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The Association of Marital Conflict and Kindergarten Age Externalizing Problems in the
Context of Fathers' Alcohol Use Disorder

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ABSTRACT

This study tested a conceptual model examining independent associations between marital conflict in early childhood (12-24 months) and fathers' alcohol problems on parent and teacher reported aggression problems at kindergarten age among children of fathers with alcohol abuse and dependence, and a demographically similar comparison group. Two hundred twenty-seven families were assessed over four time points when the children were 12-, 18-, 24-, 36-, 48-months old, and at kindergarten age. Marital conflict, parent alcohol problems, maternal warmth/sensitivity, and child aggression were measured during the time points. Higher experiences of marital conflict during early childhood were hypothesized to have increased behavioral problems (aggression) in kindergarten. Lastly, the association between marital conflict and child aggression was hypothesized to be stronger for males and for children experiencing low maternal warmth/sensitivity. Correlational testing and ANOVAs supported the direct association between high marital conflict and high parental reports of child kindergarten aggression, as well as the direct association between high paternal alcohol problems and high parental reports of child kindergarten aggression. Teacher aggression reports did not have a direct association with marital conflict nor fathers' alcohol problems. However, child gender and maternal warmth/sensitivity did not moderate these associations. The study explains developmental processes in connecting aggressive behaviors, marital conflict, and the role of parents' alcoholism and associated risk factors in this process.

Keywords: fathers' alcohol problems, marital conflict, maternal warmth/sensitivity, child biological sex, aggressive behaviors

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Introduction

Rich literature indicates that higher levels of marital conflict are associated with higher child aggression (Li, Ma, and Zhang, 2023). Fathers' alcohol problems may be associated with higher levels of both marital aggression and child aggressive behaviors. However, the quality of parenting may moderate the association between marital conflict and child aggression (Van Dijk et al., 2020) as well as alcohol problems and child aggression. In addition, there may be differential associations for boys and girls. In this honors thesis, I examined the connections between fathers' alcohol problems and marital conflict in early childhood (12 through 24 months) and child aggression in kindergarten. I also examined the moderating effects of the child's biological sex as well as the level of maternal warmth/sensitivity during mother-child interactions through observational measures at age 12, 18, and 24 months.

Child Aggression

There is a vast literature involving the outcomes of children who behave aggressively (Yue and Zhang, 2023). In a review of the literature, researchers examined over 60 studies examining the association between child aggression and later adverse outcomes. They reported that school-aged children who showed overt aggressive behaviors were more likely to be rejected by their peers. The study also reported how early peer rejections put children at risk for later antisocial behaviors (Yue and Zhang, 2023). The indirect connections between child aggression and later antisocial outcomes through peer rejection emphasize the importance of the

kindergarten sample, as it is the first-time children are being judged by their peers and may start receiving that rejection, putting them at risk for these later behaviors.

Furthermore, child aggression in different situations may be associated with different expressions of aggression, whether at school or home. Jiménez and Estévez (2017) found that aggressive behaviors at school and home may work independently regarding differential levels of relationship quality and support the child may feel from parents versus teachers. A meta-analysis from Hukkelberg et al. (2019) also reported that children may show different behaviors in different contexts. A child may exhibit aggressive behaviors at home where they do not feel supported but may act pro-socially in a school setting where they feel supported by teachers and peers. The independent nature of these relationships stresses why, for the current study, both parent and teacher reports of child aggression were utilized and analyzed separately.

What is the Literature on the Association Between Marital Conflict and Child Aggression?

According to a meta-analysis by Buehler et al. (1997), marital conflict is associated with externalizing problems in school-aged children. Additionally, how parents talk to each other and resolve these conflicts may affect child outcomes differently. If a couple talks to each other disrespectfully or hurtfully, the child listening may develop the same socially maladaptive conflict management style (Grych, Raynor, and Fosco, 2004). Since these interactions could be familiar, the child may think this is a healthy way to communicate during an argument and react like their parents when in conflict with a peer. Von Suchodoletz et al. (2009) also reported that children in homes with unhealthy conflict may use aggressive tendencies with peers and teachers, which may lead to lower social competence, peer acceptance, and academic performance—risk factors for later-life antisocial behaviors. These articles stress the importance

of marital conflict during a child's young life. Social learning theory explains how children may take conflict styles they see as usual and use it during conflict with peers, leading to peer rejection and possibly later antisocial behaviors (Bandura & Walters, 1977). There is extensive literature on the association between marital conflict and child aggression (Li, Ma, and Zhang, 2023). However, most of this literature is on older children, with only a few studies on younger age groups. Focusing on younger age groups provides more insight into how families interact, as early childhood is a sensitive period where family interactions have long lasting effects on future developmental outcomes. Cummings et al. (2004) reported increased aggression among 8–16-year-old children—who witnessed marital conflict in early childhood—consisting of destructive conflict tactics or conflict that was presumed to be threatening. However, aggression scores were lower among children with parents who used constructive tactics during conflicts. Davis et al. (1998) also found that marital discord correlated with increased child externalizing problems in ages 6-9 years. George et al. (2014) also followed children's exposure to marital conflict in kindergarten, assessing them again in 2nd grade for higher levels of emotional insecurity, and lastly in 7th grade for maladaptive behaviors. Researchers found that children who were exposed to destructive forms of marital conflict were more at risk for higher levels of emotional insecurity, and in turn at risk for maladaptive behaviors. These findings show a connection between early childhood experiences and later developmental outcomes, something that has not been studied as much in the literature, and a gap this study aimed to fill. Since these and numerous other studies primarily focus on the older age range, the present study centers around the role of marital conflict in early childhood in predicting child aggression when the child enters kindergarten.

