

Homeless: It's No Game –
**Measuring the Effectiveness of a Persuasive
Videogame**

by

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Abstract

There is little empirical evidence for the effectiveness of persuasive games. Conceptually, little attention has been given to this issue. The videogame *Homeless: It's No Game* was developed to test the thesis that the effectiveness of a persuasive videogame can be measured. Volunteers answered a survey of attitudes towards the homeless and then either played the videogame, read a short story about homelessness, or were part of a control group. The survey was re-administered two weeks later. Results were mixed, with some indicators showing increased sympathy towards the homeless and others showing no significant effect. Many questions remain to be explored, such as the effect of non-ludic factors, the duration of the persuasive effect, and whether different issues and different game genres play a role in the effectiveness of persuasive games; however the results do suggest lines for further inquiry.

Keywords: video games; persuasion; persuasive games

Subject Terms: Computer Games Sociological Aspects;;Persuasion Rhetoric; Video Games Psychological Aspects; Video Games Social Aspects

Dedication

This paper is dedicated to the people who, through no fault of their own, are forced to live without shelter on the streets of our cities. It is also dedicated to the selfless people who advocate for the homeless and who help them in their struggle to survive.

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1 Introduction

Individuals, corporations, governments and others attempting to motivate people -- whether to buy a product, vote for a candidate, support a charity or modify their behaviour -- sometimes use videogames to help achieve their goals. The growing popularity of videogames, combined with the release of easy to use game development tools and the rise of the internet as an inexpensive game distribution platform have led to an increase in the numbers of so-called persuasive games in recent years (Peters, 2007).

Persuasive games are being released by a variety of different groups and individuals, including environmental organizations, corporations, governments, political parties, religious bodies, health agencies, and international agencies. Even military and paramilitary forces -- from the U.S. Army to Hezbollah -- have released videogames.

The games these organizations produce are as varied as the ones issued by commercial videogame publishers. Persuasive games can be First Person Shooters, adventure games, sports games, puzzle games, arcade games or role-playing games. They can be crude or

sophisticated, popular or obscure. Their messages vary as well -- persuasive games are used to deliver commercial messages (advergaming), to espouse political or religious causes, to modify social or health behaviours or to educate people about the environment, or about aid and development issues.

Considerable energy, time and money are going into the production and distribution of persuasive games. But how effective are they? Indeed, can their effectiveness be measured? Some studies have been done, mostly with health-based videogames and advergaming, but these studies are few in number and it is difficult to use them to draw any general conclusions about the overall effectiveness of persuasive games.

The current study was undertaken to explore possible directions for studying the effectiveness of persuasive games. Randomly chosen volunteers were recruited to play a videogame about homelessness and were then tested on their attitudes towards homeless people. The results of the experiment were mixed, with some indication of increased sympathy towards homeless people after playing the game. Some insights into the effectiveness of persuasive games were gained, along with some suggestions for further lines of research.

2 Persuasive Games

2.1 A Definition of Persuasion

Persuasion has been defined as the process of trying to modify or change the values, wants, beliefs and actions of others (O'Shaughnessy and O'Shaughnessy, 2004). It differs from influence in that persuasion is deliberate, whereas influence can be incidental. It needs to be noted that successful persuasion does not necessarily lead to behavioural change. Societal and practical constraints (society opprobrium towards violence, fear of punishment or of reprisal, lack of opportunity or resources, etc.) can act as a dampening force on behavioural change (Dovidio, 2006). For example, even if the "white power" videogame *Ethnic Cleansing* helped to persuade one of its players that non-whites are inferior, that person would not necessarily take action to physically harm non-white people he met in the street.

2.2 A Definition of Videogames

Zimmerman and Salen (2004) define a game as "a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome". A videogame, by extension, is a system that is played on a digital platform, such as a computer or

game console.

Games differ from unstructured play, according to Zimmerman and Salen, through the use of rules and the need to keep score in one way or another (a quantifiable outcome). The element of conflict acts as incentive for the participants to become more involved – emotionally or intellectually – in the outcome, which, as noted below in section 2.8.1, can increase the immersive effect – and hence the potential for persuasion – of the game.

