A Study of Cognition and Effects on Gaming Education
-National Kaohsiung University of Hospitality and Tourism as an Example

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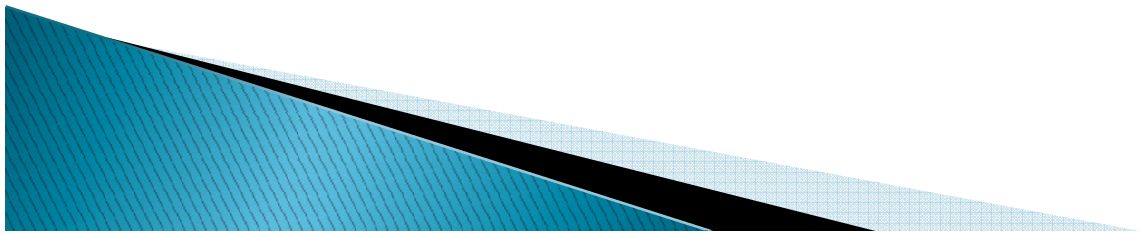
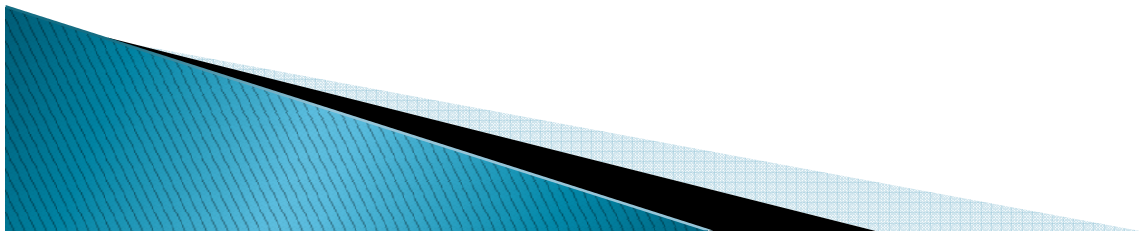


Introduction

- 2009.1.12 Taiwan's Offshore Islands Development Act No.10-2：Casino as a part of resort area can be set on the off shore island.
- Local citizen s'(up to 20 years old) referendum have to pass 50% of Yes (how many citizens join the referendum have not to be considered).

	Penghu	Mazu
Referendum Date	2009. 9.26	2012. 7.7
Citizens	73,651	7,762
Poll rate	42.16%	40.76%
Yes	13,397 (43.56%)	1,795 (57.24%)
No	17,359 (56.44%)	1,341 (42.76%)
Final	×	✓

- Lottery, pachingo and slots games have been implemented for exceeding 50 years in Taiwan.
- Gaming education - about casino relative courses in Taiwan
  - 10 universities' education(41 courses) from 2009 to present
  - Continuing education (53 courses) from 2009 to 2010
- Loo et al.(2008) indicated casino individuals' risk have been more studied in Europe, America and Australia area than Asia area (Chinese gambling perception and behavior)
- Hope integrated resort & casino will be the new part of Taiwan's tourism industry in ~2016.

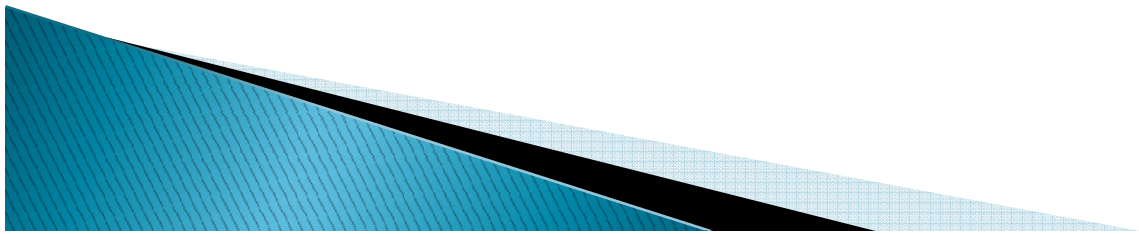


Literature Review

- Correct knowledge of gambling perception should be educated to minimize the negative impacts (Hong and Jang, 2004; Lee, Kim and Kang, 2003).
- Hong and Jang (2004) suggested casino studies can be researched in the future developing area.
- Experiment Design on casino environment
  - 3 mines teaching vedio (Finlay et al. 2007) to exam the relations among casino environment, personal characteristic and psychological intention.

