Parental Problem Drinking, Marital Aggression, and Child Emotional Insecurity: A Longitudinal Investigation*

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ABSTRACT. Objective: Marital aggression plays an important role in relations between parental problem drinking and child maladjustment. The purpose of the current study was to apply emotional security theory as a framework for understanding the role of marital aggression. **Method:** A community sample of 235 children in kindergarten participated once a year for 3 years. Parents completed measures of parental problem drinking and marital aggression, and children were interviewed about their emotional security reactions to marital conflict vignettes. **Results:** Greater parental problem drinking was directly associated with children's more negative emotional reactions to conflict. Maternal problem drink-

ing predicted increased sad reactions and negative expectations for the future. Paternal problem drinking predicted increases in child anger reactions and negative expectations for the future. Parental problem drinking was also indirectly associated with child reactions via marital aggression. **Conclusions:** Results confirmed hypotheses that parental problem drinking would be related to child emotional insecurity and that associations would be indirect via greater marital conflict. Findings are interpreted in terms of emotional security theory as a framework for understanding the effects of parental problem drinking on marital aggression and child development. (*J. Stud. Alcohol Drugs*, 72, 711–722, 2011)

IT HAS BEEN ESTIMATED THAT 40% of U.S. children will be exposed to parental problem drinking (PPD) at some point before age 18 (Grant, 2000). This is a serious public health concern because studies have shown that children exposed to PPD are at risk for emotional and behavioral problems, substance use, and academic difficulties (Chen and Weitzman, 2005; DeLucia et al., 2001; McGrath et al., 1999). Links between PPD and child adjustment have been observed in both clinical and community samples (Keller et al., 2008b). Because the effects of PPD on child mental health are well established, the next step for research is to identify the mechanisms accounting for these effects. The current study provides a longitudinal, theory-driven examination of one potentially important mechanism: marital aggression.

Parental problem drinking and marital aggression

Problem drinking has been closely linked with marital conflict (Murphy et al., 2005; Quigley and Leonard, 2000). For example, MacDonald et al. (2000) randomly assigned men to alcohol, placebo, or no beverage conditions before

having a discussion with their romantic partners. Men in the alcohol condition reported greater negative affect, perceived greater negative affect from their partners, blamed their partners more, and were less secure about their relationship. O'Farrell et al. (2000) reported a prevalence of clinical levels of verbal aggression of between five and seven times higher for alcoholic men and their wives than for couples without alcohol problems. Alcohol consumption has been reported to be common in episodes of man-to-woman violence, and greater amounts of alcohol consumed were associated with greater severity of violence (Kantor and Straus, 1987). Husbands' alcohol problems predicted increases in physical aggression over time (Keller et al., 2009).

Marital aggression places children's mental health at risk. Children exposed to aggressive marital conflict show many of the same characteristics as children exposed to PPD, such as emotional and behavioral problems (Davies et al., 2002, 2004). Therefore, marital aggression has been investigated as a mediator of relations between PPD and child maladjustment. El-Sheikh and Flanagan (2001) found that destructive marital conflict mediated relations between PPD and child internalizing and externalizing symptoms. Family conflict (a construct including both marital and parent-child conflict) accounted for associations between childhood exposure to PPD and adolescent substance use (Pillow et al., 1998); in longitudinal follow-up research, family conflict was found to mediate relations between PPD and internalizing symptoms, externalizing symptoms, and difficulties transitioning to adulthood (Hussong and Chassin, 2002). In a longitudinal study using the same data as the current study, a complex causal chain was observed in which PPD is most closely linked to marital conflict, which subsequently interferes with

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parental warmth, ultimately leading to child maladjustment (Keller et al., 2008a).

Although there is growing evidence that marital aggression is one pathway through which PPD adversely affects children, theoretically driven examinations of the role of marital aggression are needed. Emotional security theory offers an excellent framework for advancing science in this direction.

Emotional security theory

Emotional security theory is an extension of attachment theory to include the importance of multiple family relationships (Cummings and Davies, 1996; Davies and Cummings, 1994). According to the theory, children have a sense of security about the family that is in part derived from their experiences of interparental conflict. Security comprises three component processes: emotional reactivity, behavioral regulation, and cognitive representations of the family. Children who are insecure have intense negative reactions to marital conflict; they behaviorally attempt to regulate their exposure to conflict (e.g., involvement, avoidance); and they have representations of the family as unstable, unpredictable, and unsafe. In contrast, secure children have little concern for marital disputes because they expect them to be constructively resolved.

There is substantial empirical support for emotional security theory. Children experience fear, anger, and sadness in response to marital conflicts characterized by negative affect, threat, hostility, defensiveness, and insult (Cummings et al., 2002, 2003; Goeke-Morey et al., 2003). These studies also indicate children's use of a variety of behavioral reactions, including helping parents, interrupting, comforting parents, attempting to negotiate or impose a resolution, increased attention and watchfulness, leaving the room, and hiding. Further, children often perceive conflict as a threat to their well-being and may blame themselves for it (Grych and Fincham, 1990; Harold et al., 1997).

The emotional, behavioral, and cognitive features of emotional insecurity may contribute to the development of child mental health problems. Behavioral regulation strategies such as providing assistance or becoming involved in conflict may lead to feelings of responsibility for family harmony and anxiety and depression when children cannot fulfill their perceived responsibility. Children who act out in an attempt to distract parents may generalize this coping strategy to school and peer settings, potentially leading to behavioral disorders and social problems. Indeed, longitudinal investigations of the effect of marital conflict show that child emotional insecurity accounts for relations between marital conflict and child internalizing and externalizing symptoms (Davies et al., 2002).

