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## Child Effects on Lability in Parental Warmth and Hostility: Moderation by Parents' Internalizing Problems

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### Abstract

Research documents that lability in parent-child relationships –fluctuations up and down in parent-child relationships– is normative during adolescence and is associated with increased risk for negative outcomes for youth. Yet little is known about factors that predict lability in parenting. This study evaluated whether children's behaviors predicted lability in parent-child relationships. Specifically this study tested whether youth maladjustment (delinquency, substance use, internalizing problems) in Grade 6 was associated with greater lability (e.g., more fluctuations) in parents' warmth and hostility towards their children across Grades 6-8. The study also tested whether the associations between youth maladjustment and lability in parents' warmth and hostility were moderated by parents' internalizing problems. The sample included youth and their parents in two parent families who resided in rural communities and small towns ( $N= 618$ ; 52% girls, 90% Caucasian). Findings suggest that parents' internalizing problems moderated the

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M.L. conceived of the study, ran the analyses, and drafted the manuscript. G.F. participated in the design of the study, aided in the interpretation of the data and findings, and provided feedback on drafts. A.H. participated in the design of the study, aided in the interpretation of the data and findings, and provided feedback on drafts. N.R. provided conceptual and statistical consultation, aided in the interpretation of the data and findings, and provided feedback on drafts. All authors read and approved the final manuscript.

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Data Sharing Declaration

This manuscript's data will not be deposited.

Conflicts of Interest

The authors report no conflict of interests.

Compliance with Ethical Standards

Ethical Approval

The original PROSPER study procedures were approved by Institutional Review Board at The Pennsylvania State University, where the study was housed. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study here used deidentified secondary data from the PROSPER project. Therefore it was deemed exempt from the Institution Review Board at The University of North Carolina at Chapel Hill.

Informed Consent

All youths and families in the original PROSPER study were informed about and consented to participate in the project.

associations between child maladjustment and parenting lability. Among parents with high levels of internalizing problems, higher levels of youth maladjustment were associated with greater lability in parents' warmth. Among parents with low in internalizing problems, higher levels of youth maladjustment were associated with less lability in parents' warmth. The discussion focuses on how and why parent internalizing problems may affect parental reactivity to youth problem behavior and intervention implications.

### Keywords

parent–youth relationships; parenting; parenting lability; child effects; parental depression

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### Introduction

Early adolescence is a developmental period marked by notable changes in youth social contexts, with these changes affecting their relationships with their parents (Steinberg & Morris, 2001). Recent work suggests that parenting fluctuates extensively during early adolescence (Lippold, Hussong, Fosco, & Ram, 2018). These within-person up and down fluctuations in parenting over time are labeled as “parenting lability”. Prior work has found evidence that parenting lability is linked to later youth adjustment (Lippold et al., 2018). However, little is known about child effects on parenting lability. From family systems perspective, youth maladjustment (e.g., problem behavior) should shape the quality of parent-child interactions, and may serve to disrupt the stability of parenting practices over time (Cox & Paley, 2003). Yet, little is known about how youth maladjustment may elicit or predict subsequent lability in parenting. Moreover, prior studies have not investigated how parent characteristics, such as parents' internalizing problems, moderate the associations between youth maladjustment and parenting lability. This study extends prior research on parenting lability to test whether youth maladjustment (delinquency, substance use, and internalizing problems) in Grade 6 is associated with greater lability in parent's warmth and hostility towards their children across Grades 6-8. It should be noted that the current dataset does not contain the required number of observations to test bidirectional models between parenting lability and youth outcomes (e.g., a minimum of 8-10 occasions). Therefore, the focus on this study is child effects specifically, an important next step in this line of research. Further, in line with a person-process-context model (Bronfenbrenner, 2005), this study also assesses whether the association between youth maladjustment and lability in parents' warmth and hostility differ based on levels of parents' internalizing problems.

### The Early Adolescent Transition

Early adolescence is a developmental transition marked by dramatic changes in adolescents' social development (Steinberg & Morris, 2001). Some of the key social changes include increased autonomy and independence in the parent-child relationship, which result in youth spending less time with their parents and more time with their peers (Lam, McHale, & Crouter, 2012). The prevalence of risky behaviors, such as youth delinquency and substance use, and youth internalizing problems increase in early adolescence (Greenberg & Lippold, 2013).

Family systems theorists have noted that developmental transitions can disrupt family systems, requiring families to adapt and reorganize, and spurring changes in patterns of parent-child interactions (Cox & Paley, 2003). One of the key features of the family system is adaptive self-organization (Brinberg, Fosco, & Ram, 2017). Family systems self-organize and develop stability in roles, boundaries, and patterns of interactions among family members. When changes occur either internal or external to the family system, it can destabilize the system and disrupt existing family interaction patterns (Brinberg et al., 2017). Family systems must adapt, reorganize, and develop new patterns of interactions in response to changes. Thus, given the extensive changes of early adolescence, the early adolescent transition may be marked by destabilization in the family system and many changes in parent-child relationships, including parental warmth and hostility (Lippold et al., 2018).

### Defining Parenting Liability

Prior work (Lippold et al., 2018) has found there to be substantial changes in parents' hostility and warmth towards their children during early adolescence. Two types of changes in parental warmth and hostility during this time period can be distinguished: developmental trends and liability (Figure 1). The first type of change, developmental trends, captures the long-term trajectory of parental warmth and hostility across early adolescence—that is how much parents' warmth and hostility increases or decreases over the entire time span (e.g., linear declines). Between-person differences exist in how much parents' warmth and hostility increases or decreases over time. The second type of change, liability, captures the extent to which parents' warmth and hostility fluctuates from year to year (around their developmental trend). Between-person differences also exist in the extent of fluctuation in warmth and hostility. Some parents experience high liability, with extreme fluctuation up and down in their warmth and hostility over their child's early adolescence (see Panel A in Figure 1). In contrast, low liability parents have few fluctuations in warmth and hostility over time, with more consistent levels of parental warmth and hostility (see Panel B in Figure 1). Liability and developmental trends represent different components of change, such that a parents' trajectory might have a low rate of change over time (e.g., small developmental trend), but substantial fluctuation around that trajectory (e.g., high liability). Parents with the same developmental trend may differ substantially in terms of liability. Prior research suggests that in addition to developmental trends, liability also provides important information about how parenting changes over early adolescence (Lippold et al., 2018; Marceau, Ram, & Susman, 2015).

From a family systems perspective (Cox & Paley, 2003), liability in parental warmth and hostility may reflect a family's process of adaptive reorganization and self-organization that occurs during the early adolescent transition. Because adaptive reorganization is a process where families develop new family roles, rules, boundaries, and interactions, some liability in parental warmth and hostility may be normative. Yet, Family Systems Theory (Cox & Paley, 2003) also suggests that families differ in how well they are able to re-establish a new stable system during a developmental transition, making transitions such as early adolescence a time of potential vulnerability for families. Families that exhibit low levels of liability may have successfully adapted to new roles during the early adolescent transition and developed new, stable pattern of family interactions. In contrast, families that exhibit high levels of

lability may have experienced difficulty developing a new, stable family system with new roles during the adolescent transition. For a high lability family, the process of adaptation to developmental changes may result in an unstable family system, marked by fluctuating patterns of interaction (Lippold et al., 2018). For a high lability family, the adolescent transition may be marked by intermittent periods of crisis, where the family has difficulty adapting to change, and therefore, high lability families may experience many ups and downs in parental warmth and hostility during early adolescence.

A growing body of research has found evidence of substantial lability in parenting and parent-child relationships, especially during early adolescence as youth and parents may be adapting to new roles, suggesting that some lability is normative (Lippold et al., 2018; Lippold, Davis, Lawson, & McHale, 2016). Studies have documented that parental knowledge of youth activities fluctuate both from year to year (Lippold, Fosco, Ram, & Feinberg, 2016) and from day to day (Lippold, McHale, Davis, & Kossek, 2015)—with families experiencing many ups and downs in their knowledge. Similarly parent-child conflict demonstrates high lability and indeed a decomposition of variance found that lability accounts for more variance in changing patterns of closeness (up to 50%) and conflict (up to 80%) than do developmental trends during adolescence (Marceau et al., 2015). Parental warmth and hostility toward their adolescents are also highly labile across the adolescent transition, with the majority of variance in warmth and hostility representing lability rather than developmental trends (Lippold et al., 2018).

### **Child-Effects on Parenting Lability**

Although some degree of lability may be normative, there are likely factors that predict large increases in parenting lability and reflect a non-normative process. The source of changes in parenting lability may be numerous, but among them are characteristics of the child. One of the central changes in early adolescence is an increased level of engagement in youth risky behavior, including substance use and delinquency (Greenberg & Lippold, 2013). Youth are also at an increased risk for internalizing problems, such as depression and anxiety (Cyranski, Frank, Young, & Shear, 2000). Youth maladjustment may destabilize the family system and spur non-normative changes in family relationships and parenting behavior during this time period, leading to increases in parenting lability.

