



# UPDATES ON THE QUINTE LONGITUDINAL STUDY (QLS) AND THE LEISURE, LIFESTYLE, LIFECYCLE PROJECT (LLLP)

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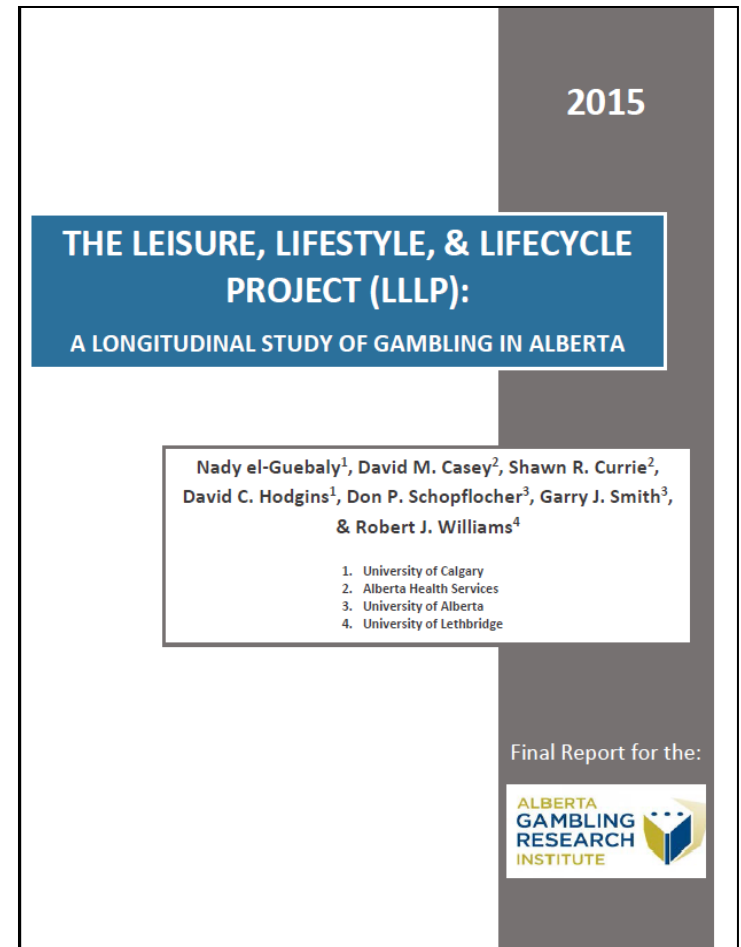
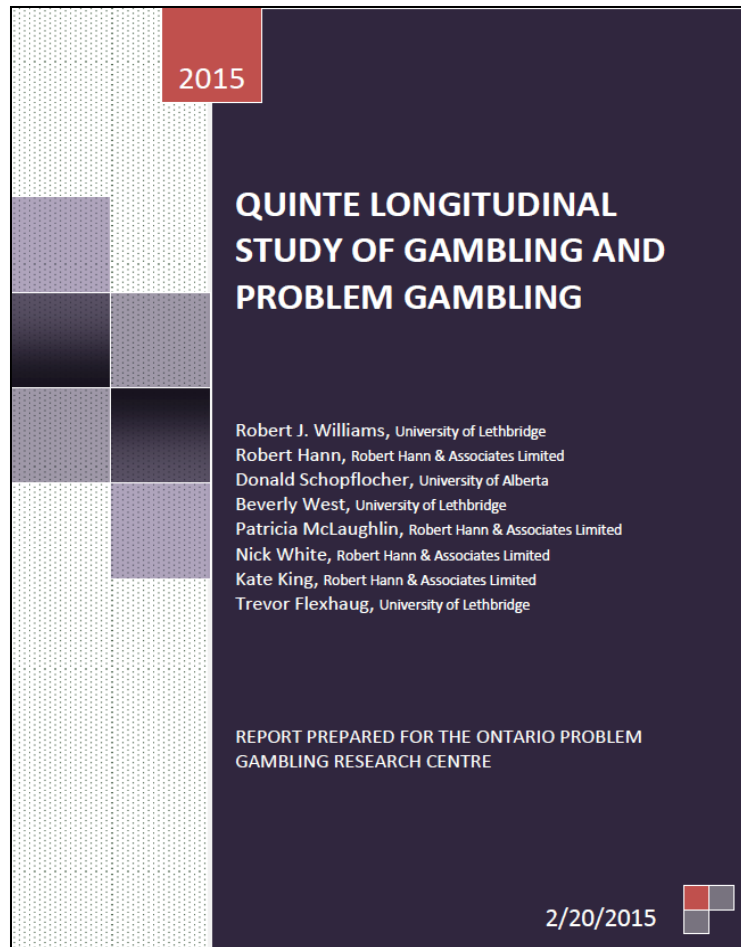
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# Leisure, Lifestyle, Lifecycle Project (LLLP)

