



中国科学院心理研究所
Institute of Psychology, CAS

Not all gamblers are created equal: Which gamble to play depends on the personality trait

Yu Zheng, Gui-Hai Huang, Yue Sun, Shu Li, Zhu-Yuan Liang

Institute of Psychology, Chinese Academy of Sciences

First Asia Pacific Conference on Gambling and Commercial Gaming Research

2012-11-7

Who prefer gambling?



Who prefer gambling?

- Individuals gamble in different ways, and these variations can be related to their dispositional traits or personality
 - five-factor personality (Costa and McCrae 1992; Zuckerman et.al., 1993)
- pathological gamblers scored higher on Neuroticism (Bagby et al. 2007; Myrseth et al. 2009), lower on Conscientiousness (Bagby et al. 2007; Myrseth et al. 2009) and Extraversion, Openness, Agreeableness (Myrseth et al. 2009) than non-pathological gamblers



Why they prefer gambling?

- Some personality characteristics are important factors in the etiology of PG (MacLaren et al., 2011)
 - Meta-analysis has also found that Impulsivity and **aggression** traits are most likely related with pathological gambling (MacLaren et al., 2011)
 - **Impulsivity** predicts increased gambling behavior (Clarke, 2004; Vitaro, Arseneault, & Tremblay, 1999), may be an important factor in the developmental process of the disorder (Blaszczynski & Nower, 2002)
 - **Sensation seeking** related to gambling behavior (Cyders & Smith, 2008), although have inconsistent results (e.g., Voon et al., 2007; Coventry & Constable, 1999)
 - Gambling behavior were positively associated with **neuroticism** (Taormina, 2009), however, study of slot machine gamblers found no such effect (Carroll & Huxley 1994)



Which gamble to play?



?



Domain-specific gambling

- Some forms of gambling are more addictive than others
 - PG is most strongly associated with bingo, lottery, racetrack, and sports betting (National Research Council, 1999)
- Individual prefer different gambling type
 - men were more likely to prefer strategic forms of gambling (e.g. animal race, sports, cards and craps/dice games) and in contrast, women were more likely to prefer more non-strategic gambling (e.g. slot machines, lottery) (Grant et al., 2012)
 - individuals do not consistently decide to bet or not to bet across a variety of gambling types (Li, et al., 2010), and their perceived control (i.e., belief in luck and belief in skill) in gambling behavior also varies (Zhou, et al., 2012)



Are all gamblers created equal?

- From the domain-specific perspective, we speculate that individuals exhibit personal preferences according to different types of gambling.
- More specifically, what they choose depends on their personality differences
- However, very little investigation has been made of the relationship between personality traits and type of gambling preference



Domain-specificity and latent class analysis

- latent class analysis (LCA)
 - aim to explores whether an observed sample is composed of subgroups (latent classes)(Hagenaars & McCutcheon, 2002; Silvia, Kaufman, & Pretz, 2009)
 - are more useful for domain-specificity than correlational approaches (factor analysis) (Silvia et al., 2009)
 - latent classes are exclusive, unordered, and nominal: people belong to only one group, and the groups differ qualitatively



The present study

- We hypothesize that individuals exhibit personal preferences in different types of gambling
- We also explores the latent classes of risk preference in different types of gambling and the effects of personality trait on these classes using LCA



Method

Method

- Participants
 - were 743 adult residents of Macau
 - recruited by going door to door
 - entry criteria
 - at least 18 years old
 - possessing the ability to read
 - having casino gambling experience
 - received a small gift for participation



Questionnaire

- Intention to gamble
 - 13 types of popular games in Macau
 - Fantan, Baccarat, Greyhound racing, Cussec, Football lottery, Paikao, Horse racing, Blackjack, Roulette, Chinese lottery, Mahjong, Stud poker, and Slot machines
 - Sample item
 - “How likely would you be betting your daily income on each game?” (1=not at all, 5=very much)



