Current Measurement of Problem Gambling: Experiences using the Victorian Gambling Screen

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The Problem with the Problem: Definition

- U.S. driven medical model
- Addiction or Compulsion
- DSM - failure to differentiate regular and problem gamblers
- Pathology or Harm
- Local context

Victorian Gambling Screen (VGS)

Ben-Tovim, D., Esterman, A., **Tolchard, B**. and Battersby, M. (2001). The Victorian Gambling Screen: Project report. Melbourne, Vic. Res. Pnl.
Battersby, M., Ben-Tovim, D., Esterman, A., **Tolchard, B.** and Dickerson, M. (2001). The VAGS: A New Australian Instrument For The Detection Of Problem Gambling. *Australian & New Zealand Journal of Psychiatry*. **35,** (4): A2.

- *Developed using a definition of problem gambling based on harm*

> "*'Problem' gambling refers to the situation when a person's gambling activity gives rise to harm to the individual player, and/or his or her family, and may extend into the community*"

[DIPG Report, p.106]

Existing measures and harm

- South Oaks Gambling Screen (SOGS)
  - harm does not underlie SOGS
  - designed to indicate presence of gambling
  - followed by a clinical interview
  - sensitive but not specific
  - acceptable to over-diagnose
  - prevalence tool

Productivity Commission Report

- HARM gambler
  - 1.7% questioned were HARM+
  - using 5+ on SOGS only 50% were HARM+
  - 32% HARM+ scored <5 on SOGS
  - 81% HARM+ scored <10 on SOGS

New Measures

- Modified SOGS or DSM based tools
- The Canadian Problem Gambling Index
  - *"Problem gambling is gambling behaviour that creates negative consequences for the gambler, others in his or her social network, or for the community"*
- Similarities with the VGS definition

The Canadian Problem Gambling Index

- Negative consequences
- SOGS and DSM
- Responses should be more normally distributed so as to improve the population predictive capacity
- Continuum from no-problem to severe problem (lack of distinction)
- Cut-points

VGS developmental process

- VGS was developed on an empirical basis
  - Ground up approach
  - How it would best be measured?
  - Relationship to phenomena such as
    - Gambling syndrome
    - Problem Gambling
  - Public Health focus
  - No pre-conceived ideas as to what measure should look like
  - Extensive consultation with stakeholders to ensure rigour

Process of development

- Write measurement issues paper
- Stakeholder Consultations
- Focus groups
  - Conducted in two phases
- Review Existing Instruments
- Develop, and Administer Pre-Pilot Version VGS
  - 138 respondents in four settings
- Develop Pilot Version VGS
- Develop Harm Interview
- Administer Pilot Version VGS and Harm Interview
  - 261 respondents
- **VGS**

Harm attribution sub-study

- From issue identified by stakeholders and focus groups
- The distinction between problem gamblers and problem gambling
- Most measures do not make the distinction in terms of the harm attribution
- Used 3 alternate wordings after development of the VGS

Pilot Study - validation interview

Tolchard, B., Battersby., M.W. (2006). A semi structured interview for problem gamblers: Reliability and structure. *Journal of Gambling Studies*, in preparation

Tolchard, B., Battersby, M., Ben-Tovim, D. & Esterman, A. (2001). *The use of a semi-structured interview in the assessment of problem gamblers: Development and validation*, 11th conference of the National Association for Gambling Studies, Sydney.

- The VGS is a self-report questionnaire
  - designed to identify the presence of problem gambling
  - does not have to document all the possible harmful consequences of gambling
  - correlate highly with that of harm
  - must be a reliable and valid pointer to the presence of problem gambling
- individual is a problem gambler determined by some external criteria, some ‘gold standard’ that can be used to confirm its presence

Pilot Study - Administration of the pilot questionnaire

- 261 respondents
  - door-door (29.7%)
  - gambling venue (33.1%)
  - clinics (9.2%)
  - other (28%)
- Use confirmatory factor analysis
  - structural equational modelling (removed 4 items from pilot)

Factor analysis

- Factor rotation
- Factor 1
  - loss of control
- Factor 2
  - pleasure from gambling
- Factor 3
  - harm to partners