- Funded by Alberta Gambling Research Institute (\$2.3 million)
- 2006 – 2014
- 1327 adults + 436 adolescents from 4 regions of Alberta approximating the Alberta population
  - 29% oversampled for 'at risk' characteristics
- 5 comprehensive assessments 19-27 months apart
  - Very similar questionnaire to QLS
  - 2 – 3 hours per assessment
  - Telephone interview (Assessment 1) + self-administered (online &/or paper & pencil)
- 8-9 month assessment window
- Dependent variable: score of 5 or higher on Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001)
- 76.2% retention rate (adults) and 71.8% (adolescents) at Wave 4

# Quinte Longitudinal Study (QLS)

- Funded by Ontario Problem Gambling Research Centre (\$3.1 million)
- 2006 – 2011
- 4123 Ontario adults from Quinte Region in southeastern Ontario, Canada
  - 26% oversampled for 'at risk' characteristics
- 5 comprehensive annual assessments
  - Demographics, gambling, physical health, mental health, substance use, stressors, personal values, social functioning, personality, leisure activity, intelligence (135 variables)
  - 0.5 – 1.5 hrs per assessment
  - self-administered online or via paper & pencil
- 5 month assessment window
- Dependent variable: problem or pathological gambler on Problem and Pathological Gambling Measure (PPGM) (Williams & Volberg, 2014)
- 93.9% retention rate



Williams, R.J., Hann, R., Schopflocher, D., West, B., McLaughlin, P., White, N., King, K., & Flexhaug, T. (2015). *Quinte Longitudinal Study of Gambling and Problem Gambling*. Report prepared for the Ontario Problem Gambling Research Centre. February 20, 2015. <http://hdl.handle.net/10133/3641>

el-Guebaly, N., Casey, D.M., Currie, S., Hodgins, D.C., Schopflocher, D., Smith, G.J., & Williams, R.J. (2015). *The Leisure, Lifestyle, & Lifecycle Project (LLLP): A Longitudinal Study of Gambling in Alberta*. Final Report for the Alberta Gambling Research Institute. February 2015.

# Stability of Problem Gambling over Time



Non—Problem Gambler	Problem Gambler
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- N = 236; each row represents an individual
- 1 year the modal duration, occurring in about 51% of people. Only 19% continued to be Problem Gamblers throughout the 5 years: “**unstable category**”
- Recovery rates high, but relapse rates also high (40% relapse within 3 years after recovery)

# Predictors of Future Problem Gambling

- **Gambling-Related Variables** most robustly predictive of future problem gambling
  - Being **At Risk or Problem Gambler** single best predictor of future problem gambling
  - **Intensity of gambling involvement** 2<sup>nd</sup> best predictor (i.e., total gambling expenditure, overall frequency, total time spent, number of formats played)
  - Higher frequency of **involvement in continuous forms** (i.e., EGMs, casino table games, instant lotteries) 3<sup>rd</sup> best predictor
  - Other strong predictors: **big win in past year; gambling a top leisure pursuit; family or friends regular or problem gamblers; gambling 'to escape' or 'to win money'; more gambling fallacies; Internet gambling; proximity to EGM venues**

