

Safe Sex Attitude Measurement and Intervention in an Immersive VR Context

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Safe Sex Attitude & Behavior Measurement

- Ask about past behavior
 - Problem: Retrospective bias, asking for conscious (Explicit) thought about an often automatic process
- Ask about intentions (Ajzen, 1991)
 - Problem: intentions don't always = behavior, especially in high impulsivity situations (e.g., drug use)
 - Problem: Mere measurement effect (Levav & Fitzsimmons, 2006)
- Ask about a "proxy" behavior
 - E.g. Condom purchasing
 - Problem: Proxy isn't behavior of interest

2

Sex & Impulsivity

- Many behaviors are thought to act on an unconscious or “Implicit” level
 - Quick
 - Associations of concepts in mind
 - Condoms <--> Good
 - Outside of awareness
 - Best predictors of spontaneous behavior (Dovidio et al., 1997)
- Sex is often impulsive, no conscious thought about condoms
 - Casual partners
 - Environmental cues to impulsivity (Ross et al., 2004)
 - Alcohol / Drug use (MacDonald, Zanna, & Fong, 1998)

3

Embodied Social Cognition

- “Cognitive representations and operations are fundamentally **grounded in their physical context.**” (Niedenthal et al., 2005, p.186)
- “Cognition must be understood in terms of how it functions **under the pressures of real-time interaction with the environment.**” (Wilson, 2002, p. 626)
- Numerous studies have suggested that IVR produces the same emotions and psychological states as could be obtained in the real world (North et al., 1997; Riva, 1998; Vincelli & Riva, 2000)

4

IVR for safe sex attitude measurement

- Presence allows participant to experience emotions, feeling and thoughts similar to a real sex situation
- Attitudes measured in IVR will reflect influence of situational cues to riskiness
- Unobtrusive indicators of attitudes can be measured accurately
 - Approach-Avoidance
 - Length of gaze
 - Distance to partner or condom
 - Time held condom

5

Goals of the study (in progress)

1. Predict risky sexual behaviors from implicit measures of attitudes and approach-avoid behaviors in a virtual environment
2. Change implicit associations through exposure in the virtual environment
 - Conditioning

6

Method

- Virtual environment with bedroom & bathroom
- “Potential sex partner” avatars
- Scenes
 - Bedroom
 - During a party
- Tasks
 - Negotiate condom use
 - Condom use

7

Measures

- Attitudes
 - Implicit
 - Explicit
- Emotions (SafeCOMM, Buck et al., 2004)
- Behaviors in VE
 - Speech
 - Willingness to have sex without condom
 - Approach-Avoid behaviors with condoms
- Intentions to engage in risky sex behaviors

8

Initial Pilot results

- Avatars
 - Attractive $M=5.1/7$
 - Realistic $M=4.5/7$
 - Expressive $M=4.5/7$
 - Attitude Thermometer $M=70/100$
- Environment
 - Igroup Presence Questionnaire (Schubert, Friedmann, & Regenbrecht, 2001) $M=4.2/7$
 - Realism $M=5.0/7$
- Emotions
 - High consistency in emotional expression of avatars

9

IVR as a tool for intervention/training

- Provides a “safe” environment for learning
 - Firefighter Training (Satava, 1995)
 - Phobias (North, North, & Coble, 1997)
 - Others at this conference
- Use to increase positive exposure
 - Eroticize condoms (Scott-Sheldon, Glasford, Marsh, & Lust, in press)
- More immersive than role-play, more private than groups
 - Especially important for private behaviors
- Learning transfers from VR to real world contexts (McComas, Pivik, & Laflamme, 1998)

10

Conclusion

- IVR provide a useful new medium for researchers studying attitudes
 - Especially for private or complex behaviors
- If predictions are confirmed, IVR can also be used to condition implicit attitudes that may impact spontaneous risky behaviors

11

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12