What is the Literature on Fathers' Alcohol Problems and Child Aggression?

Previous literature indicates an association between parental substance use and later child externalizing problems (McGovern et al., 2023). In a review of the literature, researchers included 17 studies that focused on parental substance use and externalizing problems throughout childhood and adolescence. Most literature exploring the association between parental substance use and later child externalizing problems does not focus on young children, but primarily on the child's externalizing problems in adolescence, particularly substance use and risky behaviors. Jones and Greenberg (2015) reported how social competence and externalizing problems in kindergarten put children growing up with alcohol problems in the home more at risk for juvenile delinquency, adult crime, psychopathology, and mental illness. One longitudinal study that focused on young children was published by Eiden et al. (2010), where researchers examined associations between a father's alcohol diagnosis (when children were 12-36 months) and children's later social competence and externalizing problems (kindergarten). Father's alcohol problems were associated with lower maternal warmth/sensitivity less than a year after the father's alcohol diagnosis. Lower maternal warmth/sensitivity was then associated with increased behavior problems in kindergarten. The association could be explained by a possible spillover effect on maternal warmth/sensitivity interactions from having a partner with alcohol problems. As this article is one of few researching young children's externalizing problems within parental substance use, it is vital to look deeper into the topic. I am planning on adding to the literature regarding father's alcohol

problems and the effect they have on young children's later behavioral outcomes, but additionally adding marital conflict, and examining if those two variables are associated.

Eiden, Edwards, and Leonard (2007) found that a father's alcohol diagnosis at 12-18 months predicted lower maternal warmth/sensitivity with their child at two years old. The same researchers also found that in families with fathers who had high levels of alcohol problems, lower levels of maternal warmth/sensitivity were associated with higher externalizing behaviors in kindergarten via poor self-regulation in the preschool years (Eiden, Edwards, and Leonard, 2007). These results may suggest that maternal warmth/sensitivity during early childhood may be protective in the context of the father's alcohol problems. This finding highlights the importance of maternal warmth/sensitivity in the development of children of families with alcohol use problems. It is important to further explore the link between fathers' alcohol problems and children's aggression in kindergarten, with maternal warmth/sensitivity being a critical moderator.

Finger et al. (2010) reported how children who live in homes with alcohol problems may be at an increased risk for higher levels of marital conflict compared with homes with less alcohol problems. High levels of marital conflict give the child more experiences around negativity and may change the way they react to conflict, mirroring the conflict styles of their parents. The context of alcohol misuse in a family may increase externalizing problems since, according to a finding by Finger et al. (2010), there may be more conflict between parents inside the home compared to families without alcohol misuse.

Moderators

In the context of fathers' alcohol problems and marital conflict, what is the literature supporting maternal warmth/sensitivity as being protective? Maternal warmth/sensitivity have been protective factors for many adverse life experiences for children (Pinquart, 2017). Skopp, McDonald, Jouriles, and Rosenfield (2007) reported that among families with mother-partner aggression, children presented with less externalizing problems when they experienced high maternal warmth/sensitivity. Attachment theory helps explain this connection, as children with insecure attachments to their caregivers are more likely to experience externalizing problems than securely attached children (Madigan et al., 2016). A child's attachment will be affected by the level of warmth and sensitivity that a caregiver has, making warmth and sensitivity a significant moderator to look at within the context of conflict and substance use within the home.

In the context of fathers' alcohol problems—where the fathers' alcohol diagnosis predicted lower parental warmth—lower maternal warmth/sensitivity was associated with increased aggression in children (Eiden et al., 2009). Researchers found from this sample that the father's alcohol problems were associated with harsher parenting styles (low sensitivity) from the mother. Although these studies examined parenting as a mediator of child outcomes, maternal parenting behavior may also serve as a moderator in the context of high risk posed by fathers' alcohol problems or marital conflict. Not all children of fathers with alcohol problems display negative outcomes (Eiden et al., 2016), and this heterogeneity in outcomes may be due to the protective role of maternal parenting behavior.

In the context of fathers' alcohol problems and marital conflict, what is the literature supporting increased aggressive behaviors in boys? In a study by Grych and

Finchman (1990), researchers discussed how early studies found that boys exhibited more behavior problems than girls. However, they found that both sexes are adversely affected by interparental conflict. However, Deater-Deckard et al. (1998) reported how boys were found to have more aggressive behaviors, as they were also found to receive harsher discipline than girls, while also having parents who reported they valued aggression (strength) more than girls. Spoth et al. (2006), along with Compton et al. (2003), found no differences between a child's biological sex and externalizing problems in the context of family stressors. Miller et al. (1986) reported how children act differently regarding interpersonal conflict through sex-based ways of coping. Researchers found that boys more often used aggressive tendencies (physical or threatening behaviors) in a conflict. At the same time, girls were more likely to use avoidance and compromise behaviors and were less likely to use the same aggressive tendencies. Existing literature also indicates that boys of fathers with alcohol problems are at higher risk for externalizing behaviors compared to girls (Edwards et al., 2006). Thus, child sex may moderate the association between fathers' alcohol problems and child aggression and marital conflict and child aggression, with these associations being stronger for boys compared to girls.