Questionnaire

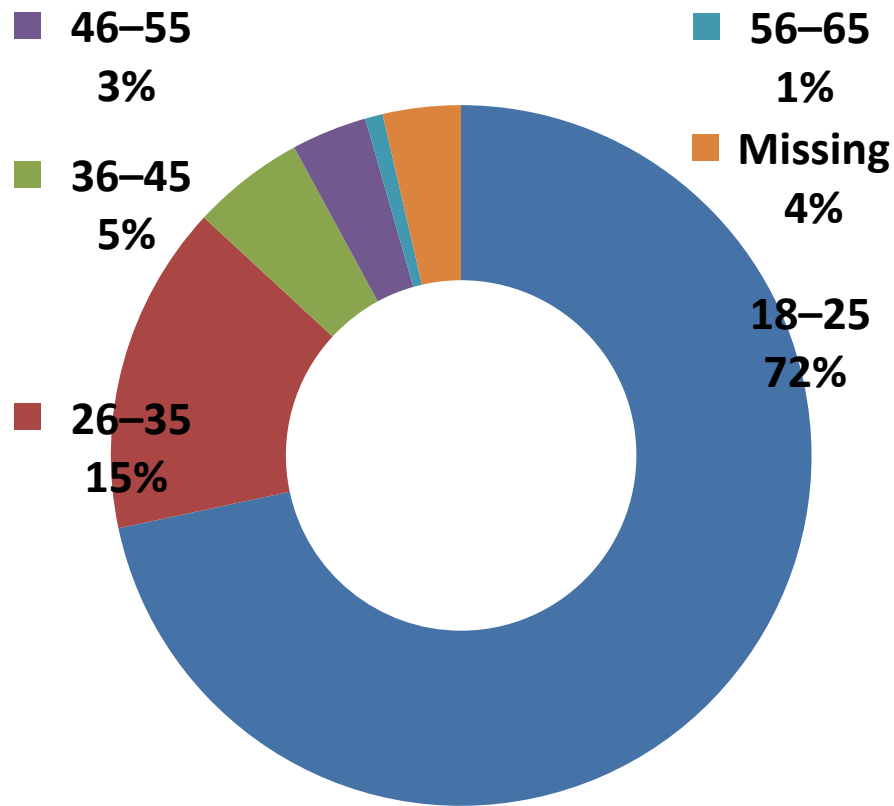
- Personality scale
 - Chinese version of ZKPQ II (Zuckerman, Kuhlman, Joireman, & Kraft, 1993, Wu et al., 2000)
 - selected 3 subscales
 - impulsive sensation seeking (ImpSS), Imp, 8 items, SS, 11 items
 - neuroticism-anxiety (N-Anx), 19 items
 - aggression-hostility (Agg-Host), 17 items
 - Reliability (α)
 - Whole scale, $\alpha = .96$; Imp, $\alpha = .78$; SS, $\alpha = .87$; N-Anx, $\alpha = .91$; Agg-Host, $\alpha = .87$