2.3 A Definition of Persuasive Games

According to Ian Bogost, founder of the company Persuasive Games and author of the book of the same name, persuasive games are games that “mount procedural rhetorics effectively” (Bogost, 2007). Procedural rhetoric, he explains, is a technique for making arguments with computational systems, or “the practice of persuading through processes in general and computational processes in particular.”

Effectiveness is integral to Bogost’s view of persuasive games: they must mount procedural rhetorics *effectively*. Also important, though not as plainly stated, is intent. The games that Bogost cites, such as *Tax Invaders*, *Howard Dean for Iowa* and *September 12*, can be considered persuasive games because the creators of the games

intended to influence the behaviour of the players of their games. Many games can influence our opinions or behaviour unintentionally, as a by-product of their other aims (to entertain, to make money for the game developer, to reinforce a commercial franchise), but they would not be considered persuasive games, because their primary intent is not to persuade. For example, *Tetris* would not be considered a persuasive game if it were to induce in its players an antipathy towards L-shaped blocks, because that, presumably, was not the intention of its creator, Alexey Pazhitnov.

Falling between these extremes are games that are persuasive because of their unspoken or unconscious constraints. For example, in *SimCity*, the player is discouraged from experimenting with alternatives to the traditional North American public-private transportation mix. Extremes such as a city without a public transit system or a city without cars quickly end up unworkable in the game. Alternative modes of transportation, such as car-pooling and bicycles, are not even options. The game *Civilization* punishes the player who tries to avoid conflict for any length of time; and pacifists don't last long in *Doom* or *Halo*.

However, as noted above, these games do not have persuasion as an explicit goal. For the purpose of this paper, therefore, I define a persuasive game as:

a videogame which has as its primary goal the changing of user attitudes. These changes may increase the probability of behaviour change given contingencies of unconstrained choice and social situation.

2.4 Types of Persuasive Games

Persuasive games vary as much as other videogames. Indeed, the only element they would seem to have in common is their intent to persuade. Persuasive games can be First Person Shooters, adventure games, sports games, puzzle games, arcade games or role-playing games. They can be as crude as *Revenge of the PETA Tomatoes* (produced by People for the Ethical Treatment of Animals) or as sophisticated as *America's Army* (published by the United States Army). They can languish in obscurity or achieve success such as that of the World Food Programme's *Food Force*, which has been downloaded more than four million times (World Food Programme, 2008).

A categorization of persuasive games according to theme can be usefully employed¹. We can categorize persuasive games as advertising games (also known as advergames), advocacy or message games, health games, political games and religious games. Educational games could also be considered to be persuasive games.

¹Though these are certainly non-exclusive. For example, Starbucks Coffee's *Planet Green Game* is both an advergame (advertising Starbucks) and an advocacy game (advocating environmental protection).

Advergames are games intended to promote a particular product or organization. In an advergame, the message is an inherent part of the game, unlike, for example a videogame in which an advertiser has bought product placement, such as Tom Clancy's *Splinter Cell*, in which Sony Ericsson paid to have their cell phones used. An example is Burger King's *Sneak King*, in which the player takes control of the Burger King mascot to deliver meals to hungry people. Probably the most successful advergame is *America's Army*, which has more than 8.6 million registered users, and which, the U.S. Army claims, has been responsible for a 28 percent increase in visits to the army's recruitment website (Nieborg, 2005).

Advocacy or message games are designed to raise awareness and or support for a particular point of view. For example, *Whales Revenge* was created by Patrick Bonello to raise awareness of whale harvesting off the Australian coast. In the two years since Bonello created the *Space Invaders*-inspired *Whales Revenge*, his website has gathered more than 1 million signatures on an anti-whaling petition. *Darfur is Dying* is another example. Created by University of Southern California students for a competition sponsored by mtvU, the game aims to increase awareness of the genocidal conditions in the Sudan. For some of these games, it is difficult to tell whether it is the game itself, or the publicity the game generates that is the main persuasive

vehicle or indeed, whether both are important.²

Health games encompass a wide variety of products, including games designed to increase awareness of health risks such as smoking (*Smoke?*), games intended to reinforce health regimes (*Bronkie the Bronchiasaurus*, *Glucoboy*), morale-boosters for people suffering from ailments (*Re-Mission*) and training games for health practitioners (*Pulse!*).

