

BEST PRACTICES IN ASSESSING PROBLEM GAMBLING AND GAMBLING-RELATED HARM

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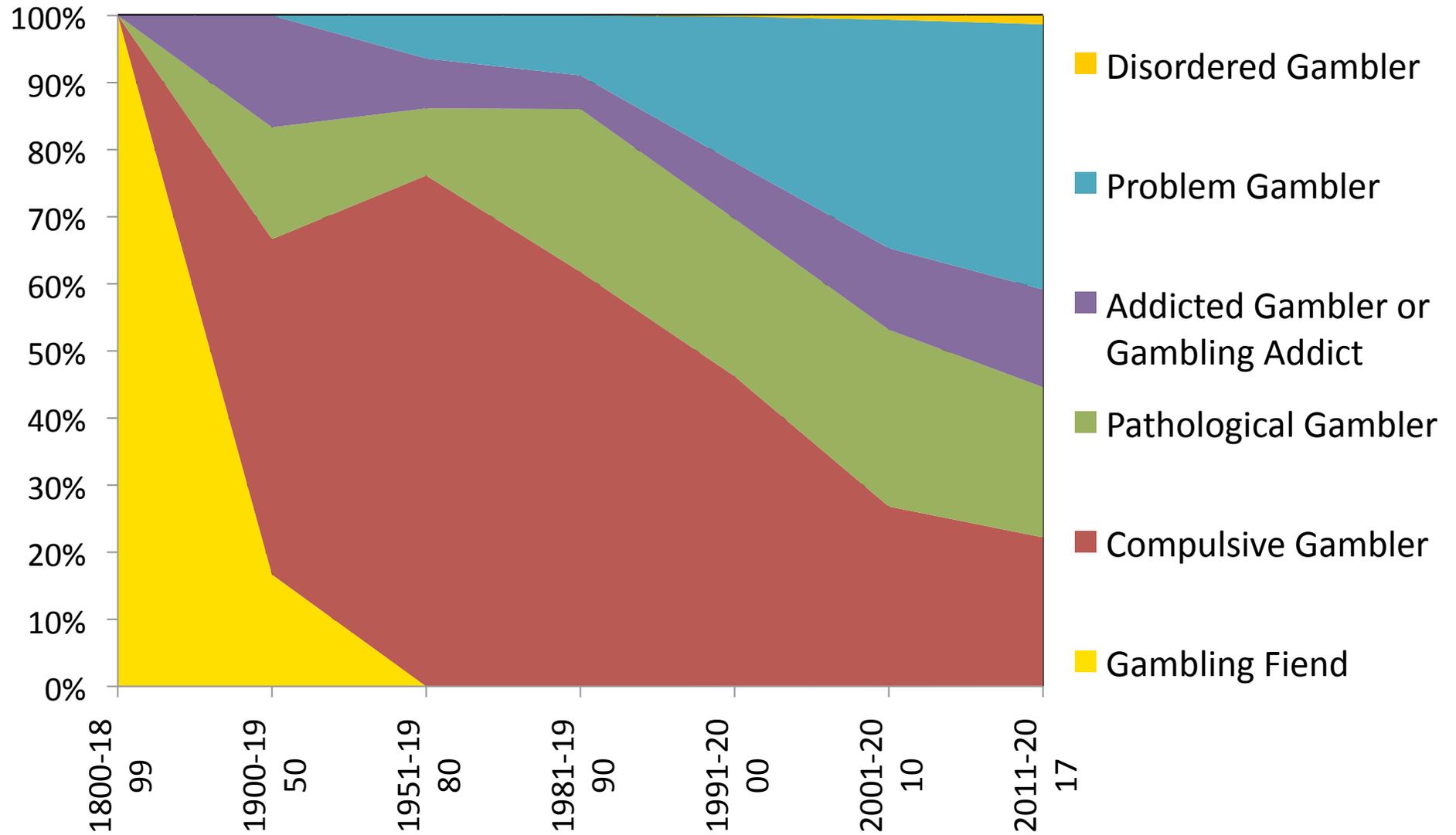
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PROBLEM GAMBLING



**What is meant by
Problem Gambling?**

Evolution of Terms (Google Scholar hits)



What is meant by Problem Gambling?

