Implicit Measures of Attitudes towards Gambling: An Exploratory Study

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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

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 \hspace{1cm} Unpleasant
SC-IAT: Combination Block II

Gambling or

Unpleasant       Pleasant
Gambling

Exciting

Relaxing

Gambling

Exciting

Relaxing
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**

<table>
<thead>
<tr>
<th></th>
<th>Non G</th>
<th>Low risk</th>
<th>Mid-Hi r</th>
<th>$F$ (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GABS</td>
<td>2.14 (0.32)</td>
<td>2.34 (0.26)</td>
<td>2.60 (0.33)</td>
<td>18.11 (0.01)</td>
</tr>
</tbody>
</table>
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)
### Implicit measures: Means

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

- Complete Anonymity
- High Social Desirability Bias

High risk gamblers
Low risk gamblers

“Positive” Response latency

- Complete Anonymity
- High Social Desirability Bias

High risk gamblers
Low risk gamblers
Thank you!

Questions or Comments?