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**CHILDREN'S INTERPERSONAL CONFLICT AT SCHOOL AND  
MATERNAL MENTAL HEALTH:  
VARIATION BY MATERNAL EDUCATION**

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Children's Interpersonal Conflict at School and Maternal Mental Health:  
Variation by Maternal Education

ABSTRACT

Drawing on stress proliferation theory, this paper examines whether children's interpersonal conflict with peers and teachers is related to child-mother conflict and maternal mental health when children are third, fifth, and sixth graders. Analyses using fixed effects models with data from the NICHD Study of Early Child Care and Youth Development ( $N = 963$ ) suggest that any forms of children's peer aggression involvement—victims, bully-victims, or bullies—and child-teacher conflict are positively related to child-mother conflict; yet the associations disappear when children's externalizing problems are held constant. Children's peer aggression victimization is positively related to maternal depression even after controlling for children's externalizing or internalizing problems and child-mother conflict especially for less educated mothers, for whom children's being bully-victims and conflict with teachers are also positively related to more depression. These findings suggest that children's interpersonal conflict at school can be a major stressor for mothers especially for the disadvantaged.

For many adults who are raising children, difficulties in parenting can have major emotional tolls. Parenting is an important responsibility, personally and socially, and the parent-child relationship is one of the primary social ties that last throughout a parent's life (Pearlin 1989). In particular, the norms of parenting in contemporary US society emphasize the centrality of parental investments in childrearing for a child's proper development (Hays 1996). Parents are held accountable for ensuring that children do well in life (Milkie et al. 2010). Thus, when a child has a problem, it is likely to create emotional and practical burdens in his or her parents' lives. Past research has shown that children's health, emotional, or behavioral problems are related to more parenting strain and poorer mental health (Early, Gregoire, and McDonald 2002; Nomaguchi and Brown 2011). Yet, few studies have investigated whether children's interpersonal conflict at school—e.g., difficulties in their relationships with friends and teachers—are related to parents' mental health. This is a substantial gap in the literature, because interpersonal conflict is a major form of role strain—a chronic stressor which arises within major social roles—for children as well as adults (Pearlin 1989; Umberson and Montez 2010; U.S. Department of Health and Human Services 2014). As children spend many hours in school with friends and teachers daily, strained relationships that children experience with their friends and teachers are likely to be a major concern for their parents.

In this paper, we use panel data from the NICHD Study of Early Child Care and Youth Development (SECCYD) to examine whether children's interpersonal conflict with peers or teachers is related to their mothers' mental health—i.e., depression and anxiety—when children are in third, fifth, and six grades. We focus on mothers largely because data on fathers in the SECCYD are limited. Of various aspects of conflict with peers, children's peer aggression involvement—victims, bullies, or bully-victims—has been increasingly recognized as a major

stressor that affect children's developmental outcomes negatively (Gladden et al. 2014; Hertz, Donato, and Wright 2013; U.S. National Institute of Child Health and Human Development, 2016). For children's relationships with teachers, we focus on child-teacher conflict reported by the teachers, a common measure used in prior research to examine children's relationship with teachers (Pianta 2001).

There are several factors that cloud our understanding of the link between children's interpersonal conflict with peers or teachers and maternal mental health. Prior research has shown that peer aggression involvement and the quality of child-teacher relationships are related to children's academic, behavioral, and emotional well-being (Crosnoe 2000; Crosnoe and Meely 2008; Crosnoe et al. 2010). Given that children's academic, behavioral, or emotional problems are also related to their mothers' mental health (Early, Gregoire, and McDonald 2002; Nomaguchi and Brown 2011), the association between children's interpersonal conflict with peers or teachers and their mothers' mental health could be spurious through these problems that children have. Another third factor that may obscure the association between children's interpersonal conflict with peers or teachers and maternal mental health is child-mother conflict, which is related to maternal mental health (Nomaguchi 2012; Umberson 1992). Little research has examined the link between children's interpersonal conflict at school and child-mother relationship conflict. Thus, we first examine this link and then examine whether children's interpersonal conflict is related to maternal mental health after controlling for child-mother conflict in addition to children's academic, behavioral, or emotional problems.

Finally, the stress process model contends that vulnerability to stressful experiences vary by social location to which individuals belong, including socioeconomic status (SES) (Pearlin 1999). Research on parenting has shown that parents' relationships with teachers and their ability

to intervene when their children have issues at school vary markedly by SES (Calarco 2014; Lareau 2003). We examine whether the associations between children's problems with peers or teachers and mothers' mental health differ by SES, measured by mothers' level of education.

Because parents' mental health is critical for proper family functioning and child development (Turney 2011), it is important to identify factors that influence parents' mental health during childrearing years. The findings of the present analysis contribute to multiple areas of research on stress including scholarships of stress proliferation, parental mental health, social relationships and health, and SES disparities in vulnerability to interpersonal conflict.

