

# Implicit Measures of Attitudes towards Gambling: An Exploratory Study

Sunghwan Yi

Vinay Kanetkar

University of Guelph, Canada

# Question

- Are self-report measures a good way of assessing attitudes toward socially sensitive issues?



# Response Latency Techniques

- Limitations of using self-report measures of attitudes
  - Social desirability bias
  - Limited conscious access to “true” attitudes (Wilson & Nisbett, 1977)
  - A good measure for the **conscious, deliberative** mental processes; Not suitable to assess the **automatic, impulsive** processes (Strack & Deutsch, 2004)
- Response latency measures of attitudes
  - A tool to assess **automatic** associations of the target
  - Relative accessibility of positive vs. negative associations related to the target

# Implicit Association Test

- Greenwald & Banaji (1995)
- Psychological research on racial stereotyping
  - *How fast or slow* in response to combinations of “Black” and Positive vs. Negative associations
- Advantages of IAT
  - Difficult to modulate or fake responses
  - High reliability (Greenwald et al., 2002)
- 5 step procedure

# Block 1

White

Black



# Block 1

White

Black



# Block 2

Good

Bad

SMART



# Block 2

Good

Bad

VIOLENT

# Block 3 &4

White or

**Good**

Black or

**Bad**



# Blocks 3 & 4

White or

**Good**

Black or

**Bad**

**NICE**

# Blocks 3 & 4

White or

**Good**

Black or

**Bad**



# Blocks 3 & 4

White or

**Good**

Black or

**Bad**

**DANGEROUS**

# Block 5

Bad

Good

SMART

# Block 5

Bad

Good

VIOLENT

# Blocks 6 & 7

White or

**Bad**

Black or

**Good**





# Blocks 6 & 7

White or

**Bad**

Black or

**Good**

**NICE**

# Blocks 6 & 7

White or

**Bad**

Black or

**Good**



# Blocks 6 & 7

White or

**Bad**

Black or

**Good**

**DANGEROUS**

# IAT (cont'd)

- IAT score
  - How faster your responses are when **Black and Good** are assigned to the same key vs. when **Black and Bad** are assigned to the same key
  - Difference between response time to Blocks 6 & 7 and response time to Blocks 3 & 4
- Disadvantages of standard IAT
  - Relative measure of attitudes
  - Bipolar scale

# Utility of IAT in Gambling Research

- Implicit attitudes towards gambling
  - Dissociation between explicit and implicit attitudes
    - Unwilling to acknowledge positive attitudes toward a socially stigmatized, controversial issue
    - Some automatic associations may be below conscious awareness
      - E.g., Novice gamblers' automatic associations of gambling
  - Challenges
    - No natural comparison category

# Research Objectives

- Using Response Latency Measures to Assess Implicit Attitudes toward Gambling
  - Do high risk gamblers have more positive or negative automatic associations of gambling than low risk gamblers?
  - Are automatic associations of gambling divergent from explicit attitudes toward gambling?

# Recent findings from Addiction Research

- Standard IAT
  - Heavy drinkers showed negative and arousal-related automatic associations related to alcohol vs. soda (Wiers et al. 2002)
- Personalized IAT
  - To minimize extra-personal environmental influences on automatic associations
  - “I like” vs. “I don’t like”
  - Heavy drinkers revealed positive associations toward alcohol vs. soda (Houben & Wiers, 2007)
- Single Target IAT
  - Smokers held positive associations with pictorial smoking stimuli (Huijding and de Jong, 2006)

# Response Latency Measured Used

- “Pleasant-Unpleasant” Single Category IAT (Karpinski & Steinman, 2006)
  - *“Positive” latency*
  - *“Negative” latency*
- “Arousal –Sedation” ST IAT
  - Exciting vs. Relaxing
  - *“Arousal” latency*
  - *“Sedation” latency*
- Personalized ST IAT
  - **“I like vs. I don’t like”**
  - *“I like” latency*
  - *“I don’t like” latency*



