From Child Maltreatment to Adolescent Substance Use: Different Pathways for Males and Females?

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Background

• Male and female adolescents self-report similar rates of substance use (Miech et al., 2017)

• Risk factors that contribute to substance use and the consequences that follow may vary by gender (Bloom et al., 2004; Kumpfer et al., 2008)
Theoretical framework

• Feminist Pathways Theory (Chesney-Lind, 1989; Belknap, 2015)
  • Examines the unique experiences that contribute to female law-breaking behavior
  • Developed based on studies that traced life histories of women in the criminal justice system retrospectively

• General Strain Theory (Agnew, 1992)
  • Posits that the main cause of delinquency is strain experienced during aversive personal relationships
  • Strain $\rightarrow$ negative emotion (fear, anger, sadness) $\rightarrow$ delinquency
  • Level of social support conditions the effect of strain on behavior
Theoretical framework

• Broidy & Agnew’s (1997) review of General Strain Theory
  • Females and males are likely to experience different emotions as a result of strain
  • Females and males react differently to negative emotions
  • Females tend to have higher levels of social support compared to males
Summary of theory

• Strains such as maltreatment are associated with negative emotions and later delinquent behavior

• The reaction of females and males to stress and negative emotions varies

• The relationship between child maltreatment and subsequent substance use might be mediated by mental health issues, anger, parent-child attachment, and externalizing problems
Direct and indirect relationships
Mediation

Diagram:
- Anger
- Maltreatment
- Substance use

Arrows indicate the direction of the relationships.
Limitations of past empirical work

- Reliance on cross-sectional, retrospective data
- Limited examination of mediating factors in the relationship between maltreatment and substance use
- Limited examination of gender differences in the indirect relationship between maltreatment and substance use
The current study

RQ1: Does physical and sexual abuse experienced before age 12 increase substance use at age 16?

RQ2: Is the relationship between physical and sexual abuse experienced before age 12 and substance use at age 16 mediated by externalizing symptoms, internalizing symptoms, parent-child attachment, and anger?

RQ3: Do the mediating pathways between physical and sexual abuse and substance use vary by gender?
Research Method

Analyses rely on data from the *Longitudinal Studies of Child Abuse and Neglect (LONGSCAN) Consortium*
- Data collected from five sites in Baltimore, Chicago, San Diego, Seattle, and Chapel Hill
- Sample participants considered “at risk” for abuse based on demographic and social characteristics or prior maltreatment in the home

Sample: 1,354 youth
- LONGSCAN study follows respondents from age 4 to age 18
Primary independent measures (Age 12)

**Child physical maltreatment:** Experienced any physical maltreatment before age 12 (yes or no)
- Based on child self-report at age 12, parent report at child age 12, and official substantiated records
- If any of the three sources endorsed, participant is considered to have a physical maltreatment history

**Child sexual maltreatment:** Experienced any sexual maltreatment before age 12 (yes or no)
- Measured similarly to physical maltreatment, using sexual maltreatment reports
Primary independent measures (Age 12)

Child physical maltreatment

- Child report: 15 items
  - Example item: “Has any adult ever hit you with something really dangerous, like a baseball bat or a shovel?”

- Parent report: Based on Conflict Tactics Parent to Child Scale, 7 items, lifetime experience
  - Example item: “In the past year, how often have you hit him/her with a fist or kicked hard?”
  - Answer option for occurrence before the past year
Primary independent measures (Age 12)

Child sexual maltreatment

- Child report: 11 items
  - Example item: “Has anyone ever touched your private parts or bottom in some way?”
- Parent report: 4 items
  - Example item: “In your child’s lifetime, has he/she ever been sexually molested?”
Outcome measure (Age 16)

Substance use

- Youth self-report
- Modeled as a latent construct of three directly observed measures: Frequency of cigarette use, alcohol use, and marijuana use in the past year
Mediating measures


Internalizing problems (age 14): Youth self-report; based on the Child Behavioral Checklist Internalizing Problems subscale (Achenbach, 1991)
Mediating measures

**Parent-child attachment (age 14):** Parent report; based on Resnick et al.’s (1997) Parent-Child Relationship scale

**Anger (age 12):** Youth self-report; based on the Trauma Symptoms Checklist for Children Anger subscale (Briere, 1996)
Statistical procedure

• Weighted Least Squares Means and Variance Adjusted (WLSMV) estimation was used to analyze the described measurement models.

• Model fit evaluated using Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI).