## BACKGROUND

### *Children's Interpersonal Conflict with Peers or Teachers and Mothers' Psychological Well-being*

We use several key ideas from the *stress process model* to examine the link between challenges that children experience with peers and teachers and their mothers' mental health. The stress process model is a theoretical perspective that is useful in understanding how social stressors, defined as circumstances that challenge individuals' ability to adapt in their environment, can be harmful for individuals' mental health (Pearlin 1999). The first key concept is interpersonal conflict, a form of a role strain, a core stressor rooted in major institutional roles. Interpersonal conflict with peers and teachers can be a chronic stressor for children because interactions with peers and teachers happen daily and enduring for at least a year and possibly for years and because these interactions influence children's success in academic, social, and emotional life. The second key concept of the stress process model that is useful for the present analysis is stress proliferation. Stress proliferation posits that stressful circumstances in one area of one's life can create other stressors in other areas (LeBlanc, Frost, and Wight 2015; Pearlin

1999; Pearlin, Aneshensel, and Leblanc 1997). Researchers have used this concept to examine various situations, such as the link between caregiving stress and work stress (Pearlin, Aneshensel, and Leblanc 1997) and the link between perceived minority discrimination and couple relationship quality (LeBlanc, Frost, and Wight 2015). As an important extension of this idea, Thoits (2010) has argued that stress proliferation can occur across generations. Turney (2014) has shown that stressfulness experienced by parents—through poor job conditions, divorce, or incarceration— can create stressors in their children’s lives. Similar ideas have been used in related areas. Very little research has examined the link between children’s interpersonal conflict with peers or teachers and mothers’ mental health.

Although researchers typically conceptualize that parents shape children’s health outcomes, a good number of studies have shown that children are a primary source of stress and poor mental health for parents (Nomaguchi and Milkie 2017; Umberson, Pudrovska, and Reczek 2010). What happens in children’s lives outside the home may influence mothers’ mental health. Prior research has shown that school environments (e.g., school resources, teachers’ interpersonal conflict, and peer skill levels) influence children’s mental health (Milkie and Warner 2011). As stress proliferation suggests, children’s difficult situations at school can manifest as chronic stressors in their mothers’ lives. In particular, we focus on (a) children’s peer aggression involvement and (b) child-teacher conflict as key interpersonal strains in children’s lives. In the following sections, drawing on past research findings, we discuss how these two types of interpersonal conflict in children’s school life may be related to mothers’ depressive symptoms.

### *Peer Aggression*

We examine three types of peer aggression involvement: victimization of peer aggression, bullying, and receipt of and participation in bullying. First, prior research has shown that *peer aggression victimization*, defined as the receipt of any act of unwanted aggression from similar-age peers (Card and Hodges 2008), is related to children's poorer behavioral or mental health—e.g., social problems, externalizing and internalizing symptoms, aggressive and withdrawn behaviors, and anxiety (Gini and Pozzoli 2013; Hawker and Boulton 2000; Hodges and Perry 1999; Ladd and Kochenderfer-Ladd 2002; Nixon et al. 2011). Second, *bullying*, or perpetration of unwanted aggression toward peers, is also related to children's poorer behavioral or mental health, measured as externalizing and internalizing symptoms (Gini and Pozzoli 2009; Scholte et al. 2007). Third, some victims of peer aggression could be also bullies themselves, either toward bullies or toward other children, called *bully-victims* (Cook et al. 2010). Studies suggest that bully-victims are more likely than victims or bullies to show mental health problems and lower academic competence (Burke et al. 2011; Haynie et al. 2001; Veenstra et al. 2005), suggesting that it is critical to distinguish this group from children who are solely victims or bullies.

Children's peer aggression experiences can be a stressor for mothers' mental health. One of the major child-related concerns for mothers of school-age children include their children's relationship with peers, negative peer influences, and how well their children can get along with their peers (Furstenberg et al. 1999; Pearlin 1983). Any forms of peer aggression involvement—whether their children are victims, bully-victims, or bullies—can be concerning for mothers. When their children are victims of peer aggression, mothers may experience frustration, anxiety, and depression for mothers (Bauman 2010). Mothers are expected to intervene such situations wisely, which is not always easy. Children's aggression toward other children, too, can be a

source of concern for mothers, as most mothers do not wish their children to be aggressors who cause trouble (Pearlin 1983). Little quantitative research has examined the association between children's peer aggression involvement and mothers' mental health, however. A few studies, qualitative (Ambert 1994) and quantitative (Ladd 1999), have suggested that children's bullying victimization affects the quality of their relationship with their parents. Children who bully their peers or those who are bullied tend to be more hostile or withdrawn with their parents (Ladd 1999). Because child-mother conflict is related to mothers' poor mental health (Nomaguchi 2012; Umberson 1992), it is likely that children's peer aggression involvement is related to mothers' poor mental health. Whether this association persists after child-mother conflict is held constant is unknown. Thus, we examine two questions. First, is children's involvement in peer aggression, as victims, bully-victims, or bullies, is related to child-mother conflict after controlling for children's problems? Second, is children's involvement in peer aggression related to mothers' mental health after controlling for children's problems and child-mother conflict?