- Three Scales
  - Harm-Self
  - Harm-Partner
  - Enjoyment of gambling
- Correlation
  - 0.941 Harm-Self
  - 0.5722 Harm-Partner
  - 0.347 Enjoyment

Validation

- Cut-off points (ROC)
  - Interview
  - Calibrated new scales
- Determine optimal score
  - scores obtained were calibrated by the following groups
    - non-problem gambler
    - borderline
    - problem gambler

Cut-offs - ROC Analysis

- Problem Gamblers
  - ROC showed optimal cut-off for Harm to Self as >=21(60) at the 95% confidence level
- Borderline Gamblers
  - ROC showed optimal cut-off for Harm to Self as >=9(60) at the 95% confidence level
- Pathological Gamblers
  - ROC showed optimal cut-off for Harm to Self as >=14(60) at the 95% confidence level

Conclusion

- VGS measures prevalence of problem gambling defined in terms of harmful consequences of gambling
- Has strong psychometric characteristics and appears to be a valid measure of problem gambling
- Innovative features including an enjoyment of gambling scale

VGS – Clinical Population

Tolchard, B., Battersby., M.W. (2006). The Victorian Gambling Screen: Reliability and validity in a clinical sample. *Journal of Gambling Studies*, in preparation

- Subjects
  - 67 consecutive referrals to treatment service in Adelaide, Australia
- Measures
  - VGS
  - SOGS
  - BreakEven Network Questionnaire (BEN-Q)
  - BAI/BDI
  - Work and Social Adjustment Scale (WSA)

VGS – Clinical Population

Tolchard, B., Battersby., M.W. (2006). The Victorian Gambling Screen: Reliability and validity in a clinical sample. *Journal of Gambling Studies*, in preparation

- Reliability
  - Cronbach's Alpha (0.894)
    - split half (0.810) and (0.843)
- Validity
  - Factor structure confirmed
    - One item factor load small
    - Remove from scale?
  - Compared with SOGS/DSM criteria, high validity
    - Diagnosis confirmed with clinical interview
  - Relationship with other measures
    - BDI/BAI correlated highly

VGS – Clinical Population

Tolchard, B., Battersby., M.W. (2006). The Victorian Gambling Screen: Reliability and validity in a clinical sample. *Journal of Gambling Studies*, in preparation

- Concurrent Validity
  - SOGS
    - highly correlated (r=0.405; p>0.001)
  - BEN-Q
    - Strong correlation (r=0.352; p=0.03).

VGS – Clinical Population

Tolchard, B., Battersby., M.W. (2006). The Victorian Gambling Screen: Reliability and validity in a clinical sample. *Journal of Gambling Studies*, in preparation

- Two Subscales
  - Aleatolytic
    - Attempts to reduce gambling harm
      - …felt bad or guilty…
      - …lied to others to conceal…
    - Moral emotions such as shame and guilt
    - Consider issues such as
      - depression and suicide risk
    - Transition from borderline gambling to problem gambling

VGS – Clinical Population

Tolchard, B., Battersby., M.W. (2006). The Victorian Gambling Screen: Reliability and validity in a clinical sample. *Journal of Gambling Studies*, in preparation

- Two Subscales
  - Aleatogenic
    - Aspects which promote continuation of gambling
      - …thought of gambling been constantly in your mind
      - …order to escape from worry or trouble…
    - Help identify
      - erroneous beliefs
      - Maintaining factors

VGS – Adolescent study

Delfabbro, P., Lahn, J., & Grabosky, P. (2006). Psychosocial correlates of problem gambling in Australian students. *Australian & New Zealand Journal of Psychiatry*, *40*(6-7), 587-95.