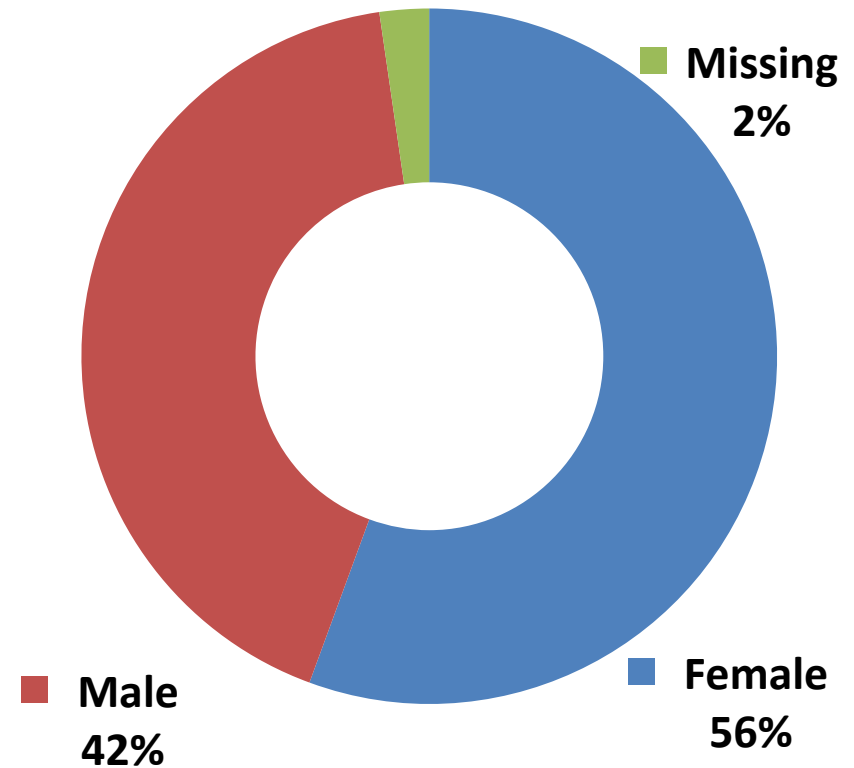
Results

Demographics of participants

Age (in years)