### *Child-Teacher Conflict*

Researchers have shown that students' relationships with their teachers influence children's academic, social, and emotional life at school. The child-teacher relationship quality, typically measured as the teacher's perceptions of closeness and conflict in their relationship with the child, is important for the child's classroom adjustment (Hamre and Pianta 2001). Close relationship with teachers is related to a child's better academic performance, liking school, cooperation with others, and peer acceptance (Birch and Ladd 1997; Crosnoe 2004; Crosnoe et al. 2010; Hugues et al. 2001). In contrast, conflict with teachers is related with fewer prosocial behaviors and greater aggressive behaviors among students (Birch and Ladd 1997; Pianta et al.



1995). Children's aggressive behaviors, which, in turn, are related with greater conflict with mothers and mothers' poorer psychological well-being (Early, Gregorie, and McDonald 2002).

Little research has examined the association between child-teacher relationship quality and maternal mental health. Yet, anecdotal evidence from the popular media suggests that child-teacher relationship problems are among mothers' concerns. Authors of childrearing blogs and newspaper or magazine articles have written about their own or other mothers' concerns regarding children's poor relationships with teachers (Bowman 2017; Burke 2017; Gross 2015; Kuebler 2017; White 2017). For example, in her blog article titled, "When Your Child Doesn't Like His Teacher," Gross (2015) discussed her experiences of "sheer panic and helplessness" when her children told her that they did not like their teachers. Other authors have also expressed similar worries and distress with the thought that "this is going to be a rough year" for their children and their family (Kuebler 2017; White 2017). Some mothers may have to deal with the tricky situation that their child's teacher does not seem to like their child (Bowman 2017; Burke 2017). These anecdotal stories indicate the need for systematic research that examines the association between child-teacher conflict and mothers' mental health.

It is possible that children with strained child-teacher relationships may also have strained relationships with their mothers. This could be because negative mood at school may "spill over" into child-mother interactions. Alternatively, some children may have difficulties with adults in general because of personality or earlier life events (King 2002; Rudasill and Rimm-Kaufman 2009). Past research has rarely examined whether child-teacher conflict is related to child-mother relationship quality. Thus, we first examine the link between child-teacher conflict and child-mother conflict. Subsequently, we examine whether child-teacher conflict is related to maternal

mental health even after controlling for child-mother conflict in addition to other confounded factors such as children's academic, behavioral, and emotional problems.

#### *Variation by Mothers' Levels of Education*

Sociological research on stress and mental health emphasizes that individuals' reactions to stressors vary by their social locations (Pearlin 1999). In particular, individuals in higher status positions in socially stratified locations, such as higher SES, tend to have more material, social, or psychological resources that they can use to deal with stressful situations and thus their mental health would not be as vulnerable to the stressors as individuals in lower status positions. In the present analysis, we focus on variation by mothers' education in the association between children's interpersonal conflict at school and maternal mental health. Family research has shown that parents' influences on children's social life as well as parents' views and relationships with their children's teachers vary markedly by their levels of education. Mothers with higher levels of education are more likely than mothers with lower levels of education to have greater control over children's peer relationships as they directly organize their children's free time, social life, and peer networks (Lareau 2003; Weininger and Lareau 2009). In addition, highly educated mothers are more likely than mothers with lower levels of education to be involved in their children's school life, feel more comfortable talking to their children's teachers about concerns and difficulties that their children face, and feel entitled to intervene on behalf of their children in part because of their educational status that is equal to or higher than their children's teachers (Calarco 2014; Lareau 2003). These findings suggest that the association between children's difficult experiences with their friends and teachers and maternal mental health is greater for less educated mothers than more educated mothers.

#### THE PRESENT STUDY

Using longitudinal data from the SECCYD, we examine the associations between two aspects of children's interpersonal conflict at school (i.e., peer aggression involvement and strained relationships with teachers) and mothers' mental health before and after controlling for children's academic performance, internalizing problems, externalizing problems and child-mother conflict. We examine whether these associations vary by SES, measured as mothers' levels of education. To eliminate unobserved characteristics that may be related to both the odds of children being involved in peer aggression or having strained relationships with teachers and maternal mental health, we used fixed effects models (Allison 2009). Fixed effects models control for time-invariant characteristics, such as personality traits, race/ethnicity, gender of the child, birth order, and mothers' age at first birth. We also account for time-varying characteristics that are related to peer aggression involvement, teacher-child relationship quality, and maternal mental health. These characteristics include: mothers' relationship status, weekly work hours, family income, the number of children in the household, and the child's developmental status—i.e., third, fifth, or sixth grade (King 2002; Nomaguchi and Brown 2011).

## METHOD

### *Sample*

The SECCYD is a longitudinal study of 1,364 children and their families that was originally designed to examine the link between non-maternal child care and child developmental outcomes. This study began in 1991 when families of newborns were recruited from hospitals in 10 cities in 9 states in the United States (see NICHD Early Child Care Research, or NICHD ECCRN 2005 for detailed information about the data). The SECCYD collected information about peer aggression involvement, child-teacher relationship quality, children's academic, behavioral, and emotional outcomes, child-mother relationship quality,

maternal mental health when children were in third, fifth, and sixth grades. For the present analysis, we selected cases where mothers participated in all three surveys ( $N = 963$ ). The descriptive statistics for basic demographic characteristics for the sample are presented in Appendix.

