Childhood ADHD and tobacco smoking: Examination of a social mediational model

Kim Archambault1, Frank Vitaro1,2, Richard E. Tremblay2, & Paul L. Gendreau1
1 School of Psychoeducation -University of Montreal, Canada  2 Research Unit of Children’s Psychosocial Maladjustment, Montreal, Canada

INTRODUCTION
• Attention-deficit/hyperactivity disorder (ADHD) is an important risk factor for tobacco smoking.
• An increasing number of studies suggest that inattention symptoms, more than the hyperactive-impulsive dimension, may account for the observed association between ADHD and tobacco use.
• Some authors have suggested that social processes may be responsible for the specific relationship between inattention and smoking, but few hypotheses have been tested empirically.

OBJECTIVE
The present study aims at examining:
• A multiple mediation model stipulating that the specific association between childhood inattention and adult smoking is explained by the experience of academic difficulties and the subsequent affiliation with deviant peer groups.

METHOD
Sample
• 669 male participants followed from age 6 to 22

Measures
• Inattention and hyperactivity symptoms (age 6): Teacher ratings of classroom behaviour (QECP)
• Tobacco smoking (age 22): Do you currently smoke cigarettes? (every day, sometimes, never)
• Proposed mediators:
  • Academic performance (age 11-12): Teacher ratings of achievement in French (1st language) and Mathematics
  • Affiliation with deviant peers (age 13-14): How many of your friends have been arrested by the police? (none, 1 or 2, many, almost all)
• Control variables:
  • Conduct disorder (CD) symptoms (age 6)
  • SES-Occupational prestige (age 6)
  • Parental tobacco smoking (age 13-14)

Statistical procedure
• Multivariate extension of the product of coefficient strategy
• Logistic regression

RESULTS
• When childhood inattention and hyperactivity symptoms are considered conjointly, along with CD symptoms, SES and parental smoking, only the former significantly predict adult smoking (Inattention: $\chi^2_{\text{wald}} = 7.23, \ OR = 1.24, \ p = .007$; Hyperactivity: $\chi^2_{\text{wald}} = 0.12, \ p = .734$).
• Academic achievement in 5th and 6th grade does not predict deviant peer affiliation at 13 and 14 years of age when inattention, hyperactivity and CD symptoms, as well as SES and parental smoking are controlled ($\chi^2_{\text{wald}} = 1.29, \ p = .257$).
• Academic performance partially mediates the relationship between ADHD and smoking but deviant peer affiliation does not (see table 1).

CONCLUSION
• The link between inattention symptoms and smoking remains significant when both potential mediators and control variables are considered ($c' = 0.05, \ p = .04$).

Table 1. Bootstrapped Coefficients and Confidence Intervals for the Total and Specific Indirect Effects

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>SE</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>BC 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.01</td>
<td>0.01</td>
<td>0.000</td>
<td>0.022</td>
<td></td>
</tr>
<tr>
<td>Academic performance</td>
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<td>0.01</td>
<td>0.004</td>
<td>0.024</td>
<td></td>
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<tr>
<td>Affiliation with deviant peers</td>
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<td>0.00</td>
<td>-0.009</td>
<td>0.002</td>
<td></td>
</tr>
</tbody>
</table>

Note: BC = bias corrected, CI = confidence intervals, 3000 bootstrapped samples

• The link between inattention and smoking remains significant when both potential mediators and control variables are considered ($c' = 0.05, \ p = .04$).

ACKNOWLEDGEMENTS
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