# SC-IAT: Combination Block I

Gambling or

**Pleasant**

**Unpleasant**



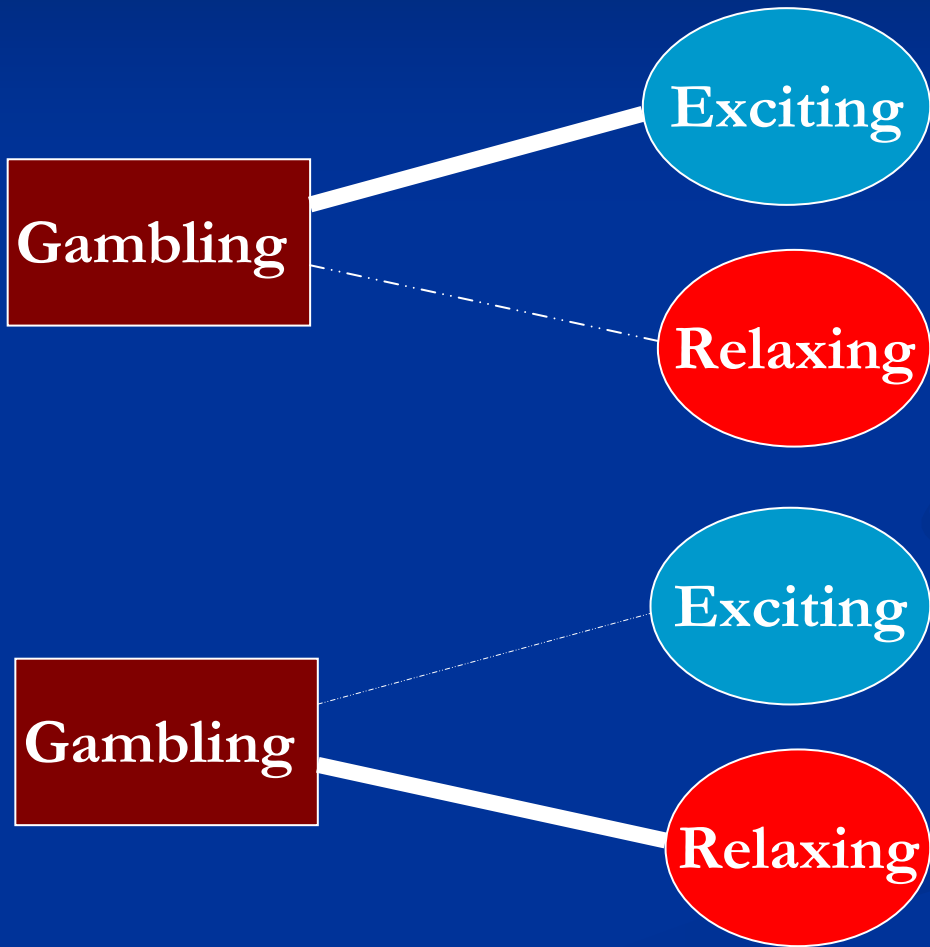
# SC-IAT: Combination Block II

Gambling or

Unpleasant

Pleasant





# Self-Report Measures Used

- Gambling Attitude & Beliefs Scale (GABS)
  - Breen & Zuckerman (1999)
  - “Gambling makes me feel really alive.”
  - “Casinos are glamorous, exciting places.” ...
- Canadian Problem Gambling Index (CPGI)
  - Ferris & Wynne (2001): Degree of gambling problem
  - “Have you bet more than you could really afford to lose?”
  - “Have you borrowed money or sold anything to get money to gamble?” ...

# Methods

- Participants
  - 105 students
  - Run as a group of 2-3
- Procedures
  - Response latency measures
    - Direct RT software
  - Self-report measures

# Results

- CPGI
  - 41 Non-gamblers: 0.00 (0.00)
  - 29 Low risk gamblers: 1.34 (0.48)
  - 21 Moderate risk gamblers: 4.47 (1.67)
  - 4 High risk gamblers: 10.50 (2.08)
- Explicit attitudes measures

	Non G	Low risk	Mid-Hi r	<i>F</i> (p)
GABS	2.14 (0.32)	2.34 (0.26)	2.60 (0.33)	18.11 (0.01)

