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Alberta Gambling Research Institute Conference 2018: Current Issues in Gambling Research

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GAMBLING FALLACIES OF GAMBLING RESEARCHERS

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Conflict of Interest Declaration

- I have received research funding and/or honoraria from the following organizations:

- Alberta Gambling Research Institute; Canadian Consortium for Gambling Research; Ontario Problem Gambling Research Centre; Unibet London Ltd; Victorian Responsible Gambling Foundation; U.K. Gambling Commission; British Columbia Ministry of Public Safety; Massachusetts Gaming Commission; Alberta Centre for Child, Family and Community Research; Alberta Alcohol & Drug Abuse Commission; Calgary Health Region; Stiftelsen Nordiska Sällskapet för Upplysning om Spelberoende; Public Health Agency of Sweden; Gambling Research Exchange Ontario; National Association for Gambling Studies (Australia); Responsible Gambling Trust (U.K.); University of Neuchatel (Switzerland); Svenska Spel; National Gambling Control Commission (S.Korea); and the Czech Ministry of Health

Fallacy #1

Prohibition of Youth Gambling is a good thing

Prohibition of Youth Gambling

- Lots of reasons for this policy:
  - Adolescents more naïve with greater potential for harm
  - Early onset of gambling strong predictor of addiction later in life (e.g., Gupta & Derevensky, 1998)
  - In animals, adolescent exposure to drugs creates neurobiological changes facilitating increased adult consumption (e.g., Diaz-Grandados & Graham, 2007)

Prohibition of Youth Gambling

- But a significant downside to this:
  - Highest rates of PG worldwide are in 18-25 year age group (Williams, Volberg, & Stevens, 2012)
    - *Partly due to absence of experience and knowledge prior to unfettered access when reach legal age*

Prohibition of Youth Gambling

- For **alcohol abuse**, countries with early modelled exposure (southern Europe, Israel, China) have lower rates of adult abuse

- For **driving accidents**, countries with graduated licensing have significantly reduced rates of teenage and young adult accidents

Prohibition of Youth Gambling

- Modelled use prior to legal age is far more beneficial compared to prohibition

Fallacy #2

The Problem Gambling Severity Index (PGSI) and Diagnostic Statistic Manual (DSM-5) Disordered Gambling criteria are well-validated assessment instruments

PGSI & DSM

Both have two serious deficiencies:

- Poor construct validity
- Invalid for non-treatment seeking problem gamblers (i.e., most PGs)

PGSI & DSM

- Inadequate capture of PG heterogeneity
- PGSI and DSM consist of **single** factor (e.g., Boldero & Bell, 2012; Brooker, Clara, & Cox, 2009; etc.)
- However,
  - 9 PGSI questions are 1 factor because original 45 items reduced to eliminate ones with low correlations with total score → # factors **artificially reduced from 3 to 1** (Ferris & Wynne, 2001)
  - Removal of illegal acts from DSM-5 criteria a manifestation of this same belief (weak loading on primary factor) (Petry et al., 2014)

PGSI & DSM

- Problem gambling more heterogenous than a single factor:
  - SOGS found to consist of **2 factors** (Orford et al. 2003; Salonen et al., 2017); **3 factors** (Oliveira et al., 2002); and **4 factors** (Holtgraves, 2009).
  - PPGM consists of **4 - 5 factors** (Williams, unpublished research)
  - Multidimensional scaling finds **4 dimensions** when analyzing international sample of 12,521 gamblers (with ~1000 PGs) who answered 29 questions comprising SOGS + DSM-IV + PGSI + PPGM (Christensen et al., submitted)

PGSI & DSM

- PGSI and DSM (and SOGS) all developed and validated on **treatment-seeking** problem gamblers

- However, the ~10% of PGs who seek treatment significantly different from general population of PG (e.g., Braun et al., 2014; Harries et al, 2017; Ledgerwood et al., 2013; etc.):
  - Problems more severe and pervasive
  - Greater mental health & substance use comorbidity
  - Greater insight they have a problem
  - More likely male, older, married, better educated

PGSI & DSM

Poor classification accuracy for PGs in general population:

	SOGS	DSM	PGSI
Abbott (1991)	45% confirmed		
Abbott & Volberg (1992)	38% confirmed + 52% missed		
Ladouceur et al. (2000)	57% confirmed		
Ferris & Wynne (2001)	$r < .48$	$r < .48$	$r = .48$
Ladouceur et al. (2005)	22% confirmed		12% confirmed
Murray et al. (2005)		56% confirmed	
Williams & Volberg (2014)	57% confirmed + 13% missed	77% confirmed + 32% missed	90% confirmed + 56% missed

PGSI & DSM

- Basis of inaccuracies:
  - Non-optimal cut-offs (5+ optimal for PGSI, 4+ for SOGS)
  - Additive scoring system allowing PG without any problems and non-PG despite reporting serious problems (cf PPGM)
  - Scoring system that doesn't require corroborating gambling involvement (cf PPGM)
  - Failure to identify problem gamblers in denial (cf PPGM)
  - Instruments that do not cover all the potential harms (cf PPGM)