The assessment of a child's reactions to conflict is difficult, and one of the most innovative approaches has been

the use of videotaped conflict vignettes (Cummings et al., 1994; Davies et al., 1999). Children are told to pretend that the couple in the videos is their parents, and after the vignettes they are interviewed with regard to their probable emotional, behavioral, and cognitive reactions. This approach may be more valid than standard questionnaire measures and is similar to diary reports of children's reactions to conflict in the home (Cummings et al., 2003; Goeke-Morey et al., 2003). Further, the use of vignettes offers additional control over stimuli, enabling researchers to pinpoint specific features of conflict that are particularly distressing to children. In the current investigation, children were exposed to three types of vignettes: resolved, child-related, and escalated conflict. Prior research has shown that the resolution of conflict is one of the most important features of conflict that can promote emotional security in children (Davies et al., 1996; Shifflett-Simpson and Cummings, 1996). On the other hand, children find conflicts that are child-related or escalated and unresolved to be particularly distressing (Goeke-Morey et al., 2003; Grych and Fincham, 1993). The use of vignettes permits determination of how PPD relates to these types of conflict.

Parental problem drinking and emotional insecurity

The scientific literature linking PPD with marital aggression, marital aggression with emotional insecurity, and emotional insecurity with child maladjustment suggests that emotional insecurity may be important in the effects of PPD. There are only two known studies of PPD and child emotional insecurity, and both are cross-sectional. Ballard and Cummings (1990) found that children of alcoholics (COAs) were more likely to become involved in marital disputes than non-COAs; this involvement took the form of comforting and assistance behaviors. In the second study, children reported their probable behavioral responses to vignettes of escalated and child-related marital disputes (Keller et al., 2007). Maternal problem drinking was related to decreased child caretaking responses to child-rearing conflict but increased child caretaking responses to escalated conflict. Exposure to paternal problem drinking was related to child mediation and avoidance of child-related conflict but inactive response to escalated conflict.

These results indicate that children exposed to PPD have greater emotional insecurity. They further suggest that maternal and paternal problem drinking have different effects on child emotional insecurity, and that insecurity may take different forms depending on the type of conflict children witness. In relation to maternal problem drinking, children may generally be motivated to avoid conflict (reduced caretaking) because of the futility of becoming involved in a disagreement with an intoxicated mother. The tendency to avoid conflict and close relationships has been observed in adult COAs (Brennan et al., 1991; Watt, 2002). However, in

the case of escalated conflict, children may not be willing to avoid involvement because of the greater danger it poses to family and child well-being (hence increased caretaking). Parent-child role reversal ("parentification") has also been observed in COAs and children exposed to severe family dysfunction (Carroll and Robinson, 2000; Earley and Cushman, 2002; Godsall et al., 2004).

Paternal problem drinking was associated with either avoidance or mediation of child-rearing conflict (Keller et al., 2007). These reactions are characteristic of emotional insecurity. Paternal problem drinking was also associated with inactive responding to escalated conflict, such as watching the interaction. This was not expected, but it may indicate that the combination of paternal problem drinking and marital aggression may be especially troubling to children. For example, they may not want to remove themselves from the conflict situation because intervention may become necessary (e.g., calling 911), but they also want to avoid involvement in the conflict themselves because of the potential danger. Thus, children are watchful and inactive in response to these conflicts.

These associations were observed while controlling for marital conflict in the home (Keller et al., 2007). This suggests that there are direct links between PPD and emotional insecurity in addition to the indirect effects that would be hypothesized by emotional security theory (i.e., PPD leads to increased marital aggression, and marital aggression results in child emotional insecurity). Children's emotional security reactions to conflict are based on their prior experience with conflict and the meaning that the conflict has for their security and safety. It is possible that the presence of alcohol problems changes the meaning of conflict for children. It may change the usefulness of certain behaviors for the regulation of exposure to conflict. The same behaviors that are only of moderate concern for children of healthy parents may be of much more serious concern in the context of PPD. An important next step for research is to explicate the potential indirect and direct associations between PPD and child emotional insecurity about the marital relationship.

Present investigation

The present investigation builds on prior research in several ways. First, it provides the first known longitudinal study of relations between PPD and child emotional insecurity about the marital relationship. Second, this study addresses open scientific questions regarding PPD and child emotional and cognitive reactions to marital conflict. Children's emotional reactions and beliefs about the future of the marital relationship were examined in response to conflict vignettes. Prior research has focused exclusively on behavioral reactions to conflict as an index of emotional insecurity. The focus on emotional and cognitive reactions in the current study may be able to place prior complex findings in context.

Third, direct relations (i.e., PPD predicting child emotional insecurity over time) and indirect relations (i.e., associations between PPD and child emotional insecurity mediated by marital aggression) will be examined. Although prior research does show that there are direct relations between PPD and child behavioral reactions, controlling for marital conflict, no studies have also examined the possible indirect association (through marital conflict).