- Two central elements common to all these terms:
 1. Impaired Control
 2. Significant Harm deriving from Impaired Control

- Definition by Neal, Delfabbro, & O'Neil (2005) for Gambling Research Australia captures this quite well:

“Problem Gambling is characterized by difficulties in limiting money and/or time spent on gambling which leads to adverse consequences for the gambler, others, or for the community.”

Early Assessment Instruments

- DSM-III in 1980
- Gamblers Anonymous 20 questions in 1980s
- South Oaks Gambling Screen (SOGS) in 1987
- DSM-IV in 1994

- Dichotomous classification

- 'Pathological' or 'Compulsive' Gambler

- Lifetime frame

- Clinically derived criteria with limited research base

Next Generation Instruments



- SOGS-R (Abbott & Volberg, 1991)
 - ▣ Lifetime + Past year time frame
 - ▣ Non-problem, problem, pathological categories

- CPGI (PGSI) (Ferris & Wynne, 2001)
 - ▣ Past year time frame
 - ▣ Non-problem, low risk, moderate risk, severe problem categories

Next Generation Instruments



- DSM-5 (American Psychiatric Association, 2013)
 - ▣ Past year time frame + 'multiple year' time frame
 - ▣ Disordered gambler (mild, moderate, severe)

- Problem & Pathological Gambling Measure (PPGM) (Williams & Volberg, 2010, 2014)
 - ▣ Past year time frame
 - ▣ Recreational, at-risk, problem, pathological categories

Next Generation Instruments

All represent significant improvements with respect to

- Time frame
- Continuum of categories
- Terminology (i.e., 'problem', 'disordered')
- Research base

Furthermore, all have demonstrated good

- internal consistency
- test-retest reliability
- convergent validity (with gambling involvement and other assessment instruments)
- discriminative validity

Remaining Issues (well known)



- SOGS-R too heavily weighted toward financial problems (Volberg & Wray, 2007; Young & Stevens, 2008)
- PGSI category cut-offs lack empirical support (McCready & Adlaf, 2006; Currie, Hodgins & Casey, 2013)
- DSM has a very limited research base (Neal et al., 2005; Stinchfield, Govoni & Frisch, 2005)
- DSM and SOGS-R have no (formal) subclinical categories

Remaining Issues (less well known)



1. Inadequate capture of the underlying heterogeneity and dimensionality of problem gambling: PGSI, DSM
2. Only moderately accurate at identifying clinically assessed problem gamblers: PGSI, DSM, SOGS
3. Weak predictive validity of moderate risk and at-risk categories: PGSI, PPGM

Inadequate capture of underlying heterogeneity of problem gambling

- Many investigations of the underlying structure of *existing assessment instruments*:
 - ▣ PGSI repeatedly found to consist of **single** factor (Boldero & Bell, 2012; Brooker, Clara, & Cox, 2009; Colasante et al., 2013; Holtgraves, 2009; Loo, Oei, & Raylu, 2011; Miller et al., 2013; Orford et al., 2010)
 - ▣ DSM also usually found to consist of **single** factor (Molde et al., 2010; Petry et al., 2013; Strong & Kohler, 2007; Toce-Gerstein et al., 2003) (cf. Christensen et al., 2015; Orford et al., 2003, 2010)

Inadequate capture of underlying heterogeneity of problem gambling

- *Tacit assumption that underlying construct of problem gambling may also consist of singular underlying entity*
- Removal of illegal acts from DSM-5 criteria for disordered gambling a manifestation of this belief
 - due to weak loading on primary factor and because it rarely occurs in absence of other diagnostic criteria) (Petry et al., 2014)
- However, illegal acts *does sometimes* precede the appearance of other items (Christensen et al., 2015)
- Usual purpose of a Diagnostic Manual is to identify *all manifestations* rather than just people who fit normative profile.
 - Catatonia would not be removed as criterion for schizophrenia simply because it is an uncommon manifestation.