What Theoretical Framework Literature Supports the Association Between Marital Conflict and Childrens' Aggressive Behaviors, as well as the Association Between Fathers' Alcohol Problems and Childrens' Aggressive Behaviors?

Social Learning Theory. Using the basis of social learning theory—which explains how children learn behaviors by watching caregivers exhibit the same behaviors (Bandura & Walters, 1977)—Cummings (1987) found that children become more hostile in their interactions

after witnessing adults show the same hostile behaviors. The theory explains this interaction by connecting the two interactions, the child and adult conversations. The child witnesses that it is acceptable and expected to talk to another person aggressively, so they are now more likely to talk to another the same way. The current study examines young children who may have conflicts in the home and if they may be more likely to show these aggressive behaviors with peers, as those who experience the conflicts may have learned aggression is a healthy way to manage conflict. Children living in homes with these conflicts may show more aggressive behaviors than those living in homes with lower levels of conflict.

Emotional Security Theory. Further, drawing from emotional security theory—based on the three main signs of insecurity: elevated levels of emotional reactivity, regulating exposure, and negative internal representations of interpersonal relationships—if a child is around hostile behaviors between caregivers, they may not develop a sense of safety (Davies & Martin, 2014).

Emotion reactivity is "intense, dysregulated, and protracted distress in the face of parental conflict" (Davies and Martin, 2014). Within the study, emotion reactivity is associated with aggression children may show in the school setting during kindergarten. According to this insecurity, children who live in homes with marital conflict are more likely to show these intense and dysregulated behaviors—defined in this study as aggressive behaviors.

Exposure regulation is "elevated avoidance or involvement in interpersonal discord" (Davies and Martin, 2014). Within this study, exposure regulation correlates with the amount of conflict occurring within the home. If the child lives in a home with elevated levels of conflict,

they may become involved in the conflict with their parents, leading them to be at a higher risk of adopting these modeled behaviors.

Internal representation insecurity is defined as "implications interpersonal difficulties have for the welfare of the self and family" (Davies and Martin, 2014). Within the study, this insecurity correlates with the child's welfare and behaviors. As already discussed, children with aggressive behaviors may have lower rates of peer acceptance, social competence, and academic performance—which may lead to adverse outcomes later in life. (Davies and Martin, 2013).

A study by Davies & Martin (2014) found that negativity and hostility around children may not let them fully develop a feeling of safety and security, putting them at a higher risk of behavior problems. Cummings and Davies (1996) found results that expanded on this topic, bringing in the topics of parental attachment and maternal warmth/sensitivity. They explain how more family stress may affect the maternal caregiver's ability to provide a warm and sensitive interaction style, affecting the attachment between the maternal caregiver and the child. They also discuss the importance of parent-child attachment and how it mediates the links between dysfunctional family contexts (conflict) and child developmental outcomes (aggression). If a child has a history of maternal insensitivity, they may be more likely to not establish a robust and secure bond with her, and thus, would not be able to have that safety net and develop insecurities through the marital conflicts. The framework may explain why children partake in aggressive behaviors since they do not have a safe and stable place to focus on healthy development.

What is the Literature Supporting the Age Range on the Study?

12-36 months old. Dosman, Andrews, and Goulden (2012) reported that the age range of 12-36 months holds many crucial developmental milestones for a child. From learning how to walk, talk, problem solve, and be independent, this age range exhibits the importance of sensitive/supportive parenting and how the lack of it may increase risks for children in the future. One example of the importance is the development of attachment during early life (1-5 years). Groh et al. (2016) examined the correlation between early childhood attachment and externalizing behaviors, finding that children with secure attachments were less at risk for externalizing problems (aggression) when compared to children with disorganized attachments. Disorganized attachments stem from disrupted and insensitive parenting (negative maternal behaviors) when parents are recorded interacting with their children (Mountain, Cahill, and Thorpe, 2017). The age range of 12-36 months involves many physical and emotional learning stages, starting to pave the way for a child's primary personality and security. Erikson's 8 Stages of Psychosocial Development also stresses the importance of this age range, as children are learning if they may be autonomous and independent or experience shame and doubt by their parents Erikson (1950). If children feel supported by sensitive parents, they will form that secure attachment and home base they need to explore the world. If not, they may inherit a disorganized attachment style, making them more at risk for later insecurities and problem behaviors.

Bates, Maslin, and Frankel (1985) and Weaver and Schofield (2015) found that environmental stress, like divorce or marital discord before age 3, predicted behavior problems in children aged 5. Miller and Aloise-Young (2018) also found this prediction but added the

importance of social modeling for a toddler. The researcher reported that children 12-36 months old raised in a household with interpersonal conflict and violence might model their parents regarding hypervigilance, distress, and poor emotion regulation seen in later years. These critical developmental years for the child lay out how they learn to interact with others, where modeling may be why they exhibit behavior problems during kindergarten age, as that is the only way they have seen people interact with each other at home.