### *Measures*

For the use of fixed effects models (see “Analytical Plan” for detail), all variables (except for maternal education at birth that was used in the interaction terms) in the analyses were time-varying, which were measured at each time point of third, fifth, and sixth grades.

*Child-mother conflict* was measured as the average of the seven questions ( $\alpha = .78$ ) from the Adult-Child Relationship Scale (ACRS), which was adapted from the Student-Teacher Relationship Scale (STRS; Pianta 2001). Mothers were asked: (a) My child and I always seem to be struggling with each other; (b) My child easily becomes angry at me; (c) My child remains angry or is resistant after being disciplined; (d) Dealing with my child drains my energy; (e) When my child is in a bad mood, I know we’re in for a long and difficult day; (f) My child’s feelings toward me can be unpredictable or can change suddenly; and (g) My child is sneaky or manipulative with me. Response categories include 1 = *definitely does not apply*, 2 = *not really*, 3 = *neutral*, 4 = *applies somewhat*, 5 = *definitely applies*. Similar measures were used in prior research (e.g., Trentacosta et al. 2011).

*Maternal depression* was measured as a modified version of the Center for Epidemiological Studies Depression Scale (CES-D), the sum of 20 items ( $\alpha = .92$ ) asking mothers about the previous week (0 = *less than once a week*, 1 = *1 to 2 days a week*, 2 = *3 to 4 days a week*, 3 = *most or all week*).

*Maternal anxiety* was measured by the sum of 10 items asking mothers how often they felt in the way each statement described during the past week (e.g., “I was jittery”, “I felt frightened”). The response category ranged from 1 = *not at all* to 4 = *most or all of the time* in each item (Spielberger et al. 1983).

*Children’s peer aggression involvement* was measured on the basis of self-reports of 4-items regarding victimization (e.g., “Does anyone in your class pick on you at school or hit you at school?”) and 4-items regarding engagement in bullying behavior (e.g., “Do you pick on other kids in your class at school or say bad things about other kids in your class at school?”) (1 = *never*, 2 = *hardly ever*, 3 = *sometimes*, 4 = *most of the time*, and 5 = *always*) (Ladd and Kochenderfer-Ladd 2002). Following prior research (e.g., Pitzer and Fingerman 2010; Schafer and Ferraro 2011), we first created a dichotomous variable of victimization where those who reported experiencing at least one of the four items of victimization “sometimes”, “most of the time”, or “always” were coded 1 and those who reported never or hardly ever experiencing any of the four items were coded as 0. Similarly, we created a dichotomous variable of bullying where those who reported being engaged in at least one of the four items of bullying behavior sometimes or more were coded as 1 and those who reported never or hardly ever being engaged in any of the four items of bullying behavior were coded as 0. With these two dichotomous variables, we created four mutually exclusive categories indicating whether the focal child was primarily (a) a victim of peer aggression, (b) engaged in bullying and was victimized (bully-victims), (c) engaged in bullying only, and (d) was neither victimized nor engaged in bullying.

*Child-teacher conflict* was measured by the Student-Teacher Relationship Scale (STRS; Pianta 2001), that assesses teachers’ perceptions of the focal student’s relationship with them and their perceptions of the student’s behavior toward them. We focus on conflict which was

measured as the average of seven questions: (a) “Child and I always seem to be struggling with each other”, (b) “Child easily becomes angry with me,” (c) “Child remains angry or is resistant after being disciplined,” (d) “Dealing with the Child drains my energy,” (e) “When the Child wakes up in a bad mood, I know we’re in for a long and difficult day”, (f) “The Child’s feelings towards me can be unpredictable or can change suddenly”, and (g) “The Child is sneaky or manipulative with me” (1 = *definitely does not apply* to 5 = *definitely applies*) with the score ranging from 1 to 5. These measures have been used extensively by other studies (e.g., Birch and Ladd 1997).

*Children’s academic performance* was measured as the average of 19 items evaluated by children’s teachers about children’s school performance in six subjects of reading, oral language, written language, math, social studies, and science, work habits, and classroom social skills (Pierce, Hamm, and Vandell 1999). *Children’s behavioral and emotional adjustment*. Child’s *externalizing problems* and *internalizing problems* were measured using the Child Behavior Checklist (CBCL; Achenbach and Ruffle 2000). Mothers were asked whether a list of 113 items would describe about the focal child’s behaviors currently or within the last six months (0 = *not true*, 1 = *somewhat or sometimes true*, and 2 = *very true or often true*). The externalizing problems scale was created the sum of 33 items that indicate displaying delinquent and aggressive behaviors. We used standardized score (t-score) which ranged from 31 to 100. The internalizing problems scale was the sum of 31 items that indicate acting withdrawn, having somatic complains, and appearing anxious or depressed. We also used t-score which ranged from 30 to 100

*Mother’s education* was measured as an ordinary variable at the first month interview including 1 = *less than high school*, 2 = *high school*, 3 = *some college*, 4 = *college degree*, and 5

= *advanced degree*. Note that mothers' education at the child's birth is time-invariant and thus was not included in fixed-effects models as a main effect. Fixed-effects models can estimate interaction effects between a time-varying factor and a time-invariant factor (Allison 2009).

