
Speculations on a Virtual Interactive Environment to Assess Sexual Offenders

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The Situational Competency Test (Miner, Day, & Nafpaktitis, 1989)

- The SCT is a series of audiotaped vignettes which briefly describe a high risk situation
 - Each ends with the statement, "What do you do?"
 - To successfully pass the test the offender must describe a credible process which demonstrates that he can overcome or manage the threat
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SCT Example (Miner et al., 1989)

- "You're sitting in your house with your mother and sister watching TV. Your nephew comes up to you and whispers in your ear that he wants you to go outside with him so that he can give you a blowjob. He insists that you go right now or he will tell everyone that you've been molesting him. What do you do?"

An Interactive Environment

- Suppose that a series of high risk situations could be displayed in a video environment such as one sees in video games
- The offender moves through the environment as he would in a video game
- At various junctures he is confronted with risky situations containing a model
- He interacts directly with the model
- Depending upon what he says and does, the model responds in kind

Environment 1 (Valve Software)



Environment 2 (Valve Software)



Environment 3 (Valve Software)



Character 1 (Valve Software)



Character 2 (Valve Software)



Character 3 (Valve Software)



Facial Expression 1 (Valve Software)



Facial Expression 2 (Valve Software)



Facial Expression 3 (Valve Software)



Facial Expression 4 (Valve Software)



Features of the G-Man (Valve Software)

- Artificial intelligence used in his creation
 - His eyes glint and blink, follow you as you move
 - 40 separate muscles in his face
 - His emotional response is based on the Ekman & Friesen taxonomy of facial expression
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Creating Scenarios

- Probably the best place to begin would be the creation of environments that might appeal to child molesters
 - Irrespective of extra- or intra-familial preferences
 - Models should probably vaguely resemble children 8-12 years of age
 - Female and male models (2 tests)
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Presentation of the Model

- Four possible self-presentations by the model:
 - Neutral – non-sexual speech and expression
 - Friendly – non-sexual approach behavior
 - Inviting – semi-sexual speech and behavior
 - Openly sexual
 - 4 scenes per presentation type
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Behavior of the Subject

- The person being tested moves casually through the environment
 - He meets the model:
 - Driving in his car
 - Walking in a park
 - Sitting in a café
 - Entering a shop or apartment
 - On the street
 - Interactions are casual
 - Not a shoot-em-up game where there is a threat around every corner, requiring an immediate response
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Interaction of Model and Subject

- Presentation by the model:
 - Neutral: "Can you tell me where 4th Street is?"
 - Friendly: "My name's Connie (Johnnie). What's yours?"
 - Inviting: "Can you help me? Something's wrong with my bicycle"
 - Sexual: "I'll bet you want to have some fun!"
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Behavior of the Subject – Option 1

- At the simplest level, the testee could be offered a series of possible responses:
 - These appear as a list on the screen and the subject is required to pick one:
 - *This is a dangerous situation. Get out.*
 - *This kid is just trying to be friendly. No harm here.*
 - *This kid is asking for it.*
 - *This kid is obviously experienced. Go for it.*
 - For some offenders, these choices are not as naïve as they appear
 - Useless with educated, experienced offenders
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Scoring Option 1

- Simply note whether the response was deviant (inviting, sexual) or non-deviant (neutral, friendly)
 - Requires no subjective response by the subject
 - 16 possible scores
 - Obviously the weakest measure
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Behavior of the Subject – Option 2

- Subject verbally interacts with the model
 - His response is free form
 - E.g., "You're a goodlooking girl (boy)"
 - The model would have to be programmed to recognize his speech forms
 - E.g. "Do you think so?"
 - Requires numerous possible responses by the model
 - These would not have to be exactly precise, just generally relevant to the subject's speech
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Scoring Option 2

- ❑ A much richer source of data than Option 1
 - ❑ Here we are interested in the *subjective quality* of what the subject says
 - ❑ Provided that the model's speech is sufficiently provocative, we might expect to elicit increasingly deviant responses from the subject
 - ❑ This would require development of a qualitative measure for scoring
 - ❑ For example, the original Situational Competency Test was scored on 11 dimensions
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Behavior of the Subject – Option 3