Kindergarten. The age frame of kindergarten is the first time many children interact with peers and adults outside of the family, which may predict future interactions (Ladd and Price, 1987). Since many children spend most of their time in the home—especially since the COVID-19 pandemic—many children have not been outside the home before entry into formal school, starting at kindergarten. Due to this shift, children interact with peers and teachers in terms of how they interact with parents and family or how their family interacts with each other. These student behaviors shed light on what is happening in the home and what the child may be more at risk for in the future (Buyse et al., 2008). The first year of kindergarten also shows how children adapt to behavior expectations and self-regulation, which may predict later behavior problems, academic performance, and social competence (Welsh et al., 2016). Due to these later life implications, kindergarten sets the stage for how children will adapt and behave throughout their academic experience—which will correlate to later adult outcomes.

A study by Jones, Greenburg, and Crowley (2015) found significant associations between measured social-emotional skills in kindergarten and key young adult outcomes across multiple domains of education, employment, criminal activity, substance use, and mental health. Goulter et al. (2023) found results that further this association between kindergarten conduct problems

and criminal activity in adulthood, finding that a one standard deviation increase in conduct problems was associated with a \$63,998 increase in criminal and victim costs when that child was in adulthood. These studies conclude that internalizing problems, focused on the social-emotional skills study and the conduct problems presented in the Goulter et al. study, connect to maladaptive outcomes later in life.

The Present Study

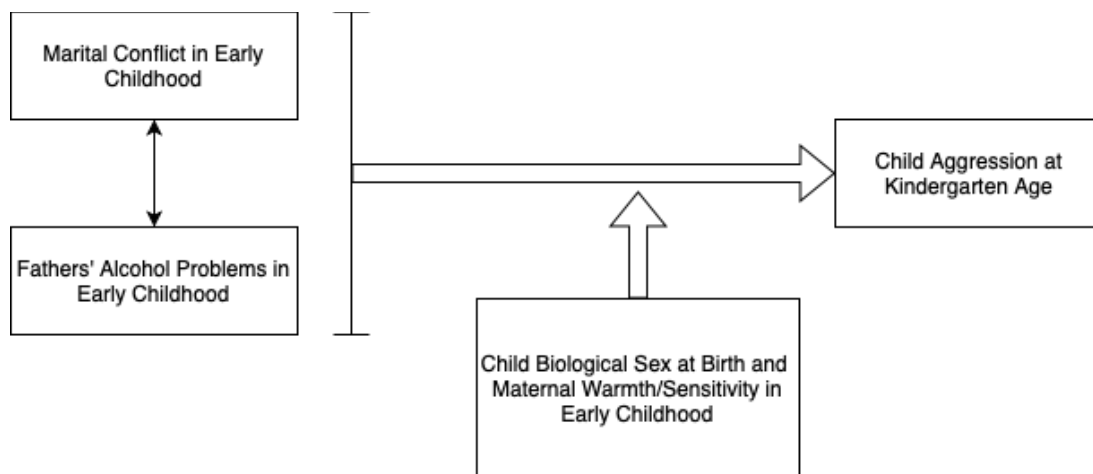


Figure 2. Conceptual Model

The study aimed to examine the longitudinal association between 1) marital conflict in early childhood and aggression problems at kindergarten age; 2) fathers' alcohol problems in early childhood and aggression problems at kindergarten age; and 3) the role of child sex and maternal warmth/sensitivity as moderators of these associations. I hypothesized that fathers' alcohol problems or higher marital conflict during early childhood would be associated with increased aggressive behavior problems at kindergarten age. I also examined whether child sex

moderated the association between interparental conflict and aggressive problems in kindergarten. I hypothesized that the association between fathers' alcohol problems or marital conflict and child aggressive problems would be stronger for boys compared to girls. Finally, I examined maternal warmth/sensitivity in early childhood as a moderator of the relationship between interparental conflict and aggressive problems in kindergarten. I hypothesized that the association between marital conflict and child aggressive behaviors would be stronger among children who experienced low maternal warmth/sensitivity compared to those who experienced high maternal warmth/sensitivity.

Method

Participants

The sample consisted of 116 male and 111 female children and their parents, making the total number of families participating in the study 227. Each family had a 12-month-old at the time of recruitment and were assessed at child ages of 12-, 18-, 24-, 36-, 48-months, and during kindergarten (at least 3 months after entering kindergarten). Families were classified as being in one of two groups: the non-alcohol-problem or control group in which both parents had no or few alcohol problems since the child's birth ($n = 102$) and the father alcohol problem group with families in which the father met diagnostic criteria for alcohol abuse or dependence ($n = 125$). Within the father alcohol problem group, 95 mothers were light drinkers or abstainers, and 30 mothers were heavy drinkers or had current alcohol problems. Given the low number of mothers who met criteria for problem drinking and the fact that in the majority of cases where mother

was a problem drinker, father was also a problem drinker, classification was made on the basis of father's alcohol status (Eiden et al., 2007).

Most of the sample (94% of mothers and 87% of fathers) consisted of families who identified as Caucasian, while a smaller percentage (5% of mothers and 7% of fathers) identified as African American. During the first assessment, all mothers cohabitated with the fathers, and 88% of the couples were married. At the age of recruitment, mothers' ages ranged from 19 to 40 years old ($M = 30.40$, $SD = 4.58$), while fathers' ages ranged from 21 to 58 years old ($M = 32.90$, $SD = 6.06$). Parents' education ranged from less than high school to having completed a master's degree; 57% of the mothers and 55% of fathers had some higher education after high school. The average annual income for the sample was \$43,497.73. At first assessment, about 61% of mothers and 91% of fathers worked outside the home. About 68% of families had 1-2 children, including the target child, during the first assessment. Most of the sample consisted of Caucasian, low to middle-income families with 1-2 children on average.