We included five time-varying variables as controls. *Family income* was a composed variable by NICHD ECCRN. Mother's *partnership status* in third grade was measured as three dummy variables including married, cohabiting, and single. *Mother's weekly paid work hours* was measured based on a self-report of current employment hours. *The number of children in the household* was an ordered variable. *Child developmental stage* was measured as third grade (reference), fifth grade, and sixth grade.

#### *Analytical Plan*

We used fixed effects regression models (Allison 2009), which employed the pooled data of the three waves, which resulted in  $N = 2,889$  person-year data. Fixed effects models focus on within person variation and examine the associations between *changes* in independent variables and *changes* in outcome variables (Allison 2009). Fixed effects models control for time invariant unobserved characteristics that may be related to both the odds for children to get involved in peer aggression or to have strained relationships with teachers and their mothers having poor mental health, such as personality traits or family backgrounds. Hausman tests indicated significant differences in the coefficients between random-effects and fixed-effects models (not shown). If there were very few unmeasured individual characteristics correlated with the dependent measures, the estimates using random-effects and fixed-effect models would be very similar; the results of Hausman tests suggest the need for fixed-effects models for the present analyses (Allison 2009). For the few variables with missing cases, we used PROC MI in SAS to create five replicates of the data set as suggested by Allison (2001).

The multivariate analyses included two steps. The first step examined the association between children's peer aggression involvement or child-teacher conflict and child-mother conflict. We conducted two models. Model 1 examined the associations between children's peer aggression involvement or child-teacher conflict and child-mother conflict with control variables. Model 2 included children's academic performance, externalizing problems, and internalizing problems to the model to examine whether the association between children's peer aggression involvement or child-teacher conflict and child-mother conflict remains significant after controlling for these children's problems.

The second step of analyses examined the associations between children's peer aggression involvement or child-teacher conflict and mothers' mental health—depression or anxiety. For each measure of maternal mental health, we conducted four models. Model 1 examined the associations with time-varying control variables. Model 2 added children's academic, behavioral, and emotional outcomes. Model 3 added child-mother conflict. Model 4 included the interaction between children's peer aggression involvement and maternal education and the interaction between child-teacher conflict and maternal education to examine whether the associations vary by maternal education.

## RESULTS

Table 1 presents descriptive statistics for variables in the analyses and some key background characteristics. On average across the three time points (third, fifth, and sixth grades), 35 percent of children were victims of peer aggression, nine percent were bully-victims, and 3 percent were bullies, whereas 53 percent were not involved in either form of peer aggression. The average score of child-teacher conflict was 1.60 in the range of 1 to 5.

[Table 1 around here]



Are children's peer aggression involvement and conflict in relationships with their teachers related to conflict in the relationships with their mothers? Table 2 presents results from fixed effects models. Model 1 suggests that any involvement in peer aggression—victims, bully-victims, and bullies—was positively related to child-mother conflict, controlling for mothers' marital status, work hours, family income, and the number of children in the household. Supplemental analyses (not shown) showed that mothers whose children were bully-victims reported greater child-mother conflict than mothers whose children were victims. There were no differences between mothers whose children were victims and mothers whose children were bullies. There were also no differences between mothers whose children were victims and mothers whose children were bully-victims. Child-teacher conflict was also positively related to child-mother conflict. Model 2 suggest that when children's academic performance, externalizing problems, and internalizing problems were controlled for, the associations between any of the three types of peer aggression involvement or child-teacher conflict and child-mother conflict were no longer significant. Supplemental analyses (not shown) suggest that the association between children's peer aggression involvement or child-teacher conflict and child-mother conflict disappeared only after controlling for children's externalizing problems.

[Table 2 around here]

Next, we examined the association between children's peer aggression involvement, conflict in relationships with their teachers, and two indicators of their mothers' psychological well-being: depressive symptoms and anxiety. Table 3 shows results for depressive symptoms. Model 1 shows that children's victimization and mutual bullying (bully-victims) were positively related to maternal depression. There were no difference between being solely a victim and bully-victims. Child-teacher conflict was also positively related to maternal depression.

Children's bullying behavior was not related to maternal depression. Model 2 added children's academic performance, externalizing problems, and internalizing problems. Children's better academic performance was negatively related to maternal depression, whereas children's externalizing and internalizing problems were positively related to maternal depression. After controlling for these factors, the association between child-teacher conflict and maternal depression became nonsignificant. Model 3 added child-mother conflict to Model 2, which was positively related to maternal depression. The association between children's being bully-victims and maternal depression became nonsignificant. The association between children's being peer aggression victims and maternal depression reduced, but remained significant. Model 4 tested variation by SES in the association between peer aggression involvement or child-teacher conflict and maternal depression. The interaction between children's being bully-victims and maternal education was significant and the sign was negative. The interaction between child-teacher conflict and maternal education was also significant and the sign was negative. To understand these interaction effects, we conducted Model 3 for subgroups of mothers by different education level (not shown). The results suggest that children's being bully-victims or child-teacher conflict was related to higher levels of maternal depression only for mothers with lower levels of education, particularly those who do not have a college degree.