The present study uses children's emotional reactions to three conflict vignettes: resolved conflict, child-rearing conflict, and escalated conflict. Earlier cross-sectional work has found that relations between PPD and child emotional insecurity differ based on features of the conflict (Keller et al., 2007). Children's expectations for the future of the marital relationship based on each vignette are also examined. These expectations represent children's cognitive representations of the stability and functioning of the relationship. It is hypothesized that PPD will be directly linked to child insecure reactions, including greater negative affect and negative expectations for the future. It is also proposed that PPD will be indirectly linked to insecure reactions via increases in marital aggression. We also test whether associations are moderated by child gender. However, these analyses were exploratory.

Method

Participants

Participants were from a community sample of families living in midsize midwestern and northeastern towns and their surrounding areas. Families were recruited using postcards sent to several local neighborhoods, flyers, booths at community functions, and referrals from other participants. Families were eligible to participate if they had been living together for at least 3 years, had one child currently enrolled in kindergarten, and were fluent in English. One participating family was excluded because relationships among family members could not be determined. The resulting sample was 235 families.

The majority of couples were married (88.1%). Mean time living together was 11 years. Approximately 95% of female parents and 88% of male parents were the participating children's biological parents. For ease of discussion, all parents will be referred to as mothers and fathers. The sample is demographically representative of the communities from which it was drawn. Most participants were European American (76.5%); 16.7% were African American, 3.8% were Hispanic, and 2.1% were another race. The median and mode family income was between \$40,000 and \$54,999 a year. Families participated initially when children were in kindergarten; approximately 50% of children were girls.

Families participated once a year for 3 years. This study had a high retention rate: 227 families participated in Wave 2 (97% of the original sample), and 215 families participated

TABLE 1. Means, standard deviations, and correlations among variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Female child																
2. Father probl. drinking	.07															
3. Mother probl. drinking	.04	.55 [‡]														
4. T1 physical aggress.	.12	.15*	.24 [‡]													
5. T1 verbal aggress	.10	.12	.18 [‡]	.59 [‡]												
6. T2 physical aggress	.01	.07	.30 [‡]	.74 [‡]	.52 [‡]											
7. T2 verbal aggress	.02	.11	.21 [‡]	.50 [‡]	.79 [‡]	.56 [‡]										
8. T1 angry react. resol.	.05	-.03	-.01	.09	.12	.04	.10									
9. T1 sad react. resol.	.11	.01	-.04	.03	.04	-.06	.04	.56 [‡]								
10. T1 fear react. resol.	.04	.00	-.05	.19 [†]	.18 [†]	.09	.07	.54 [‡]	.45 [‡]							
11. T1 happy react. resol.	-.10	-.13	-.10	-.14*	-.04	-.05	-.01	-.26 [‡]	-.36 [‡]	-.32 [‡]						
12. T1 bad future resol.	.05	-.02	.01	.04	.03	-.00	-.02	.03	.15*	.08	-.14*					
13. T3 angry react. resol.	-.06	-.03	-.06	-.02	.01	-.06	-.01	-.03	-.03	-.03	.03	-.10				
14. T3 sad react. resol.	-.09	.26 [‡]	.16*	-.03	-.04	-.06	.00	-.04	-.04	-.03	-.08	-.07	.19 [†]			
15. T3 fear react. resol.	-.08	-.02	-.03	-.02	-.05	.02	-.01	.34 [‡]	.12	.34 [‡]	-.19 [†]	.15*	-.01	-.01		
16. T3 happy react. resol.	.00	-.14*	-.03	.03	.11	.13	.11	-.06	-.02	.00	.16*	.04	-.11	-.35 [‡]	-.01	
17. T3 bad future resol.	-.03	.06	.07	-.05	-.04	-.02	-.05	-.03	-.02	-.07	.04	.09	-.08	-.09	-.04	.04
18. T1 angry react. child rear.	-.07	-.05	-.04	-.08	-.05	-.11	.00	.13*	.09	-.03	.12	.02	.16*	.04	.00	.01
19. T1 sad react. child rear.	.23 [‡]	.02	-.02	-.06	-.07	-.03	-.01	-.04	.09	.04	.02	-.01	-.09	-.06	-.06	.02
20. T1 fear react. child rear.	.06	.08	.08	.09	.08	.05	.08	.19 [†]	.13*	.33 [‡]	-.10	.13	-.04	-.03	.14*	-.06
21. T1 happy react. child rear.	-.04	-.15*	-.10	-.07	-.05	-.08	-.10	.04	-.01	.02	.18 [†]	.08	.07	-.03	.10	.07
22. T1 bad future child rear.	.03	-.07	-.04	.02	.06	-.03	.11	.08	.15*	.01	.04	.24 [‡]	-.05	-.07	.07	.01
23. T3 angry react. child rear.	.00	.00	.11	-.11	-.12	-.13	-.05	.02	.05	-.04	.05	-.04	-.04	-.03	.11	.18 [†]
24. T3 sad react. child rear.	.07	-.09	-.11	-.13	-.12	-.02	-.10	.06	.05	.02	-.08	.01	-.12	-.11	.11	.22 [‡]
25. T3 fear react. child rear.	.02	-.10	-.04	.03	-.01	.01	-.10	.02	.00	-.03	.05	-.01	-.07	-.07	-.04	.16*
26. T3 happy react. child rear.	.03	.09	.10	.12	.10	.03	.11	-.05	-.03	-.04	.07	-.10	.31 [‡]	-.03	-.01	-.03
27. T3 bad future child rear.	-.02	.18*	.05	.08	.01	.01	.02	.00	-.08	.11	-.02	.12	-.04	.03	.10	.08
28. T1 angry react. escal.	.01	.06	.08	-.08	.01	-.05	.04	.20 [†]	.24 [‡]	.03	-.09	.01	-.12	-.05	.05	.11
29. T1 sad react. escal.	.12	.10	.03	-.09	-.18 [†]	-.11	-.16*	.00	.04	.12	.02	-.10	.04	-.03	-.06	-.01
30. T1 fear react. escal.	.02	.07	-.03	.00	.05	.01	-.03	.14*	.07	.20 [†]	.00	.06	-.08	-.06	.11	.16*
31. T1 happy react. escal.	-.03	-.04	-.06	-.03	-.03	.11	-.11	.05	-.04	.05	.20 [†]	.12	.03	.00	.02	.00
32. T1 bad future child escal.	.02	.01	.01	.03	.00	-.10	-.06	.14*	.20 [†]	.10	-.22 [‡]	.00	.07	-.04	.09	-.03
33. T3 angry react. escal.	.02	.05	.11	-.08	-.11	-.15*	-.08	-.02	-.07	-.06	.04	.06	.03	-.06	.10	.14*
34. T3 sad react. escal.	.10	-.16*	-.13	-.08	-.07	-.09	-.06	.02	.09	-.02	-.01	-.14	.06	-.04	-.07	.15*
35. T3 fear react. escal.	.11	-.02	-.04	-.03	.07	-.00	.02	.02	.03	-.04	-.09	-.19 [†]	.10	-.03	-.03	.10
36. T3 happy react. escal.	-.03	.05	.03	.03	-.04	.08	.03	-.03	-.03	-.01	.05	-.05	-.02	.30 [‡]	-.01	-.11
37. T3 bad future child escal.	-.03	.07	.08	.03	.04	-.02	-.01	-.04	-.11	-.05	-.04	.05	.03	-.05	.05	.08