PGSI & DSM

	PGSI	DSM-5	SOGS	PPGM
Financial Problems				
Mental Health Problems				
Relationship Problems				
Physical Health Problems				
School/Work Problems				
Criminal Activity				

Fallacy #3

Creating domestic gambling opportunities leads to market recapture

Market Recapture

- Major rationale for introduction of domestic lotteries, casinos, and online gambling
- Would seem commonsensical, but the data does not strongly support it

Market Recapture: Casinos

Alberta

- 7 casinos in 1993
- 27 casinos in 2009
- 60% increase in patronage of U.S. casinos

Ontario

- 0 casinos in 1993
- 20 casinos in 2010
- 25% increase in patronage of U.S. casinos

Market Recapture: Casinos

- Nevada experienced its largest period of financial growth coincident with the introduction of domestic casinos throughout Canada and the U.S.

Market Recapture: Online Gambling

United Kingdom

- £1 billion leaving U.K. prior to 2005 online liberalization
  - market size increased to £4 billion after liberalization
  - only 25% capture in 2012 -> £3 billion leaving U.K.
  - (Market capture much higher in 2018)

Canada

- Legalized in BC 2004, QU 2010, MB 2013, ON 2015
  - ~50% increase in prevalence (not QU)
  - ~22% BC capture, ~25% QU, ~9%-23% ON

Market Recapture

- Legalization of any product (guns, prostitution, drugs, gambling) tends to increase availability, acceptability, and utilization (i.e., 'expands the market')
- Increased overall utilization also increases number of people who are harmed
- Increased harm needs to be offset by increased market capture and economic benefit, ***which is often equivocal for gambling***

Fallacy #4

Gambling fallacies are an important cause of problem gambling

Role of Gambling Fallacies

- Another commonsensical belief
- Basis for the cognitive approach seen in many treatment settings that often focus on rectifying gambling fallacies
- However, weak empirical support

Role of Gambling Fallacies

- 'Robust' association between PG and scores on Gambling Fallacy (GF) instruments (Goodie & Fortune, 2013).
- However,
  - Most GF instruments contain motivation questions ('gambling to improve mood'), biases ('choosing to focus on wins'), and problem gambling symptomatology ('chasing losses') which **inflates** the association (Leonard et al., 2015)
  - Analyses have been conducted **cross-sectionally** rather than prospectively

Role of Gambling Fallacies

- Leonard et al. (2016) re-examined using:
  - instrument without confounding PG motivations, biases, symptoms (Gambling Fallacies Measure)
  - longitudinal dataset (Quinte Longitudinal Study)
  - Analysis that included other etiologically important variables (impulsivity, level of gambling involvement, family hx of PG) to assess relative importance of GF

Role of Gambling Fallacies

- GF were statistically predictive of future PG, but:

- Weak predictor
  - GF scores of people who became PG (6.6) not markedly different from those who did not (7.1)
  - Many PGs with no fallacies and non-gamblers with many
  - Gambling involvement, impulsivity, family hx much stronger predictors

- Relationship bidirectional, i.e., PG also significantly predictive of higher future GF scores

Role of Gambling Fallacies

- Error underlying belief GF are driving gambling is the assumption that G & PGs are gambling to *win money.*

- However, only 50% of PG report winning money to be primary goal; "for excitement/fun" (i.e., the rush) and "to escape" equally prominent.

- *Addressing/replacing the psychological need that gambling provides is equally if not more important.*

