The effect of parental alcohol use on alcohol use in young adults: the mediating role of parental monitoring and peer deviance

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Families, midwives and the ALSPAC team

Electronic Longitudinal Alcohol Study in Communities
Background

- Around one third of young people aged 15-16 have been reported to drink at hazardous or harmful levels (Heron et al. 2012, MacArthur et al. 2012)

- Adolescent alcohol use is related to later harms and later alcohol use

- Understanding factors that influence the initiation and trajectory of alcohol use among young people is a public health priority
Background
Recent review

Does parental drinking influence children’s drinking? A systematic review of prospective cohort studies

Ingeborg Rossow¹, Patrick Keating², Lambert Felix³ & Jim McCambridge⁴
Recent review

- Evidence that parental drinking predicted drinking behaviour in adolescent offspring.
- However, only 4/21 studies - some capacity for causal inference - (Pears et al. 2007, Latendresse et al. 2008, Mares et al. 2011, Alati et al. 2014)
- These reported parental drinking predicts drinking or alcohol-related problems among their children.
- But:
  - limited use of theory-driven analysis
  - small sample sizes
  - lack of control for relevant confounding factors
  - inconsistency was identified around the influence of maternal versus paternal drinking practices
- Uncertainty remains around causal associations and pathways of effect.
Aim

- Examine association between parental alcohol use and young adult alcohol use – parental monitoring, association with deviant peers, and early alcohol initiation
  - a theory-driven analytic approach
  - a rich longitudinal data source
  - maternal and paternal alcohol measures collected at theoretically relevant timings
  - the use of a graded measure of parental alcohol use to assess whether a dose-response relationship exists
  - control for relevant confounding factors
Methods

- Avon Longitudinal Study of Parents and Children (ALSPAC)
- Research clinics and questionnaire measures
- Data available for ~3,800 young people (including confounding variables)
# Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Age</th>
<th>Description</th>
<th>Reporter</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maternal alcohol use</strong></td>
<td>12</td>
<td>(assessed over 1 week)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light (reference group)</td>
<td>12</td>
<td>&lt;4 units on any day</td>
<td>Mother</td>
<td>3,593 (56.5)</td>
</tr>
<tr>
<td>Moderate</td>
<td>12</td>
<td>≥4 units on &gt;1 / &lt;4 days</td>
<td>Mother</td>
<td>2,210 (34.8)</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>≥4 units on 4+ days</td>
<td>Mother</td>
<td>553 (8.7)</td>
</tr>
<tr>
<td><strong>Paternal alcohol use</strong></td>
<td></td>
<td>(assessed over 1 month)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light (reference group)</td>
<td>12</td>
<td>≥4 units on ≤5 occasions</td>
<td>Mother</td>
<td>2,836 (47.6)</td>
</tr>
<tr>
<td>Moderate</td>
<td>12</td>
<td>≥4 units on ≥5 occasions / &lt;daily</td>
<td>Mother</td>
<td>2,691 (45.2)</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>≥4 units daily</td>
<td>Mother</td>
<td>426 (7.2)</td>
</tr>
</tbody>
</table>
## Measures

<table>
<thead>
<tr>
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<th>Age</th>
<th>Description</th>
<th>Reporter</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early alcohol initiation</td>
<td>14</td>
<td>1 whole drink ≥3 times in the past 6 months</td>
<td>Young person</td>
<td>1,140 (19.9)</td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>14</td>
<td>12-item scale – high scores = <strong>monitoring</strong></td>
<td>Young person</td>
<td>33.45 (6.5) 4-48</td>
</tr>
<tr>
<td>Peer deviance</td>
<td>15½</td>
<td>17-item Edinburgh Study of Youth Transitions and Crime – high scores = <strong>deviance</strong></td>
<td>Young person</td>
<td>3.91 (3.6) 0-17</td>
</tr>
<tr>
<td>Young adult drinking</td>
<td>18</td>
<td>AUDIT - continuous score</td>
<td>Young person</td>
<td>6.95 (4.9) 0-40</td>
</tr>
</tbody>
</table>
Methods

- Structural equation path models
- Missing data – inverse probability weighting was used to address any potential bias caused by participant drop-out
- Potential confounding variables of the parent-child alcohol relationship:
  - maternal age at delivery, maternal education, maternal smoking in pregnancy, family income, social economic position, housing tenure, and gender
Analysis model

12y
Parental alcohol use

14y
Parental monitor

15.5y
Peer deviance

Early alcohol initiation

18y
Alcohol use
Maternal ‘moderate’ alcohol use

- Maternal alcohol use
  - Early alcohol initiation
    - 12y
    - 14y
    - 15.5y
    - 18y
  - Parental monitor
    - Peer deviance
      - 1.15 (.08)
      - -.34 (.25)
      - -.19 (.01)
      - -.10 (.02)
      - .33 (.03)
      - .81 (.21)
      - .96 (.14)

- Alcohol use

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Maternal ‘high’ alcohol use

- High alcohol use
- Parental monitor
- Peer deviance
- Early alcohol initiation
- Alcohol use