[Table 3 around here]

Table 4 shows results for maternal anxiety. Similar to the patterns found for maternal depression, children's being victims and bully-victims were positively related to maternal anxiety (Model 1). Child-teacher was also positively related to maternal anxiety. Children's being bullies was not related to maternal anxiety. Unlike the pattern we saw for maternal depression, the association between children's victimization and maternal anxiety and the

association between child-teacher conflict became non-significant after controlling for children's academic performance, and externalizing and internalizing problems (Model 2). Model 4 suggests some variations in these associations by maternal education level. The interaction between children's peer aggression victimization and maternal education was significant and the sign was negative. Again, we examined Model 3 for subgroups of mothers with different education levels (not shown). The findings of these supplemental analyses suggest that children's aggression victimization was positively related to maternal anxiety only for mothers without a college degree.

[Table 4 around here]

In sum, we found that any forms of children's peer aggression involvement—victims, bully-victims, or bullies—as well as child-teacher conflict were positively related to child-mother conflict; yet, these associations were no longer significant after controlling for children's externalizing problems. Mothers whose children were peer aggression victims reported higher levels of depression, and, albeit for mothers with lower levels of education only, higher levels of anxiety, even after controlling for children's externalizing problems, internalizing problems and child-mother conflict. Less educated mothers whose children were bully-victims also reported higher levels of depression even after controlling for children's problems and child-mother conflict. Child-teacher conflict was positively related to mothers' depression only among mothers with lower levels of education.

## DISCUSSION

Children influence their parents' emotional well-being (Nomaguchi and Milkie 2017; Umberson, Pudrovska, and Reczek 2010). In the era of the intensive mothering ideology (Hays 1996), which holds mothers accountable for how well their children are doing in all aspects of

their lives including social skills, children's difficulties with peers and teachers can be a core chronic stressor for mothers. This paper examined whether children's interpersonal conflict at school, focusing on peer aggression involvement and child-teacher conflict, are related to mothers' depression and anxiety, and whether the associations vary by maternal education level. The findings presented here contribute to the scholarship of social stress and mental health in several ways.

We first examined whether children's strained relationships with peers and teachers are related to child-mother conflict, a key factor related to maternal mental health (Nomaguchi 2012; Umberson 1992). We found that any form of children's peer aggression involvement—victims, bully-victims, or bullies—and higher levels of child-teacher conflict are positively related to child-mother conflict. These associations disappear when children's externalizing and internalizing problems are held constant. This means that there was no direct link between children's peer aggression involvement or child-teacher conflict and child-mother conflict. It could be that these problems are associated with increases in interpersonal conflict in general including those with peers, teachers, or mothers. Which one comes first—children's problems or interpersonal conflict—may depend on the situations surrounding the children, which is beyond the scope of the present analysis.

We found that children's peer aggression victimization is positively associated with maternal depression, and for mothers without a college degree, also with anxiety, even after controlling for child-mother conflict as well as children's externalizing and internalizing problems. When children are bullied, mothers may feel responsible for intervening, but it is difficult to know how to do so effectively. Most past research has focused on the role of mothers in buffering the effects of peer aggression victimization on children's psychological well-being

(e.g., Ledwell and King 2015). The findings of the present analysis suggest that children's involvement in peer aggression have implications for their family as well. In particular, we found an important variation by maternal education level: children's peer aggression victimization has more implications for mothers' mental health—both depression and anxiety—for those with lower levels of education. For less educated mothers, children's being bully-victims is also related to higher depression. These findings are consistent with prior research in that lower SES individuals are more likely than higher SES people to be vulnerable to a chronic stressor (McLeod 2013).

Child-teacher conflict is positively related to maternal depression even after controlling for children's problems and child-mother conflict for those with lower levels of education only. Prior work on SES differences in parenting has shown that working-class parents are more likely than middle-class mothers to emphasize the importance of obedience to adults and authority figures in childrearing, whereas middle-class parents are more likely to encourage their children to assert their opinions and interests reasonably to authority figures (Lareau 2003). Thus, children's hostile interactions with their teachers may be more worrisome for working-class parents than middle-class parents. Working-class parents do not feel as comfortable as their middle-class counterparts to approach their children's teachers; or they even feel constrained to do so (Calarco 2014). Working-class parents may find it difficult to deal with teacher-related problems of their children.