Notes: Probl. = problem; T = Time; aggress. = aggression; react. = reaction; resol. = resolved; rear. = rearing.

* $p < .05$; [†] $p < .01$; [‡] $p < .001$.

in Wave 3 (91% of the original sample). Reasons for attrition included divorce ($n = 1$), hectic schedules ($n = 5$), family medical problems ($n = 4$), disinclination ($n = 2$), unknown reasons ($n = 5$), and inability to contact ($n = 3$). Families who did not participate in later waves had lower incomes and included less-educated mothers and fathers. However, there were no significant differences between retained and dropped families in terms of age, time living together, race, or marital status or on measures of problem drinking, marital conflict, or child functioning.

Procedure

These data were collected during laboratory visits. Visits were scheduled a year apart, beginning when children were in kindergarten. The study was conducted with the approval of the institutional review boards at both data collection sites. During the laboratory visits, parents completed the questionnaires described below.

Children were randomly assigned to see one of two vid-

eotapes, each depicting three conflict vignettes. On each of the two tapes, there was one vignette depicting resolved conflict, one depicting child-related conflict, and one depicting escalated conflict. Thus, each child viewed three conflict vignettes. The tapes differed based on the topics of the vignettes, either vacation plans or getting new carpet (resolved vignette), either the child attending a sleepover or picking the child up from school (child-related vignette), and either plans for going out or getting home late from work (escalated vignette). Actors in the videos demonstrated a range of destructive conflict tactics, and in the child-related and escalated conflict, the problem remained unresolved. Vignettes were designed to depict the types of marital conflict to which children are commonly exposed. Children were asked to pretend that the actors were their parents.

Following each conflict vignette, children were asked, "Would you feel mad if you were in the same room with them?" and then given the opportunity to choose how angry they would feel on a scale from 0 (*no*) to 5 (*a whole lot*). They were subsequently asked whether they would feel sad,

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	<i>M</i>	<i>SD</i>
																				18.13	5.63
																				16.10	2.47
																				6.96	8.04
																				48.34	14.88
																				1.33	1.86
																				11.58	3.82
																				0.21	0.94
																				0.27	1.02
																				0.18	0.83
																				4.21	1.67
																				2.46	1.73
																				0.03	0.29
																				0.07	0.49
																				0.02	0.35
																				4.22	1.33
																				1.59	0.95
																				1.88	2.34
.03																				1.66	2.18
.03	.15*																			1.00	1.95
.01	.21‡	.15*																		1.64	2.40
-.01	-.19	-.27‡	-.03																	3.24	1.98
.11	.24‡	-.02	.20†	.08																1.77	2.10
-.04	.11	-.03	.05	.00	.06															1.98	2.00
.03	.17*	.20†	.00	-.16*	.04	.03														1.04	1.76
.13	-.09	-.07	.07	.15*	.08	-.06	-.06													0.14	0.77
.05	.00	-.13	-.07	-.02	.00	-.12	-.18†	.00												2.62	1.61
.16*	-.03	-.07	.03	.08	.11	.04	-.01	.20†	.15*											2.22	2.37
-.05	.47‡	.05	.16*	-.18†	.14*	.18†	.18†	.04	-.07	-.09										1.83	2.30
.07	.23‡	.35‡	.20†	-.14*	-.01	.03	.02	.03	.02	-.03	.18†									1.44	2.15
-.02	.17*	.14*	.43‡	-.02	.11	.09	.09	.10	-.05	.10	.14*	.30‡								1.37	2.22
-.03	-.18†	-.21‡	.01	.61‡	.07	.08	-.11	.12	-.02	.20†	-.18†	-.14*	-.05							3.37	2.16
.00	.14*	-.03	.09	.12	.31‡	-.06	.06	.09	.08	.06	.13*	.05	-.04	.06						1.82	2.13
.01	.08	-.11	-.01	-.03	.07	.50‡	.05	.09	-.02	.09	.11	-.01	-.04	.05	-.03					2.10	2.18
-.15*	.09	.09	.09	-.10	.05	.09	.36‡	.04	-.09	-.09	.13	.08	.11	-.09	.05	.08				1.84	2.11
-.01	.04	.02	-.04	-.01	-.08	-.05	.09	.31‡	-.05	-.04	.01	.00	.10	-.09	.11	.03	.10			0.05	0.49
-.02	-.02	-.10	-.05	-.03	-.09	-.01	-.08	.06	.34‡	.01	.04	.03	-.07	-.08	.03	-.12	-.08	-.10		2.77	1.77
.02	.18*	-.04	.01	-.01	.14*	.18*	.11	.04	.03	.41‡	.08	-.05	-.04	.11	.08	.16*	.04	.09	-.13		

