



EXPOSURE OR ADAPTION? THE CASE OF MACAO

Huang, Guihai (Samuel), Ph.D.

Macao Polytechnic Institute

**The First Asia Pacific Conference on Gambling
and Commercial Gaming Research**

November 5-8, 2012, Macao



OUTLINE

- What is the question?
- Exposure hypothesis
- Adaption hypothesis
- The possible reasons for the change in Macao problem gambling prevalence
- Conclusions





WHAT IS THE QUESTION?

	2011	2010	2007	2003
Time	Oct-Dec	Apr-Aug	Aug	Mar-Apr
Participants	18 or above	15-64 yrs	15-64 yrs	15-64 yrs
Sample Size	2289	2011	1963	1121
Gaming Participation Rate	32.80%	55.90%	59.20%	67.90%
Problem Gambling Prevalence(3 or 4)	1.02%	2.80%	3.41%	2.50%
Pathological Gambling Prevalence (5+)	1.12%	2.80%	2.60%	1.78%
PrG+PaG (3+)	2.14%	5.60%	6.01%	4.28%

*2011, 2010, 2007 study were supported by Social Welfare Bureau, Macao SAR Government



NON-SAMPLING ERROR

- Non-sampling error is all other errors in the estimate. Some examples of causes of non-sampling error are non-response, a badly designed questionnaire, respondent bias and processing errors.
 - More residents have switched from wired telephones to mobile.
 - Respondent Bias: 36 out of 42(86%) probable problem gamblers denied “ever having a gambling problem” in a follow-up survey four months later (Hodgins et al., 1999)