Procedure

The participants in the study were selected from the New York State birth records for Erie County, which provided family names and addresses. Families with premature (gestational age of 35 weeks or less) or low-birth-weight infants (birth weight less than 2,500 g), mothers aged below 18 or above 40 at the time of birth, multiple births (e.g., twins), and infants with congenital anomalies, palsies, or drug withdrawal symptoms were excluded. Introductory letters with a brief screening questionnaire were sent to 9,457 eligible families when their child was

around 11 months old. Approximately, 25% of families returned completed screeners. Out of the 2,285 respondents, 2,188 (96%) indicated interest in hearing more about the study, while only a small number (97 [4%]) indicated a lack of interest. Respondents were compared to the overall population based on information from birth records, revealing slight differences. Responders tended to have higher Apgar scores, birth weight, and prenatal visits. Despite these differences being small (effect size: Cohen's $d < .22$ in all analyses), they were statistically significant due to the large sample size.

Parents indicating interest in the study underwent telephone screening for sociodemographic characteristics and additional eligibility criteria. Initial criteria included parents being primary caregivers, cohabiting since birth, the infant being the youngest without major medical issues, the mother not being pregnant during recruitment, and no heavy prenatal drug or alcohol use.

Mothers reporting moderate to heavy alcohol use during pregnancy were excluded to control for potential fetal alcohol effects. Families with and without alcohol problems were matched on various factors. Families completed lab assessments at 12, 18, 24, 36, and 48 months, and again at least 3 months after the child entered kindergarten. Informed written consents were obtained, and observational and parent report assessments were conducted at each age. Mother–child observations were videotaped for coding at 12, 18, and 24 months. At the kindergarten assessment, both parents and teachers completed reports in the spring of the kindergarten year.

Measures

Parental alcohol use. The UM-CIDI interview, as modified into a self-report questionnaire by Anthony et al. (1994), was employed to evaluate alcohol abuse and dependence symptoms at 12, 18, and 24 months. DSM-IV criteria for alcohol abuse and dependence diagnoses concerning current alcohol issues (within the past year at 12 months) determined the final diagnostic group status for recruitment at 12 months. Parents meeting diagnostic criteria at 12 months were recruited into the alcohol problems group. The average of the total number of alcohol related problems at 12, 18, and 24 months were used as a continuous measure in correlational analyses. In addition, to examine interaction effects, this continuous measure was dichotomized into “low” or “high” levels of alcohol problems based on a cut-off of 1.0 that was close to the median of .86. Fathers with 1 or more alcohol problems across 12-24 months were scored as "high" (n = 110), and the remainder were scored as "low" (n = 117).

Marital Conflict. Maternal and paternal accounts of physical aggression were based on the combination of 12-24 month assessments using a modified version of the Conflict Tactics Scale (CTS; Instrument Straus, 1979), and a modified version of the Index of Spouse Abuse scale (ISA; Hudson and McIntosh, 1981). CTS focused on moderate acts (e.g., push, grab, or shove) to severe actions (e.g., hit with a fist), excluding very severe incidents (e.g., burnt or scalded, use of weapons) for this study. Parents were instructed to report the frequency of their own and their partner's aggression toward each other using a seven-item scale. ISA focused on verbal aggression in the relationship, asking parents to report the frequency of their partners' verbal aggression in a 15-item measure along a 5-point scale ranging from “never” to

“frequently” (Eiden et al., 2010). The maximum of each partners' reports of their own behavior and their partners' behavior was computed for each time point and averaged across time to reflect the total amount of verbal or physical aggression in early childhood. In addition to this continuous measure of marital conflict, to examine interaction effects, this continuous measure was categorized into “low” (or “high” values based on median splits (Median = 2.7) for testing using ANOVAs.

Maternal Warmth/Sensitivity. Mothers were observed during one-on-one interactions with their children. They were instructed to engage with their children in a natural home-like setting with toys for 10 minutes at the ages of 12, 18, and 24 months. Following the free-play segment, an additional 8 minutes were allocated for structured play. Mothers were presented with four sets of problem-solving tasks during this structured play. Researchers assessed how the mothers assisted their children in completing these tasks individually before moving on to the next one.

A set of global five-point rating scales developed by Clark, Musick, Scott, and Klehr (1980) was employed to assess these interactions, where higher scores indicated more positive behavior. These rating scales have been validated for children between 2 months and 5 years old (Clark et al., 1980; Clark, 1999). Maternal negative affect composite scales were created from these ratings, incorporating the mothers' angry/hostile tone of voice, angry/hostile mood, and disapproval or criticism of the child. The internal consistency of this scale across all time points ranged from Cronbach's alpha of .87 to .90.

Two separate groups of coders assessed the free-play and structured-play interactions. All coders underwent training on the Clark scales by the second author and were unaware of group

membership and other data. Interrater reliability was calculated for 17% of the sample ($n = 38$) and was found to be high for all six subscales, with Intraclass correlation coefficients ranging from .81 to .92 (Eiden et al., 2007). In addition to the continuous measure of maternal warmth/sensitivity, median splits (Median = 4.11) were used to categorize this variable into “low” or “high” values for testing of interaction effects using ANOVAs.