scared, or happy. Finally, children were asked, "How do you think they will be getting along next year?" to obtain an indication of children's beliefs about the long-term consequences of marital conflict. Children were asked to choose from a series of six pictures showing a couple. These pictures can be ordered along a continuum of positivity–negativity: (1) couple hugging; (2) couple smiling at each other; (3) couple looking at each other with no affect; (4) couple looking at each other with angry faces; (5) couple engaged in a physical fight; and (6) couple living in separate houses with expressions of sad affect. Responses were assigned values of 1–6 accordingly, with higher scores therefore indicating more negative expectations. This procedure has been used in numerous studies of child reactions to marital conflict (e.g., Cummings et al., 1994; Davies et al., 1999, 2002).

Measures

Parental problem drinking. At Time 1 (T1), mothers and fathers completed the Parental Alcohol Experiences Scale

(PAE; Windle, 1997) with regard to their own drinking problems. The PAE is a 15-item inventory of symptoms associated with alcohol dependence and abuse based on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (American Psychiatric Association, 1994), criteria and was designed to provide a continuous measure of clinical and subclinical problem drinking. Participants indicated how frequently they had experienced each symptom within the past year on a scale from 1 (*never*) to 5 (*more than 10 times*). Responses were summed, and scores ranged from 15 to 75. The PAE demonstrated acceptable reliability in the present sample, $\alpha = .85$ for men and $.65$ for women. Mean scores were low, consistent with the nature of a community sample (Table 1). However, 16% of men and 5% of women endorsed five or more symptoms, which is considered indicative of a potentially severe problem. Some of the more commonly endorsed items included, "You thought about cutting down on drinking" (29.9% of men, 11.1% of women), "You regretted afterward the things you did while drinking" (19.6% of men, 13.5% of women), and "You drank to forget troubles"

FIGURE 1. Parental problem drinking, marital aggression, and child sad reactions to resolved conflict. Note: Variables within the same time point were permitted to correlate; these correlations are not shown to simplify presentation; dashed lines show estimated parameters that were not significant. T = Time. $^{**}p < .01$; $^{***}p < .001$.

(18.1% of men and 15.4% of women), as reported in Keller et al. (2009).

Marital aggression. At T1 and T2, parents completed the Conflict Properties Scales for Verbal Aggression and Physical Aggression (Kerig, 1996) with regard to their own and their partners' behavior. These are 8- and 7-item measures, respectively, rated on a 4-point Likert scale ranging from 0 (*never engage in the behavior*) to 3 (*often engage in the behavior*). Items were summed for each report and then averaged to provide single measures of verbal aggression and physical aggression for each couple (Kerig, 1996). Reliability coefficients are .92 and .91 for the two scales, respectively, at T1. At T2, the reliability coefficients are .93 and .88 for the two scales, respectively.

Analysis plan

Means, standard deviations, and correlations among variables are presented in Table 1. Hypotheses were tested using structural equation modeling with full information maximum

likelihood estimation to handle missing data. Analyses were performed with Amos Version 18 (Arbuckle, 2009). Single indicators of each construct were used. Correlations between all variables measured at the same time point were estimated but are not shown in figures to simplify presentation. All path coefficients control for prior levels of the predicted variables; these controls are known as autoregressive effects. Separate models were fit for each of the responses to the analogs (for a total of 15 models). Finally, multigroup models where groups were defined by child gender were fit. Potential differences between groups were tested by constraining paths to be equal for boys and girls and examining the increase in model chi-square ($\Delta\chi^2$) compared with a model in which paths are not constrained. Where there was a significant increase in model chi-square, the path estimates were significantly different between boys and girls. Models were considered an excellent fit for the data if they met at least three of the following criteria: (a) Model chi-square is nonsignificant, (b) model chi-square divided by degrees of freedom is less than 2, (c) comparative fit index is greater than .95, and (d) root

mean square error of approximation (RMSEA) is less than .08 and 90% confidence interval for RMSEA is less than .10. All models were an excellent fit, with one exception: the multigroup model of children's fearful reactions to resolved conflict did not converge.