- ❑ This is the most controversial option and probably the one that would yield the most valuable data
 - ❑ Here we suggest that the subject interact *both verbally and physically* with the model
 - ❑ The style of speech recognition and verbal response by the model remains much the same
 - ❑ However, the subject here has the option of physical interaction via haptic feedback (touching)
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Behavior of the Subject – Option 3, cont'd

- The scenarios remain much the same
 - The inviting and sexual scenarios must now be more provocative
 - “Would you like to touch me?”
 - The subject can literally reach out and touch the model’s breasts, genitals, buttocks, etc.
 - Through use of a joystick or similar control, subject should be able to bring the model closer to him
 - Eye tracking should be an option
 - Technology to do this is available
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CyberGlove II Wireless Data Glove (Immersion Corp., 2006)



CyberGlove II Wireless Data Glove (Immersion Corp., 2006)

- The manufacturer states:
 - “Many applications require measurement of the position and orientation of the forearm in space....”
 - “The CyberGlove has been used in a variety of real-world applications, including digital prototype evaluation, ***virtual reality biomechanics, and animation.***”
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CyberTouch Force Feedback Option (Immersion Corp., 2006)



CyberTouch Force Feedback Option (Immersion Corp., 2006)

- The manufacturer states:
 - “The CyberTouch system is a tactile feedback option for... (the)... CyberGlove instrumented glove. It features small vibrotactile stimulators on each finger and the palm of the CyberGlove system. Each stimulator can be individually programmed to vary the strength of touch sensation. The array of stimulators can generate simple sensations such as pulses or sustained vibration, and they can be used in combination to produce complex tactile feedback patterns. Software developers can design their own actuation profiles. The CyberTouch tactile feedback option is ***essential to anyone serious about using their hands to interact with objects in a virtual world.***”
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Cyber-Grasp Exoskeleton (Immersion Corp., 2006)



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- The manufacturer states:
 - “With the CyberGrasp force feedback system, users are able to ***feel the size and shape of computer-generated 3D objects in a simulated virtual world...***”
 - “Grasp forces are produced by a network of tendons routed to the fingertips via the exoskeleton. There are five actuators, one for each finger....”
 - “Originally developed under...contract to the United States Navy for use in telerobotic applications, the CyberGrasp system ***allows an operator to control a remotely-located “hand” and literally “feel” the object being manipulated.***”
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Scoring Option 3

- Numerous dependent measures are possible:
 - Total time in contact with the model
 - Eye tracking of bodily parts
 - Dwell times in eye tracking
 - Extent to which model was brought closer to subject
 - Hand manipulation of body parts
 - Quality of speech in interaction with the model
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Are There Precedents for Such An Approach?

- There are at least two. Both were used for empathy training.
 - 1980s – Northwest Treatment Associates, Seattle, Washington, USA. Videotaped interaction with life-sized dolls.
 - 1990s – Sex Offender Treatment Programme, HM Prison Service. “Modified psychodrama.” (Webster, Bowers, Mann, & Marshall, 2005)
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What's the Payoff?

- Such a procedure could potentially provide:
 - A richer picture of the client and how he interacts with his sexual world
 - Specific offence information that could improve risk assessment
 - Information that could be used to develop a verbal/behavioral “signature” profile of offense behavior
 - Useful for identifying and monitoring persons in community situations
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A Virtual Environment Assessment

- It is fairly obvious to us that construction of an assessment such as we propose can be done
 - It will not be easy as there are many technological details (many of which cannot now be foreseen) that must be considered
 - It is also very controversial and will make many professionals uncomfortable
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Is It Necessary to Do This?

- The short answer is: Yes
 - There are at least three answers to the question: Why?
 - First, because we can. The technology is there.
 - Second, we need to dramatically move assessment forward using the best technology available. We must stop being squeamish about asking the questions to which we need the answers.
 - Third, we do not control this technology. Sexual deviants are already at work producing high quality imagery that is at least as good or better than anything that we can produce. We need to get into this game if for no other reason than to stay even.
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