Political games, new examples of which seem to surface every four years in tandem with the United States presidential elections, can have various goals, such as generating publicity for a political campaign, increasing morale and commitment among campaign volunteers and garnering support for a candidate. Notable examples include *Howard Dean for Iowa* and *Take Back Illinois*. Interestingly, both games were created by Ian Bogost's Persuasive Games company, the former for Democratic contender Howard Dean and the latter for the Illinois Republican Party (Bogost, 2007). A more recent example is *John McCain's Pork Invaders*, released in 2008 both on Facebook and on McCain's campaign website. Political games are not exclusive to the United States, of course. The turmoil in the Middle East has resulted in

² My own game, *St. Paul's Invaders*, was designed solely to publicize the cause of the Save St. Paul's Hospital coalition, and without any illusions that playing the game would change peoples' minds about the issue. The game was put on the coalition's website and a news release issued. The strategy worked, with several media hits and a spike in visits to the coalition's website.

many persuasive games, including *PeaceMaker* -- designed to promote understanding between Israelis and Palestinians -- and *Under Siege/Under Ash* -- produced by a Syrian publishing company to counter American videogames such as *Delta Force* in which Arabs are the villains. Terrorism has spawned games such as *Madrid* (a plea for peace in response to the Madrid subway bombings of 2003) and *September 12*, the aim of which was to show the futility of using war to eradicate terrorism.³ One should also include white supremacist games such as *Ethnic Cleansing* and *White Law* in this category.

Rising public awareness of climate change, "peak oil" and other environmental issues has led to increasing numbers of what could be called "green" games. Starbucks has come out with the *Planet Green Game*, while Chevron has teamed up with the Economist Intelligence Unit to produce *Energyville*. Greenpeace had 13 videogames to play on its website as of July 2008 including *Duke Anti-Nuke*, *Eco-quest*, *Whale-flip!* and *Spank Esso*. Recently, Microsoft and Games for Change joined forces to sponsor a competition to create games with the theme of environmental sustainability. Teams from across the world entered the competition, which was won by a group from Brazil. The winning games may be included on Microsoft's xBox Live website,

³ All claims about the intent and purpose of these games are taken from the websites for the respective games. Reference information for these games can be found in section 8.1 Games Cited.

Microsoft has announced (Seggerman, 2008).

Religion is also a subject for videogames. Although little noticed in the mainstream gaming community or media, these games enjoy popularity especially in the United States (Gospelcom.net, 2008). Typified by *Catachumen*, *Pax Warrior* and the Left Behind game franchise, these games aim to evangelize, to reaffirm faith and to teach religious (usually Christian) values (Gospelcom.net, 2008).

Persuasive games are closely related to another, better-known genre of games – educational games, just as education and persuasion themselves are closely intertwined (Lipman, 2003).

Educational videogames have a long history. *Oregon Trail* was originally developed in 1971, while *Where in the World is Carmen San Diego?* was released in 1985. Other early examples include *Math Blaster* (1987) and *Reader Rabbit* (1989). Educational games have also been developed for a more adult audience, such as *Mavis Beacon Teaches Typing* (1987). Many corporations and other organizations also use these games as training tools (Prensky, 2000). For example, the Hilton hotel chain has commissioned *Ultimate Team Play*, a hotel training simulation that features various scenarios for employees to practice interactions with guests (Serious Games Source, 2008).

Evangelists for educational games, such as James Gee and Mark

Prensky argue that these games are effective because they add engagement, challenge, and context to the learning experience (Gee, 2003; Prensky, 2000). Coleman (1971) goes so far as to claim that “persons do not learn by being taught; they learn by experiencing the consequences of their actions,” something games are better at than traditional educational methods, he says, because they actively involve students in the learning experience.

But, others are not as convinced. Linderoth et al. claim that the educational game evangelists deliberately skew the arguments toward their point of view: “The great diversity of the arguments for developing and using games as educational tools makes it difficult to criticize the idea that games are suitable for educational practices. If evaluations do not show positive results of learning, there is always another human quality that the advocates of educational computer gaming can claim is being positively affected” (2004). As Garris puts it: “Unfortunately, there is little consensus on game features that support learning, the process by which games engage learners, or the types of learning outcomes that can be achieved through game play” (2002).

