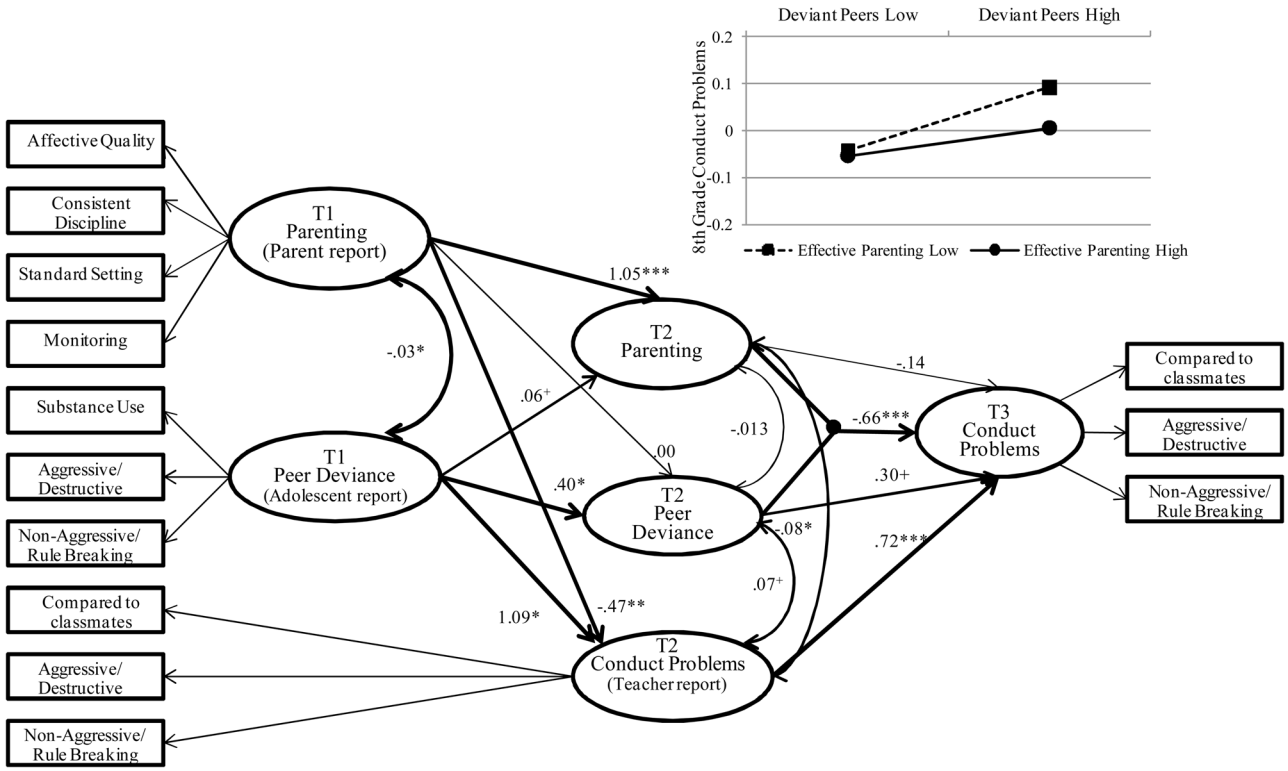

Figure 1.

Influence of effective parenting and peer deviance on eighth grade conduct problems with moderating influences illustrated in the inset

N = 226; Boys = 112, Girls = 107, Gender missing = 7. Fit index was the Bayesian (BIC) = 4506.16.

+ p < .10; * p < .05; ** p < .01; *** p < .001.

Note: Control variables were family socioeconomic status and gender. Path values are unstandardized. T1 and T2 Parenting and Peer Deviance latent variables are comprised of identical indicators.

