Links between Family Conflict and Substance-Use in Early Adolescence: Mediating Role of Bully Perpetration

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Introduction
Research has demonstrated an association between early exposure to family conflict and substance use in adolescence and early adulthood (Skeer, McCormick, Normand, Buka, & Gilman, 2009). The family is the primary social context in which children develop and continues to be a salient developmental context in early adolescence. Family conflict has been associated with an increase in both internalizing and externalizing behaviors in adolescence (Shelton & Harold, 2006).

Both family conflict and bully perpetration have been found to predict substance-use in adolescence, possibly as an extension of engagement with externalizing behaviors (Skeer et al., 2009; Pepler, Craig, Connolly, & Henderson, 2002). The present study examines whether such transferral of interpersonal aggressive behaviors occurs from the family setting to the peer setting. We hypothesized that family stressors, including family conflict and sibling aggression, predicts bully perpetration, which in turn predicts substance-use using a longitudinal design.

RESEARCH QUESTION
Does bully perpetration mediate the relation between family conflict and substance use in a middle-school sample?

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Method
Design & Sample
Participants included 1,132 middle school students (grades 5–7) from four schools in a mid-western city (34% Caucasian, 51% Black, 3% Hispanic, 3% Asian, 1% Native American/Indian, 8% Other). The sample was evenly distributed among males and females. Data were collected over three waves including Spring 2008, Fall 2008 and Spring 2009 and included three cohorts (5th graders in 2008 – 7th graders in 2009; 6th graders in 2008 – 8th graders in 2009; 7th graders in 2008 – 9th graders in 2009).

Measures
Family conflict was measured using both The Family Conflict and Hostility Scale (Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003) and a Sibling Aggression Perpetration Scale that was created for the study. The Family Conflict and Hostility Scale measures the level of self-reported conflict and hostility in the family environment. Respondents indicated on a 4-point scale how often hostile situations had occurred in their families in the past 30 days. Responses range from 1 (Often) through 4 (Never). Higher scores indicating higher levels of family conflict and hostility. In the development of the Sibling Aggression Perpetration Scale, five items emerged as a scale in factor analysis (i.e., I upset my brother or sister for the fun of it; I got into a physical fight with my brother or sister; I started arguments with my brother or sister; I hit back when a sibling hit me first; and I teased my siblings for the fun of it). A Cronbach alpha coefficient of .81 was found for this study.

Bully perpetration was measured using the nine-item Illinois Bully Scale (Espelage & Holt, 2001) which assesses the frequency of teasing, name-calling, social exclusion, and rumor spreading. Students are asked how often in the past 30 days they teased other students, upset other students for the fun of it, excluded others from their group of friends, and helped harass other students etc. Response options include “Never”, “1 or 2 times”, “3 or 4 times”, “5 or 6 times”, and “7 or more times.” A Cronbach alpha coefficient of .86 was found for this sample.

Substance use was assessed with an 8-item scale (Farrell, Kung, White, & Valsos, 2000) asking students to report how many times in the past year they used alcohol and/or drugs. The scale consists of items such as, “Smoked cigarettes,” “Drunk liquor,” and “Used inhalants.” Responses are recorded on a 5-point Likert-type scale with options ranging from 1 (Never) to 5 (10 or more times). In the current study, the Cronbach’s alpha was .90.

Data Analysis & Results
- Longitudinal structural equation modeling was conducted using LISREL 8.8.
- Confirmatory factor analysis was used to test measurement model.
- Factorial invariance was tested (using effects-coding method).
- The mediation model was tested using the Cole and Maxwell (2003) framework.
- The overall indirect effect of mediation was .020.
- The significance of this estimate was tested using the Monte Carlo simulation approach developed by MacKinnon and colleagues (2004; see also Preacher & Selig, 2012).
- The confidence interval for this effect was .004 – .033 indicating that the overall indirect effect is significant.

Table 1
| Fit Indices for the Single Group Confirmatory Factor Analysis and Final SEM Model |
|-------------------|-----------------|-----------------|-----------------|
| Model             | RMSEA           | 90% CI RMSEA    | CFI              |
| Configural Invariance | 0.0443; 0.0520  | 0.962            | 0.987            |
| Weak Invariance    | 0.0358; 0.0612  | 0.977            | 0.982            |
| Strong Invariance  | 0.020           | 0.980            | Yes              |
| Final SEM Model    | 0.0540; 0.0609  | 0.965            | 0.970            |

Figure 1. Mediation Model Tested
The results of the model tested are shown in the figure above. These results indicate bully perpetration fully mediates the relation between family conflict and subsequent AOD use. It is possible that youth who are targets of bullying experience lower self-esteem which in turn might lead to their using alcohol and other drugs to cope emotionally.

Discussion
Findings from this study provide strong support for the links among family conflict, bully perpetration, and initiation and continued alcohol and other drug (AOD) use in middle school. Family conflict emerged as a precursor to increased bully perpetration, which in turn predicted increased AOD use. It provides support for the social interaction learning theory, and the hypothesis that conflictual relationships in the family result in externalizing behaviors such as bully perpetration, which in turn puts youth at risk for substance use. This finding sheds light on a potential point of intervention, and both bullying and substance-use prevention programs would do well to consider how conflictual relationships within the family and among peers can put youth at an increased risk for substance use in early adolescence. Future research must account for additional variables that impact and influence this crucial and risky association.