Longitudinal studies suggest that child behavior influences parenting behavior. Parents react to youth behaviors such as delinquency and substance use by increasing levels of parental hostility (Fosco, Lippold, & Feinberg, 2014) or reducing parental warmth (Lansford et al., 2018; Williams & Steinberg, 2011) and support (Hafen & Laursen, 2009; Reitz, Dekovi, & Meijer, 2006). Child internalizing problems have also been associated with changes in parenting, although how it changes have been somewhat mixed. There is some evidence from one early observational study that parents' immediate response to depression in youth might be to engage in facilitative, caring responses and to decrease aggression (Sheeber et al., 1998). However, several studies have found youth internalizing problems to be associated with reductions in parental warmth and support (Hipwell et al., 2008) and increases in parental hostility and parent-child conflict (Marmorstein & Iacono, 2004), suggesting that parents may react to youth withdrawal and emotional distress, just as they do

for youth aggressive behaviors. Importantly, prior studies have examined the effects of youth maladjustment on changes in the level of or developmental trends in parenting (Hafen & Laursen, 2009). Such studies are helpful for examining how parenting may change in a smooth, predictable manner in reaction to child behavior (e.g. linear decreases).

However, as previously stated, many of the changes that occur during adolescence may reflect lability in parenting behavior. It is likely that adolescents' maladjustment influences lability in parents' warmth and hostility. From a family systems perspective, youth maladjustment during early adolescence may create instability in the family system and parent-child relationships, thus increasing lability. Youth conduct problems and delinquency may trigger negative emotions in parents, such as anger, frustration and feelings of powerlessness (Glatz, Stattin, & Kerr, 2011). Challenging youth behavior may also lead to parental stress that disrupts self-regulation on the part of the parent and their ability to consistently engage in effective parenting (Bornstein, 2015). Thus, parents who have difficulty regulating their emotional reactions to child behavior may be inconsistent in their parenting responses; they may have intermittent periods of time where they are warm towards their child and other periods of time where they are disengaged and less warm towards their child (Lippold et al., 2018). According to the stress-generation hypothesis, youth internalizing problems may work in a similar way, as depression and anxiety have been linked to increased stress and tensions in relationships as well as increased negative interpersonal events (Hammen, 2006). Symptoms of youth internalizing problems such as low energy, high anxiety, self-criticism, a high need for reassurance, and irritability may also act as stressors for parents (Hammen, 2006), thereby affecting their ability to effectively self-regulate and be consistent in their responses to their children. Youth maladjustment - substance use, delinquency, and internalizing problems --may lead to chronic destabilization of the family system, with many ups and downs in parental warmth and hostility over time.

Yet, prior studies on how child behaviors affect parenting lability are limited. Only one study has examined child characteristics as predictors of lability in parenting: Marceau et al. (2015) found that child characteristics, such as puberty timing and tempo, predict lability in family conflict. The authors propose that earlier and quicker transitions into puberty may lead to difficulties with family transitions to new roles and thus greater lability in conflict. Although theory also suggests that youth maladjustment is likely linked to greater lability, most prior studies on parenting lability have not examined possible child effects, making it unknown whether youth maladjustment predicts lability in parents' warmth and hostility.

### **Moderating Roles of Parents' Internalizing Problems**

According to the person-process-context model (Bronfenbrenner, 2005), child-effects on parenting lability may not be universal; for example, they may vary based on the characteristics and experiences of the parent. Belsky (1984) posited that parent behavior is determined by the internal psychological resources that parents have available to them. Parents with high psychological resources, such as effective coping skills, may be able to regulate their emotions and engage in effective behavior management strategies when faced with youth maladjustment, resulting in little lability in their warmth and hostility towards their adolescent (Goodman, 2007). Parents with high psychological resources, for example,

may be able to self-soothe, and to draw on past experiences and memories of positive child behavior during those times when children engage in challenging behavior. However, parents who have low psychological resources, such as those with depression or anxiety, may have difficulty maintaining consistency in warmth and hostility when faced with challenging youth behaviors. For example, parents with internalizing problems may avoid managing youth behavior problems until problems escalate and they become unmanageable—leading to periodic times of high negative emotions and lability in warmth and hostility. For parents with depression and anxiety, youth maladjustment may trigger feelings of powerlessness and lower efficacy in their parenting role, which may also lead to temporary periods of high hostility and low warmth towards their adolescent (Glatz et al., 2011).

Parents with depression and anxiety may be more likely to view themselves and their child negatively (Gotlib, Gilboa, & Sommerfeld, 2000) and these cognitions have implications for parenting lability (Bornstein, 2015). Cognitive biases associated with depression include the greater attribution of negative behaviors to internal, stable, and global factors, further entrenching a sense of helplessness in parenting. Internalizing problems may increase the likelihood that parents respond to youth maladjustment with self-blame, viewing themselves as ineffective parents across a variety of situations and over time. Anxiety and depression may also be intermittent and as they subside, so too might such cognitive biases, leading parents to respond differently to youth maladjustment at different periods of time and to greater lability in their warmth and hostility towards their child over the adolescent period.

Given the reasons outlined above, parents with low psychological resources, such as internalizing problems, may be especially reactive to youth maladjustment, and more likely to demonstrate lability in their warmth and hostility towards their adolescent in reaction to youth maladjustment. Although prior studies have found that, on average, parents who are depressed are more likely to be more hostile and less warm towards their children (Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Goodman, 2007), little is known about how parents' internalizing problems interact with youth maladjustment to affect parenting lability.

Further, it is important to examine the effects of youth maladjustment on lability in both mother and father warmth and hostility. Most prior studies on child effects on parenting focus primarily on mothers (Hipwell et al, 2008), ask questions about parents generally without specifying which one (Huh, Tristan, Wade, & Stice, 2006) or aggregate reports of mother and father parenting (Fosco et al., 2014; Glatz et al., 2011). Important differences have emerged regarding the nature of parent-child relationships for mothers and fathers. In particular, mothers may be more closely involved with children than fathers (McHale, Crouter, & Whiteman, 2003) and therefore may be particularly affected by youth maladjustment such as delinquency, substance use, and internalizing problems. However, prior studies have found evidence that youth behaviors also affect father's parenting (Carrasco, Holgado, Rodriguez, & Del Barrio, 2009; Hafen & Laursen, 2009). More studies are needed that include fathers in addition to mothers, in order to understand possible child-effects on parenting lability and the moderating role of parents' internalizing problems for both genders.

## Current Study

This longitudinal study examines whether and how youth maladjustment, such as delinquency, substance use, and internalizing problems are associated with lability in parental warmth and hostility towards their children. First, the authors examine how indicators of youth maladjustment in Grade 6 are associated with lability in parents' warmth and hostility across Grades 6-8. It was hypothesized that parents of youth with higher levels of delinquency, substance use, and internalizing problems will have greater lability (i.e. more fluctuation up and down) in parental warmth and hostility. Second, the authors examined whether parents' internalizing problems moderate the associations between youth maladjustment and parenting lability. It was hypothesized that parents who have high levels of internalizing problems are more reactive to youth maladjustment. Therefore, it was expected that the associations between youth maladjustment (delinquency, substance use, internalizing problems) and parenting lability to be stronger among parents with high levels of internalizing problems than among those with low levels of internalizing problems.

## Methods

### Study Design and Participants

This analysis used data obtained from a sample of early adolescents in two-parent homes and their parents who participated in at least 3 of 5 waves of in-home data collection as part of the PROSPER project (Promoting School-Community-University Partnerships to Enhance Resilience; see Spoth, Greenberg, Bierman, & Redmond, 2004). PROSPER was a large-scale effectiveness trial of preventive interventions and their diffusion into rural communities, with the overall aim of reducing substance-use initiation among rural adolescents in 28 rural communities and small towns in Iowa and Pennsylvania. Families of adolescents in the second cohort of the PROSPER project were randomly selected and recruited for participation in an additional in-home assessment that included a family interview, videotaping of a family interaction, and written questionnaires completed independently by the youth, mother, and, if present, father ( $N=977$  for full sample at baseline, 3 added in later waves). This study uses data on parenting collected from in-home assessments across four waves: fall of Grade 6, and spring of Grades 6 through 8. Retention rates ranged from 83% at Wave 2 to 80% at Wave 4. Parents provided consent and youth assented for in-home data collection. Youth provided data during in-school surveys. To maintain precision in the measurement of lability, analyses were limited to those families in which youth and parents provided three or more waves of data on a particular dyadic relationship (e.g., youth and mothers both reported on maternal hostility for three or more waves). Given interest in both mother and father warmth and hostility, the analytic sample was limited to two-parent families. Cases were removed when the reporter changed across waves: 25 fathers were removed because the reporter changed from biological father to stepfather; 6 mothers were removed because the reporter changed from biological mother to stepmother. Thus, the final sample included 618 families with 598 mothers and 476 fathers.