12y  14y  15.5y  18y

- .61 (.38)
- .19 (.01)
- .33 (.03)
- .10 (.02)
- .25 (.08)
- 1.15 (.08)
- .08
- 1.28 (.32)
- .96 (.14)
- .10 (.02)
- .19 (.01)
- .33 (.03)
- .10 (.02)
- .25 (.08)
- 1.15 (.08)
- .08
- 1.28 (.32)
- .96 (.14)
- .10 (.02)
- .25 (.08)
- 1.15 (.08)
- .08
- 1.28 (.32)
- .96 (.14)
## Maternal alcohol use

<table>
<thead>
<tr>
<th></th>
<th>Moderate-risk</th>
<th></th>
<th>High-risk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b (95% CI)</td>
<td>p</td>
<td>b (95% CI)</td>
<td>p</td>
</tr>
<tr>
<td>Total effect</td>
<td>1.07 (.64, 1.49)</td>
<td>&lt;.001</td>
<td>1.71 (1.07, 2.35)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Total indirect effect</td>
<td>0.26 (.08, .44)</td>
<td>.001</td>
<td>0.43 (.15, .71)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Specific indirect effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>0.03 (-.02, .08)</td>
<td>.18</td>
<td>0.06 (-.02, .13)</td>
<td>.12</td>
</tr>
<tr>
<td>Early alcohol initiation</td>
<td>0.14 (.04, .25)</td>
<td>.01</td>
<td>0.24 (.07, .40)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Parental monitoring–peer deviance</td>
<td>0.02 (-.01, .05)</td>
<td>.17</td>
<td>0.04 (-.01, .09)</td>
<td>.11</td>
</tr>
<tr>
<td>Early alcohol use–peer deviance</td>
<td>0.06 (.02, .10)</td>
<td>&lt;.01</td>
<td>0.10 (.03, .16)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Remaining direct effect</td>
<td>0.81 (.39, 1.22)</td>
<td>&lt;.001</td>
<td>1.28 (.65, 1.91)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
Paternal ‘moderate’ alcohol use

Moderate alcohol use

Parental monitor

Peer deviance

Early alcohol initiation

Alcohol use

<table>
<thead>
<tr>
<th></th>
<th>12y</th>
<th>14y</th>
<th>15.5y</th>
<th>18y</th>
</tr>
</thead>
<tbody>
<tr>
<td>.56 (.23)</td>
<td>1.15 (.08)</td>
<td>-.19 (.01)</td>
<td>-.10 (.02)</td>
<td>.66 (.20)</td>
</tr>
<tr>
<td>.28 (.05)</td>
<td></td>
<td></td>
<td></td>
<td>.96 (.14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.33 (.03)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Paternal ‘high’ alcohol use

High alcohol use → Parental monitor → Peer deviance

-0.78 (0.39) → -0.19 (0.01)

Parental monitor → Peer deviance

Peer deviance → Alcohol use

0.33 (0.03) → -0.10 (0.02)

Early alcohol initiation

1.15 (0.08) → Alcohol use

0.24 (0.09) → Early alcohol initiation

12y 14y 15.5y 18y
### Paternal alcohol use

<table>
<thead>
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<th></th>
<th>High-risk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( b ) (95% CI)</td>
<td>( p )</td>
<td>( b ) (95% CI)</td>
<td>( p )</td>
</tr>
<tr>
<td>Total effect</td>
<td>1.12 (.72, 1.51)</td>
<td>&lt;.001</td>
<td>1.03 (.31, 1.74)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Total indirect effect</td>
<td>0.46 (.28, .64)</td>
<td>&lt;.001</td>
<td>0.44 (.15, .74)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Specific indirect effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>0.06 (.01, .10)</td>
<td>.02</td>
<td>0.08 (.00, .16)</td>
<td>.06</td>
</tr>
<tr>
<td>Early alcohol initiation</td>
<td>0.26 (.15, .38)</td>
<td>&lt;.001</td>
<td>0.23 (.05, .41)</td>
<td>.01</td>
</tr>
<tr>
<td>Parental monitoring–peer deviance</td>
<td>0.04 (.01, .06)</td>
<td>.02</td>
<td>0.05 (.00, .10)</td>
<td>.05</td>
</tr>
<tr>
<td>Early alcohol use–peer deviance</td>
<td>0.11 (.06, .15)</td>
<td>&lt;.001</td>
<td>0.09 (.02, .16)</td>
<td>.01</td>
</tr>
<tr>
<td>Remaining direct effect</td>
<td>0.66 (.26, 1.05)</td>
<td>&lt;.001</td>
<td>0.58 (-.15, 1.31)</td>
<td>.12</td>
</tr>
</tbody>
</table>
Conclusions

- We strengthen the evidence on potential “transmission” of adverse alcohol use from parents to children – **we are not saying the association is causal**
- Parental alcohol use associated with alcohol use in early adulthood
- Associations partly explained through parental monitoring, associating with deviant peers, and early initiation of alcohol use
- Inclusion of other potential mechanisms?
- Limitations – attrition, self-report, parental reports, small indirect effects
Implications

- Focus prevention efforts to a greater extent on modifiable risk factors:
  - parental alcohol use, behaviours and attitudes
  - influence of parental alcohol use through early initiation
  - peer associations and influences

- Targeting of prevention efforts early, while engaging parents, may play an important role in delaying initiation of alcohol use and reducing susceptibility to peer influences throughout adolescence, thus reducing alcohol-associated harms over the longer-term
Thank you