SAMPLE DIFFERENCE

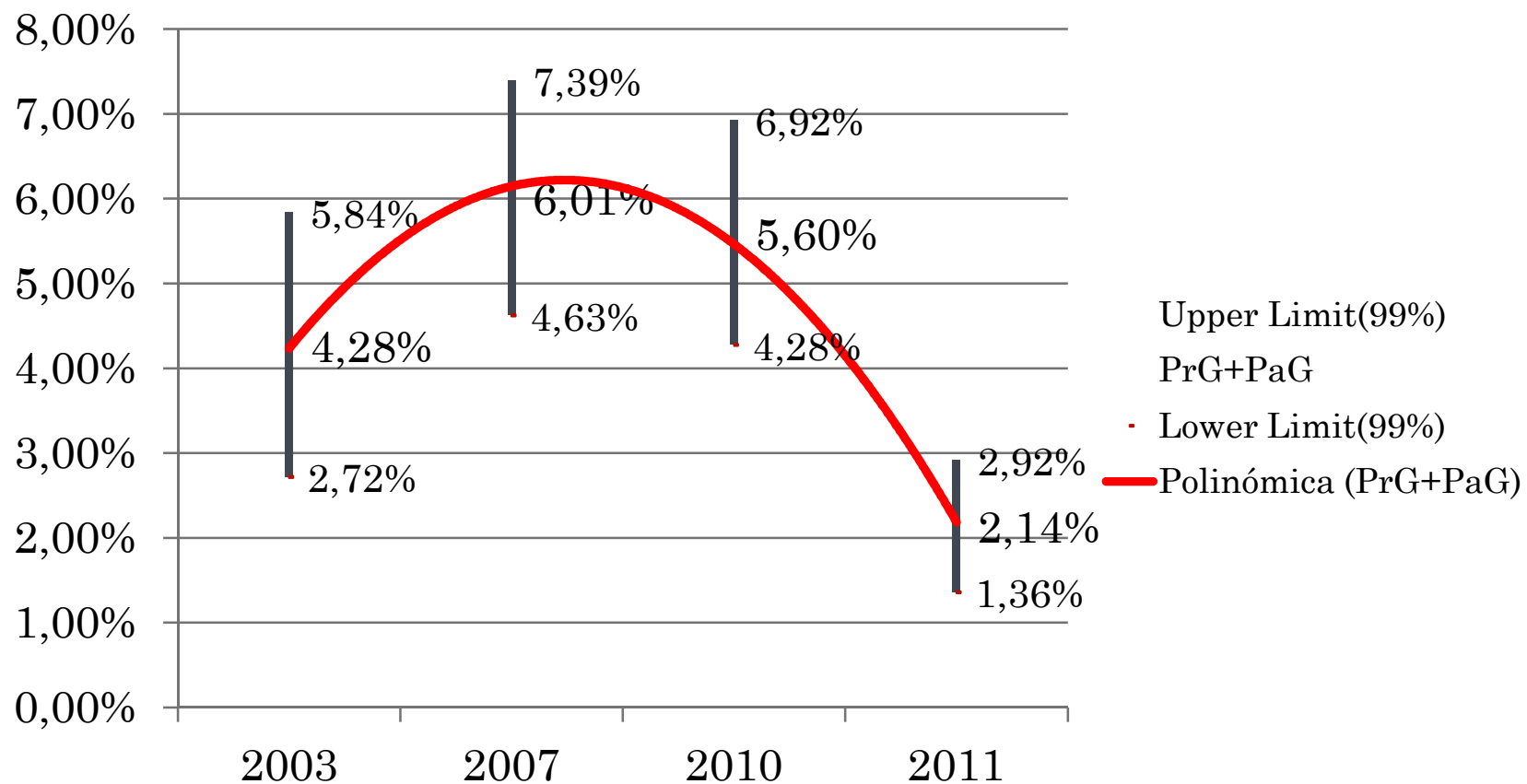
Study 2011

- 15-17 years-old group: not included. Many studies show youth gambling is more prevalent.
- 65 years old or above: no problem or pathological cases found.





SAMPLING ERROR





EXPOSURE HYPOTHESIS

- Increased gambling availability leads to rise in problem gambling.
- “While causation is hard to prove beyond all doubt, there is sufficient evidence from many different sources to suggest a significant connection between greater accessibility – particularly to gaming machines – and the greater prevalence of problem gambling.”(Productivity Commission ,1999)





ADAPTION HYPOTHESIS

- Following initial increases in number and type of adverse reactions to new environmental events such as new casinos, online gaming, individuals will adapt and become resistant to those events and the number of associated adverse reactions in society will decline.
- Problem gambling prevalence rates fall over time.





EXPOSURE OR ADAPTION?

- Exposure hypothesis had been widely believed.
- More recently, both exposure and adaption are believed to work.
 - LaPlante, D. A., & Shaffer, H. J. (2007)
 - Storer, J., Abbott, M., & Stubbs, J. (2009)
 - Williams, R. J., A. Volberg R., & Stevens, R. M. G. (2012)





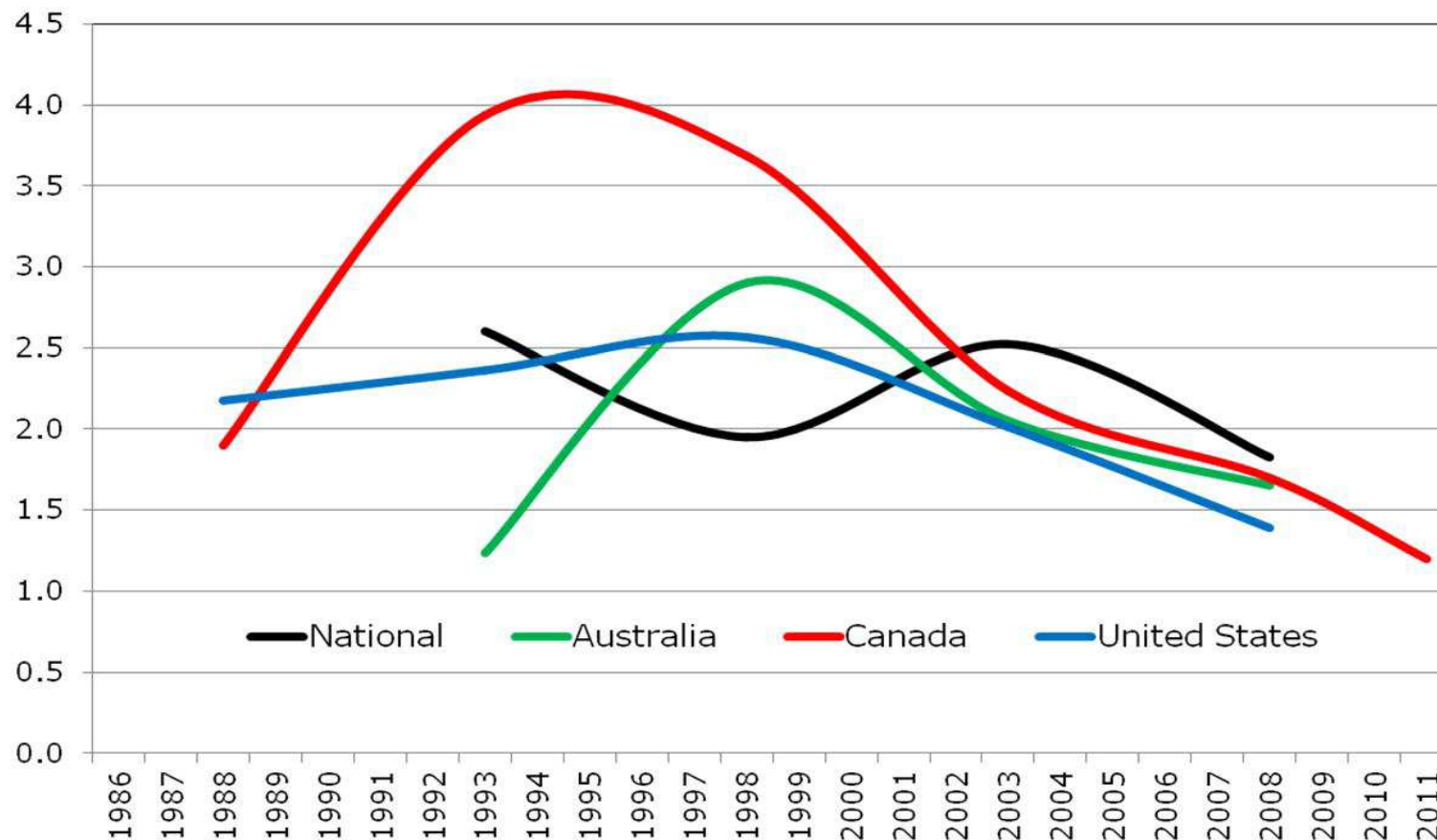
WILLIAMS, VOLBERG & STEVENS (2012)

