Early Initiation into Gambling among Boys and Girls with Conduct Problems: A Prospective Study

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Some context...
Introduction

- Adolescent participation in risky and addictive behaviors, including gambling, is a common phenomenon.

  ≈ 9–19% of adolescents gamble for money on a frequent basis (Volberg et al., 2010; Welte et al., 2008, 2011).

At-risk or PG
Predictors of gambling behaviors among young people
Predictors of Youth Gambling Behavior and PG

- Number of childhood predictors of later gambling behaviors reported within extant literature.

- These include:
Individual-level Factors

- Available longitudinal research has shown that:
Individual-level Factors (cont’d)

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Individual-level Factors (cont’d)

- Available longitudinal research has shown that:
Individual-level Factors (cont’d)

- Available longitudinal research has shown that:
Individual-level Factors (cont’d)

- Antisocial
- Aggressive
- Dishonest
- Defiant
- Disruptive
Individual-level Factors (cont’d)

Available longitudinal research has shown that:
Familial Factors

Available longitudinal research has shown that:
School Factors

- Available longitudinal research has shown that:
Role of CPs in early initiation of gambling behaviors?
CPs in Early Initiation of Gambling

- Understanding of the childhood and early adolescence predictors of later gambling behaviors and problems is expanding.

- What is the developmental role of childhood CPs in early initiation of gambling behaviors?

- Only one study has examined prospective links between childhood CPs and early initiation into high-risk activities.
Temcheff and colleagues (2016) examined the prospective relation between CPs in childhood and pre-adolescent initiation into smoking, alcohol use, and gambling.

Results generally supported the predictive relevance of CPs for early initiation, including gambling.
## CPs in Early Initiation of Gambling (cont’d)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$B$</th>
<th>S.E.</th>
<th>$P$</th>
<th>OR</th>
<th>CI$_{95}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.74*</td>
<td>.34</td>
<td>.03</td>
<td>.48</td>
<td>[.25, .92]</td>
</tr>
<tr>
<td>Age</td>
<td>-.05</td>
<td>.16</td>
<td>.73</td>
<td>.95</td>
<td>[.70, 1.29]</td>
</tr>
<tr>
<td>Poverty</td>
<td>.34</td>
<td>.35</td>
<td>.33</td>
<td>1.41</td>
<td>[.70, 2.82]</td>
</tr>
<tr>
<td>Lack of parental supervision</td>
<td>.37</td>
<td>.54</td>
<td>.49</td>
<td>1.45</td>
<td>[.50, 4.17]</td>
</tr>
<tr>
<td>Parental antisocial behavior</td>
<td>.06</td>
<td>.07</td>
<td>.43</td>
<td>1.06</td>
<td>[.92, 1.21]</td>
</tr>
<tr>
<td>Child effortful control</td>
<td>-.07</td>
<td>.25</td>
<td>.78</td>
<td>.93</td>
<td>[.58, 1.51]</td>
</tr>
<tr>
<td>Parental substance use problem</td>
<td>-.49</td>
<td>.38</td>
<td>.20</td>
<td>.62</td>
<td>[.29, 1.29]</td>
</tr>
<tr>
<td>Child conduct problems</td>
<td>1.00*</td>
<td>.42</td>
<td>.02</td>
<td>2.71</td>
<td>[1.19, 6.18]</td>
</tr>
</tbody>
</table>

**Note.** Nagelkerke $R^2 = .09$.  
**Note.** ** denotes $p < .01$. * denotes $p < .05$. $t$ denotes $p < .10$. $B$ is the parameter estimate. S.E. is the standard error. OR is the odds ratio. CI$_{95}$ is the 95% confidence interval.
Research Question and Objective

- CPs a risk factor for early initiation into gambling over and above other known risk factors?

  - Evaluate prospective association of childhood CPs and initiation of gambling among pre-adolescent boys and girls, while controlling for effects of other potential predictors.
Prospective association of childhood CPs and pre-adolescent initiation of gambling
Sample and Data Collection

- 744 French-speaking boys and girls from low-SES public schools in Quebec, Canada.

- Aged 6.3—10.6 years at T1 \((M = 8.4\) years).
  - 8.3—12.8 years at T2 \((M = 10.3\) years, 5.3\% attrition).
  - 9.3—13.8 years at T3 \((M = 11.3\) years, 6.9\% attrition).
  - 10.2—14.8 years T4 \((M = 12.2\) years, 8.3\% attrition).
Sample and Data Collection (cont’d)

Data collected from parents, teachers, and children via questionnaires administered individually in interview format.