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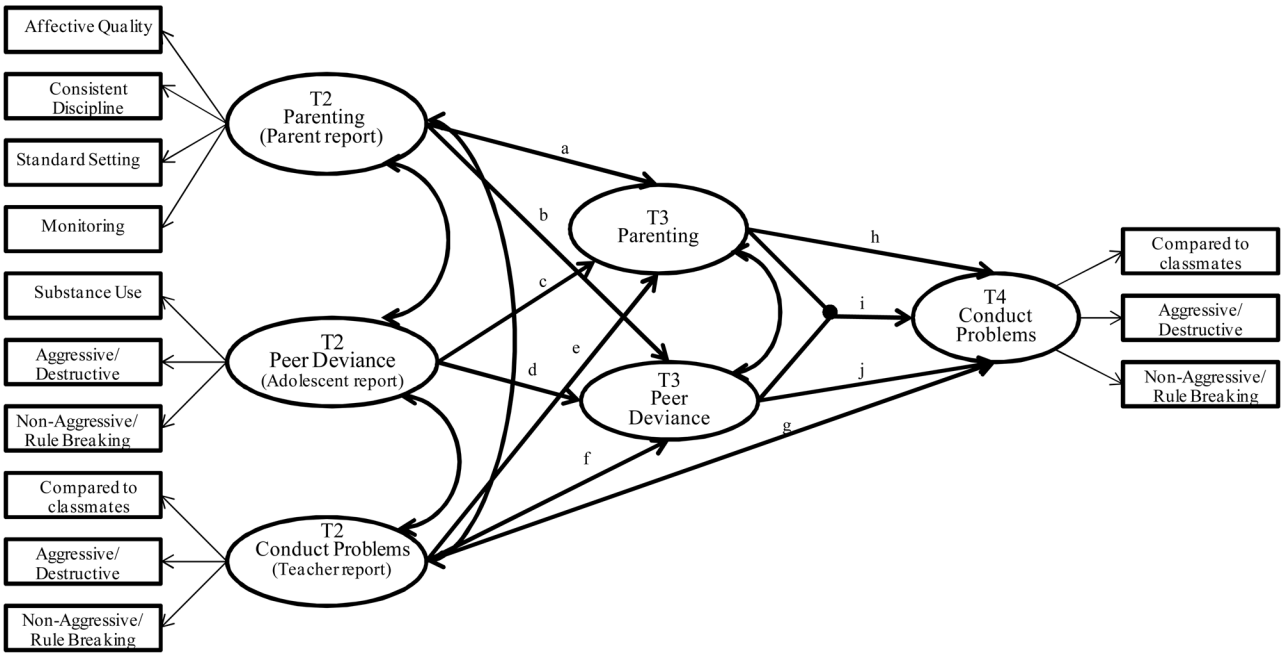

Figure 2.

Tested model of effective parenting and peer deviance on ninth grade conduct problems by parent and adolescent gender

Note: T2 and T3 Parenting and Peer Deviance latent variables are comprised of identical indicators.

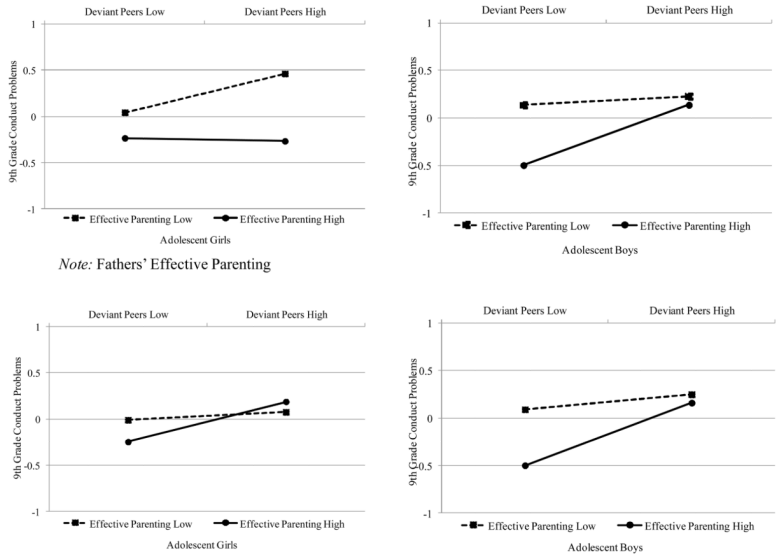

Figure 3.