2.5 Persuasive Technology

Persuasive games can be considered a form of persuasive

technology. A persuasive technology, according to Fogg (1999), is a computing system, device, or application intentionally designed to change a person's attitudes or behaviour in a predetermined way (the qualifier "computing" precludes consideration of older persuasive technologies such as whips, swords and guns). Computer tools can persuade by increasing self-efficacy, by providing tailored information, and by leading people through a process. Their strength lies in their ability to provide vicarious first-hand experiences, simulations and virtual environments (Fogg, 2003).

Through these simulated experiences, computers can change people's attitudes and behaviours, Fogg says (2002). Persuasive technology uses seven techniques, he says: reduction (making a complex task simpler), tunneling (leading users through a predetermined sequence of actions or events), customization (providing users with information relevant to them to get them to change certain attitudes or behaviours), suggestion, self-monitoring, surveillance and conditioning. Videogames can employ any or all of these techniques to persuade, says Fogg.

The study of persuasive technologies (or captology as Fogg and his colleagues have termed it) is still a relatively new field, but some attempts have been made to apply its principles to persuasive games. For example, Rilla Khaled has developed a smoking cessation game

(*Smoke?*), and Magnus Bang and his colleagues in Sweden have created a game to encourage energy conservation, using captology principles (Bang, 2007).

2.6 History of Persuasive Games

Persuasive games long predate the invention of the digital computer. Indeed, as Abt (1970) notes, humans have used games and play for teaching necessary skills and socialization for millennia. Games explicitly created to change attitudes and behaviour date back to at least 1790, when the British publishers of the *New Game of Human Life* advised parents to play the game with their children and “request their attention to a few moral and judicious observations explanatory of each Character as they proceed & contrast the happiness of a Virtuous & well spent life with the fatal consequences arriving from Vicious & Immoral pursuits” (Lepore, 2007).

And in 1843, a board game called *Mansion of Happiness* was released in the United States. Its instructions begin:

“At this amusement each will find
A moral fit t’improve the mind;
It gives to those their proper due,
Who various paths of vice pursue,
And shows (while vice destruction brings)
That GOOD from every virtue springs.
Be virtuous then and forward press,
To gain the seat of HAPPINESS.”

Whether the *Mansion of Happiness* or the *New Game of Human*

Life had any effect is not known, but as Lepore observes:

“However popular the *Mansion of Happiness* was with the parents who purchased it, many of the game boards that survive in archives are in such suspiciously good condition that at least one historian has wondered whether children – who must, invariably, have been given the game as a gift – could ever bear to play it.”

In 1860 a young entrepreneur named Milton Bradley created the *Checkered Game of Life*, with the intention “to forcibly impress upon the minds of youth the great moral principles of virtue and vice”. The game was so successful, it helped establish Bradley’s board game business, but again, there is no evidence as to whether it had any moral effect, forcibly or otherwise, on the minds of youth (Lepore, 2007).

The *Checkered Game of Life* is now of historical interest only. But it could be argued that the perennially popular *Monopoly* also started as a persuasive game. *Monopoly* began life as *The Landlord’s Game* in 1904, created by Lizzie J. Magie “as a moral tale showing how unfair rents could be charged by unscrupulous landlords, for which, if there is any justice in the games world at least, they will rightly fetch up in jail” (Parlett, 1999). The object of the game was “not only to afford amusement to the players, but to illustrate to them how under the present or prevailing system of land tenure, the landlord has an advantage over other enterprises and how the single tax would

discourage land speculation." *The Landlord's Game* was not a success until it was re-branded as *Monopoly* in the 1930s. Interestingly, it spawned another persuasive game decades later when in 1973 Ralph Anspach published *Anti-Monopoly* "as a deliberate reaction against all those business games that glorified the monopoly principle" (Parlett, 1999). Like *The Landlord's Game*, *Anti-Monopoly* never came close to enjoying the success and influence of the non-overtly persuasive *Monopoly*.

The 1960s and 1970s witnessed a great flourishing of multi-player simulations. Given credibility by the Rand Foundation, which developed a number of these games for use in the Cold War and Vietnam War, and enthusiastically adopted by governments, military forces, corporations, and educational institutions, most of these were intended for education, training or exploring alternative courses of action (Abt, 1970)⁴, but some had a persuasive purpose. For example, sociologists at Johns Hopkins University developed *The Life Career Game*, *The Family Game*, *The Representative Democracy Game*, *The Community Response Game* and *The Consumer Game* — which had as its aim that the player learn "the necessity to defer gratifications"

⁴ I recall playing one such game in a high school class on ancient history in 1972. In the game, students played the parts of members of the Roman government during the Republic period. Its effectiveness as a learning tool can be evinced from the fact that I still remember, 35 years later, how the game made clear the weaknesses in the Roman republican political system.