The demographics of the analytic sample at Wave 1 are as follows. Youth (52% female) resided in Iowa (61%) and Pennsylvania (39%), and were, on average, 11.3 years old ( $SD=$ .49) at Wave 1. The mothers' mean age was 38.8 years ( $SD=$  5.58) and fathers' was 41.08

years ( $SD = 6.75$ ). Average household income in 2003 was \$58,738 and 60% of parents had some postsecondary education. Households had an average of three children ( $SD = 1.56$ ). The majority of youth (68%) were living with both biological parents. Eleven percent of fathers were stepparents, and 1% of mothers were stepparents. Less than 2% were adoptive parents (1.6% of fathers; 1.2% mothers). Most youth were Caucasian (90%), Hispanic (4%), African American (2%), Native American (1%), Asian (1%), and other (3%).

## Measures

Measures were adapted from the Iowa Youth and Families Project (Conger, 1989; McMahon & Metzler, 1998) and the National Youth Survey (Elliott, Ageton, & Huizinga, 1982). Because research indicates youth are less likely to report problem behavior when asked at home, rather than at school, the in-school assessments of youth maladjustment was used (Redmond, Schainker, Shin, & Spoth, 2007), which were gathered within months of the home visit. This analysis used measures of youth maladjustment in the fall of Grade 6 and four waves of data regarding parent–youth warmth and hostility (fall of Grade 6, spring of Grades 6, 7, and 8) collected as part of the in-home data collection. Youth reports of their adjustment and youth and parent reports of parental warmth and hostility were used.

**Parental hostility.**—Youth and parent perceptions of parental hostility toward the adolescent over the past month were measured at each wave using the Behavioral Affect Rating Form (BARS; McMahon & Metzler, 1998) which included four items (e.g., “How often did you and this child have serious arguments”) that were answered on a 7-point Likert scale ranging from *never* (1) to *always* (7). Four measures were used; mother reports of maternal hostility; youth reports of maternal hostility; father reports of father hostility; youth reports of father hostility. Higher scores indicated greater hostility toward the adolescent. Across reporters and waves, average Cronbach’s  $\alpha$  was .83 (range .77 – .91).

**Parental warmth.**—Youth and parent perceptions of parental warmth toward their adolescent over the past month were measured at each wave using three items (e.g., “How often do you act loving and affectionate” towards this child) that were answered on a 7-point Likert scale ranging from *never* (1) to *always* (7). Four measures were used; mother reports of maternal warmth, youth reports of maternal warmth; father reports of father warmth; youth reports of father warmth. Across reporters and waves, average Cronbach’s  $\alpha$  was .86 (range .77 – .98).

**Youth delinquency.**—Youth involvement in deviant behaviors in the past 12 months was assessed during Grade 6 using 12 items that measured behaviors such as whether the youth had taken something worth less than \$25 or physically fought with someone out of anger. Responses were dichotomized (0 = *never*; 1 = *once or more*) and summed as a total delinquency score (Cronbach’s  $\alpha = .90$ ).

**Youth internalizing problems.**—Internalizing problems were measured using the 14-item internalizing subscale from the youth self-report of the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). Items asked youth questions to assess whether they felt symptoms of anxiety or depression. Responses were provided on a 3-point scale (0 = *not*



*true to 2= very true or often true*) and were summed to create a total internalizing problems score (Cronbach's  $\alpha = .88$ ).

**Youth polysubstance initiation.**—Initiation of polysubstance use was assessed by asking participants to indicate whether they had ever used seven different substances (e.g., cigarettes, ecstasy, glue, Vicodin). Responses were coded (0 = *no*; 1 = *yes*) and summed (Cronbach's  $\alpha = .77$ ).

**Parents' internalizing problems:** Parents' internalizing problems were measured using the Symptom Checklist-90 R (Derogatis & Unger, 2010). Parents answered 23 questions that assessed how much during the past week they experienced symptoms of depression and anxiety. Responses were coded on a 1-5 Likert scale and averaged, with higher scores indicating more internalizing problems. At Grade 6, alphas were high (Cronbach's  $\alpha = .89$  mothers,  $.85$  fathers).

**Control variables.**—Additional variables were included as control variables and centered in the analysis: youth gender (0 = *female*; 1 = *male*), dual biological parent status (0 = *not living with biological parents*; 1 = *living with both biological parents*), parental education (years in school including secondary education,  $M = 13.19$ ,  $SD = 2.18$ ), and intervention condition (0 = *control*; 1 = *intervention condition*).

## Data Analysis Plan

As detailed in previous work (Lippold et al., 2018), the first step was to derive a lability score for parental warmth and hostility for each person in the sample. To derive these scores, parent–youth warmth and hostility across Grade 6-8 were modeled using a linear growth model (Ram & Grimm, 2015). Specifically, a 2-level multilevel model was run in SAS 9.3 using proc mixed. Linear and quadratic growth curve models were tested. Linear models provided the best fit to the data for most of the parenting variables based on the AIC and BIC (Lippold et al., 2018). One exception emerged: the quadratic model provided a slightly better fit to the data for mother's self-reported hostility. However, because findings were identical when using the quadratic or linear models for this variable and to ensure consistency across models, estimates from the linear model were used in all subsequent analyses. As reported in Lippold et al. (2018), growth models revealed that parental warmth decreased across grades 6-8 based on youth reports (about fathers  $B = -.23$ ,  $p < .001$ ; about mothers'  $B = -.16$ ,  $p < .001$ ) and parent reports (fathers'  $B = -.07$ ,  $p < .001$ ; mothers'  $B = -.06$ ,  $p < .001$ ). Interestingly, hostility also declined based on parent reports (fathers'  $B = -.09$ ,  $p < .001$ ; mothers'  $B = -.09$ ,  $p < .001$ ). However according to youth reports, fathers' hostility increased ( $B = .05$ ,  $p < .05$ ) and there were no significant changes in mothers' hostility.

Next, growth models were used to derive person-specific scores for the intercept, developmental trend, and lability for each person in the sample using Proc Mixed in SAS, following procedures described by Marceau et al. (2015) and Ram, Gerstorf, Lindenberger, and Smith (2011). Scores from each person's level and developmental trend in warmth and hostility were obtained from the linear growth model. Lability scores were calculated as the

within-person standard deviation of each person's residuals from the growth model.

$$\text{Specifically, } \text{Lability}_i = \sqrt{\sigma_i^2} = \sqrt{\frac{1}{T-1} \sum_{t=1}^T (e_{it} - \bar{e}_i)^2}.$$

Each lability score variable captured the extent of fluctuation in parenting across the Grade 6-8 period. Higher lability scores thus indicate greater deviations from the person's predicted developmental trend in parental warmth or hostility across Grades 6-8 (see Lippold et al., 2018). Given prior studies that suggest they are distinct constructs, separate models were run for parental warmth and hostility (Dallaire et al., 2006), resulting in eight lability scores (mother self-report, father self-report, child mother-report, and child father-report for hostility and also warmth).

Next, Ordinary Least Squares (OLS) regression was used to examine the association of youth maladjustment in Grade 6 (e.g., substance use, delinquency, internalizing problems) with lability in parental warmth and hostility across grades 6-8. The outcome variables were the eight lability scores of parental warmth or hostility derived from the preliminary analysis. The analysis examined the relation between youth maladjustment and parents' lability in warmth and hostility while controlling for demographics (ie. gender, dual biological marital status, condition, parent education) as well as levels and developmental trends in parenting (level and slope scores from the growth models described above). For example, below is the equation of a model where youth delinquency in Grade 6 predicts lability in mothers' warmth.

$$\begin{aligned} \text{Mothers' warmth lability}_i &= \alpha_0 + \alpha_1 \text{youth delinquency}_i + \alpha_2 \text{level of warmth}_i \\ &+ \alpha_3 \text{developmental trend in warmth}_i + \alpha_{4-8} \text{controls}_i + r_i \end{aligned}$$

where *mothers' warmth lability*<sub>*i*</sub> is the amount of lability exhibited in mothers' warmth across Grades 6-8 for person *i* (a score derived in the first step) and *youth delinquency* is youths' level of maladjustment in Grade 6. Models control for *levels* and *developmental trends* of parental warmth as well as *gender*, *dual biological marital status*, *condition*, and *parental education*. Of particular interest were the unique associations of youth delinquency with the lability score,  $\alpha_1$ . Separate models were run for father and mother warmth and hostility and for each youth indicator of maladjustment (e.g. delinquency, substance use, internalizing problems).