Results

Parental problem drinking and child reactions to resolved conflict

Models were fit in which maternal and paternal problem drinking at T1 were considered as predictors of physical and verbal aggression at T2, and PPD and marital aggression as predictors of child reactions to conflict at T3 (Figure 1). Separate models were fit for each of the child responses (child anger, sadness, fear, happiness, and expectations for the future). See Figure 1 for an example model. Only models with significant longitudinal associations involving child insecurity are reported. For resolved conflict, maternal problem drinking predicted increases in child sad reactions to resolved conflict over time ($\beta = .23, p < .01$; Figure 1 and Table 2).

In multigroup models, the association between maternal problem drinking and child sad reactions over time was found to be significant only for boys, and this association was significantly different from the nonsignificant association found for girls, $\Delta\chi^2(1) = 6.1, p < .05$. A marginally significant association between paternal problem drinking and girls' increased negative expectations for the future was also observed ($\beta = .22, p = .058$). No association was found for

boys, and the association was marginally stronger for girls than for boys, $\Delta\chi^2(1) = 3.3, p < .10$.

Parental problem drinking and child reactions to child-rearing conflict

The next series of models predicted change in children's reactions to child-rearing conflict. Models were similar in form to the example model shown in Figure 1. Paternal problem drinking predicted increases in child anger reactions over time ($\beta = .26, p < .01$). (See Table 3.) Physical aggression predicted decreases in child anger reactions over time ($\beta = -.19, p < .05$). Similar to findings shown in Figure 1, both maternal and paternal problem drinking predicted changes in physical aggression: Maternal problem drinking predicted decreases in physical aggression over time ($\beta = -.17, p < .001$), and paternal problem drinking predicted increases in physical aggression over time ($\beta = .19, p < .001$). As a result, there are two possible indirect effects: (a) maternal problem drinking to lower physical aggression to higher child anger reactions and (b) paternal problem drinking to higher physical aggression to lower child anger reactions. Sobel (1982) tests of these indirect effects were conducted, and both were marginally significant for the indirect effect involving mothers ($Z = 1.82, p = .07$) and fathers ($Z = 1.87, p = .06$). These indirect effects met the $p < .05$ criterion when not controlling for verbal aggression. In sum, fathers' problem drinking is directly related to increases in child anger reactions but indirectly (via greater physical aggression) related to decreases in

TABLE 2. Model results for child reactions to resolved conflict

Variable	Angry	Sad	Afraid	Happy	Negative expectations
Maternal PD	-.01	.23**	-.01	-.14	.03
Maternal PD predicting physical aggression	-.17***	-.17***	-.17***	-.17***	-.17***
Maternal PD predicting verbal aggression	-.02	-.02	-.02	-.02	-.03
Paternal PD	-.05	.06	-.01	.01	.08
Paternal PD predicting physical aggression	.19***	.19***	.19***	.19***	.19***
Paternal PD predicting through verbal aggression	.09	.09	.08	.09	.09
Physical aggression	-.07	-.10	.02	.11	-.02
Verbal aggression	.05	.02	-.04	.05	-.05
Model fit					
$\chi^2(2)$	0.83	0.78	3.27	1.78	0.67
χ^2/df	0.42	0.39	1.64	0.89	0.34
CFI	1.000	1.000	.998	1.000	1.000
RMSEA	.000	.000	.052	.000	.000
[90% CI]	[.000, .100]	[.000, .098]	[.000, .150]	[.000, .125]	[.000, .094]

Notes: PD = problem drinking; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval. Standardized associations are presented. All associations are in the prediction of change in child reactions over time, unless indicated that they are in prediction of a marital aggression variable. All associations control for autoregressive effects and child gender.

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

TABLE 3. Model results for child reactions to child-rearing conflict

Variable	Angry	Sad	Afraid	Happy	Negative expectations
Maternal PD direct	-.13	-.03	-.10	.04	.23**
Maternal PD predicting physical aggression	-.17***	-.17***	-.17***	-.18***	-.18***
Maternal PD predicting verbal aggression	-.02	-.03	-.03	-.04	-.02
Paternal PD direct	.26**	-.10	.02	.07	-.10
Paternal PD predicting physical aggression	.19***	.19***	.19***	.19***	.19***
Paternal PD predicting through verbal aggression	.09	.09	.09	.09	.09
Physical aggression	-.19*	.07	.08	-.07	.06
Verbal aggression	.00	-.11	-.15	.13	-.02
Model fit					
$\chi^2(2)$	2.33	4.83	1.24	2.88	1.26
χ^2/df	1.17	2.42	0.62	1.44	0.63
CFI	.999	.996	1.000	.999	1.000
RMSEA	.026	.078	.000	.043	.000
[90% CI]	[.000, .135]	[.000, .169]	[.000, .113]	[.000, .144]	[.000, .113]

Notes: PD = problem drinking; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval. Standardized associations are presented. All associations are in the prediction of change in child reactions over time, unless indicated that they are in prediction of a marital aggression variable. All associations control for autoregressive effects and child gender.

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

child anger reactions. Mothers' problem drinking was indirectly (via lesser physical aggression) linked to increases in child anger reactions.

Maternal problem drinking predicted increases in children's negative expectations of how parents will be getting along in the future ($\beta = .23, p < .01$; Table 3). In the multi-group model, this association was significant only for boys ($\beta = .26, p < .01$). However, there was no significant difference between the associations for boys and girls.