(Avedon & Sutton-Smith, 1971).

Persuasive games have even gone outdoors. In 1976, a group called the New Games Foundation published *The New Games Book*, intended to popularize non-competitive participatory sports designed for “getting people together and enjoying each other” (New Games Foundation, 1976). How successful – in terms of popularity or persuasive effectiveness – these games were is not known, but one of the creators of the foundation, Dale Le Fevre, says he still uses the games to encourage co-operation and tolerance in venues ranging from primary schools to war-torn regions (INewGames website, 2008). He is seeking funding, so far unsuccessfully, for a study of the effectiveness of the games (Le Fevre, personal communication, March 12, 2008).

2.7 Persuasive Games Today

Today, persuasive games are a well-established part of the videogame landscape. They have attracted the attention of the media (Armstrong, 2005, Ochalla, 2007), of academics (Bogost, 2003, 2007⁵, Frasca, 2001, Gee, 2003), and of funding agencies such as the MacArthur Foundation (Dobson, 2007). The game-playing public is also taking note of persuasive titles, aided in part by the increasing use of

⁵ One sign that persuasive games have come of age: Bogost was interviewed about his book, *Persuasive Games: The Expressive Power of Video Games*, on The Comedy Network’s Colbert Report in August 2007.

the Internet for distribution (Stokes, 2005). As of June 2006, *America's Army* players had logged more than 160 million hours of game time and had clicked through to the recruitment website GoArmy.com 1.35 million times (Clarren, 2006). Meanwhile, the *Food Force* website boasts more than 4 million downloads despite the 200-megabyte size of the game file (Food Force, 2006). MTV, which has already sponsored a contest to develop a persuasive game about the conflict in Darfur, is considering creating a website devoted to persuasive games (Seggerman, personal communication, 2007).

Other websites, both academic and commercial, have been created devoted to persuasive games. Ben Sawyer's Serious Games Initiative website has served as a discussion board, repository of information about serious videogames (including persuasive games), and news source since 2002. The Serious Games Initiative has also sponsored many workshops and conferences. Ian Bogost has established both a commercial site, persuasivegames.com, and the non-commercial watercoolergames.org, which he calls "a forum for the uses of videogames in advertising, politics, education, and other everyday activities, outside the sphere of entertainment." Recently, serious games creators and scholars Mary Flanagan and Helen Nessenbaum launched valuesatplay.org to "harness the power of video games in the service of humanistic principles". Values @ Play sponsors

an annual “Better Game Contest” and also encourages game developers to consider the effects of their games and to include “positive principles like equity, creativity, diversity, and negotiation, along with the traditional tropes of violence and machismo” (Flanagan & Nessenbaum, 2008). The Games for Change group also operates a website (gamesforchange.org).

However, a continued increase in the popularity of persuasive games cannot be taken for granted. Bogost (2008) notes a predicted rise in the number of videogames created for the 2008 U.S. elections has not been forthcoming, so far. “This year seems to boast less interest in election games than last year’s.... All in all, we’re in the same place in 2008 we were in 2004, with some of the novelty removed.”

2.8 How Games Persuade

How then can videogames “modify or change the values, wants, beliefs and actions of others”?

Attempts at analysing persuasion date back to at least ancient Greece. According to Aristotle, persuasion is achieved through rhetoric, and has three parts – ethos, pathos and logos (Cooper, 1932). Ethos uses claims about the persuader’s moral character to gain the trust of the audience; pathos is an emotional appeal to secure the goodwill of

the listener and logos is the reasoned argument that appeals to the listener's rational mind. Aristotle's categorization has been elaborated on over time, but is still useful for analysis of persuasion (Bogost, 2007). In the last century, Burke also equated persuasion with rhetoric, defining it as "the use of words by human agents to form attitudes or induce actions in other human agents" (1969). Despite the limiting term "words" in his definition, Burke does also include non-verbal means of communication.