- 202 studies extracted
 - □ 68 national
 - □ 27 Australian states/territories
 - □ 40 Canadian provinces
 - □ 67 U.S. states
- Standardized prevalence rates to facilitate comparison of rates between jurisdictions & within same jurisdiction over time





WILLIAMS, VOLBERG & STEVENS (2012)



Standardized PG Prevalence Rates Over Time (5 Year Smoothed)





WILLIAMS, VOLBERG & STEVENS (2012)

- Results support both exposure & adaptation
- Increased gambling availability is related to increased PG
- Populations appear to adapt over time
- Likely mechanisms include:
 - Increased population awareness of potential harms
 - Decreased population participation
 - Removal of PGs from pool due to severe adverse consequences (bankruptcy, imprisonment, suicide)
 - Increased industry and/or gov't efforts to provide gambling more safely, enact prevention programs, provide treatment
 - Increasing age of population





GAMING HAS BECOME MORE ACCESSIBLE

- Competition was introduced into gaming industry after 40 years of monopoly in 2002.
- The first non-SJM casino was opened in 2004.
- International casino giants like Las Vegas Sands, Wynn Resorts, MGM, etc. have changed Macao gaming industry dramatically.
- As of September 2012, 35 casinos and 13 slot lounges were operating in Macao.
- Horse Racing, Greyhound Racing, Football, Basketball Betting, and Lottery are also legalized.





GAMING HAS BECOME MORE ACCESSIBLE

	1st Quarter, 2005	3rd Quarter, 2012	Change
Casinos	15	35	2.33
Gaming Tables	1,226	5,497	4.48
Slot Machines	2,777	17,029	6.13
Slot Machines Per Casino	185.1	486.5	2.6
Gaming Tables Per Casino	82	157	1.92





WANING OF NOVELTY EFFECTS

- Historically, Macao residents have secured “immunity” to as gambling has been here since the birth of Macao as a city.
- The introduction of “modern” casinos make it more acceptable(novelty effects).
- A study found that the respondents in 2007 had developed a more conservative attitude toward gambling in general than in 2003 (Vong, 2009).





DECREASING GAMING PARTICIPATION

	2011	2010	2007	2003
Time	Oct-Dec	Apr-Aug	Aug	Mar-Apr
Participants	18 or above	15-64 yrs	15-64 yrs	15-64 yrs
Sample Size	2289	2011	1963	1121
Gaming Participation Rate	32.80%	55.90%	59.20%	67.90%

Vong (2004) estimation: 41.9% (157 out of 375 permanent residents)





RESPONSIBLE GAMBLING: GOVERNMENT

- Keep gambling away from minors (18 to 21)
- The Resilience Center
- Centralized problem gambling reporting network
- Self-exclusion Program
- The responsible gambling guideline has been introduced November 2012.
- Work together/support NGOs in prevention and treatment.