# Predictors of Future Problem Gambling

- **Personality** next most important category predictive of future problem gambling
  - **Impulsivity** strongest personality predictor, and one of the strongest predictors across all categories
  - Other fairly strong personality predictors:
    - **Vulnerability (to stress)**
    - **Lower agreeableness**
    - **Lower conscientiousness**

# Predictors of Future Problem Gambling

- **Mental Health** next most important category predictive of future problem gambling
  - **Depression** strongest predictor in this category
  - Other fairly strong mental health predictors:
    - **Anxiety-related disorders**
    - **Substance abuse**
    - **Having a behavioural addiction**
    - **Lifetime history of mental health problems or addiction to drugs/alcohol**



# Variables Predictive of First Onset Problem Gambling vs Continuation vs Relapse

- Personality, mental health, stress-related, cognitive, and physical health variables very strongly implicated in *problem gambling continuation and relapse*.

# Etiological Model

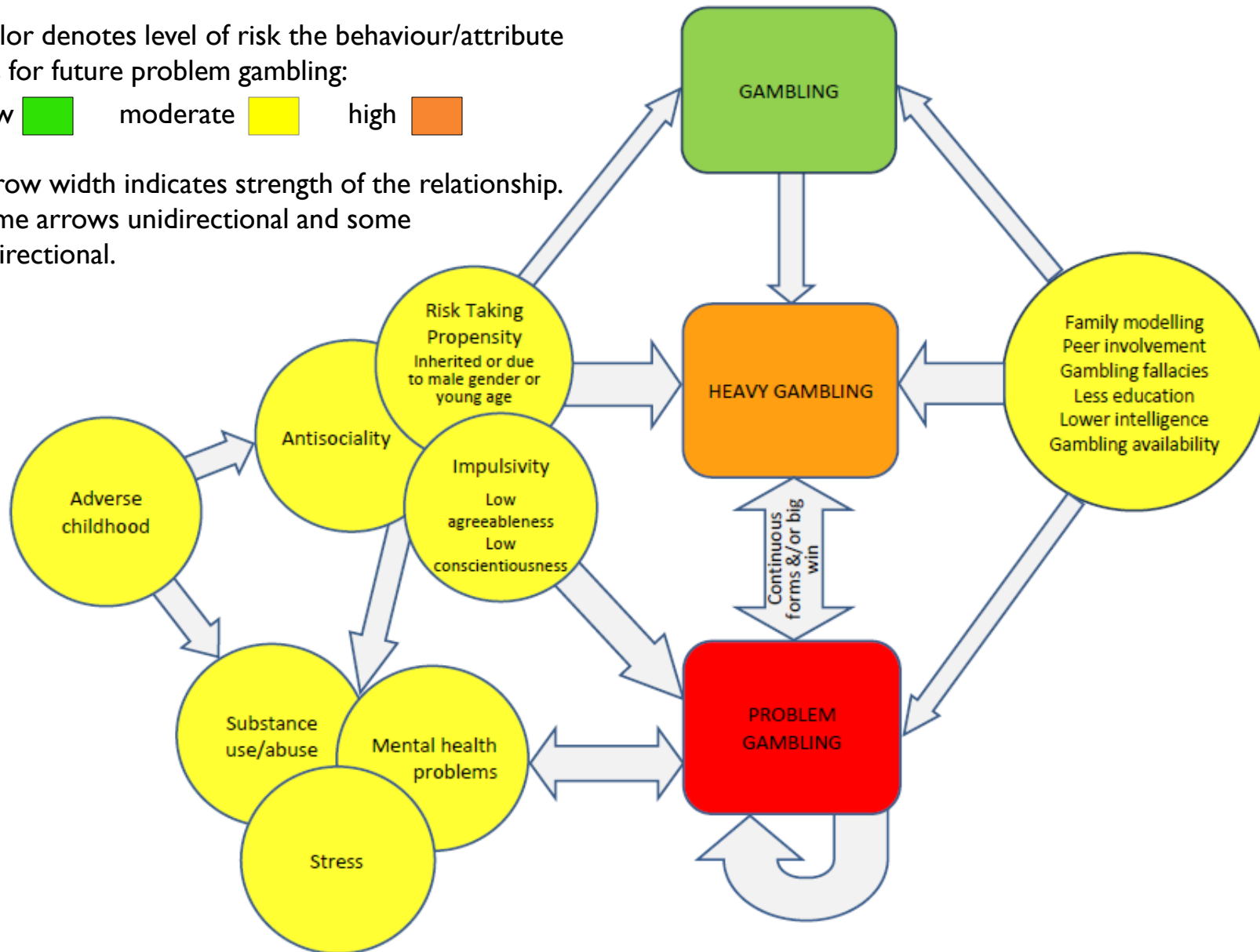
- Biopsychosocial etiology with multiple risk and protective factors
- Particular pattern of risk and protective factors different between problem gamblers, but many of the strongest risk factors tend to be fairly prevalent

