Psychometric Properties of the Revised Inventory of Gambling Motives, Attitudes and Behaviors (GMAB-R)
本地博彩動機、態度與行為量表－修改版

Dr. Anise M. S. Wu 胡文詩
Dr. Vivienne Y. K. Tao 涂憶劬
Dr. Kwok Kit Tong 唐國傑
Dr. Shu Fai Cheung 張樹輝

Department of Psychology,
University of Macau
Background

- Chinese gamblers have high gambling involvement and possessing unique gambling-related beliefs like *feng shui*
- Previous research of Chinese gambling often directly translated and employed measurements developed from Western samples
  - Legitimacy of direct application of these scales on Chinese gamblers is questionable (Loo et al. 2008; Raylu and Oei 2004; Oei et al. 2008)
Chinese-specific measurement tools enhance more accurate understanding of Chinese people’s gambling cognitions and behaviors

- The Inventory of Gambling Motives, Attitudes and Behaviours (GMAB; Tao et al., 2011) and revised Inventory of Gambling Motives, Attitudes and Behaviours - Revised (GMAB-R; Wu et al., in press)
  - The first indigenous inventory to assess the motives, attitudes and behaviors of the general population of Chinese gamblers
Study 1: Development (Tao et al., 2010)

- Conducted comprehensive literature reviews and 6 focus groups → resulted in 110 Chinese items
- All items were administered in a randomly recruited sample of 791 Chinese adult gamblers
- Based on EFA findings,
  - 26, 24, and 20 items for 5 gambling motives, 4 gambling attitudes, and 6 gambling behaviors respectively
GMAB - Motives

- Self-worth 自我價值
- Monetary gains 金錢收益
- Sensation seeking 感覺尋求
- Boredom alleviation 緩和厭煩
- Learning 學習
GMAB - Attitudes

- *Negative consequences* 賭博惡果
- *Technique* 技巧
- *Superstition* 迷信
- *Fate and luck* 命運和運氣
GMAB - Behaviors

- Impaired control 控制力受損
- Gambling involvement 賭博參與
- Arousal reaction 覺醒反應
- Superstitious behavior 迷信行為
- Controlled gambling 克制賭博
- Casino exploration 賭場探索
Randomly recruited and interviewed 694 Chinese gamblers in Macao, who had gambled in previous 12 months, on telephone with a questionnaire
- Gender: 398 men (57.3%) and 296 women (42.7%)
- Age: 18 to 98 years ($M = 36.32$)
- Educational attainment: tertiary education (19.7%), middle school (63.3%), primary school or lower (16.4%)
- Type: Social gambling (53.6%), Casino games (31.7%), and lottery (14.1%).
- Over 40% gambled once or more a month
- Over 70% spent about US$124 or less on betting in every gambling occasion
Validation

- Face validity check on original GMAB items
  - Deleted item “wanting to have a try since you just reached the legal age” (因為你年齡夠了，所以嘗試參與賭博)
- Added 3 items for “socialization”
  - Address social motive of gambling (Lam, 2007)
Psychometric properties of GMAB-R

- **Factor structure**
  - Confirmatory factor analysis with maximum likelihood estimation
  - Considered fit indices, factor loadings and Lagrange multiplier (LM) test findings for model modification
  - Compared the goodness-of-fit of the modified model with the corresponding one-factor model
GMAB-R – Motives (25 items)

- Deleted items “relieving responsibility”, “testing one’s luck”, and “believing a high winning chance”
- The 6-factor model fitted with the Chinese gamblers data adequately (NNFI=.88; CFI=.89; RMSEA =.065):
  1. 6-item self-worth: e.g. 賭博可以讓你發揮你的能力 (α = .79)
  2. 4-item monetary gains: e.g.你因為有東西想買，所以參與賭博 (α = .75)
  3. 6-item sensation seeking: e.g.賭博令你覺得興奮 (α = .84)
  4. 3-item boredom alleviation: e.g.你為了消磨時間而參與賭博 (α = .71)
  5. 3-item learning: e.g.你是為了學會不同遊戲的玩法而賭博 (α = .66)
  6. 3-item socialization: e.g.你賭係因為可以系放假或者節日同d親戚朋友一齊玩 (α = .76)

- 5-point Likert scale: strongly agree to strongly disagree
GMAB-R – Attitudes (20 items)

- Removed 2 items (“losing is due to early win” and “losing is more common than winning”)
- The 4-factor model showed an adequate fit with the data (NNFI=.88; CFI=.90; RMSEA=.05):
  1. 7-item Negative consequences: e.g.賭博會減少與家人溝通的時間 ($\alpha = .74$)
  2. 6-item Techniques: e.g.技術好，贏面會大點 ($\alpha = .80$)
  3. 4-item Superstition: e.g.特別的數字、顏色、物件或者衣著可以增加你贏的機會 ($\alpha = .71$)
  4. 3-item Fate and luck: e.g.贏輸睇命水 ($\alpha = .53$)

- 5-point Likert scale: strongly agree to strongly disagree
GMAB-R – Behaviors (18 items)

- Removed 2-item “casino exploration” factor
- The 5-factor model satisfactorily fitted the data, (NNFI= .92; CFI= .93; RMSEA =.05):
  1. 4-item impaired control: e.g. 你会为了赌博而借钱 ($\alpha = .76$)
  2. 6-item gambling involvement: e.g. 你会玩好多不同类型的赌博活动 ($\alpha = .75$)
  3. 2-item arousal reaction: e.g. 赢钱的时候，你会有很强烈的反应 ($\alpha = .60$)
  4. 3-item superstitious behaviour: e.g. 你会收集一些可以增加你赢的機會的特殊物品 ($\alpha = .65$)
  5. 2-item controlled gambling: e.g. 你只会赌很小的注码 ($\alpha = .46$)

- 4-point Likert scale: 1-never to 4-always
Validity of GMAB-R – Gambling Urge

- All factors were significantly and positively correlated with the gambling urge
  - Except controlled gambling ($r=-.06$, $p>.01$) and negative consequences of gambling ($r=-.23$, $p<.001$).
  - People with greater motives, more favourable attitudes, and more gambling behaviours were more likely to report a greater gambling urge.
Validity of GMAB-R – DSM-IV diagnostic criteria

- **Positive correlations**
  - All motivational factors except socialization
  - Favorable attitudes toward the impact of superstition and fate and
  - All behavioral factors except controlled gambling

- **Negative correlations**
  - Controlled gambling (marginally significant)
Application

- GMAB-R can serve as a valid and reliable assessment tool of diverse Chinese gambling motives, attitudes, and behaviors
- Example: Investigating how some specific gambling attitudes can explain gambling intention and involvement based on the theory of planned behavior (Wu et al., in press)
  - ↑ Attitudes toward technique & superstitions → ↑ intention and involvement

Inventory items and user manual is available: http://www.umac.mo/psychology/doc/Manual%20of%20GMAB-R.pdf
References


The relevant research projects were supported by the University of Macau RC Research Grants:
- RG030/06-07S/TYK/FSH
- MYRG040(Y1-L1)-FSH11-TKK
- MYRG051(Y1-L1)-FSH11-TYK