Child Aggression. Parent reports of child aggression at kindergarten age were measured using the Child Behavior Checklist Aggression subscale (CBCL; Achenbach, 1992; Achenbach & Rescorla, 2000). The CBCL uses established psychometric properties, a widely accepted measure of children's behavioral and emotional issues. It is comprised of items rated on a three-point scale (0 "not true" to 2 "very true"), including some open-ended items to gather detailed information about specific problematic behaviors. Higher scores indicated more pronounced child behavior problems. The aggression subscale was the dependent measure and items reflected physical aggression, noncompliance, and oppositional behavior. Mothers' and fathers' scores were highly correlated, $r = 0.401$, $p = <0.001$. Thus, a composite child aggression score was derived by averaging mothers' and fathers' item scores at kindergarten age. High scores indicated high aggressive behaviors.

The children's kindergarten teachers reported child aggression using the Social Competence and Behavior Evaluation Scales (LaFreniere & Dumas, 1996; LaFreniere, Dumas, Capuano, & Dubeau, 1992). While the scale measures social competence, internalizing behavior problems, and externalizing behavior problems; only the aggressive behaviors section of the externalizing problems subscale was used for analysis. Teachers were asked to rate the child in the study and four other classmates on a 6-point response scale ranging from never to always.

This scale has been validated for children ranging in age from 3 to 6 years and has been used in a variety of settings and cultural contexts (Butovskaya & Deminaovitsch, 2002; Kotler & McMahon, 2002; LaFreniere et al., 2002). High scores on this scale indicated low externalizing behavior. Teacher reports were only modestly associated with parent reports, $r = -0.26$, $p = 0.001$, thus, parent and teacher reports were analyzed separately.

Results

Missing Data and Data Analytic Approach

At baseline, there were 227 families included in the study. There were no missing data at 12 and 18 months. At the 24-month time point, 222 mothers and 218 fathers reported data. The kindergarten timepoint included 185 mothers, 174 fathers, and 148 teachers who all provided data. There were no differences in families who completed or did not complete the data in alcohol problems or warmth and sensitivity scores. Correlations and ANOVAs were used to test the conceptual model depicted in Figure 1. All analyses were conducted using SPSS Statistics 29.

Demographic and Descriptive Information

By the time of the last assessment in kindergarten, 11% of the parents did not continue to live with each other. Of these, 13% were in the group with alcohol problems, and 8% were in the group without any alcohol problems. Chi-square analyses indicated that this difference was non-

significant, $\chi^2(1) = 1.32, p > .05$. Only 2% of the children who completed assessments at kindergarten had no contact with their biological father. The remaining children had regular contact with their fathers (at least once a week) for at least 15 hours per week. Additionally, 20 fathers (9%) had been in substance abuse treatment at some point since recruitment and the kindergarten. By kindergarten, 14 (6%) mothers had been in substance abuse treatment.

Testing the Conceptual Model

The conceptual model depicts the independent variables: 1) marital conflict in early childhood and 2) fathers' alcohol problems in early childhood; their associations with the dependent variables (parent and teacher reports of child aggression problems at kindergarten age). Both hypothesized associations included the moderators: child biological sex and maternal warmth/sensitivity.

Analysis included multiple two-way ANOVAs and correlational analyses between the variables. The independent variables and maternal warmth/sensitivity were converted to categorical groups as noted in the method section. Child biological sex was remained as male (1) or female (2).

Results from correlational analyses are reported in Table 1. Negative statistically significant correlations were found between both teacher aggression ratings and mother and father aggression ratings ($p=.001$), as well as mean mother sensitivity and combined parent conflict scores ($p<.001$). High scores on teacher reports indicated lower aggressive behaviors. Thus, as would be expected, higher reports of aggression for teachers were correlated with higher reports of aggression from parents. Maternal warmth/sensitivity and marital conflict in early

childhood were also negatively correlated, indicated that that higher marital conflict was associated with lower maternal warmth/sensitivity.

There were also two positive correlations, one between fathers' alcohol problems and mother and father child aggression ratings ($p < .001$), as well as fathers' alcohol problems and marital conflict ($p < .001$). Higher fathers' alcohol problems in early childhood were significantly associated with higher parent ratings of child aggression in kindergarten. Higher fathers' alcohol problems was also associated with higher levels of marital conflict in early childhood.

Table 1. Descriptive Statistics and Correlations Among Study Variables

Variable	M	SD	1	2	3	4	5
1. PR Child Aggression:	7.07	4.48	-				
2. TR Child Aggression	22.4	4.01	.26**	-			
3. Marital Conflict	.02	2.24	.26**	-.08	-		
4. Fathers' Alcohol Problems	5.51	13.56	.24**	.07	.37**	-	
5. Maternal Sensitivity	4.05	.49	-.09	.16	-.25**	.005	-

** $p < .001$, PR: Parent report, TR: Teacher report

Sex differences were tested using independent t-tests for parents and teachers (See Table 2). Analysis found that there was no significant difference between the biological sexes in both parent scores ($p=3.19$), as well as teacher scores ($p=.087$).