Our findings have important policy implications. The current initiatives of reducing bullying and the effects of victimization of bullying on children's well-being (e.g., Institute of Medicine and National Research Council 2014) may need to consider providing support not only to children but also to their parents, especially those with lower SES. Mothers with lower levels

of education are less likely than mothers with higher levels of education to be involved in children's school life as well as peer relationships (Cheadle and Amato 2011; Lareau 2013). Unlike their higher SES counterparts, they are less likely to proactively intervene in their children's issues (Calarco 2014). Yet, our findings suggest that their lack of direct involvement does not mean that lower SES mothers do not care about their children's interpersonal conflict at school. On the contrary, our findings indicate a greater emotional vulnerability of mothers with lower SES than mothers with higher SES. Higher SES mothers have more resources to deal with such difficulties such as reaching out to their children's teachers, school principals, and school counselors or changing schools in which their children attend. Mothers with lower SES may face a greater barrier than their higher SES counterparts to find a way to intervene with their children's peer aggression victimization or their children's difficult relationships with their teachers. It is critical to inform teachers, school counselors, and school administrators about emotional vulnerabilities of lower SES mothers when their children face problems with peers and teachers.

Theoretically, the present analysis suggests the merit of extending the stress proliferation framework to the situation where a stressor in one family member, including the child, could become a stressor for other family members, such as his/her parent (Thoits 2010). We echo Turney's (2014) call for the need for involving children in investigating families, stress, and mental health using the stress proliferation framework. Because children are less likely than adults to keep their problems to themselves, their problems tend to be shared with mothers—the situation in which stress proliferation may likely occur. As Milkie (2000) noted, family members often share problems and thus extending the stress proliferation process to family-level analyses would promote better understanding of family, stress, and mental health.

Analyses presented here have limitations that future research should address. First, peer aggression involvement was measured by children's self-report. Although children's self-report is commonly used, it has limitations: some children may be sensitive to their peers' aggression and over-report victimization, whereas others may be unwilling to report or may not recognize their own aggressive behavior (Card and Hodges 2008). Second, the question regarding peer aggression involvement was asked only once per year for three years. It is unclear how long children were actually experiencing peer aggression. Third, children and their families in the SECCYD are more economically advantaged than those in the general U.S. population (NICHD ECCRN 2005). Prior research has suggested that peer aggression may be more prevalent among lower SES families than among higher SES families, although differences are small (Tippett and Wolke 2014). It is possible that the present analysis might be underestimating the actual prevalence of peer aggression. Finally, although we conceptualized that children's interpersonal conflict proliferates stressors in their mothers' life, the present analysis does not determine the causal direction of the association. It is possible that mothers' poor mental health may be related to children's peer aggression involvement and difficult relationships with their teachers. Future research which uses more sophisticated methods is warranted.

Despite the limitations, the present analyses make an important contribution to the literature of social stress and mental health by shedding light on the link between children's interpersonal challenges at school and their mothers' mental health. In particular, the findings that this association is particularly stronger for mothers with lower levels of education underscore the importance of school administrators' awareness of SES disparities in vulnerability to stressful interpersonal circumstances among parents. These findings have inform

teachers and school counselors about the need for a particular attention to lower SES parents' constraints to help their children cope with interpersonal challenges at school.



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 Table 1. Means (Std) for Variables in the Analysis (N = 963; 2889 person-years)
 

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Maternal mental health		
Depression [range: 0 – 60]	8.84	(8.72)
Anxiety [10 – 40]	17.42	(5.35)
Children's interpersonal conflict at school		
Peer aggression involvement		
Victim only	0.35	
Bully-victims	0.09	
Bully only	0.03	
No involvement	0.53	
Child-teacher conflict [1 – 5]	1.60	(0.81)
Child's outcomes		
Academic performance [1 – 5]	3.46	(0.95)
Externalizing problems [31 – 100]	46.22	(9.99)
Internalizing problems [30 – 100]	48.17	(9.84)
Child-mother conflict [1 – 5]	2.34	(0.87)
Controls		
Mother's marital status		
Married	0.77	
Cohabiting	0.05	
Single	0.18	
Mother's weekly paid work hours [0 - 91]	27.34	(19.09)
Family income [0 - 850]	83.73	(75.60)
Number of children [1 - 8]	2.45	(0.99)

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Table 2. Fixed-Effects Models for the Association Between Children's Interpersonal Conflict and Child-Mother Conflict (N = 963; 2,889 person-years)

	Model 1		Model 2	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Peer aggression involvement <sup>d</sup>				
Victim only	.163	.035***	.006	.028
Bully-victims	.278	.059***	.044	.048
Bully only	.249	.098*	.125	.076
Child-teacher conflict	.149	.021***	-.025	.018
Child's academic performance			-.034	.015*
Child's externalizing problems			.055	.002***
Child's internalizing problems			.006	.002***
Mother's marital status <sup>d</sup>				
Cohabiting	.031	.074	-.164	.057**
Single	.064	.044	-.047	.035
Mother's weekly paid work hours	-.004	.001***	-.002	.001*
Family income	-.001	.000***	.000	.000
Number of children	-.020	.017	-.030	.013*
Child developmental stage <sup>d</sup>				
Fifth grade	.067	.039	.119	.031***
Sixth grade	.145	.039***	.169	.031***
<i>R</i> <sup>2</sup>	.069	***	.449	***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Differences from "victim only" were statistically significant at <sup>a</sup> $< .05$ ; <sup>b</sup> $< .01$ ; <sup>c</sup> $< .001$  levels.