RESPONSIBLE GAMBLING : CASINO OPERATORS

- Staff training
- Responsible Gambling brochures
- Removal from marketing mailing list at patron's request
- Prevent underage persons from entering gaming area.
- New RG guideline will lead the casino operators to provide gaming more responsibly.





RESPONSIBLE GAMBLING: NGOs

Three not-for-profit organizations have been offering free gambling counseling service

- Sheng Kung Hui Macau
- Industrial Evangelistic Fellowship of Macau
- Yat On Centre

.....





RESPONSIBLE GAMBLING: NGOS

- More have initiated different programs for prevention and awareness
 - Responsible Gambling Awareness Program(2009-)
 - Macao New Chinese Youth Association
 - Young Men's Christian Association of Macau (YMCA)
 - Macao Association of Youth Volunteers
 - Bosco Youth Service Network
 - Macao General Labor Union





BUT ORFORD(2005, 2010)DISREGARD ADAPTION

- “Complex and multifactorial though causation is, the more the product is supplied in an accessible form, the greater the consumption and the greater the incidence and prevalence of harm”
- Availability of gambling products means more gambling-related harm.
- New gambling products, gambling via internet means more gambling-related harm.





CONCLUSIONS

- Adaption works in Macao. The PG prevalence rate has decreased.
- The 2.14% problem gambling rate is a serious public health issue.
- Casino operators should be encouraged to take more proactive role in responsible gambling.
- A dedicated responsible gambling fund is highly needed.
- More resource needs to be employed to educate tourist gamblers.
- More research needs to be done: Baccarat





REFERENCES

- LaPlante, D. A., & Shaffer, H. J. (2007). Understanding the Influence of Gambling Opportunities: Expanding Exposure Models to Include Adaptation. *American Journal of Orthopsychiatry*, 77(4), 616-623. doi: 10.1037/0002-9432.77.4.616
- Orford, J. (2005). Disabling the public interest: gambling strategies and policies for Britain (Vol. 100, pp. 1219-1225): Wiley-Blackwell.
- Orford, J. (2010). *An Unsafe Bet? The Dangerous Rise of Gambling and the Debate We Should Be Having*. Chichester, West Sussex ; Malden, MA: Wiley-Blackwell
- Storer, J., Abbott, M., & Stubbs, J. (2009). Access or adaptation? A meta-analysis of surveys of problem gambling prevalence in Australia and New Zealand with respect to concentration of electronic gaming machines. *International Gambling Studies*, 9(3), 225-244. doi: 10.1080/14459790903257981
- Williams, R. J., A. Volberg, R., & Stevens, R. M. G. (2012). The Population Prevalence of Problem Gambling: Methodological Influences, Standardized Rates, Jurisdictional Differences, and Worldwide Trends. Report prepared for the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care. Retrieved from <http://hdl.handle.net/10133/3068>





REFERENCES

- Vong, F. C. K. (2004). Gambling Attitudes and Gambling Behavior of Residents of Macao: The Monte Carlo of the Orient. *Journal of Travel Research*, 42, 271-278.
- Vong, F. C. K. (2009). Changes in residents' gambling attitudes and perceived impacts at the fifth anniversary of Macao's gaming deregulation. *Journal of Travel Research*, 47(3), 388-397.
- Hodgins, D.C., Wynne, H., & Makarchuk, K.(1999). Pathways to recovery from gambling problems: follow-up from a general population survey. *Journal of Gambling Studies*, 15, 93-104.
- Huang, Gui-Hai (2011). Responsible gambling policies and practices in Macao: A critical review. *Asian Journal of Gambling Issues and Public Health*, 2(1), 49-60.
- Fong, K. C., & Ozorio, B. (2005). Gambling Participation and Prevalence Estimates of Pathological Gambling in a Far-East Gambling City: Macao. *UNLV Gaming Research & Review Journal*, 9(2), 15-28.
- 馮家超, & 伍美寶. (2010). 『澳門居民參與博彩活動調查2010』研究報告 Retrieved from http://www.ias.gov.mo/stat/rs/dfccvf_rs2010.pdf
- 馮家超, 藍志雄, & 伍美寶. (2007). 『澳門居民參與博彩活動調查2007』研究報告 Retrieved from http://www.ias.gov.mo/stat/rs/dfccvf_rs2007.pdf





CONTACT INFORMATION

Huang, Guihai (Samuel), Ph.D.

Gaming Teaching and Research Centre,
Macao Polytechnic Institute, Macau

Tel: 853-88936228

Email: ghhuang@ipm.edu.mo

Web: <http://gtrc.ipm.edu.mo>