Finally, to test whether the relations between youth maladjustment and parenting lability were moderated by parents' internalizing problems, *parent internalizing problems* and the *parent internalizing problems \* youth maladjustment* (e.g., delinquency) interaction variable were included as predictors in the regression model. Follow up tests of the simple slopes (+/- 1 SD) were conducted when the interaction term was statistically significant. In order to estimate effect sizes, the change in model R-square when the interaction term was and was not included in the model was also calculated.

## Results

### Descriptive Statistics

Descriptive statistics for the study variables are shown in Table 1. The lability scores for warmth and hostility had mean values ranging from .36 to .62, and a standard deviation ranging from .20 to .45, suggesting interindividual differences in parents' warmth and hostility. Depending on reporter, significant correlations between level and lability ranged from  $|.24|$  to  $|.65|$  and correlations between developmental trends and lability ranged from  $|.10|$  to  $|.35|$ . Different associations were found between developmental trends and lability in hostility, with positive associations as reported by youth and negative associations as reported by parents. Correlations among youth maladjustment at Time 1 and parents' lability differed across indicators and reporters. In general, in the mother models, more consistent correlations were found between youth maladjustment and lability in youth-reported than mother-reported parenting and between youth maladjustment and lability in mothers' hostility than for mothers' warmth. In the father models, lability in youth and father reported hostility and lability in youths reports of fathers' warmth were correlated with several indicators of maladjustment. Parents' internalizing problems were significantly correlated with youth internalizing problems.

### Youth Maladjustment as Predictors of Parenting Lability

Contrary to the hypothesis, youth maladjustment in Grade 6 was not associated with lability in parents' warmth and hostility in most of the models. Only one significant main effect emerged: Youth delinquency in Grade 6 was associated with greater lability in youth reports of fathers' warmth ( $B = .04$ ,  $SE = .02$ ,  $p = .01$ ).

**Mothers.**—Consistent with hypotheses, many of the associations between youth maladjustment in Grade 6 and parenting lability across Grades 6-8 were moderated by parents' internalizing problems (see Tables 2 and 3). In the mother models (see Table 2), mothers' internalizing problems moderated the associations between all three indicators of youth maladjustment (delinquency, substance use, and internalizing problems) and lability in mother-reported *warmth*. As indicated in Figure 2, follow up tests of the simple slopes (estimated at  $\pm 1$  SD) indicated that when mothers were high in internalizing problems, greater youth delinquency was associated with greater lability in mother-reported warmth (At +1 SD,  $B = .03$ ,  $SE = .01$ ,  $p = .02$ ). The region of significance for this finding was  $+ .75$  SD, meaning that greater youth delinquency was associated with lability in mother-youth warmth when maternal internalizing symptoms are  $.75$  or more above the mean. In contrast, when mothers were low in internalizing problems, greater youth delinquency was associated with lower lability in mother-reported warmth (At  $-1$  SD,  $B = -.10$ ,  $SE = .01$ ,  $p < .001$ ). The region of significance for this finding was  $-.5$  SD, meaning that greater delinquency was associated with lower lability when maternal internalizing symptoms were  $-.5$  SD or more below the mean. The change in R-squared with the addition of the interaction term to the model was  $.02$ . Similar patterns were found for other indicators of youth maladjustment. When mothers were high in internalizing problems, greater youth substance use (At +1 SD,  $B = .08$ ,  $SE = .04$ ,  $p = .01$ ) was also associated with greater lability in mother-reported warmth (region of significance =  $+ 1$  SD) In contrast, when mothers were low in internalizing

problems, greater youth substance use was associated with less lability in mother-reported warmth (At  $-1$  SD,  $B = -.12$ ,  $SE = .04$ ,  $p = .002$ ; region of significance =  $-.5$  SD). The change in r-squared with the addition of the interaction term to the model was .02. In addition, when mothers were high in internalizing problems, greater youth internalizing problems were associated with greater lability in mother-reported warmth (At  $+1$  SD,  $B = .10$ ,  $SE = .04$ ,  $p = .04$ ; region of significance =  $+1$  SD) but when mothers were low in internalizing problems, greater youth internalizing problems were associated with lower lability in mother warmth but only at trend level (At  $-1$  SD,  $B = -.10$ ,  $SE = .06$ ,  $p = .09$ ). The change in r-squared with the addition of the interaction term to the model was .01. There were no effects for youth-reported maternal warmth.

Mothers' internalizing problems also moderated the associations between youth maladjustment and lability in youth reports of mothers' *hostility*. However, contrary to the hypothesis, a different pattern emerged than mothers' warmth during follow up tests (See Figure 3). Tests of the simple slopes revealed that greater youth delinquency in Grade 6 was associated with more lability in youth-reports of mothers' hostility only when mothers' internalizing problems were low (At  $-1$  SD,  $B = .05$ ,  $SE = .02$ ,  $p = .01$ ; region of significance =  $-.5$  SD) but these associations were not significant when mother's internalizing problems were high (At  $+1$  SD,  $B = -.03$ ,  $SE = .01$ ,  $p = .08$ ). The change in r-squared with the addition of the interaction term to the models was .01. There were no effects for mother-reported hostility.

**Fathers.**—In the father models (see Table 3), fathers' internalizing problems moderated the associations between youth maladjustment and lability in youth and father reports of *warmth*. Fathers' internalizing problems moderated the associations between youth delinquency and lability in youth reports of fathers' warmth (See Figure 4). Similar to the mother models and consistent with the hypotheses, follow up tests of the simple slopes indicated that when fathers were high in internalizing problems, greater youth delinquency was associated with greater lability in youth-reported father warmth (At  $+1$  SD,  $B = .07$ ,  $SE = .02$ ,  $p = .0007$ ; region of significance =  $+.25$  SD). However, when fathers were low in internalizing problems, youth delinquency was not associated with lability in youth-reported father warmth (At  $-1$  SD,  $B = -.02$ ,  $SE = .02$ ,  $p = .38$ ). The change in r-squared with the addition of the interaction term to the model was .02. Fathers' internalizing problems also moderated the associations between youth substance use and lability in youth reports of fathers' warmth. Follow-up tests indicated that when fathers were high in internalizing problems, the association between youth substance use and lability in youth-reports of fathers' warmth was non-significant (At  $+1$  SD,  $B = .09$ ,  $SE = .05$ ,  $p = .11$ ). However, when fathers' internalizing problems were low, greater youth substance use was associated with less lability in youth-reports of fathers' warmth (At  $-1$  SD,  $B = -.14$ ,  $SE = .06$ ,  $p = .01$ ; region of significance =  $-.5$  SD). The change in r-squared with the addition of the interaction term to the model was .02. Father's internalizing problems moderated the associations between youth internalizing problems and lability in father-reported warmth, with follow up tests showing these linkages were not significant when fathers' internalizing problems were high (At  $+1$  SD,  $B = .02$ ,  $SE = .06$ ,  $p = .63$ ). However, when fathers' internalizing problems were low, greater youth internalizing problems were associated with

less lability in father-reported warmth (At  $-1$  SD,  $B = -.22$ ,  $SE = .06$ ,  $p = .001$ ; region of significance =  $-.125$  SD). The change in r-squared with the addition of the interaction term to the model was .02.

Fathers' internalizing problems did not moderate any of the associations between youth maladjustment and lability in youth-reports of fathers' *hostility*. Fathers' internalizing problems moderated the associations between youth internalizing problems and lability in father-reported hostility: However, follow-up tests revealed these associations were not significant when fathers' internalizing problems were high or low.

## Discussion

Given the multitude of developmental changes in early adolescence, it is no surprise that parent-child relationships change substantially during this life period (Steinberg & Morris, 2001). A growing body of research has found that one of the important ways in which parenting changes is that it fluctuates extensively during early adolescence. The term "lability" was used to capture these fluctuations up and down in parenting. However, little is known about how youth maladjustment, such as delinquency, substance use, and internalizing problems, contributes to parenting lability. Although some degree of lability may be normative, youth maladjustment may destabilize the family system, leading to larger non-normative increases in parenting lability. This study, in line with Family Systems Theory (Cox & Paley, 2003), examined child effects on parenting lability. In particular, this study investigated whether youth maladjustment, such as delinquency, substance use, and internalizing problems, in Grade 6 predict lability in parents' warmth and hostility across Grades 6-8, when controlling for levels and developmental trends in parental warmth and hostility. Findings revealed that whether and how youth maladjustment affects parenting lability is moderated by parents' characteristics- in particular whether or not parents are experiencing internalizing problems.