Parental problem drinking and child reactions to escalated conflict

The next series of models predicted change in children's reactions to escalated conflict. Models were similar in form to the example model shown in Figure 1. Paternal problem drinking predicted increases in child anger reactions to the escalated conflict ($\beta = .22, p < .01$; Table 4). However, physical aggression predicted decreases in child anger reactions

TABLE 4. Model results for child reactions to escalated conflict

Variable	Angry	Sad	Afraid	Happy	Negative expectations
Maternal PD direct	-.07	-.15	-.02	.08	.03
Maternal PD predicting physical aggression	-.18***	-.17***	-.18***	-.18***	-.17***
Maternal PD predicting verbal aggression	-.03	-.02	-.03	-.03	-.02
Paternal PD direct	.22**	-.03	-.03	-.05	.07
Paternal PD predicting physical aggression	.19***	.19***	.20***	.19***	.19***
Paternal PD predicting through verbal aggression	.09	.09	.09	.09	.09
Physical aggression	-.19*	-.05	-.03	.10	-.05
Verbal aggression	-.01	.00	.06	-.04	.01
Model fit					
$\chi^2(2)$	1.44	0.23	2.90	2.06	1.31
χ^2/df	0.72	0.12	1.45	1.03	0.66
CFI	1.000	1.000	.999	1.000	1.000
RMSEA	.000	.000	.044	.011	.000
[90% CI]	[.000, .118]	[.000, .059]	[.000, .145]	[.000, .130]	[.000, .114]

Notes: PD = problem drinking; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval. Standardized associations are presented. All associations are in the prediction of change in child reactions over time, unless indicated that they are in prediction of a marital aggression variable. All associations control for autoregressive effects and child gender.

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

to the escalated conflict ($\beta = -.19, p < .05$). Consistent with prior models, paternal problem drinking predicted increases in physical aggression ($\beta = .19, p < .001$), whereas maternal problem drinking predicted decreases in physical aggression ($\beta = -.18, p < .001$). Therefore, two possible indirect effects can be tested: (a) paternal problem drinking to increased physical aggression to decreased child anger reactions; and (b) maternal problem drinking leading to decreased physical aggression, leading to increased child anger reactions. Sobel (1982) tests of these indirect effects were conducted and both were marginally significant for the indirect effect involving fathers ($Z = 1.93, p = .053$) and mothers ($Z = 1.91, p = .056$). Both indirect effects met the $p < .05$ criterion when not controlling for verbal aggression. In sum, fathers' problem drinking is directly related to increases in child anger reactions but indirectly (via physical aggression) related to decreases in child anger reactions. Mothers' problem drinking was indirectly (via physical aggression) linked to increases in child anger reactions.

Subsequent multigroup models indicated that the direct effect of paternal problem drinking on child anger reactions was significant only for boys ($\beta = .30, p < .05$). However, this association was not significantly different than the association for girls. Multigroup modeling also revealed that physical marital aggression was associated with happy reactions to escalated conflict only for girls ($\beta = .30, p < .01$). This association was significantly stronger for girls than for boys, $\Delta\chi^2(1) = 6.0, p < .05$. Because both maternal and paternal problem drinking predicted physical aggression over time, there were two possible indirect effects. Sobel (1982) tests indicated that the indirect effect of maternal problem drinking through decreased physical aggression on girls' lower happiness was significant ($Z = 2.01, p < .05$). The indirect effect of paternal problem drinking through increased physical aggression on increased girls' happiness was also significant ($Z = 2.25, p < .05$).

Discussion

Results provide support for both direct and mediated relations between PPD and children's emotional responses to marital conflict. The current study is one of the first to rigorously examine the longitudinal relations—using autoregressive controls—between PPD, marital aggression, and children's emotional security reactions to videotaped conflict vignettes. Findings largely support the notion that maternal and paternal problem drinking have implications for children's emotional security, and the presence of PPD may alter the meaning of marital interactions for children. Specifically, PPD has a direct impact on children's feelings of anger, sadness, and negative expectations for the future in response to witnessing marital conflict.

PPD was directly related to children's emotional security such that greater levels of PPD were consistently associated

with negative reactions to all types of conflict, including in the context of resolved conflict. These results build on previous research examining PPD and children's behavioral reactions to marital conflict (Keller et al., 2007). Consistent with prior research, differences were found for the impact of PPD among mothers and fathers. Thus, gender of the drinking parent may affect children's perceptions of marital conflict and result in differences in children's manifestation of emotional insecurity. However, it should also be noted that both maternal and paternal problem drinking are important adverse childhood experiences, and questions regarding interactions between maternal and paternal problem drinking should be examined in future research (Dube et al., 2001). In the current study, paternal problem drinking was linked to increases in children's anger in response to child-rearing and escalating conflict. Alternatively, maternal problem drinking was linked to increases in sadness in response to resolved conflict. Child sensitization may explain these findings. The sensitization hypothesis proposes that children's exposure to and experiences with conflict may make them more sensitive to conflict in the future because they are aware of the negative consequences (Davies et al., 1999). Thus, children may become more reactive to subsequent conflict despite the resolved nature of the conflict depicted in the vignette. In the context of the current study, findings indicate that maternal problem drinking may serve to sensitize children even to resolved conflict.

Maternal problem drinking was also linked to increased negative expectations for the future of the family in response to the child-rearing conflict. This is one of the first studies to show support for PPD affecting children's beliefs about the future of interparental relationships, an important indicator of emotional insecurity (Davies and Cummings, 1994). Research on child-rearing conflict supports the notion that conflict specifically about the child is particularly distressing for children (O'Leary and Vidair, 2005), and thus this type of conflict may have unique consequences for children's views of family stability. In the context of child-rearing conflict, maternal problem drinking may threaten children's security about the family such that PPD results in altered expectations about parents' behavior and marital interactions that affect children's confidence in parents to handle conflict effectively.