Inadequate capture of underlying heterogeneity of problem gambling

- ▣ *Considerable evidence problem gambling much more heterogeneous than single factor*
- ▣ 9 PGSI questions form unitary factor simply because original 45 items winnowed down to eliminate ones with low correlations with total score → number of factors reduced from 3 to 1 (Ferris & Wynne, 2001).
- ▣ SOGS found to consist of 2 factors (Orford, Sproston, & Erens, 2003; Salonen et al., 2017); 3 factors (Oliveira, Silva, & Silveira, 2002); and 4 factors (Holtgraves, 2009).
- ▣ PPGM consists of 4 - 5 factors (Williams, unpublished research)

Inadequate capture of underlying heterogeneity of problem gambling

- ▣ Multidimensional scaling identifies **5 dimensions** when analyzing international sample of 12,521 gamblers (overselected for problem gambling) who answered the 29 questions comprising SOGS + NODS (DSM-IV) + PGSI + PPGM (Christensen & Williams, in preparation)
- ▣ Not surprisingly, the single factor instruments (PGSI) did the poorest in capturing these dimensions, whereas the multi-factor instruments (PPGM, SOGS) did the best (Christensen & Williams, in preparation)

Inadequate capture of underlying heterogeneity of problem gambling



- ▣ PG subtyping has identified between **3 to 8 subtypes** (Gupta et al., 2013; Moran, 1970; Milosevic & Ledgerwood, 2010; Steel & Blaszczynski, 1996; Turner et al., 2008; Zimmerman, Meeland, & Krug, 1985)
- ▣ The assumption of different subtypes and pathways is in fact the basis for the ‘pathways model’ of PG (Blaszczynski and Nower, 2002).

Only moderately accurate at identifying clinically assessed problem gamblers



- ▣ PGSI, SOGS, DSM all constructed from and validated with treatment-seeking problem gamblers
- ▣ Not surprisingly, these instruments have subsequently been shown to have reasonably good correspondence to clinically assessed treatment-seeking problem gamblers

Only moderately accurate at identifying clinically assessed problem gamblers



- However, the 5% - 15% of problem gamblers who seek treatment are *significantly different from the general population of problem gamblers*:
 - ▣ Problems more severe and pervasive
 - ▣ Greater mental health & substance use comorbidity
 - ▣ Greater insight that they have a problem
 - ▣ More likely to be male, older, married, better educated

Correspondence to the larger population of non-treatment seeking PGs much weaker

- Abbott & Volberg (1992): only 10/26 SOGS PG confirmed + 11/191 new PGs
- Abbott (1991): only 5/11 SOGS PG confirmed
- Ladouceur et al. (2000): only 23/30 adult SOGS PG confirmed & 36/73 nonadult SOGS-RA PG confirmed
- Ferris & Wynne (2001): “none of the 3 measures (PGSI, DSM, SOGS) correlated well with the clinical interview” (PGSI: $r = .48$)
- Ladouceur et al. (2005): only 22% of SOGS PG confirmed and 12% of PGSI PG confirmed
- Murray et al. (2005): only 50/71 NODS PG confirmed

Correspondence to the larger population of non-treatment seeking PGs much weaker

- Unclear whether lack of correspondence represents poor instrument validity or methodological problems with the clinical assessments:
 - Subsequent rather than concurrent clinical assessment
 - Social desirability biasing (people no longer anonymous)
 - Sampling bias (significant % could not be recontacted)
 - Single clinician doing unstructured assessment

Correspondence to the larger population of non-treatment seeking PGs much weaker



- To more fairly evaluate classification accuracy of these instruments, clinical assessments need to be:
 - **Concurrent** rather than subsequent
 - Conducted on **all** participants
 - Conducted by **two independent** clinicians
 - **Guided by explicit and wide accepted definitions** of the categories being assessed