• Indirect effects assessed using bias-corrected bootstrapping for both the full sample and for females and males separately.
Table 1. Descriptive Statistics for Study Measures.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Total sample</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Measure</strong></td>
<td>% yes or M, SD (N)</td>
<td>% yes or M, SD (n)</td>
<td>% yes or M, SD (n)</td>
</tr>
<tr>
<td>Age (at baseline)</td>
<td>4.48, 0.66 (777)</td>
<td>4.53, 0.68 (400)</td>
<td>4.43, 0.63 (377)</td>
</tr>
<tr>
<td>Gender (female = 1)</td>
<td>—</td>
<td>51.48 (400)</td>
<td>48.52 (377)</td>
</tr>
<tr>
<td>African American</td>
<td>52.25 (777)</td>
<td>53.00 (400)</td>
<td>51.46 (377)</td>
</tr>
<tr>
<td>White</td>
<td>25.61 (777)</td>
<td>24.75 (400)</td>
<td>26.53 (377)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7.59 (777)</td>
<td>6.75 (400)</td>
<td>8.49 (377)</td>
</tr>
<tr>
<td>Other race/ethnicity</td>
<td>14.54 (777)</td>
<td>15.50 (400)</td>
<td>13.53 (377)</td>
</tr>
<tr>
<td>Low household income</td>
<td>26.00 (777)</td>
<td>25.25 (400)</td>
<td>26.79 (377)</td>
</tr>
<tr>
<td>Family structurea</td>
<td>66.67 (777)</td>
<td>65.00 (400)</td>
<td>68.44 (377)</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>47.10 (777)</td>
<td>43.25 (400)b</td>
<td>51.19 (377)</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>27.81 (777)</td>
<td>33.25 (400)b</td>
<td>22.02 (377)</td>
</tr>
<tr>
<td>Frequency of past year cigarette usec</td>
<td>0.48, 0.94 (694)</td>
<td>0.46, 0.94 (363)</td>
<td>0.49, 0.95 (331)</td>
</tr>
<tr>
<td>Frequency of year alcohol usec</td>
<td>0.45, 0.77 (692)</td>
<td>0.42, 0.75 (361)</td>
<td>0.47, 0.79 (331)</td>
</tr>
<tr>
<td>Frequency of past year marijuana usec</td>
<td>0.39, 0.84 (692)</td>
<td>0.35, 0.80 (362)</td>
<td>0.44, 0.88 (330)</td>
</tr>
<tr>
<td>Externazizing problems</td>
<td>11.98, 10.22 (675)</td>
<td>11.58, 10.15 (339)</td>
<td>12.39, 10.29 (336)</td>
</tr>
<tr>
<td>Internalizing problems</td>
<td>7.86, 7.32 (675)</td>
<td>8.45, 7.85 (339)</td>
<td>7.27, 6.70 (336)</td>
</tr>
<tr>
<td>Parent–child attachment</td>
<td>30.77, 3.29 (673)</td>
<td>30.96, 3.19 (340)</td>
<td>30.58, 3.40 (333)</td>
</tr>
<tr>
<td>Anger</td>
<td>3.52, 4.26 (586)</td>
<td>3.77, 4.42 (293)</td>
<td>3.27, 4.09 (293)</td>
</tr>
</tbody>
</table>

aLives with at least one biological parent.
bStatistically significant (p < .05) difference compared with male participants.
cItem responses are based on a 4-point Likert-type scale.
Full sample

* $p < .05$, ** $p < .01$. 

Control variables:
- Age
- Gender
- Race
- Site
- Family Structure
- Income

Externalizing problems (age 14)
Internalizing problems (age 14)
Parent-child attachment (age 14)
Anger (age 12)

Substance use

Cigarette use
Alcohol use
Marijuana use

Physical abuse

$\text{Age 12}$

$\text{Age 16}$

$0.69^{**}$

$-0.23^{**}$

$0.13^{**}$

$-0.16^{**}$

$0.12^{*}$

$0.08^{*}$

$0.11^{*}$

$0.81^{**}$

$0.76^{**}$

$0.88^{**}$
Females only

* $p < .05$. ** $p < .01$. 

[Diagram showing relationships between variables such as control variables, physical abuse, externalizing problems, internalizing problems, parent-child attachment, anger, and substance use at ages 12 and 16.]
Males only

Age 12

Control variables:
- Age
- Gender
- Race
- Site
- Family Structure
- Income

Physical abuse

Age 16

Substance use
- Cigarette use
- Alcohol use
- Marijuana use

Externalizing problems (age 14): .66**
Internalizing problems (age 14): -.23**
Parent-child attachment (age 14): .19**
Anger (age 12): .17*

Substance use: .80**
Cigarette use: .75**
Alcohol use: .91**
Marijuana use: .91**
Full sample

* $p < .05$.  ** $p < .01$. 

Diagram:

- Control variables:
  - Age
  - Gender
  - Race
  - Site
  - Family Structure
  - Income

- Sexual abuse

- Externalizing problems (age 14)
  - .69**
  - Internalizing problems (age 14)
  - -.23**
  - Parent-child attachment (age 14)
  - .13**
  - Anger (age 12)
  - .19**

- Substance use
  - Cigarette use
    - .82**
  - Alcohol use
    - .76**
  - Marijuana use
    - .88**

- Age 12
- Age 16
Females only

- $p < .05$
- $**p < .01$
Males only

* $p < .05$. ** $p < .01$. 

Control variables:
- Age
- Gender
- Race
- Site
- Family Structure
- Income

Sexual abuse

Age 12

- Externalizing problems (age 14)
- Internalizing problems (age 14)
- Parent-child attachment (age 14)
- Anger (age 12)

Age 16

- Substance use
  - Cigarette use
  - Alcohol use
  - Marijuana use

Correlation:
- .67**
- -.23**
- .19**
- .17**
- .17*
- .80**
- 75**
- .91**
Summary of results—Full sample

• Physical abuse had a direct effect on substance use; sexual abuse did not have a direct effect on substance use

• The relationship between physical abuse and substance use was mediated by internalizing behavior

• The relationship between sexual abuse and substance use was mediated by internalizing behavior and anger
Summary of results-Gender groups

• Among females, the relationship between physical abuse and substance use was mediated by internalizing behavior

• Among females, the relationship between sexual abuse and substance use was mediated by internalizing behavior and anger

• Among males, the relationship between sexual abuse and substance use was mediated by anger
Conclusions and next steps

• Results partially support assertions of Feminist Pathways Theory and General Strain Theory

• More studies examining the indirect relationship between maltreatment and substance use are needed using longitudinal, prospective data

• Results indicate there are some differences in how males and females respond to maltreatment, which suggests gender-responsive programming is needed to help victims cope with abuse and/or prevent substance use
Thank you! Questions?

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References