Table 2. Sex Differences Among Teacher and Parent Reports of Aggression

	Male		Female		<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
PR Child Aggression	18.83	4.21	10.59	3.51	225	.319	3.19	.323
TR Child Aggression	22.06	4.35	22.93	3.45	146	.087	.087	.099

PR: Parent report, TR: Teacher report

ANOVAs were used to first examine the interaction effects with parent reports of child aggression as the dependent variable. There were no interaction effects of marital conflict and maternal warmth/sensitivity on parent reports of child aggression, $F(1, 183) = 2.61, p = .11$, or between marital conflict and child biological sex, $F(1, 183) = 1.17, p = .28$. There were no interaction effects of maternal warmth/sensitivity and fathers' alcohol problems on parent reports of child aggression, $F(1, 183) = .02, p = .89$, or between fathers' alcohol problems and child biological sex, $F(1, 183) = .001, p = .97$. The next ANOVAs examined the interaction effects on teachers' reports of child aggression in kindergarten. There were no significant interaction effects of marital conflict and maternal warmth/sensitivity on teachers' reports of child

aggression, $F(1, 144) = .25, p = .619$, or marital conflict and child sex on teacher reports of child aggression, $F(1, 144) = .00, p = .99$.

There was also no interaction between fathers' alcohol problems and maternal warmth/sensitivity on teacher reports of child aggression, $F(1, 144) = .005, p = .95$, or of alcohol problems and child sex, $F(1, 144) = .095, p = .76$.

Discussion

The results of this study indicated that higher marital conflict in early childhood was associated with higher parent reports of aggressive behaviors in kindergarten. Results also indicated that the more alcohol problems fathers had in early childhood, the higher parent reports of aggressive behaviors in kindergarten were for their children. The same associations were not found for teacher reports on childrens' aggressive behaviors in kindergarten. However, contrary to hypotheses, results showed that neither maternal warmth/sensitivity nor child biological sex moderated these associations.

The finding that higher marital conflict was associated with higher parent reports of child aggression is supportive of previous literature. For instance, social learning theory and previous studies suggest that children may learn their conflict mediation style from watching their parents, and if their parents exhibit aggressive behaviors, the children are more likely to learn and adapt their style to match their parents (Grych, Raynor, and Fosco, 2004). The results showed that there were no significant associations between marital conflict and teacher reports of child aggression. There is not a wide variety of literature focusing on the differences between children's aggressive behaviors at school and home, particularly in samples where families have risk characteristics (marital conflict and alcohol use). However, in a study done by Berndt and

Bulleit (1985), researchers reported that siblings were in integral part of the difference between at preschool and at home behaviors; as children who had siblings at home were reported to have higher aggressive interactions in the home, but higher prosocial skills in school. Researchers explained how interactions with siblings helps build childrens' social skills, but children were found to be more aggressive at home if they had an older sibling, and more controlling if they had a younger sibling. It may be possible that family risk factors would only increase these associations, as the children may be using these conflict styles on siblings as a way to control/not be controlled by them, but do not need that control at school. These learned styles from home may predict adverse outcomes in later life, putting children at risk for antisocial behaviors (Von Suchodoletz et al., 2009). The finding shows how being in a home with higher marital conflict may affect a child's conflict mitigation style with others, and how they may cope with negative emotions—both of which may continue to affect these children throughout life.

Higher marital conflict was also associated with higher fathers' alcohol problems. This finding is supportive of a large and robust literature linking alcohol problems with marital conflict (Rodriguez, 2013). Additionally, results supported the second hypothesis, that higher fathers' alcohol problems in early childhood would be associated with higher parent reports of child aggressive behaviors. Keller, Widiger, and El-Sheikh (2023) reported that co-occurring alcohol problems and marital conflict may affect the child's emotional security—which may lead to later child personality pathology. Fitzgerald et al. (1993) also reported that children (0-3 years old) who were raised by fathers with alcohol problems, were reported as having more behavior problems by their parents than the children raised by fathers without alcohol problems, a finding that the current study mirrors. Furthermore, Louka et al. (2003) reported that children (3-5 years

old) who had fathers with alcohol problems, were reported to have higher levels of disruptive behaviors through age 7. It may be possible that parents who have alcohol problems are unskilled parents, or may have difficulty providing modeling for socialization and regulation skills (Louka et al.,2003). The current results support previous literature linking alcohol problems to marital conflict and to child aggression and also extend this literature to early childhood.

The third hypothesis, that the association between alcohol problems/marital conflict and child aggression would be stronger for boys compared to girls was not supported. There was conflicting previous research on whether there were sex differences in child aggression in early childhood (Archer, 2004) and there are few previous studies examining child sex as a moderator of the association between marital conflict and child aggression in early childhood. Studies with older children indicate that child sex moderates the association between marital conflict and aggression (Jouriles and LeCompte, 1991; Bavisker, 2011). Jouriles and LeCompte (1991), reported that male children (5-16 years old) experienced more parental aggression when living in a home with marital conflict, which just the male children more at risk for conduct problems when compared to female children. However, Bavisker (2011) reported opposite findings, detailing that girls (age 11) were reported as having more conduct problems compared to boys after living in a home with marital conflict. However, there is some evidence that biological sex may not have a moderating effect on marital conflict and child aggression. Conversely, in a meta-analysis by Vu et al. (2016), researchers reviewed 74 studies examining longitudinal associations between exposure to marital conflict and later adjustment problems, with child ages during the marital conflict ranging from pre-birth to 18 years old. Researchers also explained that child sex did not affect the association between marital conflict and later adjustment problems.