- Gambling perception studies
  - 305 residents' attitudes towards casino gambling in North Cyprus community (Alipour and Vughaingmeh, 2010)
  - Cognitive biases of "Winner" and "Get Lucky"(Hong and Jang, 2004)
  - Universities' students' behaviors about online gambling (Jolley et al., 2006)
  - Used dichtomous variable to evaluate 15 gambling related problems (French et al. 2008)

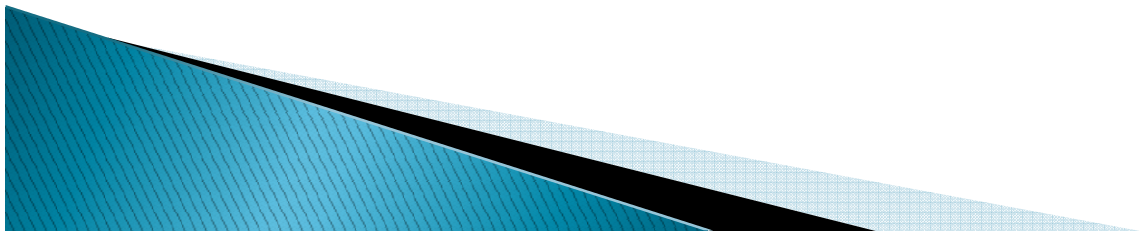
- How to deliver correct knowledge of gaming industry?
  - Gaming Industry Perception
  - Gaming Education Perception
  - Based on the study of French et al.(2008) and Alipour and Vughaingmeh(2010)



Research Method

- Pretest-posttest control group experimental design
- Questionnaire surveys

- Research hypothesis
  - The gaming industry and education perception of 30 mins practical teaching environment is higher significant than 30 mins teaching vedio.
  - The males' perception of gaming industry and education is higher significant than females'.



Experimental Design

- 30 mins practical teaching environment

- 30 mins teaching vedio

Questionnaire Design

- Stage 1 ：Based on the references to integrate item pool, including two dimensions
  - Gaming industry perception － the degree of gaming industry's identification
  - Gaming education perception － the degree of gaming training 's professional identification
- Stage 2 ：Invited 3 dealer(graduated students) to revise the questions (Validity)
- Stage 3 ：Pre-tested 87 universities' students in 2009 (Reliability)
  - Gaming industry perception Cronbach's α was 0.72
  - Gaming education perception Cronbach's α was 0.76

Formal Questionnaire (Five scale Likert)

- Gaming industry perception (A ：Pretest ；C ：Posttest)
  - A1 (C1)： Do you think lottery game will let you be problem gambling ？
  - A2 (C2)： Do you think racing game will let you be problem gambling ？
  - A3 (C3)： Do you think table game will let you be problem gambling ？
  - A4 (C4)： Do you think slot and online game will let you be problem gambling ？
  - A5 (C5)： Do you think the word of gambling is equal problem gambling ？
- Gaming education perception (B：Pretest ；D ：Posttest)
  - B1 (D1)： Do you join the gaming course is for getting a job in gaming industry ？
  - B2 (D2)： Do you think the gaming course is a professional training ？
  - B3 (D3)： Do you think foreign language, honest and resist compression are needed for studying the gaming courses ？

Sampling Process

- Sampling 226 students (general and continue education) in 2010
  - 30 mins practical teaching environment
  - 39 Males
  - 65 Females

  - 30 mins teaching vedio
  - 22 Males
  - 100 Females

- Students' information： Age, gender, occupation, incomes, resident area, marriage etc.

Results

- Respondent describe analysis

Gender	Sample	%	Occupation	Sample	%
Male	61	27.0	Manufacturing	4	1.8
Female	**165**	**73.0**	Service	26	11.5
Marriage			Business	2	0.8
Yes	15	6.6	**Student**	**126**	**55.8**
No	**211**	**93.4**	Others	68	30.1
Incomes per month (NT$)			Resident area in Taiwan		
10,000元以下	**181**	**80.1**	North	47	20.8
10,001-20,000	12	5.3	Central	56	24.8
20,001-30,000	19	8.4	**South**	**115**	**50.9**
30,001-40,000	6	2.7	East or Offshore islands	8	3.5
Up to 40,001	8	3.5	Age		
Education			18-20	3	1.3
High school	12	5.3	**21-30**	**154**	**68.1**
University	**203**	**89.8**	31-40	52	23.0
Graduated institute	11	4.9	Up to 41	17	7.5