# Etiological Model

Color denotes level of risk the behaviour/attribute has for future problem gambling:

low  moderate  high

Arrow width indicates strength of the relationship.  
Some arrows unidirectional and some bidirectional.





# **NEW DEVELOPMENTS: LLLP**

# Qualitative Analysis

- Dr. Seema Mutti-Packer (post-doc at University of Calgary; lead)
- Individuals with significant increase or decrease in PGSI scores from Wave 4 to Wave 5 interviewed ( $n = 41$ ).
- Most people ( $n = 28$ ) did not perceive a change. These individuals more likely to have gambling fallacies, dissonant feelings about gambling, and mental health issues
- For those who did recognize a decrease, financial concerns most commonly reported reason, followed by environmental/social reasons, followed by internal/psychological reasons
- For those who recognized an increase, environmental/social reasons most commonly reported, followed by financial reasons (recent wins), followed by internal reasons (fun/excitement)

# Adolescent Data Analysis

- Dr. Seema Mutti-Packer (post-doc at University of Calgary; lead)
- Examined co-occurrence and temporal associations between alcohol misuse and problem gambling symptomatology using parallel-process latent growth curve modeling
- Decline in PG symptoms followed by upward trend as adolescents reached legal age to gamble; however, considerable variation and instability in symptoms over time
- Alcohol use followed more consistent upward trajectory
- Lack of significant association between the variables, suggesting they are not influencing each other, but perhaps both influenced by underlying common factors



# **NEW DEVELOPMENTS: QLS**

## QLS Dataset archived with GREO

- In 2014 QLS data provided to GREO for public access from *GREO Evidence Centre*
- Many requests and many projects (family impact, behavioral addictions, religiosity, criminal offending, video game addiction, low risk gambling limits, etc.)



# Prediction of Future Harm

- Re-analyzing QLS data to determine predictors of ***harm***
- Predictors of PG and its symptomatology not exactly same as predictors of 'harm' in population.
  - All PG instruments contain items that do not necessarily entail 'harm', e.g., preoccupation, tolerance, going back next day, guilt, gambling more than intended
- However, PPGM, primary instrument in QLS, designed to comprehensively and explicitly assess harm:
  - Financial, mental health, relationship, physical health, school/work, illegal activity
  - PPGM questions also ask whether these problems occurred for the gambler *or someone close to him/her in his/her immediate social network*

# Prediction of Future Harm

- Early results indicate significant overlap with predictors of future *problem gambling*:
  - Subclinical PG symptomatology
  - Gambling expenditure & frequency
  - Higher frequency of involvement in EGMs and/or casino table games
  - Having family members and/or close friends that are regular or problem gamblers
  - Having a big gambling win in the past year
  - History of impulsivity
  - Using gambling as a way of escaping from problems
  - Higher levels of gambling fallacies

# Results Operationalized for Revised PPGM At-Risk Criteria

- Currently, subclinical levels of symptomatology primary criteria for 'At-Risk' categories in PPGM, PGSI, DSM, SOGS
- However, weak predictive validity: only 15% of people in PPGM At-Risk category became problem gamblers during subsequent 4 years (likely similar for 'harm')
- Becomes much stronger predictor with addition of a few other variables (e.g., gambling frequency, friend/family involvement in gambling, EGM involvement, etc.)
- Very similar to *Framingham Risk Score* approach for predicting cardiovascular disease