While these results may mean that it takes time throughout development for sex differences to occur, it may also support that sex differences may be difficult to fully capture due to different socialization in families and cultures.

Deater-Deckard et al. (1998) reported that male children were more likely to show aggressive behaviors after growing up in marital conflict, when compared to female children. Researchers explained that a possible reason for the finding could have been differences in the population and how the children were socialized, and not directly linked to biological sex differences between female and male children. Sex-based differences may only be found in populations with higher rates of socializing male children to act aggressively and for female children to act passively. In the context of this study, when children who live with marital conflict—through social learning theory—act aggressively, certain gender socialization would support aggressive tendencies for boys and denounce the same behaviors in girls. Although these findings were reported in some studies, other studies, including this one, did not find any sex differences (Spoth et al., 2006; Compton et al., 2003).

The results of the study indicated that child sex also did not moderate the association between fathers' alcohol problems in early childhood and aggressive behavior at kindergarten age. Results are contrary to previous studies indicating stronger associations between fathers' alcohol use disorder in infancy and child aggressive behaviors in early childhood. For instance, Edwards et al. (2006) reported that gender moderated the association between fathers' alcohol problems in early childhood and child aggression reports at 18, 24, 36, and 48 months old. The study examined trajectories of aggressive behaviors from 18 to 48 months among children with fathers' who met diagnosis for an alcohol use disorder in infancy, families where both parents

had alcohol problems families, and a demographically similar non-alcohol-problem families. Results indicated that there was a normative decrease in aggressive behaviors from 36 to 48 months of age among boys with non-alcohol-problem parents, but boys who had both parents with alcohol problems did not exhibit this normative decrease. In the current study, a continuous measure of fathers' alcohol problems was used, analyses did not examine maternal alcohol problems, and aggressive behavior was examined only at kindergarten age. Future studies should examine the role of maternal postnatal alcohol problems in addition to fathers' alcohol problems.

The hypothesis, that high maternal warmth/sensitivity would moderate the association between marital conflict and child aggressive behaviors was also not supported. This result was surprising, as there is a consistent literature supporting the role of warmth/sensitivity as a predictor of child aggression (Pinquart, 2017; Skopp et al., 2007). Wang (2019) reported that, in a sample of 867 adolescents, maternal warmth/sensitivity moderated the relationship between harsh parenting tactics and later adolescent effortful control. Adolescents who grew up with harsh parenting had appropriate levels of effortful control when they reported high levels of maternal warmth/sensitivity during childhood. Since the current study was based off of young children, the developmental period of the child's life may affect the moderation effects of this variable.

Limitations

Although the findings support associations between early childhood risk factors (marital conflict and fathers' alcohol problems) and child aggressive behaviors at kindergarten age, there were limitations in the study. The response rate to the open recruitment letter was slightly above 25%, meaning those who responded might not fully represent the population of families with 12-

month-old infants. Although comparing respondents to the entire birth records population only indicated slight differences in demographics, there may be more substantial differences in unexamined variables. Consequently, while drawing the sample from birth records offers advantages over clinic-based samples, the generalizability of findings might be confined to higher-functioning people who are more inclined to respond to recruitment letters for research participation. The sample also lacked racial/ethnic diversity. Many of those who participated in the study identified themselves as white, educated, middle-class families, leading the sample to not be representative of other races/ethnicities.

However, this sample was one of the first studies to examine the impact of parent's alcohol problems using a longitudinal design. It is also unique since it focused on early childhood when in most other studies, researchers focus on the children's behaviors during their adolescent years (McGovern et al., 2023). Despite the limitations of diversity and representation, the study reports information on the effects of early childhood experiences on child aggressive behaviors after transition to school. These short-term effects may turn into long-term effects and adverse outcomes within the child's adolescence and adulthood (Davies and Martin, 2013).

Implications and Future Research

The current study's results highlight the role of fathers' problems and family processes in early childhood for child aggressive behaviors as they transition to formal schooling.. Children may have learned these conflict strategies through social learning theory by watching their parents use the same behaviors (Bandura & Walters, 1977; Cummings, 1987). The study also found that high fathers' alcohol problems were associated with higher parent reports of child aggression at kindergarten age, replicating previous findings regarding the importance of these

early childhood variables for child outcomes (Eiden et al., 2010; Finger et al., 2010). Although many studies have found sex differences in aggressive behaviors (Deater-Deckard et al., 1998), child sex did not moderate the associations between early risk and child aggressive behaviors.

Further research on the moderating effect of maternal warmth/sensitivity on the association between fathers' alcohol problems and kindergarten aggression ratings may benefit the field, as different moderation effects have been found for different developmental stages of life. Future research may also expand on the relationship between maternal warmth/sensitivity and marital conflict during early childhood, as the study supported the negative correlation between the two, where low maternal warmth/sensitivity was found in homes with high maternal conflict (Eiden et al., 2010). Future studies are needed to explore what child and family factors support the association between fathers' alcohol problems and future aggressive behaviors in children, as they may predict adverse outcomes in later life.

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