<sup>d</sup>Omitted reference categories are: Neither involvement, married, and third grade.

Table 3. Fixed Effects Models for the Association Between Children's Interpersonal Conflict and Maternal Depression (N = 963; 2,889 person-years)

	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Peer aggression <sup>d</sup>								
Victim only	1.875	.361***	1.114	.350**	1.106	.349**	2.541	.960**
Bully-victims	1.990	.585***	.990	.570*	.937	.564	3.636	1.445*
Bully only	-.660	.998 <sup>a</sup>	-.645	.947	-.794	.950	-3.337	2.701
Child-teacher conflict	.694	.217**	.014	.222	.044	.222	.614	.356
Variation by maternal education								
Victim only x maternal education <sup>d</sup>							-.448	.274
Bully-victims x maternal education <sup>d</sup>							-.931	.466*
Bully only x maternal education <sup>d</sup>							.913	.863
Child-teacher conflict x maternal education							-.208	.099*
Academic performance			-.476	.187**	-.436	.186**	-.261	.189
Externalizing problems			.113	.020***	.048	.023*	.037	.023
Internalizing problems			.192	.019***	.186	.019***	.190	.019***
Child-mother conflict					1.191	.229***	1.251	.228***
Mother cohabiting <sup>d</sup>	2.766	.717***	1.955	.690**	2.150	.688**	1.763	.694*
Mother single <sup>d</sup>	3.017	.439***	2.539	.424***	2.594	.423***	2.476	.421***
Mother's work hours	-.013	.009	-.001	.008	.001	.008	.004	.008
Family income	-.018	.002***	-.012	.002***	-.012	.002***	-.010	.002***
Number of children	.594	.164***	.686	.158***	.723	.157***	.712	.157***
Fifth grade <sup>d</sup>	.018	.397	-.037	.376	-.172	.375	-.249	.376
Sixth grade <sup>d</sup>	.433	.396	.438	.376	.238	.378	.189	.378
<i>R</i> <sup>2</sup>	.099	***	.186	***	.194	***	.200	***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Differences from "victim-only" were statistically significant at <sup>a</sup> $< .05$ ; <sup>b</sup> $< .01$ ; <sup>c</sup> $< .001$  levels.

<sup>d</sup>Omitted reference categories are: Neither involvement, neither involvement x maternal education, married, and third grade.

Table 4. Fixed Effects Models for the Association Between Children's Interpersonal Conflict and Maternal Anxiety (N = 963; 2,889 person-years)

	Model 1		Model 2		Model 3		Model 4	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Peer aggression <sup>a</sup>								
Victim only	.852	.234***	.405	.223	.399	.223	1.959	.631***
Bully-victims	.745	.364*	.179	.355	.138	.351	1.073	.925
Bully only	-.058	.593	.026	.562	-.089	.563	-.872	1.655
Child-teacher conflict	.354	.130**	.015	.131	.037	.130	.351	.220
Variation by maternal education								
Victim only x maternal education <sup>a</sup>							-.487	.182***
Bully-victims x maternal education <sup>a</sup>							-.307	.292
Bully only x maternal education <sup>a</sup>							.301	.531
Child-teacher conflict x maternal education							-.115	.065
Academic performance			-.047	.116	-.015	.115	.105	.118
Externalizing problems			.067	.012***	.016	.015	.009	.015
Internalizing problems			.119	.012***	.113	.012***	.116	.012***
Child-mother conflict					.920	.144***	.953	.143***
Mother cohabiting <sup>a</sup>	1.204	.459**	.796	.444	.946	.441*	.665	.443
Mother single <sup>a</sup>	1.310	.278***	1.104	.271***	1.147	.270***	1.066	.270***
Mother's work hours	.000	.006	.008	.005	.009	.005	.012	.005*
Family income	-.008	.001***	-.005	.001***	-.005	.001***	-.004	.001**
Number of children	.308	.102**	.396	.099***	.424	.099***	.420	.099***
Fifth grade <sup>a</sup>	.419	.246	.369	.237	.265	.237	.218	.237
Sixth grade <sup>a</sup>	.277	.246	.280	.237	.125	.237	.099	.238
<i>R</i> <sup>2</sup>	.058	***	.140	***	.152	***	.160	***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ <sup>a</sup>Omitted reference categories are: Neither involvement, neither involvement x maternal education, married, and third grade.

Appendix. Means (SDs) for Background Characteristics ( $N = 963$ )

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Mother's education at birth [range: 1 – 5]	3.22	(1.16)
Proportion of each education level		
< High school	0.07	
High school	0.20	
Some college	0.32	
College degree	0.24	
Advanced degree	0.17	
Mother's age at birth [18 – 46]	28.78	(5.52)
Mother's race/ethnicity		
White	0.83	
Black	0.11	
Hispanic or other race	0.07	
Girls	0.50	
First child	0.45	

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