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

Renée A. St-Pierre, Véronique Frenette, Caroline E. Temcheff, Michèle Déry, Jean-Pascal Lemelin, Jean Toupin, & Pierrette Verlaan

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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).
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)

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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?
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 $p < .10$. $\beta$ 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.

With CPs
- $n = 201$
- $n = 148$

Without CPs
- $n = 195$
- $n = 200$
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).
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.
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>Cl.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. Cl.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.
Email: renee.st-pierre@mail.mcgill.ca