Correspondence to the larger population of non-treatment seeking PGs much weaker

- This methodology undertaken by Williams & Volberg (2014) who compared instrument classification against clinical assessment in 5,079 general population gamblers (including 813 – 1714 problem gamblers)
- Although accuracy was better, overall it was still modest:

	PGSI 8+	SOGS 3+	NODS 3+	PPGM
Sensitivity	44.4%	85.9%	68.5%	99.7%
Specificity	99.2%	90.4%	96.8%	98.9%
Diagnostic Efficiency	91.9%	89.8%	93.0%	99.0%
Kappa	.55	.62	.68	.96
Instrument Prevalence/ Clinician Prevalence	.49	1.5	.89	1.1

Correspondence to the larger population of non-treatment seeking PGs much weaker

- Basis of false positives and false negatives:
 - ▣ Non-optimal cut-offs (5+ optimal for PGSI, 4+ for SOGS)
 - ▣ Additive scoring system that allows people to be designated a PG without reporting any problems and people designated as a 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)

Inadequate capture of harm

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

Risk Categories only weakly predictive



- Currently, subclinical levels of symptomatology primary criteria for ‘Moderate Risk’, ‘At-Risk’ designation (e.g., PGSI, PPGM)
- However, longitudinal research shows that only small minority of people in these ‘risk’ categories go on to become problem gamblers

PPGM At Risk Gambling Category over Time in Quinte Longitudinal Study



- N = 481; each row represents an individual
- Only 15% of At-Risk Gamblers became Problem Gamblers at some point

Risk Categories only weakly predictive



- Risk categories become much stronger predictor of future PG (and harm more generally) with addition of a few other variables:
 - ▣ High level of gambling expenditure & frequency
 - ▣ Involvement with 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
 - ▣ Using gambling as a way of escaping from problems

Risk Categories only weakly predictive



- PPGM At-Risk category currently being revised with these additional criteria
- very similar to *Framingham Risk Score* approach for predicting cardiovascular disease

Best Practices in Assessing Problem Gambling



- Treatment settings:

- SOGS-R, PGSI, DSM-5, PPGM

- Non-treatment settings:

- PPGM

- PGSI 5+ or DSM-IV 3+ (prevalence only)

GAMBLING-RELATED HARM

What is meant by
Gambling-Related Harm?

Gambling-Related Harm

- “Gambling involvement that leads to a significant decrease in a person’s health or well-being or the health or well-being of people in that person’s social network”

Gambling-Related Harm

- Why is it important?
 - ▣ People harmed from gambling exceed number of people who are problem gamblers, thus, focusing just on PG prevalence rates somewhat misleading.
 - ▣ Helps in determining whether prevention efforts more warranted in subclinical gamblers if total amount of harm greater in subclinical gamblers relative to problem gamblers
- How to measure?

Subclinical levels of PG symptomatology

- Traditional approach is to identify number of people with subclinical levels of problem gambling symptomatology (e.g., Raisamo et al., 2015; Canale et al., 2016)
- Depending on instrument, this is generally 4 to 10 times higher than PG prevalence with greater 'burden of harm' being in these subclinical groups

Subclinical levels of PG symptomatology

- However, many items in these instruments do not entail significant and unambiguous ‘harm’:
 - gambling with larger amounts to get same feeling of excitement (PGSI, DSM, PPGM)
 - chasing losses (PGSI, DSM, SOGS, PPGM)
 - feeling guilty about gambling (PGSI, SOGS)
 - claiming to win money when actually losing (SOGS)
 - gambling more than intended (SOGS, PPGM)
 - restless or irritable when not gambling (DSM)
 - preoccupied with gambling (DSM, PPGM)

- Also, this approach does not adequately assess harm being *caused to other people*

Harm-specific assessment instruments

- Another approach is the development of harm-specific instruments:
 - ▣ HARM Indicator (Productivity Commission, 1999)
 - ▣ Harm Checklist (Browne et al. , 2016)

