



ETIOLOGY OF PROBLEM GAMBLING IN CANADA

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**GAMBLING RESEARCH
EXCHANGE ONTARIO**
DRIVING KNOWLEDGE INTO ACTION



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**Gambling and
Problem Gambling
in Canada:
A National Study**

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INTRODUCTION

- Longitudinal gambling research sheds important light on:
 - Duration, stability, and course of problem gambling.
 - Chronological relationship between variables that provides for much stronger causal attributions about their etiological relationship to problem gambling.



INTRODUCTION

- There have been many longitudinal studies of gambling and problem gambling, including 6 large scale ones:
 - Alberta (LLLP; 2006-2011)
 - Ontario (Quinte Longitudinal Study; 2006-2011)
 - Sweden (Swelogs; 2008 - 2018)
 - Victoria, Australia (VGS, 2008 – 2011)
 - New Zealand (NZ-NGS, 2012-2018)
 - Massachusetts (MAGIC, 2013-2019)



INTRODUCTION

- These large-scale studies have provided important info about the etiology and course of problem gambling.
- However, they have been limited by:
 - Small number of problem gamblers identified during the course of the study (30-130), limiting the power of the analyses.
 - Some did not assess all etiologically relevant variables.
 - Most had very limited qualitative data.



INTRODUCTION

- Two other findings of importance from these studies:
 - The etiological predictors of problem gambling are somewhat jurisdictionally specific and time period specific.
 - Multiple waves are not necessary to understand the etiology.



INTRODUCTION

- The preceding slides provided the impetus for the present study, which was to determine the:
- **Current etiology of problem gambling in Canada**
 - Much larger sample of at-risk and problem gamblers.
 - Assessment of all variables etiologically related in previous research.
 - Collection of extensive qualitative data to triangulate with the quantitative results.



METHOD

- *Baseline Online Panel Survey* administered to 10,199 Canadian adult (18+) online panelists in Aug – Oct 2018
 - Stratified by region (1420 per province/region)
 - Restricted to people who gambled 1/month or more
 - Comprehensive self-administered assessment
- *Follow-Up Survey* re-administered Aug – Oct 2019
 - 4,707 people from Baseline retained



METHOD

- Discrete Dependent Variable (DV)
 - PPGM Problem Gambler Status.
- 108 Independent Variables (IV)
 - *Virtually everything* related to problem gambling in prior research.
- Concurrent *and* Lagged Analysis
 - IVs predicting DV in same wave *and* in the next wave.
- Stepwise Logistic Regression
 - Exclusion of variables without a bivariate relationship.



RESULTS

■ Baseline

- 1,388 At-Risk and 1,346 Problem Gamblers (PPGM)
 - *1,261 problem gamblers providing open-ended explanations about the perceived cause of their problems.*
- 2,710 with a major DSM-5 mental disorder

■ Follow-Up

- 531 Problem Gamblers
 - *463 problem gamblers providing open-ended explanations about the perceived cause of their problems.*



RESULTS

- As expected, large majority of IVs had significant **bivariate** relationship with concurrent or future problem gambling.
- Much small number had **multivariate** relationship with concurrent problem gambling and even fewer had a multivariate relationship with future problem gambling.



CONCURRENT MULTIVARIATE PREDICTORS

- Nagelkerke R-squared = 60.0%
- 84.9% of Non-Problem Gamblers correctly classified
- 88.5% of Problem Gamblers correctly classified



CONCURRENT MULTIVARIATE PREDICTORS

- Measures of gambling involvement
 - Total # types of gambling engaged in
 - Total gambling expenditure
 - Largest amount lost in single day
 - Total time spent gambling
 - Importance of gambling as a recreational activity
- Personal history of problem gambling
- Family history of problem gambling



CONCURRENT MULTIVARIATE PREDICTORS

- Frequency of Electronic Gambling Machine participation
- Impulsivity
- Gambling Fallacies
- Socializing with other Problem Gamblers
- Male
- Lower Household Income; Unemployment
- Gambling to Escape or Relieve Stress
- Accompanying DSM Mental Disorder
- Availability of Gambling at Work or School
- Number of Negative Life Events



FUTURE MULTIVARIATE PREDICTORS

- Nagelkerke R-squared = 47.4%
- 82.8% of Non-Problem Gamblers correctly classified
- 82.8% of Problem Gamblers correctly classified



FUTURE MULTIVARIATE PREDICTORS

- Personal history of problem gambling
 - Being problem gambler at Baseline the strongest predictor of being a future problem gambler.
- Family history of problem gambling
- Baseline intensity of gambling involvement
 - Higher total # types of gambling engaged in.



