Pathways of gambling problem severity: Follow-up from a general population survey

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Study objectives

- Describe trajectories of change in gambling patterns and problems among a cohort of gamblers;
- Model change over time based on life events.
Findings from longitudinal studies

Trajectories are variable and potentially multidirectional.
Findings from longitudinal studies

- Mostly decrease ↓ in severity of gambling problems;
- Increase ↑ in severity of gambling problems is less frequent;
- Stability → is mostly observed at both extremes of the scale.

Findings from longitudinal studies

- Few longitudinal studies on gambling;

- Little is known about change and stability in gambling over time;

- Little is known about factors associated with change and stability over time.
Portrait of gambling in Québec project: ENHJEU-QUÉBEC

CROSS-SECTIONAL SURVEYS

Population survey 2009 (N=11 888)

Population survey 2012 (N=11 600)

LONGITUDINAL COMPONENT

FOLLOW-UP 2009
FOLLOW-UP 2010
FOLLOW-UP 2011

n = 179
n = 144
n = 137
METHOD - design

CROSS-SECTIONAL SURVEYS

Population survey 2009
(N=11,888)

CONSENT TO FOLLOW-UP

Non problem gamblers (N=54)
(Response rate = 35.6%)
77.8%

Low-risk gamblers (N=99)
(Response rate = 37.8%)
67.7%

Moderate-risk gamblers (N=62)
(Response rate = 44.9%)
69.4%

Problem gamblers (N=35)
(Response rate = 58.3%)
77.1%

FOLLOW-UP 2009

Non problem gamblers (N=42) 81.0%
Non problem gamblers (N=34) 94.1%
Non problem gamblers (N=32)

Low-risk gamblers (N=67) 82.1%
Low-risk gamblers (N=55) 98.2%
Low-risk gamblers (N=54)

Moderate-risk gamblers (N=43) 86.0%
Moderate-risk gamblers (N=37) 91.9%
Moderate-risk gamblers (N=34)

Problem gamblers (N=27) 66.7%
Problem gamblers (N=18) 94.4%
Problem gamblers (N=17)

Population survey 2012
(N=11,600)
## Method - Measures

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<thead>
<tr>
<th>Measures</th>
<th>Survey 2009</th>
<th>Follow-up 2009</th>
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Statistical analyses

• Trajectories: estimating change
  ○ Description of change
  ○ General linear growth models – hierarchical

• Life events and gambling severity
  ○ SEM – Cross-lagged regression models
Overview

DESCRIPTIVE ANALYSES

Gambling trends

Overview
Status of non-problem gamblers at follow-ups

10-month follow-up (n = 34)
- Non-problem gamblers: 30
- Low-risk gamblers: 3
- Moderate-risk gamblers: 0
- Problem gamblers: 1

22-month follow-up (n = 32)
- Non-problem gamblers: 27
- Low-risk gamblers: 4
- Moderate-risk gamblers: 1
- Problem gamblers: 0
Status of low-risk gamblers at follow-ups

- Non-problem gamblers
- Low-risk gamblers
- Moderate-risk gamblers
- Problem gamblers

10-month follow-up (n = 55):
- Non-problem gamblers: 25
- Low-risk gamblers: 23
- Moderate-risk gamblers: 5
- Problem gamblers: 2

22-month follow-up (n = 54):
- Non-problem gamblers: 34
- Low-risk gamblers: 13
- Moderate-risk gamblers: 7
- Problem gamblers: 0
Status of moderate-risk gamblers at follow-ups

10-month follow-up (n = 37)
- Non-problem gamblers: 6
- Low-risk gamblers: 4
- Moderate-risk gamblers: 22
- Problem gamblers: 5

22-month follow-up (n = 34)
- Non-problem gamblers: 6
- Low-risk gamblers: 6
- Moderate-risk gamblers: 14
- Problem gamblers: 8

Legend:
- Non-problem gamblers
- Low-risk gamblers
- Moderate-risk gamblers
- Problem gamblers
Status of problem gamblers at follow-ups

![Bar chart showing the status of problem gamblers at 10-month and 22-month follow-ups.]

- **10-month follow-up (n = 18)**
  - Non-problem gamblers: 1
  - Low-risk gamblers: 1
  - Moderate-risk gamblers: 5
  - Problem gamblers: 11

- **22-month follow-up (n = 17)**
  - Non-problem gamblers: 0
  - Low-risk gamblers: 1
  - Moderate-risk gamblers: 6
  - Problem gamblers: 10

Legend:
- Non-problem gamblers
- Low-risk gamblers
- Moderate-risk gamblers
- Problem gamblers
General model
General trends

![Graph showing general trends over time with multiple datasets represented by lines on a y-axis ranging from 0 to 30 and an x-axis labeled 'time' ranging from 0 to 2. The graph illustrates the variation and trends across different categories or times.](image-url)
General trends

- Unconditional Means Model
  - Estimated between-person variance $\sigma_2^2 = 17.191 \ (77\%)$
  - Estimated within-person variance $\sigma_1^2 = 5.029 \ (23\%)$
Effects of life events on severity scores
Significant life events

- **Lifestyle**
  - Change in sleep habits
  - Change of place of residence
  - Change in financial situation

- **Work domain**
  - Difficulties with the boss
Proposed model

2009

CPGI T1

2010

CPGI T2

2011

CPGI T3

EVENT T1

EVENT T2

EVENT T3
Change in sleep habits

2009

PGSI score

Change in sleep habits

2010

PGSI score

Change in sleep habits

2011

PGSI score

Change in sleep habits
Increase in severity of problem gambling
From low-risk to problematic

Change in sleeping habits

<table>
<thead>
<tr>
<th>Event did not occur</th>
<th>Event did occur</th>
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<td>4.8%</td>
<td>18.5%</td>
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Change in place of residence

2009

PGSI score

Change in place of residence

2010

PGSI score

Change in place of residence

2011

PGSI score

Change in place of residence
Change in financial situation

PGSI score

2009

Change in financial situation

PGSI score

2010

Change in financial situation

PGSI score

2011

Change in financial situation
Increase in severity of gambling problems
From low-risk to problematic

Change in financial situation

Event did not occur: 5.0%
Event did occur: 17.2%
Difficulties with the boss

2009
PGSI score
Difficulties with the boss

2010
PGSI score
Difficulties with the boss

2011
PGSI score
Difficulties with the boss
CONCLUSIONS
Do gambling problems change over time?

Overall decreasing trends among all gamblers
Do gambling problems change over time??

There is a gradient in change…

Non-problem gamblers change the least
Non gamblers and non problem gamblers seem more stable (Wiebe, 2009; Winters, 2005);
Do gambling problems change over time??

**Moderate-risk gamblers move in both directions**

The at risk are heterogeneous with:

- Former problem gamblers who remain vulnerable
- Stabilised at-risk that should consider safer practices
- Recent onset that may move to less or more severe status
Conclusion

Social origins ‘triggers’ of gambling problems

Stressful events and positive events are associated with change.

They may be turning points.
Future direction

- Those who have become more severe request our attention

- Latent transition models
  - Role of life events in increasing severity
  - Role of life events in decreasing severity
Acknowledgment

- Dr Catherine Paradis

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