In general, child-effects on parenting lability were found in terms of statistical interactions, rather than main effects. In line with the person-process context model (Bronfenbrenner, 2005), parent characteristics interacted with youth maladjustment to affect their parenting behaviors. Parent's own levels of internalizing problems moderated the effects of youth maladjustment on parenting lability, suggesting that whether and how youth maladjustment elicits parenting lability may depend on parents' own emotional state. Interestingly, although there was some variation across indicators, a general pattern occurred such that when parents had high levels of internalizing problems, youth maladjustment elicited more lability, especially with regard to parents' warmth. Lability in warmth may be related to a parents' capacity to regulate their emotions, which may differ between parents who have high and low levels of internalizing problems. Parents with depressive symptoms and anxiety may have fewer internal resources and lower capacity for coping (Belsky, 1984) and as such may be more reactive to youth maladjustment. In the context of high parent internalizing problems, youth maladjustment such as delinquency, substance use, and internalizing problems may act as a stressor and trigger parental feelings of inadequacy, powerlessness, and negative cognitive attributions. Given their lower resources for coping, parents with internalizing problems may have difficulty regulating these emotions, which may lead to

more lability in parental warmth (Goodman, 2007; Lovejoy et al., 2000). However, in the context of low levels of internalizing problems, youth maladjustment often had the opposite effect and was associated with less lability in parental warmth. Parents with effective coping skills—those parents with low internalizing problems – may be able to better regulate their emotions when faced with challenging maladjustment. In this way, parents with low levels of internalizing problems may be able to self-soothe and modulate their own reactions to youth maladjustment, henceforth making them more consistent and less labile in their warmth towards their child. In general, the same pattern held for both mothers' and fathers' parenting lability, suggesting that both mother and father depression have important implications for their reactions to youth maladjustment. Therefore, consistent with Belsky's theory on the determinants of parenting (1984), this study suggests that both mothers and fathers who have high levels of internal resources may be more likely to maintain consistency in their parenting when faced with youth maladjustment.

Most of the moderating effects of parents' internalizing problems occurred in the models of parental warmth rather than parental hostility towards their adolescent. Only one effect emerged for parents' hostility and it had a different pattern of effect. In contrast to the hypothesis, when mothers had low levels of internalizing problems (rather than high levels), greater youth delinquency was associated with greater lability in youth reports of mothers' hostility. It is possible that lability in hostility in parents with low internalizing problems may reflect different parenting processes than lability in warmth. One possible explanation is that lability in warmth is more reflective of a parenting process related to emotion regulation, whereas lability in hostility is more closely tied to parental monitoring and limit setting. As previously discussed, parents low in internalizing problems may engage in more self-regulation when faced with youth maladjustment, leading to less lability in warmth (Goodman, 2007; Lovejoy et al., 2000). However, parents with low internalizing problems may also engage in more monitoring and limit setting when faced with youth maladjustment (Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007). Increases in monitoring and limit setting by parents with low internalizing problems may create temporary conflict and hostility in families, which would result in lability in hostility. In contrast, parents who are high in internalizing problems may be less likely to engage in monitoring or limit setting when faced with youth maladjustment, leading to less lability in hostility. It is important to note that this study explored predictors of lability in hostility specifically; it is possible that parents react to youth maladjustment high levels of hostility towards their children, which remain constant over time. Models controlled for developmental trends and levels of hostility, allowing examination of the unique predictive associations between youth maladjustment and lability in parents' hostility. However, future studies are needed to understand the interactive effects of youth maladjustment and parents internalizing problems on levels and developmental trends in lability of parental hostility. Importantly in many of the models, both developmental trends and levels of parenting were also important predictors of parenting lability, suggesting that they are important elements to control for and that lability is capturing a distinct type of change. Given the limited nature of this finding, it is possible it could represent Type 1 error and replication is clearly needed.

Further, contrary to the hypothesis, only one main effect of youth maladjustment on lability in parents' warmth and hostility towards their children was found. Youth delinquency in

Grade 6 was associated with greater lability in youth reports of fathers' lability in warmth. Therefore, in general, this study provides little evidence that youth maladjustment universally predicts lability in parents' warmth and hostility. Youth maladjustment does not necessarily lead to destabilization of the family system and fluctuations up and down in parental warmth. Such a finding is critical given that prior studies have identified parenting lability as a risk factor for later youth problem behaviors (Lippold et al., 2018; Lippold, Fosco, Ram, & Feinberg, 2016) - this study suggests that these prior findings are unlikely to be driven primarily by youth maladjustment. Thus, when considering predictors of parenting behaviors, consideration of both child behaviors and parent characteristics may be crucial.

Some nuances emerged in some of the models. Differences in reporter effects (e.g., discrepancies in findings between youth and parent reports of parenting) were found in the mother and father models. Findings suggest that mothers' internalizing problems affected their reactivity to youth maladjustment in terms of their own, but not their youths', perception of their parenting behaviors. More consistent findings emerged for the moderating effects of mother's internalizing problems on the associations between youth adjustment and lability with mother versus youth reports of parental warmth. However, fathers' internalizing problems affected their reactivity to youth maladjustment in terms of both their own *and* their youths' perception of parenting behavior. For fathers, internalizing problems moderated some of the associations between youth maladjustment and lability in warmth as reported by *both* youth and fathers. For some youth behaviors (delinquency and substance use), prediction was stronger for youth than father report of parenting. These differences could be explained by research findings that women ruminate more than men (Nolen-Hoeksema, Larson, & Grayson, 1999) and that women who are depressed experience greater severity of symptoms (Angst et al., 2002) as well as more emotional distress and feelings of failure than men who are depressed (Kornstein et al., 2000). Therefore mothers who have internalizing problems may be more likely to have different perceptions of their parenting with their children than fathers (De Los Reyes & Kazdin, 2005). Studies using observational data may provide greater insights into these reporter differences and remove potential confounds from reporter bias.

There are several important limitations to this study, which provide directions for future research. First, there are likely reciprocal influences between parenting lability and youth maladjustment (Sameroff, 2009). Some studies suggest that negative affect, such as hostility, is reciprocal in families (Kim, Conger, Lorenz, & Elder, 2001) and there is some evidence of reciprocal linkages between youth maladjustment and parental internalizing problems (Allen, Manning, & Meyer, 2010). Further, prior studies have found that lability in parenting predicts greater youth maladjustment (Lippold et al., 2018; Lippold et al., 2016). There are likely implications of the effects found in this study (lability provoked by child-effects) for subsequent child adjustment. Future research should consider lability in parenting as both impacted by and impacting child maladjustment using a bidirectional approach. More intensive data collection than the current study, especially studies with measurement burst designs, are needed to test reciprocal linkages between youth maladjustment and parenting lability and this is an important direction for future research. Second, this study population consisted of families that were residing in rural communities and small towns in Pennsylvania and Iowa who were primarily Caucasian. Studies on more diverse populations

are needed to understand if these results are universal and if they generalize to other groups. Replication in more diverse datasets is essential given there is some evidence that the effects of parenting practices may have different effects depending on neighborhood characteristics and if youth live in urban rather than rural settings (Leventhal, & Brooks-Gunn, 2000) and among different cultural groups (Ho, Bluestein, & Jenkins, 2009). It is possible that lability is more normative in some cultures rather than others, which may affect the effect it has on parenting behavior. Lastly, ceiling effects in the measurement of warmth and hostility may have limited the study's ability to fully capture lability. Further, the measures in this study captured changes in parenting that occurred from year to year over four occasions of measurement. Studies that use intensive data collection on shorter time scales and across more data points may capture greater lability in parenting and highlight more immediate parental reactions to youth maladjustment (Lippold et al., 2018).

## Conclusion

Prior research has found that lability in parenting (e.g. fluctuations up and down in parental warmth) influences youth development, yet little is known about factors that predict lability in parenting. This study examined whether child maladjustment predicts lability in parental warmth and hostility towards their children and whether these linkages were moderated by parents' internalizing problems. Results suggest that child maladjustment (delinquency, substance use, and internalizing problems) had stronger relationships with parenting lability when parents were experiencing internalizing problems. Greater youth maladjustment was associated with greater lability in parenting, especially in parental warmth, when parents were high in internalizing problems. The results highlight the critical role that youth maladjustment can play in eliciting parenting lability. However, it also suggests that child effects in parenting lability are not universal, but vary by characteristics of the parents, such as parental depressive symptoms and anxiety. Parents with internalizing problems may lack the coping skills necessary to maintain their equilibrium when faced with youth maladjustment, leading to more lability in warmth. Parents with lower depressive symptoms and anxiety may have the coping skills to become more consistent in warmth in response to youth maladjustment. These findings highlight the importance of considering the interdependence of family members and examining the interaction of both child behaviors and parent characteristics as predictors of parenting behaviors. Interventions to improve parents' internal resources may have important implications for their ability to successfully navigate youth maladjustment and maintain consistency in parenting across the early adolescent period.