- Pretest Factor analysis

Dimensions (Cronbach's α)	Questions	Eigen values	Explained variation	Factor loading
Gaming Industry Perception (0.85)	A1	3.209	64.185	0.804
	A2			0.842
	A3			0.880
	A4			0.853
	A5			0.594
Gaming Education Perception (0.51)	B1	1.551	51.690	0.620
	B2			0.785
	B3			0.742

- Posttest Factor analysis

Dimensions (Cronbach's α)	Questions	Eigen values	Explained variation	Factor loading
Gaming Industry Perception (0.86)	C1	3.206	64.119	0.788
	C2			0.837
	C3			0.889
	C4			0.849
	C5			0.611
Gaming Education Perception (0.57)	D1	1.607	53.569	0.782
	D2			0.671
	D3			0.739

Note ： In the early stage of the research, modest reliability in the range of 0.5-0.6 is recommended (Nunnally, 1967).

Hypothesis test (Two-way Mixed Design ANOVA)

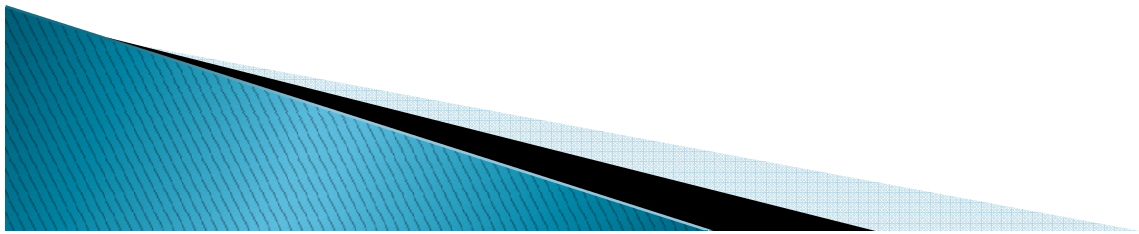
Dependent variable	Independent variables(N)	$M_{before}(M_{after})$	$SD_{before}(SD_{after})$	Sources	F-test (p value)	Post hoc
Gaming Education Perception	Practical Teaching Environment (104)	4.0165 (3.9936)	.6135 (.4667)	Pretest & Posttest vs. Teaching environment	1.295 (.256) 1.959 (.163)	Not Established
	Teaching vedio (122)	3.8936 (3.9946)	.5389 (.4557)	($MS_{pretest\ and\ posttest\ perception\ error}$ 0.220; $MS_{teaching\ environment\ error}$ 0.322)		
Gaming Industry Perception	Practical Teaching Environment (104)	2.7000 (3.1423)	.8521 (.9254)	Pretest & Posttest vs. Teaching environment	13.497 (.000) .216 (.643)	$M_{practical=2.921} > M_{vedio=2.640}$
	Teaching vedio (122)	2.4525 (2.8279)	.7087 (.6662)	($MS_{pretest\ and\ posttest\ perception\ error}$ 0.582; $MS_{teaching\ environment\ error}$ 0.657)		

Dependent variable	Independent variable (N)	M Before teaching (M after Teaching)	SD Before teaching (SD After teaching)	Sources	F-test (p value)	Post hoc
Gaming Education Perception	Male (61)	3.8741 (4.0272)	.6680 (.5455)	Pretest, Posttest vs. Gender	.239 (.626) 2.264 (.134)	Not Established
	Female (165)	3.9783 (3.9819)	.5382 (.4248)	(MS pretest and posttest perception error 0.220; MS gender error 0.324)		
Gaming Industry Perception	Male (61)	2.7803 (3.1869)	.9385 (.8950)	Pretest, Posttest vs. Gender	11.571 (.001) .001 (.998)	M Male=2.984>M Female=2.690
	Female (165)	2.4873 (2.8933)	.7086 (.7633)	(MS pretest and posttest perception error 0.583; Ms gender error 0.662)		

Discussions

- Respondents thought that whatever the teaching and learning environment, there was no significant difference on their sense of identity toward gaming education courses ($F=1.295$, $p>.05$).
- Respondent s believed that as in the practical teaching environment, they have a greater sense of identity on gaming industry than in the video teaching environment ($F=13.497$, $p<.001$).
- Respondents in the studied simulation of a gaming environment would be more willing to believe that the word meaninng of gambling is not the same as problem gambling, but it is more aligned with a entertainment recreation environment.
- Hypothesis 1 can be partially established.