- Secondary Analysis
  - Subjects
    - 926 adolescents from grades 7-12 in Adelaide and the Australian Capital Territory, Australia
  - Measures
    - *VGS—Harm to self Scale*
    - *DSM-J*
    - *Other measures*
    - *Mood Checklist, Rosenberg Self-esteem Scale, General Health Questionnaire (GHQ-12), Social Alienation Scale, Popularity, Financial Scale, Leisure Activities*

VGS – Adolescent study

Tolchard, B., & Delfabbro, P. (2006). The Victorian Gambling Screen: Reliability and validity in an adolescent survey sample, *International Gambling Studies*, in preparation

- Reliability
  - Cronbach's Alpha (0.95)
    - Split half analysis (0.922) and (0.878)
- Validity
  - Factor structure confirmed
  - Strong measure of problem gambling compared with DSM criteria
- Cut-off
  - Appears low in detecting problem gamblers at the 21+ range
    - This may reflect a specific level for adults
  - Analysis suggests reducing cut-off to 12+
    - High specificity and sensitivity

VGS – Adolescent study

Tolchard, B., & Delfabbro, P. (2006). The Victorian Gambling Screen: Reliability and validity in an adolescent survey sample, *International Gambling Studies*, in preparation

- VGS/DSM-J
  - only 22 adolescents rated as problem gamblers
    - DSM-J 4+
      - 49 problem gamblers
    - Using 21+ cut-off VGS
      - 50 adolescents problem gamblers
    - using a 14+ cut-off on VGS
      - DSM-J missed problem gambling
    - a cut-off of 12+
    - Better identified adolescents problem gamblers
      - identified 61 such gamblers

VGS – Adolescent study

Tolchard, B., & Delfabbro, P. (2006). The Victorian Gambling Screen: Reliability and validity in an adolescent survey sample, *International Gambling Studies*, in preparation

- Construct validity

	DSM-J	VGS
negative mood	r(657)=0.21, p<0.01	r(563)=0.18, p<0.01
self esteem	r (652)=-0.16, p<0.01	r(557)=-0.17, p<0.01
family adjustment	r(621)=0.19, p<0.01	r(531)=0.18, p<0.01
social Alienation Scale	r(631)=-0.19, p<0.01	r(542)=-0.17, p<0.01
relative deprivation	r(613)=0.05, p=0.10	r(527)=0.09, p=0.02
GHQ-12	r(638)=0.14, p<0.01	r(547)=0.13, p<0.01

VGS – Adolescent study

Tolchard, B., & Delfabbro, P. (2006). The Victorian Gambling Screen: Reliability and validity in an adolescent survey sample, *International Gambling Studies*, in preparation

		Aleatolytic		Aleatogenic	
		+	-	+	-
negative mood (↑)	Borderline	**14.12**	13.85	13.70	13.87
	Problem	24.12	26.89	17.63	14.38
self esteem (↓)	Borderline	28.65	29.05	28.04	29.27
	Problem	13.89	16.47	22.46	28.93
social Alienation Scale (↓)	Borderline	13.63	13.21	13.26	13.58
	Problem	12.57	12.00	12.20	12.30
relative deprivation (↑)	Borderline	26.58	26.88	27.20	24.62
	Problem	29.33	26.58	29.11	25.42
GHQ-12 (↑)	Borderline	3.47	3.40	3.78	3.24
	Problem	3.60	5.06	5.29	4.08

Criticisms of VGS

McMillen, J. and Wenzel, M. (2006). Measuring Problem Gambling: Assessment of Three Prevalence Screens. *International Gambling Studies,*. **6,** (2): 147-174.

- VGS vs CPGI vs SOGS
  - VGS & CPGI better than SOGS on all areas
  - False Positive and 1-Sensitivity rates better for the CPGI when using VGS 21+ cut-off
    - Same when using the VGS 14+ cut-off
  - CPGI related better to gambling correlates, though not significant compared with either VGS or SOGS
  - VGS – Australian specific, not transferable

Criticisms of VGS

- Political world of gambling research
  - Further validation delayed due to the comparison study
  - CPGI able to refine and further develop unhindered
- McMillen et al
  - No cross reference with personal interview
    - More reliable than self report on gambling correlates
  - Altered scoring system for CPGI & SOGS to that of the VGS
    - Doubtful methodology
  - Independently administered
    - All three not given to the same person
  - Australian specific
    - Never intended for solely Australian use, questions do not reflect local language