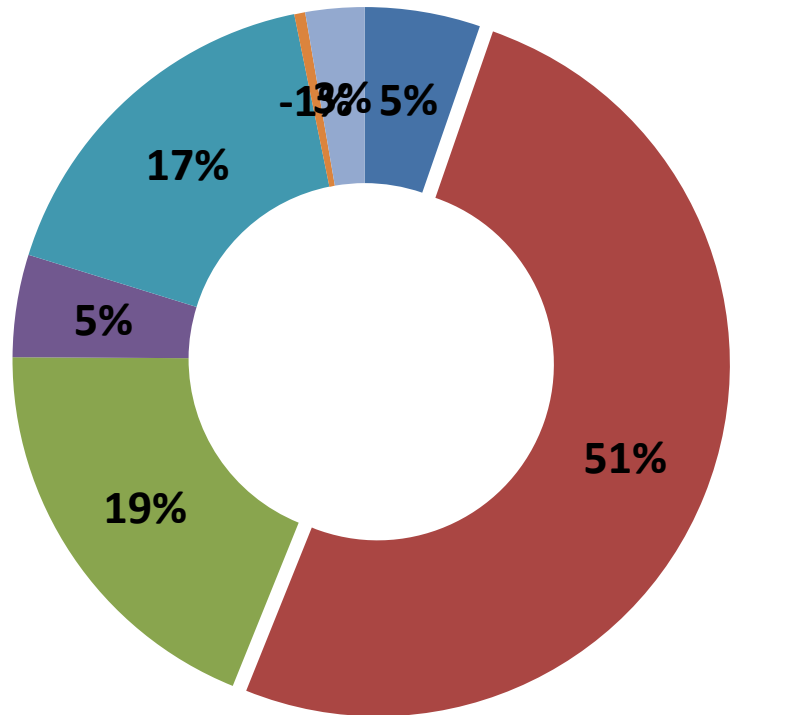


Gender



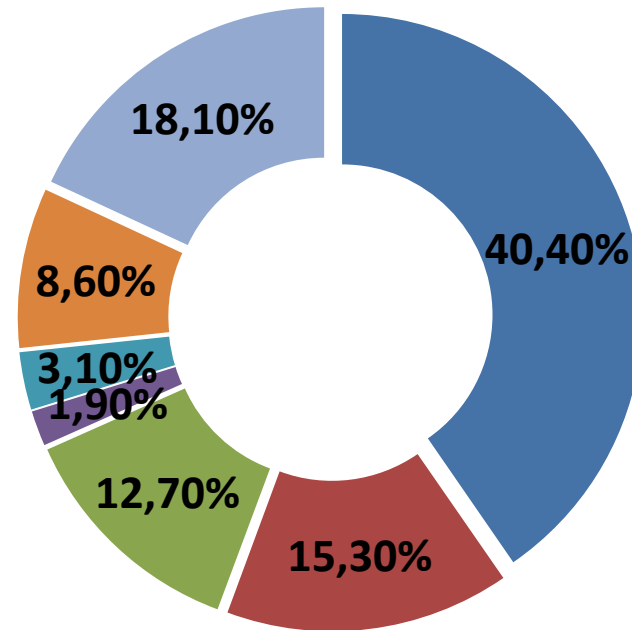
Demographics of participants

Educational level



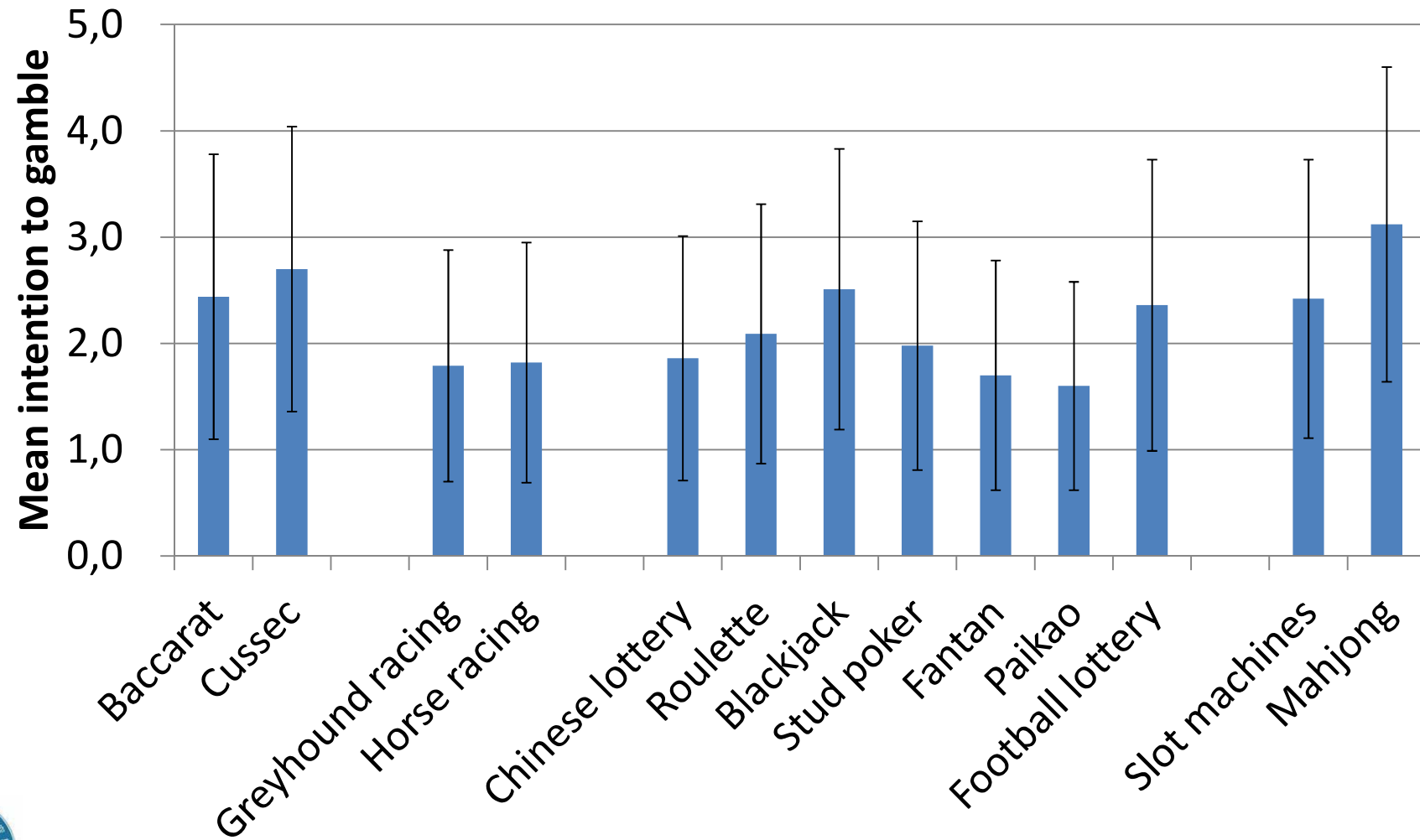
- Primary or less
- Junior secondary
- Senior secondary
- University
- Not disclosed
- Junior college
- Post graduate or above