HARM Indicator

(Australia Productivity Commission, 1999)

A person has experienced harm from gambling if they meet any of the following conditions for the last year:

1. Gambling has made life a lot less enjoyable and they always feel they cannot control gambling, although they want to
2. Always have money arguments about gambling
3. Always borrow to gamble while not paying borrowings back
4. Always lose time from work or study due to gambling
5. Always feel guilty about gambling
6. Borrow from loan sharks to gamble sometimes to always
7. Fraudulently write cheques to gamble sometimes to always
8. Believe they have a current problem and they rate their problem from 5 or more on a 10 point Likert scale
9. Always spend more than they can afford
10. Have often or always suffered from depression due to gambling

HARM Indicator

(Australia Productivity Commission, 1999)

11. Have often or always experienced adverse effects on their job due to gambling
12. Have changed jobs in the last year due to gambling
13. Have been sacked in the last year due to gambling
14. Have often or always not had enough time to look after their family's interests due to gambling
15. Have become bankrupt due to gambling
16. Have experienced a relationship breakdown due to gambling
17. Have obtained money illegally to gamble
18. Have been in trouble with police over gambling
19. Have appeared in court on a gambling-related matter
20. Have seriously thought about suicide because of gambling
21. Have wanted help for gambling problems
22. Have tried to get help for gambling problems in the last year

HARM Indicator

(Australia Productivity Commission, 1999)

□ Pros

- Harms clear and unambiguous
- Fairly comprehensive listing of harms in areas of financial, mental health, relationship, work/school, criminal activity

□ Cons

- Physical health harms not included
- Primarily assesses harm in the individual, not harm to other people

Harm Checklist

(Browne et al., 2016, 2017; Langham et al., 2016)

- **73 items** in domains of financial, mental health, relationship, physical health, work/school, criminal activity, cultural harm
- 4 point 'level of impact' rating scale for each item
- **Pros**
 - ▣ Extremely comprehensive listing of all possible harms
- **Cons**
 - ▣ Too long
 - 10 item form has been developed, but it only assesses financial (5), mental health (4), and relationship harm (1) & almost half of the items do not represent true harm
 - ▣ Primarily assesses harm in the individual, not harm to other people
 - (As proxy for 'harm to others' developers asked people having a close relationship with someone harmed by gambling to estimate harms experienced by the person who had been harmed)

Harm Checklist

(Browne et al., 2016, 2017; Langham et al., 2016)

□ **Cons**

□ Several items do not represent significant or unambiguous harm (Delfabbro & King, 2017):

- Less spending on recreational expenses such as eating out, going to movies, or other entertainment
- Reduction of savings
- Increased credit card debt
- Reduction of available spending money
- Eating too much
- Not eating as much or often as one should
- Reduced physical activity
- Spending less time attending social events
- Reduced contribution to religious or cultural practices

Use unambiguous harm items from existing PG assessment instruments

□ Pros

- Very efficient

□ Cons

- most of these instruments do not adequately capture harm
 - PPGM is exception (has an entire section on harms/problems)
- most of these instruments primarily assess harm in the individual, not harm to others
 - PPGM possible exception as each problem/harm question asks about problems/harm “for you or someone close to you”
 - e.g., PPGM 1 b. Has your involvement in gambling caused significant financial concerns for you or someone close to you in the past 12 months?

Hybrid Approach

1. Utilize conservative measure of unambiguous gambling-related harm as experienced by the individual
 - HARM Indicator (add physical health harm items)
 - Harm Checklist (exclude non-harmful items)

2. A) Supplement with question(s) asking whether person has experienced harm as a result of someone else's gambling
OR
B) Simply calculate # people in each PG's immediate social network (i.e., % married/CL + number of dependents)

Best Practices in Assessing Gambling-Related Harm

Hybrid Approach

OR

PPGM Problem Items



THANK YOU!!