Illustration of the moderating effects of fathers' and mothers' effective parenting on ninth grade daughters' and sons' conduct problems by higher and lower levels of deviant peer association

Note: Mothers' Effective Parenting

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Table 1a

Model 1 Means, Standard Deviations, and Ranges

Variables	Mean	Standard Deviation	Range
Parent Report			
T1 Parent Child Affective Quality	5.29	0.69	1 – 7
T1 Consistent Discipline	4.99	0.69	1 – 7
T1 Consistent Discipline	5.97	0.67	1 – 7
T1 Monitoring	5.72	0.44	1 – 7
T2 Parent Child Affective Quality	5.48	0.72	1 – 7
T2 Consistent Discipline	5.09	0.64	1 – 7
T2 Standard Setting	5.07	0.58	1 – 7
T2 Monitoring	5.74	0.50	1 – 7
Adolescent Report			
T1 Substance use	1.15	0.43	1 – 4
T1 Friends' Aggressive/Destructive Behavior	1.29	0.59	1 – 4
T1 Friends Non-Aggressive/Rule-Breaking Behavior	1.23	0.50	1 – 4
T2 Substance use	1.22	0.53	1 – 4
T2 Friends' Aggressive/Destructive Behavior	1.30	0.60	1 – 4
T2 Friends Non-Aggressive/Rule-Breaking Behavior	1.25	0.52	1 – 4
Teacher Report			
T2 Compared to Classmates	3.00	1.81	1 – 7
T2 Adolescent Aggressive/Destructive Behavior	0.24	0.31	0 – 2
T2 Adolescent Non-Aggressive/Rule-Breaking Behavior	0.20	0.27	0 – 2
T3 Compared to Classmates	2.88	1.74	1 – 7
T3 Adolescent Aggressive/Destructive Behavior	0.38	0.28	0 – 2
T3 Adolescent Non-Aggressive/Rule-Breaking Behavior	0.72	0.31	0 – 2

Note: N=226; T1 = Time 1; T2 = Time 2; T3 = Time 3.

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Table 1b

Model 2 Means and Standard Deviations by Gender

Variables	Males		Females		*p* value
	Mean	Standard Deviation	Mean	Standard Deviation	Gender Difference
Father Report					
T2 Parent Child Affective Quality	5.38	0.80	5.51	0.72	.27
T2 Consistent Discipline	5.17	0.64	5.14	0.61	.78
T2 Standard Setting	5.07	0.74	5.03	0.77	.70
T2 Monitoring	5.64	0.58	5.69	0.57	.55
Mother Report					
T2 Parent Child Affective Quality	5.44	0.88	5.61	0.70	.13
T2 Consistent Discipline	5.04	0.65	5.03	0.77	.90
T2 Standard Setting	5.12	0.77	5.14	0.70	.83
T2 Monitoring	5.64	0.56	5.96	0.62	<.01
Father Report					
T3 Parent Child Affective Quality	5.37	0.74	5.48	0.76	.34
T3 Consistent Discipline	5.21	0.71	5.15	0.53	.56
T3 Standard Setting	5.08	0.62	4.93	0.82	.21
T3 Monitoring	5.66	0.53	5.59	0.58	.44
Mother Report					
T3Parent Child Affective Quality	5.50	0.87	5.59	0.73	.39
T3 Consistent Discipline	5.08	0.65	5.00	0.66	.41
T3 Standard Setting	5.16	0.77	5.07	0.76	.40
T3 Monitoring	5.65	0.61	5.87	0.65	.02
Adolescent Report					
T2 Substance use	1.23	0,69	1.22	0.46	.92
T2 Friends' Aggressive/Destructive Behavior	1.39	0.67	1.21	0.50	.04
T2 Friends Non-Aggressive/Rule-Breaking Behavior	1.28	0.54	1.22	0.51	.47
Teacher Report					
T2 Compared to Classmates	3.67	1.87	2.31	1.46	<.01
T2 Adolescent Aggressive/Destructive Behavior	0.31	0.35	0.16	0.23	<.01
T2 Adolescent Non-Aggressive/Rule-Breaking Behavior	0.30	0.31	0.09	0.18	<.01