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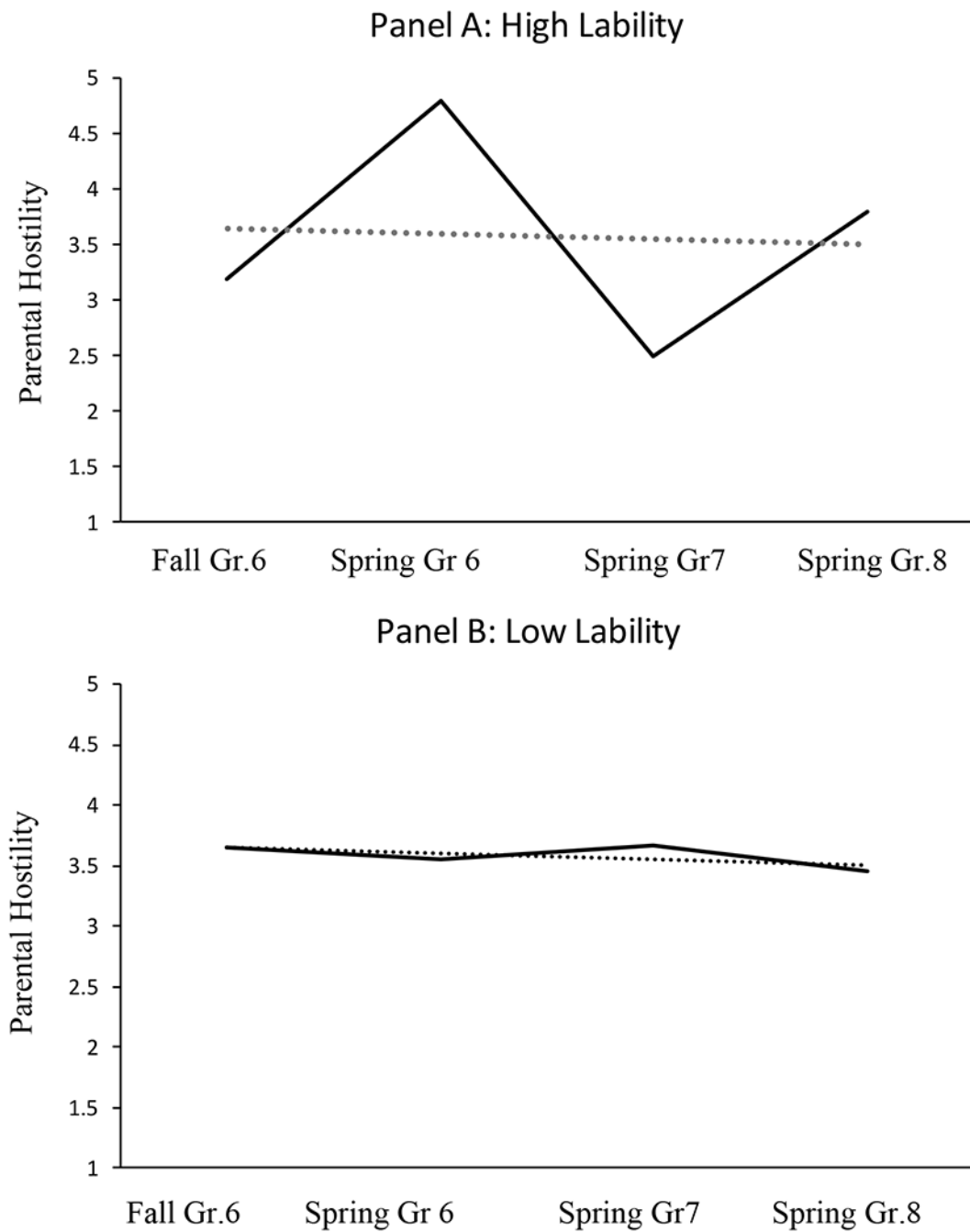
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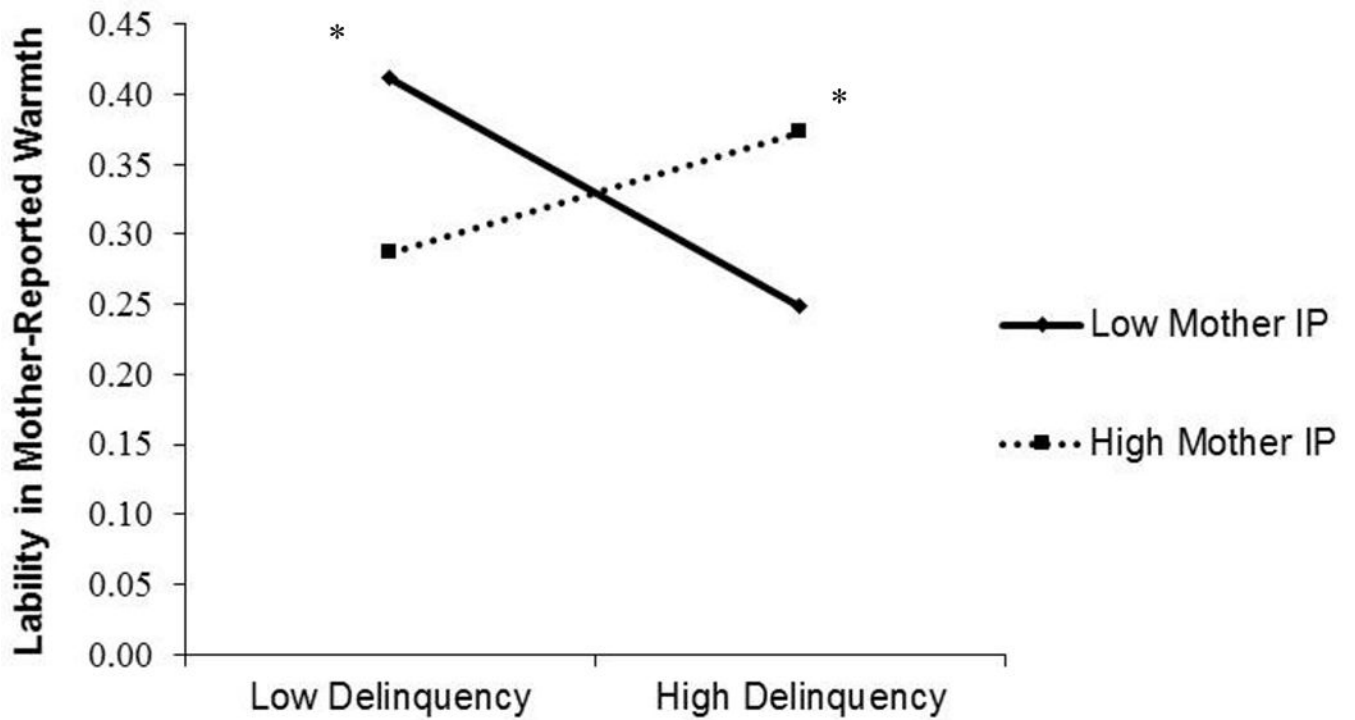
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**Figure 1.**