FUTURE MULTIVARIATE PREDICTORS

- Frequency of Baseline Electronic Gambling Machine participation
- Impulsivity
- Lower Household Income
- Younger Age
- Frequency of Baseline Instant Lottery participation
- Not having a Western/Northern European heritage



CONCURRENT & FUTURE PREDICTORS

- Personal History of Problem Gambling
- Intensity of Gambling Involvement
 - Number of types of gambling engaged in
- Impulsivity
- Frequency of Electronic Gambling Machine participation
- Family History of Problem Gambling
- Lower Household Income



SELF-REPORTED CAUSES OF PG

- 93.7% of PGs answered this question at Baseline.
- 12.0% denied they had a problem.
- 94.4% had an explanation (only 5.6% “didn’t know”).
- Explanations tended to be singular and fairly simplistic.
 - 1172 causes identified by 1040 PGs (1.13 causes/person)
- 30 different causes but 4 dominant ones.



SELF-REPORTED CAUSES OF PG

	N	%
Desire to win money/poverty/needing money/greed	370	31.6
Boredom/enjoyment/excitement	232	19.8
Stress/depression/escape/mental problems/trauma	198	16.9
Addiction/addictive personality/poor self-control	122	10.4
Loneliness/to socialize	42	3.6
Availability/accessibility of gambling	36	3.1
Losing	35	3.0
Chasing losses	30	2.6
Alcohol/drug use	21	1.8
Genetics/modelling when growing up	17	1.5



SELF-REPORTED CAUSES OF PG

	N	%
Big win/winning	13	1.1
Social pressure/socializing with gamblers	11	0.9
Addictive slot machines/VLTs/casinos	8	0.7
Belief in oneself/belief that luck will change	7	0.6
Wanting to feel important/feel like a winner	6	0.5
Having too much money to spend	4	0.3
Medication induced	4	0.3
Constant advertising/promotions	4	0.3
Other	12	1.0



SELF-REPORTED CAUSES OF PG

- A focus on psychology rather than environment or biology.
- Only modest correspondence to quantitative predictors. However, these self-reported causes:
 - Identify some things not well assessed in quantitative results:
 - *loneliness/desire to socialize; social pressure; positive self-esteem; advertising; medication-induction*
 - Provide context/meaning to some of the important quantitative predictors:
 - *lower household income; gambling fallacies*



DISCUSSION

- 1. Past behaviour** (problem gambling) the strongest predictor of future behaviour (problem gambling).
 - All addictions have a strong propensity to endure (albeit with high rates of remission and relapse).
- 2. Intensive gambling involvement** is a very robust primary antecedent to problem gambling.



DISCUSSION

3. Problem gambling has **biopsychosocial etiology** with multiple risk and protective factors and multiple routes.
 - No 'silver bullet' to prevent. Wide array of initiatives needed.

4. Many risk factors **innate/non-modifiable** (heritability; impulsivity; younger age; male) or **difficult to change** (# negative life events; hx MH problems; trauma; income).



DISCUSSION

5. Most important modifiable risk factors are:

- Intensive gambling involvement
 - *Lower Risk Gambling Guidelines*
- EGM availability/participation (especially in low-income areas)
 - *45% PG decrease from 2002 coincident with 46% EGM participation decrease*
 - *Provincial EGM participation strongly associated with EGM density*
- Gambling fallacies
 - *In addition to be a very strong predictor, gambling 'to win money' the most common self-reported cause of PG*



DISCUSSION

5. Most **important modifiable risk factors** are:

- Current problem gambling status
 - *Effective treatment will significantly reduce future risk*
- Maladaptive motivations for gambling
 - *Teach more adaptive ways to escape negative emotions and loneliness*
- Comorbid mental health problems
 - *Effective treatment of mental health problems will reduce incidence of PG*



QUESTIONS?