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Variables	Males		Females		*p* value
	Mean	Standard Deviation	Mean	Standard Deviation	Gender Difference
Adolescent Report					
T3 Substance use	1.39	0.68	1.39	0.66	.98
T3 Friends' Aggressive/Destructive Behavior	1.50	0.74	1.34	0.76	.13
T3 Friends Non-Aggressive/Rule-Breaking Behavior	1.42	0,67	1.41	0.78	.95
Teacher Report					
T4 Compared to Classmates	3.51	1.70	2.48	1.61	<.01
T4 Adolescent Aggressive/Destructive Behavior	0.28	0.28	0.17	0.22	.01
T4 Adolescent Non-Aggressive/Rule-Breaking Behavior	0.44	0.38	0.29	0.29	<.01

Note: T2 = Time 2; T3 = Time 3; T4 = Time 4. Adolescent boys $n = 110$; Adolescent girls $n = 109$; Fathers $n = 187$; Mothers $n = 216$.

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Table 2

Fit Indices for the Eighth-to-Ninth Grade Models

	χ^2	df	*p*	CFI	RMSEA	BIC
			Fathers			
Daughters (Main Effects)	253.47	165	<.001	.92	.07 [.05 to .09]	2325.01
Daughters (Interaction)	-	-	-	-	-	2070.20
Sons (Main Effects)	240.88	165	<.001	.94	.07 [.05 to .09]	2849.97
Sons (Interaction)	-	-	-	-	-	2605.37
			Mothers			
Daughters (Main Effects)	248.34	165	<.001	.93	.07 [.05 to .09]	2532.18
Daughters (Interaction)	-	-	-	-	-	2304.58
Sons (Main Effects)	229.17	165	<.001	.95	.06 [.04 to .08]	3186.27
Sons (Interaction)	-	-	-	-	-	2938.33

Note: Analyses limited to those not missing information on adolescent gender.

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Table 3

Unstandardized Coefficients for the Structural Paths in the Eighth-to-Ninth Grade Models

	Fathers				Mothers			
	Boys		Girls		Boys		Girls	
Paths	**b**	**t-value**	**b**	**t-value**	**b**	**t-value**	**b**	**t-value**
a	.792	9.203***	.690	5.590***	.853	7.440***	.884	4.862***
b (H4)	−.152	−1.993*	−.056	−0.296	−.264	−2.534*	−.176	−2.552*
c (H5)	−.061	−0.630	.313	1.918+	.031	0.451	.065	0.358
d	.663	1.609	.854	2.461*	.588	1.620	1.067	3.100**
e (H3)	.031	0.713	−.205	−2.617**	−.032	−1.520	.018	0.287
f (H3)	.035	0.832	.078	0.561	.015	0.425	−.032	−0.250
g	.545	3.020**	.011	0.148	.504	3.084**	.617	5.175***
h (H1)	−.464	−1.191	−1.238	−6.095***	−.454	−1.223	−.113	−0.408
i (H2)	.956	2.937**	−3.186	−7.853***	1.077	3.151**	.726	1.457
j (H1)	.498	1.367	.553	3.159**	.655	2.100*	.300	0.695

+ p<.10;

* p<.05;

** p<.01;

*** p<.001

Note: Please refer to Figure 3 for the identification of structural paths labeled “a” to “j”; paths that reflect hypotheses are labeled (H1–H5). Paths a, d, and g represent stability coefficients.