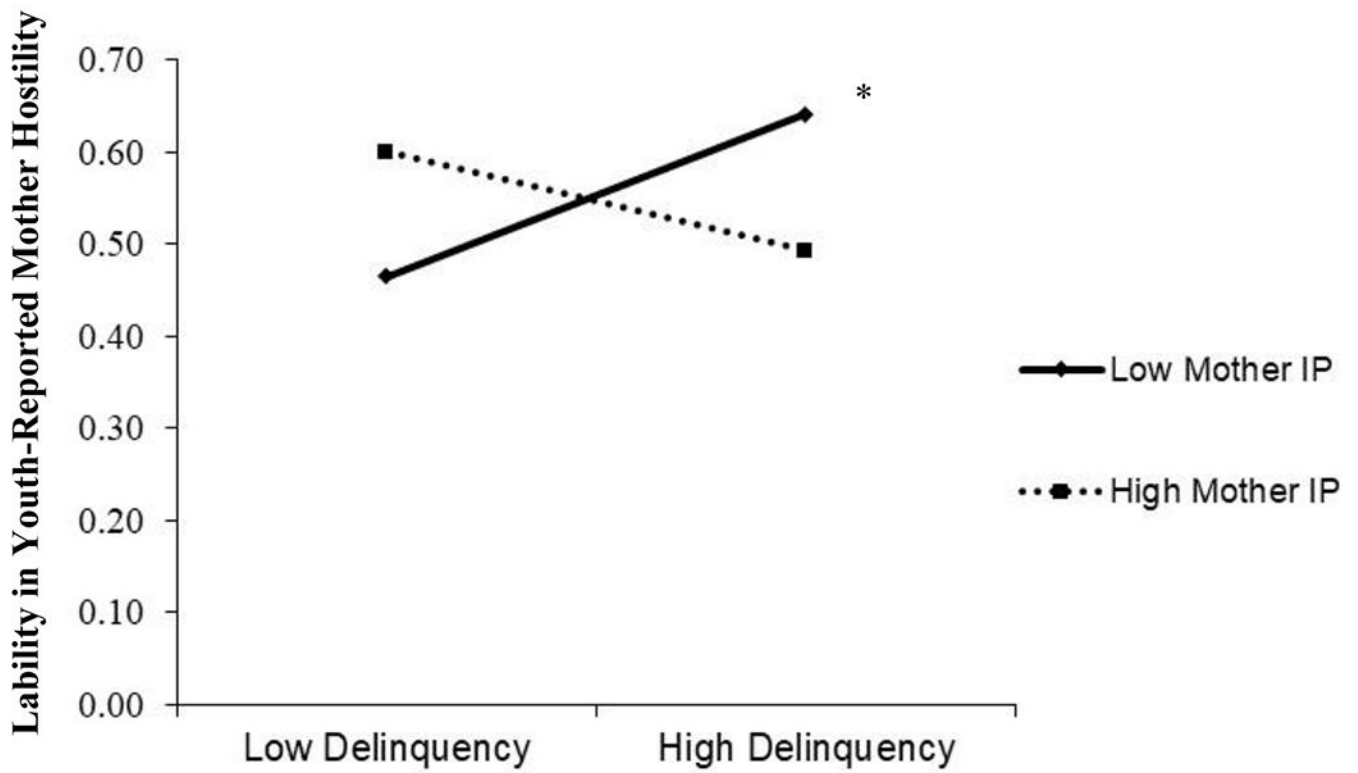
Panels A and B represent families with the same developmental trend in hostility but different levels of lability. Panel A represents a high liability family who experience many ups and downs in parental hostility around their developmental trend over time. Panel B represents a family with low liability, where there are few fluctuations in parental hostility over time.



**Figure 2. Mother's internalizing problems (IP) moderates the association between youth delinquency and lability in mother-reported warmth.**

Follow up tests of the simple slopes indicated that when mothers were high in internalizing problems, greater youth delinquency was associated with greater lability in mother-reported warmth. However, when mothers were low in internalizing problems, greater youth delinquency was associated with lower lability in mother-reported warmth.

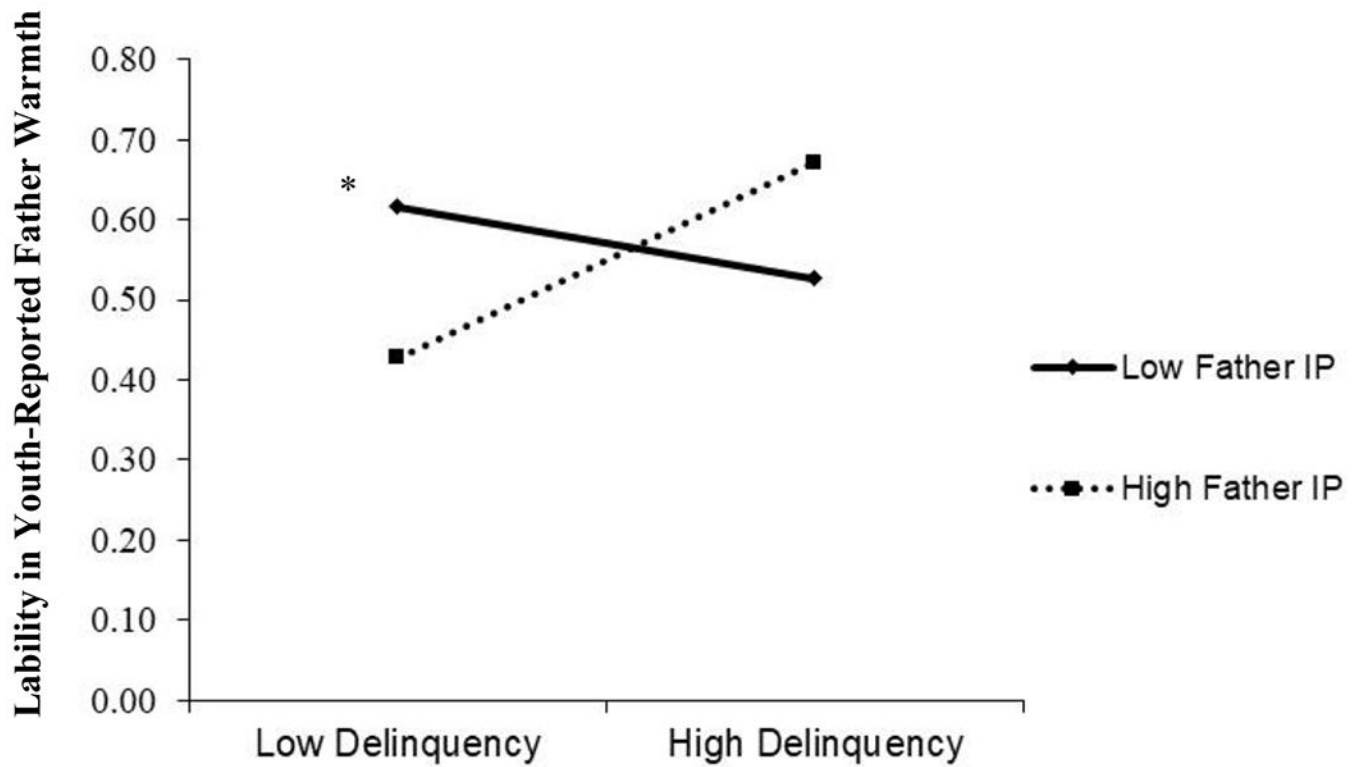
\*  $p < .05$



**Figure 3. Mother's internalizing problems (IP) moderates the association between youth delinquency and lability in youth-reported mother hostility.**

Follow up tests of the simple slopes indicated that when mothers were low in internalizing problems, greater youth delinquency was associated with greater lability in youth-reported hostility. However, when mothers were high in internalizing problems, greater youth delinquency was not associated with lability in youth-reported hostility.

\*  $p < .05$



**Figure 4. Fathers' internalizing problems (IP) moderates the association between youth delinquency and lability in youth-reported father warmth.**

Follow up tests of the simple slopes indicated that when fathers were high in internalizing problems, greater youth delinquency was associated with greater lability in youth-reported warmth. However, when fathers were low in internalizing problems, greater youth delinquency was not associated with lower lability in youth-reported warmth.

\*  $p < .05$



Descriptive Statistics

Table 1.