Occupation



- Gambling industry
- Non-gambling business
- Professional (e.g. doctors, lawyers)
- Civil service
- Self employed
- Student

Intention to gambling ($M \pm SD$)

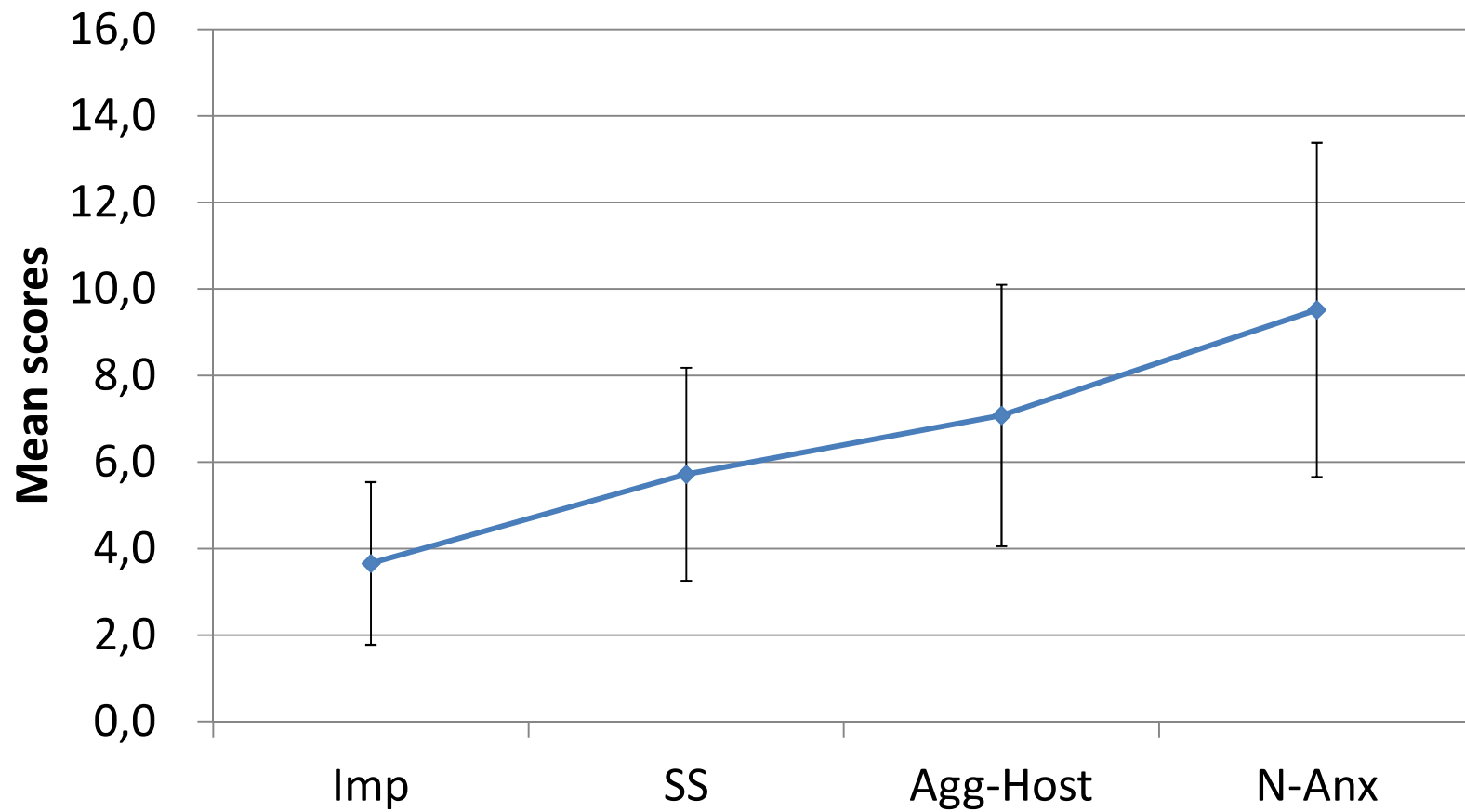


LCA parameters of loading value

Loadings	Random gambling	Competitive gambling	Technical gambling	Entertainment gambling	R^2
Baccarat	-0.69* ¹	0.37	-0.47	0.29	0.72
Cussec	-0.48* ¹	0.13	-0.49	0.59	0.64
Greyhound racing	0.05	-0.63* ²	-0.33	0.33	0.78
Horse racing	0.08	-0.61* ²	-0.42	0.46	0.83
Chinese lottery	0.29	-0.41	-0.73* ³	0.32	0.65
Roulette	-0.12	-0.10	-0.63* ³	0.48	0.54
Blackjack	-0.32	0.11	-0.62* ³	0.66	0.64
Stud poker	-0.07	-0.18	-0.62* ³	0.37	0.53
Fantan	-0.10	-0.25	-0.51* ³	0.23	0.61
Paikao	0.03	-0.39	-0.49* ³	0.22	0.67
Football lottery	-0.21	-0.19	-0.43* ³	0.38	0.43
Slot machines	-0.03	-0.21	-0.54	0.60* ⁴	0.45
Mahjong	-0.10	0.00	-0.45	0.43* ⁴	0.23



Scores on personality traits ($M \pm SD$)



Correlations between gambling classes and personality traits

	Random gambling	Competitive gambling	Technical gambling	Entertainment gambling
Imp	0.04	0.08*	0.10*	0.06
Ss	0.06	0.06	0.09*	0.06
Agg-Host	0.10**	0.17***	0.18***	0.08*
N-Anx	-0.01	0.07†	0.04	0.04

Note: † $p=.05$, * $p<.05$, ** $p<.01$, *** $p<.001$



Discussion

In brief

- Using LCA, this study obtains better evidence to support domain specificity
 - Individuals exhibit personal preferences in choosing the type of gambling they wish to engage in
- More importantly, we find that the chosen type depends on one's personality traits



Profile: personality and gambling type

	 Random	 Competitive	 Technical	 Entertainment
Aggression				
Impulsivity				
Sensation-seeking				
Neuroticism				

In particular