Fallacy #5

Elimination of EGMs would go a long ways towards eliminating problem gambling

EGMs & PG

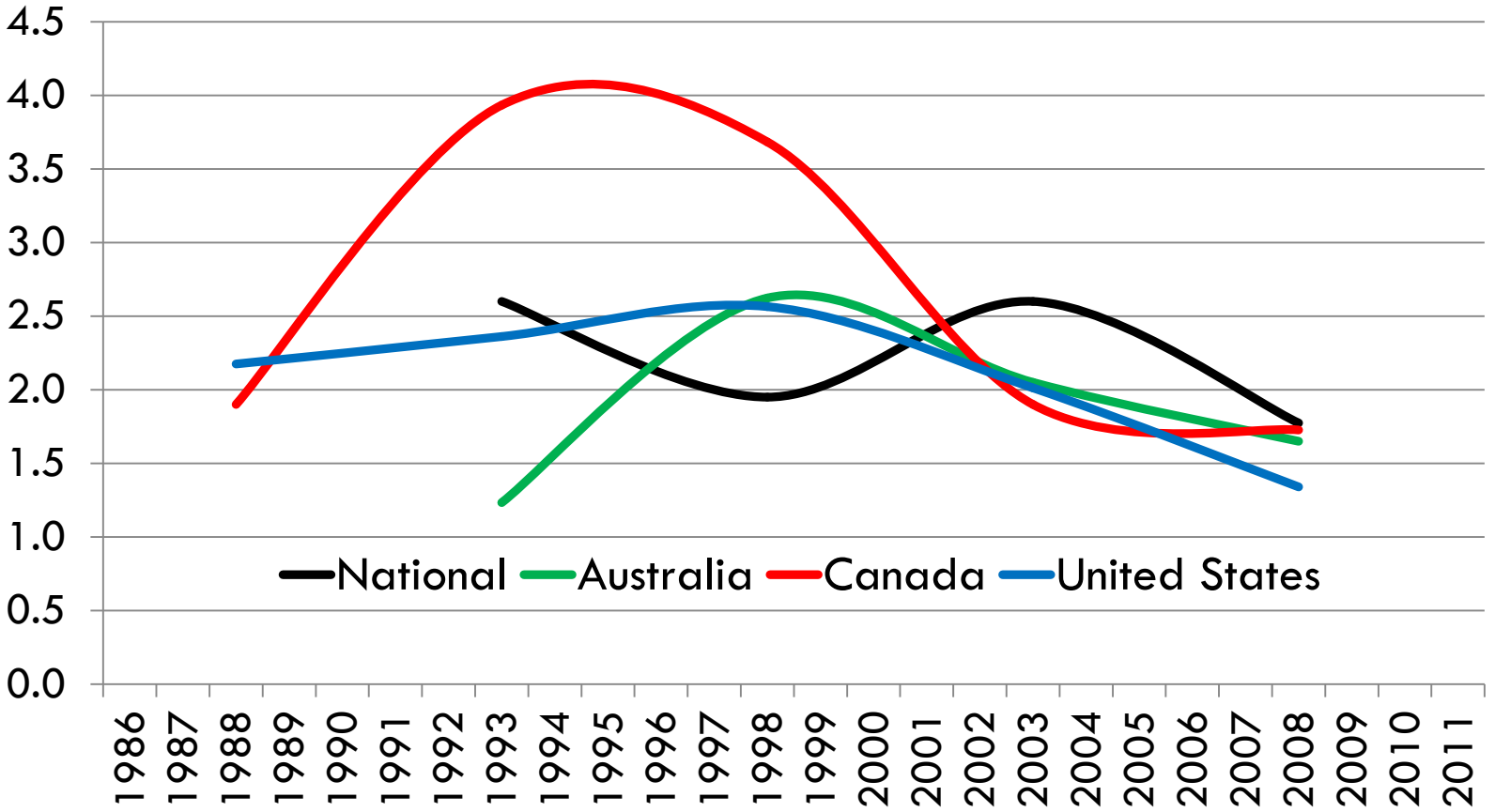
- A widely held belief commonly espoused in the literature
- However, their elimination (in 2018) would likely only have a modest impact

EGMs & PG

- Worldwide, no relationship between country's EGM density and PG rate: *tau-b* = -.18 (Williams et al., 2012)
  - Asia has highest PG rates, yet lowest EGM utilization
  - Very high EGM density western Europe but low PG rates

EGMs & PG

- Population prevalence of PG in 2012 similar to what it was **before** widespread casino & EGM introduction (Williams et al., 2012)



EGMs & PG

- Large majority of PGs involved in **multiple forms** of gambling (3-5 being typical)

- Most PGs **do not report** a specific problematic form
  - Alberta 2009: 56%
  - Ontario 2010: ~50%
  - Massachusetts 2013: 30%

EGMs & PG

- Eliminating beer won't eliminate alcoholism; eliminating fentanyl won't eliminate opioid addiction
- Continuous types of gambling (e.g., EGMs) have increased potential for harm, but **all** types contribute.
- Total elimination of EGMs in western countries in 2018 would reduce harm from gambling, but the overall impact would be modest.

Fallacy #7

Problem Gamblers Need Treatment

PGs Need Treatment

- Common belief that treatment is needed for mental health problems and that not enough people are receiving it
- "Health systems have not yet adequately responded to the burden of mental disorder. As a consequence, the gap between the need for treatment and it's provision is wide all over the world." (WHO, 2017)
- 'Treatment Gap' (WHO, 2017):
  - Low and middle income countries 76% to 85%
  - High income countries 35% to 50%

PGs need Treatment

- How did we ever survive before we had therapists?
  - ***Family & Friends***
  - ***Natural Recovery***
- Is population prevalence of mental health problems (or PG) significantly reduced in modern times with the availability of professional therapists and treatment?

PGs need Treatment

- Large majority of mental health problems resolve themselves *without formal intervention* (Whiteford et al., 2013)
- Longitudinal studies show modal duration of problem gambling in the general population is just *one year*
- Time, and harnessing one's own resources are the drivers of this recovery

PGs need Treatment

- People who truly need formal treatment are:
  - *Those without the resources and support systems to recover on their own*
  - *Individuals who have already tried to recover on their own and been unsuccessful*

THANK YOU!!