Physical aggression predicted child responses to conflict in the child-rearing and escalating conditions; thus, physical aggression was examined as a potential mediator between PPD and child responses to conflict. This finding is consistent with research showing that alcoholic parents create adverse childhood experiences for their offspring (Anda et al., 2002). Support for the mediated pathways was found for both maternal and paternal problem drinking; however, these relationships were different for mothers and fathers. These results suggest that parental gender may be related to PPD, marital aggression, and children's emotional security

in complex ways. Fathers' problem drinking was indirectly related to decreases in children's anger for child-rearing and escalating conflict through physical aggression. Fathers' problem drinking was also indirectly linked to increased girls' happy reactions to escalated conflict, again through physical aggression. Specifically, increased PPD in fathers was related to increased physical aggression, which in turn led to decreases in children's anger and increases in girls' happiness. These results are consistent with the hypothesis that children exposed to PPD avoid more active responses to highly aggressive conflict because such active responses may be dangerous (Keller et al., 2007). Children's anger has been linked to increases in the use of active involvement to stop child-rearing conflict (Koss et al., 2011), and thus reduced anger may prevent children from becoming involved in dangerous conflict. However, the experience of less anger along with the up-regulation of positive affect in the context of PPD and physical marital aggression may indicate a callous or avoidant response. Alternatively, the combination of paternal problem drinking and severe conflicts may leave children emotionally dysregulated, exhibiting abnormal emotional responses to negative events.

Maternal problem drinking led to increases in children's anger for child-rearing and escalating vignettes through decreases in physical aggression. Maternal problem drinking may alter the family context in distinct ways from paternal problem drinking, resulting in a troubled, but not dangerous, family context. Negative associations between women's problem drinking and verbal marital aggression have been reported elsewhere (Keller et al., 2008a). It is possible that women with alcohol problems withdraw from the marital relationship, resulting in less aggression and conflict. It is also possible that women's problem drinking is often accompanied by a husband's problem drinking. The result may be a "drinking partnership" in which alcohol use serves as shared activity that enhances couple intimacy and satisfaction (Homish and Leonard, 2007). Thus, children may more readily display anger in this type of family context because it may not be as costly to display or use angry emotional responses to marital conflict. Taken together, these relationships highlight the need to examine the larger family context for understanding links between marital conflict and children's emotional security.

Differential findings for child gender were equivocal. Both boys and girls experienced reduced emotional insecurity in the context of PPD. However, there were several direct effects of PPD that were found only for boys, including for angry reactions, sad reactions, and beliefs about the future. For girls, there were significant indirect effects that were not found for boys, namely for happy reactions to escalated conflict. Interpretation of findings is complicated by the small sample size. In one case, the multigroup model did not converge, and in the remaining cases power was very low. Future research is needed to further explore

the role of child gender in the context of PPD and marital aggression.

Despite the numerous strengths of the current study, there were several limitations of this research. An alternative explanation for findings involves the impact that adverse experiences in early childhood have on neural development (Anda et al., 2006; Dube et al., 2003). The current study did not assess neurological functioning, and future studies are needed to address this issue. Using an analogue methodology limits the generalizability of these findings beyond the laboratory setting. However, there are benefits to using this methodology, including the ability to control the particular nature of marital conflict to examine differences in the multidimensionality of marital conflict, and increased validity over standard questionnaires (see also Cummings, 1995). Specific pictorial representations of future relationships were used to assess children's internal representations of the family; these pictures may not capture the entire range of children's expectations, and future research is warranted to examine the impact of PPD and conflict on children's expectations of future family functioning. In statistical analyses, only single indicators of constructs were used. A more sophisticated approach would have been to collect multiple indicators (three or more) per construct, particularly such that multiple reporters were represented. At most, only two indicators were possible in the current study, and single indicators were used for ease of model estimation. The current study used a community sample and largely reflects subclinical, community levels of alcohol problems. Future research is necessary to understand the role of severe alcohol problems in children's perceptions of marital conflict and emotional insecurity. However, these findings highlight the notion that subclinical levels of PPD can affect children's security about the marital relationship. Lastly, the current study examined relations between PPD, marital aggression, and children's emotional security. Future research is necessary to examine the impact of these relationships on long-term child outcomes.

The current study was one of the first to investigate the longitudinal relations between PPD and children's emotional security reactions to conflict. Additionally, this study demonstrates that PPD may affect children's security through multiple pathways and that these pathways may be different for maternal and paternal problem drinking. PPD may have affected the usefulness of particular responses to marital conflict, with anger being less useful in situations that are potentially physically dangerous (e.g., paternal problem drinking combined with escalated conflict). At the same time, both maternal and paternal problem drinking directly predicted increased negative reactions to conflict vignettes over time. Emotional insecurity may therefore represent a mechanism through which PPD adversely affects child development. The prevention of child maladjustment and poor health outcomes associated with PPD may be informed by these findings. In particular, prevention may be enhanced by

telling children that parental problems and interparental disagreements are not their responsibility. Ultimately, however, the successful prevention of child problems rests with the prevention of PPD and improvements in marital quality.

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