- Sensation-seeking
 - technical gambling provide varied, novel, complex, and intense sensations and experiences
- Neuroticism
 - competitive gambling may be correlated with some special emotion arousal or release
- Impulsivity
 - not a generally validating factor in diagnosing pathological gambling
- Aggression
 - most likely related with gambling behavior



Implications for gambling prevention

- Personality traits can reduce the ability of gambler to resist engaging in gambling as a reaction to unpleasant events or dysphoric states (MacLaren et al., 2011)
 - reducing anxiety is a better way to discourage them from competitive gambling
 - decreasing their novel, complex, intense sensations and increasing plan-before-action experiences can effectively dissuade them from competitive and technical gambling



Limitations

- The sample in this study is a non-randomized sample of convenience, caution should still be exercised in generalizing our findings to a broader population
- Participants could have presented inaccurate reports of their gambling intentions



Acknowledgments

- Co-authors
 - Prof. Shu Li, Institute of Psychology, CAS
 - Dr. Yu Zheng, Jinan University
 - Prof. Gui-Hai Huang, Macau Polytechnic Institute
 - Dr. Yue Sun, Macau University of Science and Technology
- Students
 - Kun Zhou
 - Hui Tang
 - Li-Lin Rao



Funding

- Knowledge Innovation Project of the Chinese Academy of Sciences (KSCX2-EW-J-8) (S.L.)
- National Natural Science Foundation of China (71071150, 31170976) (S.L., ZY.L.)
- Grant from Macao Polytechnic Institute titled “A Study on Gamblers’ Behavior and Responsible Gambling” (GH.H)



Thanks for your attention!

liangzy@psych.ac.cn

lishu@psych.ac.cn