	Fathers		Mothers		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	Mean	Std.	Mean	Std.																
1. Warmth-lability: YR	.62	.45	.57	.43	<b>1.00</b>	.08	-.34	-.07z	-.47	-.21	.39	.11	.18	-.13	.37	.23	.16	.01z	.11	.07z
2. Warmth-lability: PR	.44	.27	.36	.20	<b>1.00</b>	.19	.11	-.07z	-.12	-.24	.14	.21	.08t	-.18	.09	.16	.01z	.01z	-.01z	.09
3. Warmth-developmental trend: YR	-.23	.23	-.16	.20	-.35	-.14	<b>1.00</b>	.24	.27	.22	-.20	-.06z	-.40	.05z	-.25	-.16	-.04z	.01z	-.08t	-.10
4. Warmth-developmental trend: PR	-.07	.08	-.06	.07	-.09	-.27	.29	<b>1.00</b>	.21	.30	-.11	-.01z	-.20	.02z	-.12	-.19	-.01z	-.01z	-.07z	-.02z
5. Warmth-level: YR	5.91	1.05	6.03	.76	-.53	-.22	.42	.32	<b>1.00</b>	.43	-.32	-.09	-.20	.21	-.54	-.28	-.20	-.12	-.20	-.11
6. Warmth-level: PR	5.46	.87	6.07	.69	-.19	-.37	.27	.59	.47	<b>1.00</b>	-.15	-.08t	-.10	.30	-.26	-.37	-.17	-.09t	-.08	-.18
7. Hostility-lability: YR	.49	.40	.57	.42	.33	.08	-.29	-.08	-.21	-.09	<b>1.00</b>	.19	.30	-.26	.65	.35	.24	.10	.22	.14
8. Hostility-lability: PR	.39	.22	.36	.24	.17	.12	-.12	-.02z	-.13	-.01z	.20	<b>1.00</b>	.07z	-.26	.17	.30	.10	.09	.06z	.08
9. Hostility-developmental trend: YR	.05	.11	.01	.19	.11	.07	-.36	-.17	-.13	-.07	.15	.02z	<b>1.00</b>	-.05z	.28	.27	.13	.08z	.02z	.15
10. Hostility-developmental trend: PR	-.09	.02	-.09	.07	.03z	-.01z	-.16	-.20	.01z	.05z	.02z	-.10	.28	<b>1.00</b>	-.38	-.75	-.05z	-.03z	-.08z	-.17
11. Hostility-level: YR	1.97	.78	2.12	.78	.31	.01	-.32	-.13	-.41	-.22	.61	.22	.00z	-.08	<b>1.00</b>	.53	-.32	.15	.27	.12
12. Hostility-level: PR	2.72	.67	2.84	.68	.20	.12	-.24	-.21	-.27	-.40	.36	.34	.09	-.22	.55	<b>1.00</b>	.09t	.05z	.12	.21
13. Delinquency-YR	.81	1.93			.09	.04z	-.10	-.11	-.15	-.09	.18	.02z	.01z	.02z	.28	.08	<b>1.00</b>	-.05z	.24	.03z
14. Polysubstance use initiation-YR	1.10	1.47			.01z	.02z	-.07t	-.04	-.12	-.06z	.09	.02z	.01z	-.01z	.18	.07t	.08	<b>1.00</b>	.16	.02z
15. Youth Internalizing problems-YR	.23	.27			.03z	.06z	-.12	-.07t	-.19	-.12	.18	.04	-.03z	-.04z	.31	.13	.22	.21	<b>1.00</b>	.19
16. Parents' internalizing problems-PR	1.33	.36	1.42	.46	.06z	.03z	-.04z	-.04z	-.14	-.09	.07z	.10	-.02z	-.18	.18	.37	.07t	.09	.15	<b>1.00</b>

N = 618. YR= youth-reported. PR= parent reported.

Note. Means are presented for Wave 1 for youth behaviors and parent's internalizing problems.

Correlations for fathers are above the diagonal and correlations for mothers are below the diagonal.

For all correlations  $p < .05$  unless otherwise noted as  $z =$  non-significant,  $t = p < .10$

**Table 2.**

Child Behaviors as Predictors of Lability in Mothers' Parenting: Moderation by Mothers' Internalizing Problems

	Lability of Youth Reports				Lability of Mother Reports			
	Warmth		Hostility		Warmth		Hostility	
	Est	SE	Est	SE	Est	SE	Est	SE
<b>Delinquency</b>								
Youth delinquency in Grade 6	-.00	.02	.01	.01	-.01	.01	-.01	.01
Mothers' internalizing problems	.00	.04	-.01	.02	-.00	.02	.01	.02
Developmental trend of warmth/hostility	-.20	.10	.29***	.07	-.31	.18	-.59	.11
Level of warmth/hostility	-.26***	.02	.29***	.01	-.10***	.01	.09**	.01
Gender	-.03	.04	-.02	.02	.02	.02	.02	.02
Condition	.03	.04	-.01	.02	.02	.02	.02	.02
Parent education	-.01	.00	-.00	.00	-.01	.01	-.01**	.00
Parent dual-bio marital status	.01	.04	-.08**	.02	.01	.02	-.02	.02
Youth delinquency × mothers' internalizing problems	.00	.03	-.08**	.03	.07**	.02	.00	.02
<b>Polysubstance Use</b>								
Youth substance use in Grade 6	-.04	.04	-.03	.03	-.02	.02	-.01	.02
Mothers' internalizing problems	-.1	.04	-.00	.03	-.01	.02	-.00	.02
Developmental trend of warmth/hostility	-.19	.10	.30***	.07	-.33	.18	-.07	.11
Level of warmth/hostility	-.26**	.02	.29***	.02	-.11***	.02	.09***	.01
Gender	-.03	.03	-.01	.02	.02	.02	.02	.02
Condition	.04	.04	-.01	.03	.02	.02	.02	.02
Parent education	-.14	.01	-.01	.01	-.10	.01	-.01*	.00
Parent dual-bio marital status	-.002	.04	-.08**	.03	.01	.02	-.00	.02
Youth substance use X Mothers' internalizing problems	.13	.09	.03	.06	.16**	.05	.01	.05
<b>Youth Internalizing Problems</b>								
Youth internalizing problems in grade 6	-.09	.07	-.00	.05	-.01	.04	.04	.03
Mothers' internalizing problems	.00	.04	-.03	.03	-.01	.02	-.00	.02
Developmental trend of warmth/hostility	-.28*	.09	.32***	.07	-.27	.18	-.08	.10
Level of warmth/hostility	-.26***	.02	.29***	.02	-.11***	.02	.09***	.01
Gender	-.03	.03	-.12	.02	.03	.02	.03	.02
Condition	.06	.03	-.01	.02	.02	.02	.02	.02
Parent education	-.02*	.01	-.01	.01	-.01	.01	-.01*	.00
Parent dual-bio marital status	.01	.04	-.07*	.03	.00	.02	.00	.02
Youth internalizing problems × mothers' internalizing problems	-.11	.13	-.07	.09	.22**	.08	-.11	.07

Note. Separate models were run for father warmth and hostility. All estimates are unstandardized. Variables were centered.

\*  
p < .05

\*\*  
p < .01

\*\*\*  
p < .001

$$z_p = .06$$

$$t_p < .10.$$

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**Table 3.**

Child Behaviors as Predictors of Lability in Fathers' Parenting: Moderation by Fathers' Internalizing Problems

	Lability of Youth Reports				Lability of Father Reports			
	Warmth		Hostility		Warmth		Hostility	
	Est	SE	Est	SE	Est	SE	Est	SE
<b>Delinquency</b>								
Youth delinquency in Grade 6	.02	.02	.03	.01	-.01	.01	.01	.01
Fathers' internalizing problems	-.03	.06	-.01	.05	.02	.04	.01	.03
Developmental trend of warmth/hostility	-.36**	.09	.48**	.15	-.27	.17	-.53	.65
Level of warmth/hostility	-17***	.02	29***	.02	-.06***	.01	.06*	.02
Gender	-.13**	.04	-.07	.03	-.03	.03	-.02	.02
Condition	.04	.04	.01	.03	.04	.02	-.01	.02
Parent education	-.01	.01	-.00	.00	-.01	.01	-.02*	.01*
Parent dual-bio marital status	.03	.05	-.02	.04	.01	.03	.01	.01
Youth delinquency × fathers' internalizing problems	.12**	.04	-.00	.03	.01	.03	.02	.02
<b>Polysubstance Use</b>								
Youth substance use in Grade 6	-.03	.06	-.01	.03	.00	.03	.02	.02
Fathers' internalizing problems	-.35	.09	-.01	.05	.01	.04	.00	.03
Developmental trend of warmth/hostility	-18***	.02	.50**	.15	-.17	.17	-.60	.65
Level of warmth/hostility	-11***	.04	.30***	.02	-.06**	.02	.06*	.02
Gender	.03	.04	-.07*	.03	-.03	.03	-.01	.02
Condition	.03	.04	.01	.03	.04	.03	-.01	.01
Parent Education	-.13	.01	-.00	.01	-.01	.00	-.02*	.01
Parent dual-bio marital status	.02	.05	-.04	.04	.00	.03	.01	.03
Youth substance use × fathers' internalizing problems	.35***	.12	-.10	.10	.03	.07	.03	.07
<b>Youth Internalizing Problems</b>								
Youth substance use in Grade 6	-.01	.08	.09	.06	-.09	.05	.01	.04
Fathers' internalizing problems	-.03	.06	.02	.04	.03	.04	-.01	.03
Developmental trend of warmth/hostility	-.44***	.09	.61***	.14	-.17	.16	-.95	.62
Level of warmth/hostility	-17***	.02	29***	.02	-.07***	.02	.05*	.02
Gender	-11**	.04	-.06*	.03	-.04	.02	-.02	.02
Condition	.05	.04	.01	.03	.03	.02	-.01	.02
Parent Education	-.02	.01	-.01	.01	-.01	.00	-.01*	.01
Parent dual-bio marital status	.03	.04	-.02	.03	-.00	.03	.01	.03
Youth internalizing problems × fathers' internalizing problems	.15	.17	.07	.13	.34**	.10	.21*	.09

Note. Separate models were run for father warmth and hostility. All estimates are unstandardized. Variables were centered.

\*  
p < .05

\*\*  
p < .01

\*\*\*  
p < .001

<sup>z</sup>  
p = .06

$t$   
 $p < .10.$

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