

# 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.
  - ❖  $\approx$  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

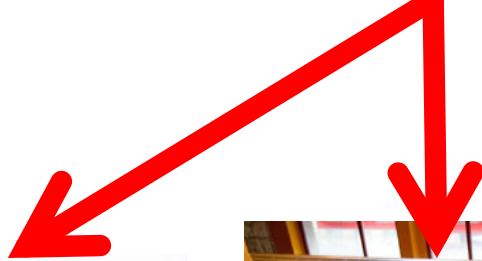
- Available longitudinal research has shown that:





# 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.

## CPs in Early Initiation of Gambling (cont'd)

- ▶ 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)

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

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<sub>.95</sub> 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)

With CPs



$n = 201$



$n = 148$

Without CPs



$n = 195$



$n = 200$

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

# 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)

- ▶ *Academic performance*. Measured using 12 items from adapted version of the Academic Performance Rating Scale (APRS) (DuPaul et al., 1991).

# 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)

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

Note. Nagelkerke  $R^2 = .11$ .

Note. \*\* denotes  $p < .001$ . \* denotes  $p < .01$ .  $\beta$  is the parameter estimate. S.E. is the standard error. OR is the odds ratio. CI<sub>.95</sub> 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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