<table>
<thead>
<tr>
<th></th>
<th>With CPs</th>
<th>Without CPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>$n = 201$</td>
<td>$n = 195$</td>
</tr>
<tr>
<td>Female</td>
<td>$n = 148$</td>
<td>$n = 200$</td>
</tr>
</tbody>
</table>

With CPs: $n = 201$
Without CPs: $n = 195$
Instruments

- **Gambling initiation.** Assessed with question derived from the National Longitudinal Survey of Children and Youth (NLSCY) (Statistics Canada, 1999).
  - Asks child whether they have ever tried gambling or betting on games of chance to gain money or other goods (yes or no).
  - Composite score from T2–T4.

- **Alcohol use initiation.** Assessed with question derived from the NLSCY (Statistics Canada, 1999).
  - Asks child whether they have ever consumed an alcoholic beverage (yes or no).
Instruments (cont’d)

- **Internalizing problems.** Established using the *DSM*-Oriented Scales of the parent report form of ASEBA (Achenbach & Rescorla, 2001).

- **CPs.** Established using the *DSM*-Oriented Scales of the parent report form of ASEBA (Achenbach & Rescorla, 2001).

- **Parental gambling.** Established from question asking parent whether he/she had gambled for money in past 12 months.
Instruments (cont’d)

Data Analysis

- Logistic regression selected as the data analytic method:
  - Outcome variable was dichotomous (prior initiation into gambling vs. no prior initiation);
  - Distributions of the IVs and control variables (gender, age) unlikely to satisfy the assumptions of normality.

- Once all main effects were examined, further regression analyses were carried out to examine interactions between CPs and each of the predictors.
  - All interactions were n.s.
Results

- 2.8%—6.6% of participants reported having initiated gambling 2—4 years later.
- Results supported CPs a risk factor for early initiation into gambling over and above other established risk factors.
Results (cont’d)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>S.E.</th>
<th>P</th>
<th>OR</th>
<th>CI.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>-.01</td>
<td>.29</td>
<td>.99</td>
<td>1.00</td>
<td>[.56, 1.76]</td>
</tr>
<tr>
<td>Age</td>
<td>.09</td>
<td>.15</td>
<td>.56</td>
<td>1.09</td>
<td>[.81, 1.48]</td>
</tr>
<tr>
<td>Child effortful control</td>
<td>.31</td>
<td>.24</td>
<td>.20</td>
<td>1.35</td>
<td>[.85, 2.17]</td>
</tr>
<tr>
<td>Child alcohol initiation</td>
<td>.72*</td>
<td>.29</td>
<td>.02</td>
<td>2.05</td>
<td>[1.15, 3.64]</td>
</tr>
<tr>
<td>Child internalizing problems</td>
<td>.06</td>
<td>.31</td>
<td>.84</td>
<td>1.06</td>
<td>[.58, 1.95]</td>
</tr>
<tr>
<td>Parental gambling</td>
<td>-.47</td>
<td>.30</td>
<td>.11</td>
<td>.62</td>
<td>[.35, 1.12]</td>
</tr>
<tr>
<td>Academic performance</td>
<td>-.07</td>
<td>.12</td>
<td>.60</td>
<td>.94</td>
<td>[.74, 1.19]</td>
</tr>
<tr>
<td>Child conduct problems</td>
<td>1.30**</td>
<td>.36</td>
<td>.00</td>
<td>3.68</td>
<td>[1.80, 7.51]</td>
</tr>
</tbody>
</table>

Note. Nagelkerke $R^2 = .11$.
Note. ** denotes $p < .001$. * denotes $p < .01$. B is the parameter estimate. S.E. is the standard error. OR is the odds ratio. CI.95 is the 95% confidence interval.
Final thoughts...
Discussion

- Results confirm that both boys and girls with conduct problems are a high risk group for early initiation into gambling.

- Early initiation into alcohol use was also found to be a significant risk factor for initiation into gambling.

- Development of gambling behaviors over time?
Practical Implications

- Elementary school years may be an appropriate time to engage in prevention for gambling among children with CPs.

- Prevention of gambling should be considered alongside prevention of other risky and addictive behaviors.
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