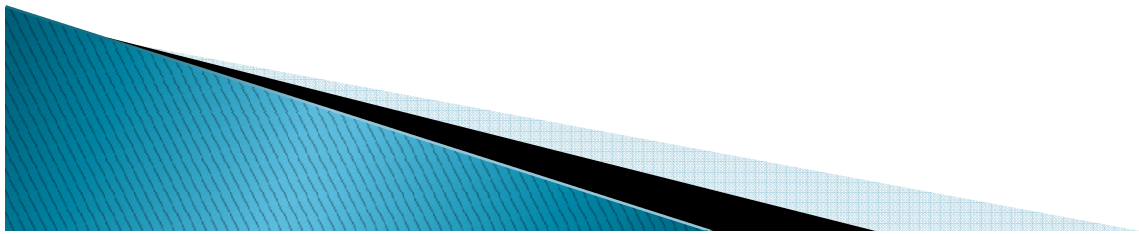
- Regarding Hypothesis 2, results showed that, the respondents' gender had no significant effect on their sense of identity toward gaming education courses ($F = .239$, $p>.05$).
- Gender had a significant effect on the sense of identity toward gaming industry. Compared to females, males were more agreed that the word meaning of problem gambling is different from gambling ($F=11.571$, $p <.001$).
- Males were more identified the entertainment and professional of gaming industry than females, as watching gaming videos or field simulation teaching more.
- Hypothesis 2 is partially established.



- A gaming teaching environment can provide the actual operating environment found in the real world, the higher the consistency of the gaming teaching environment and the actual gaming environment will be experienced.
- Students are more likely to feel the personally experienced. Therefore, students believed that the word meaning of gambling is not the same with the problem gambling, but more probably associated with the entertainment in leisure activities.
- Compared to females, males were more identified that gaming industry is different from problem gambling because of their tendency to take risks and to make achievements.

- In the gaming education training, they were more likely to recognize that the gaming industry has the recreational nature of leisure activities, which is the formation of an objective, corrective gaming industry perception.
- This study suggested that whatever gender respondents' gender and the teaching environment they were in, they had a high sense of identity on gaming education before or after accepting the gaming training (higher than 3.5).
- The different gender students in their each practical teaching and video teaching environment definitely produced different perceptions toward gaming. According to Hogan and Roberts (2000), the degree of fit between personal attributes and the scenario will influence the result of personal behavior. Wheeler et al. (2005) also pointed out that only the messages and personal characteristics (e.g., extrovert vs. introvert) are consistent with each other, it can lead to a higher personal rating (e.g., product quality).

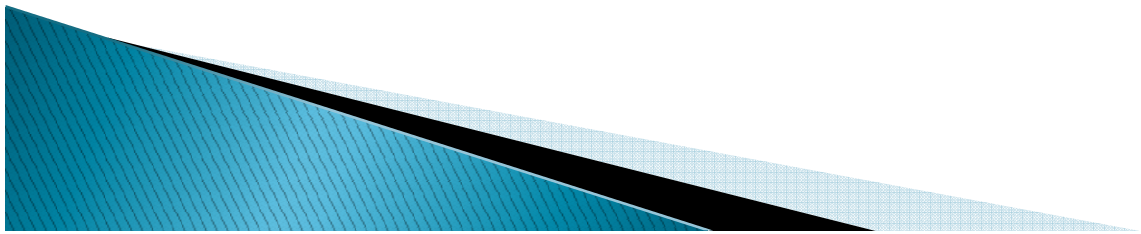
- As in past research advocated, the study found that in the practical teaching environment, comparing to females, males who accepted gaming education training had a higher sense of identity on gaming education (professional engaged to the extent possible) and gaming industry (gaming activities are not the equal to problem gambling)
- In the video teaching environment, comparing to males, females after accepting gaming education training were more likely to have a higher sense of identity. But there was no significant difference between male and female on the identity of the gaming industry.



Conclusion

- From the viewpoint of education, the results of this study indicated that it is not enough to create a correctly personal gaming perception only through the same set of gaming education courses. We must consider the teaching and learning environment and students of their individual differences.
- From the viewpoint of academics, emerging and developing markets in gaming industry provide opportunities for empirical gaming education research. Thus, this study supporting Hong and Jang's (2004) assertion not only increases the diversity of the research scope, but also fills the research gap of individual perception in gaming education.

- From the viewpoint of practice, it is an important approach for industry or government in how to pass the accurate knowledge of gaming in order to reduce the negative effect brought about from gaming itself, such as problem gambling, alcohol abuse, and personal financial problems, and to reduce social costs efficiently.



Thanks for your listening