# Results (Cont'd)

## ■ Correlations

- Both “positive” latency and “arousal” latency were moderately correlated with GABS ( $r = -0.25$  and  $-0.20$ ,  $p$ 's  $< 0.05$ )
- Only “positive” latency was moderately correlated with CPGI raw score ( $r = -0.20$ ,  $p < 0.05$ )

# Results (Cont'd)

## ■ Implicit measures: Means

	Low risk G	Mid-hi risk G	<i>t</i> (p)
Positive	5.97	5.19	2.01 (0.05)
Negative	6.06	5.18	2.14 (0.03)
Arousal	6.51	5.79	1.77 (0.08)
Sedation	5.83	5.64	n.s.
“I like”	6.27	6.23	n.s.
“I don’t like”	5.93	5.74	n.s.



# Discussion

- Major findings
  - Mid-to-high risk gamblers reveal *more positive, more negative and more arousing* automatic associations related to gambling than low-risk gamblers.
    - Implicit ambivalence
  - Strength of “positive” automatic associations is moderately correlated to both GABS and CPGI.
- Limitations
  - Use of a student sample
  - Explicit measures of attitudes; measures of gambling behavior

# Current Project

## ■ Research Question

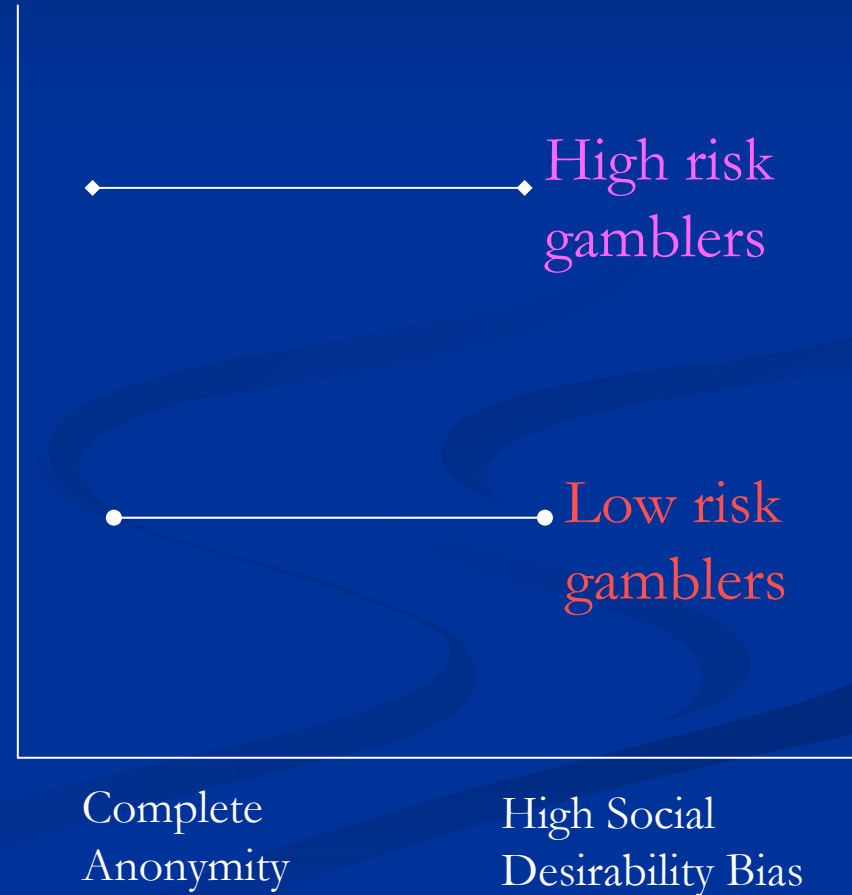
- When are response latency measures of gambling attitudes more useful than self-report measures?
- Complete anonymity Vs.
- High social desirability bias (impression management bias)
  - High motivation to under-report attitudes toward gambling

# Current Project: Prediction

## Self-Report Attitudes



## “Positive” Response latency



Thank you!

Questions or Comments?