The emergence of psychology and neurology and other sciences has led to new theories of persuasion such as cognitive dissonance (Miller, 2002), elaboration likelihood (Petty and Cacioppo, 1981), and transportation (Green, 2005). Decades of research on advertising and marketing have confirmed the realization that persuasion is a complex phenomenon, one dependent on many interrelated factors and that the cross-effects of these factors are difficult to separate (O'Keefe, 2002). The interest the receiver of the message has in the topic of the message, their level of education, their knowledge of the issue, their cultural background, their feelings about the originator of the message, the medium used for the persuasive message, and competing messages are just some of the factors that influence the success or failure of an attempt at persuasion (Petty, 1981).

To turn to persuasive games, several (by no means mutually

exclusive) mechanisms of persuasion have been posited by ludologists, including immersion, flow, exposition and procedural rhetoric.

2.8.1 Immersion

Murray (1997) defines immersion as the experience of being transported to an elaborately simulated place and equates it to the sensation of “being surrounded by a completely other reality ... that takes over all of our attention, our whole perceptual apparatus.” With immersion, she says, the game player actively participates in making the game experience seem more real: “Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience.”

Even before the videogame era, ludologists were noting the immersive power of games. Abt (1970) stated: “The abstract representation of real life in game form does not render the game any less capable of teaching ‘true’ knowledge. One does not have to be Shakespeare to understand his plays (which are, after all, monumental literary games), but acting in the plays can yield a more vivid and lasting view of Shakespeare than would a teacher’s reading of the plays to a class.”

Coleman (1971) agreed: “Persons do not learn by being taught;

they learn by experiencing the consequences of their actions". Games, he said, focused attention more effectively because they actively involved students in the learning experience.

Technology, bringing with it enhanced interactivity and graphical and aural realism, has only increased the immersive potential of games. As Khaled (2007) notes: "Intuitively, it seems that games as persuasive technology hold much promise for changing people's attitudes: games are by nature interactive, and people tend to retain more impressions and be more swayed by arguments that engage them more deeply. In comparison to more static forms of media at least, games are likely to be more appealing to younger generations, and an effective form of concisely representing real world information in a potentially entertaining manner."

Related to immersion is the concept of "agency", which Murray calls "the satisfying power to take meaningful action and see the results of our decisions and choices" (Murray, 1997). Agency combines problem-solving with the activity of navigation. When our actions in a videogame are appropriate to the game narrative, she says, they increase the immersive effect, and strengthen our belief in the solidity and consistency of the game world.

2.8.2 Flow

Some game theorists posit that videogames are compelling because they create in the player a state of "flow" (Csikszentmihalyi, 1990) – a highly energized state of concentration and focus. Flow is achieved by increasing the level of challenge as the individual's skill level increases so there is a dynamic tension between a state of boredom (a task is too easy) and frustration (a task is too difficult). This balance generates a highly focused state of mind that allows the player to concentrate on the game, forget personal problems, lose their sense of time, feel competent and in control, and enjoy a sense of harmony with their environment (Csikszentmihalyi, 1990). Amory applies flows to educational games (2006) and posits that the player assimilates tacit knowledge through the process, which is then assimilated and constructed after emerging from the state of flow.

2.8.3 Engagement

Closely related to flow is the idea of engagement (Quinn, 2005), where the player finds the game so engrossing that they assimilate the values and facts that make up the game world without realizing that they are doing so. As Herz notes: "Often, especially if the sim is lavishly produced, people don't twig. That's what makes the sim so effective at convincing people that certain types of political behavior are appropriate. Once you are in the game, you've agreed to let

someone else define the parameters” (Herz, 1997). And Bogost (2003) argues that games are unlike other media in their power to persuade because they “not only deliver messages, but also simulate experiences.”

Murray (1997) argues that game events are transformative because we become absorbed in the game world’s narrative and assimilate game events as personal experience. Blackmon goes further, claiming that for some young game players, real and simulated experiences become blurred over time and the world of the game becomes another “stored experience” (2007).

Persuasion theorist Melanie Green (2005) calls this effect “transportation”: to the extent that individuals are absorbed into a story or transported into a narrative world, the story can affect their real-world beliefs. She states that, while involved in the story, readers [game players] may be less aware of real-world facts. Individuals who are more engaged in a story show greater generalization of the beliefs implied by the story, she says. Or, as Murray (1997) puts it more poetically: “the right stories can open our hearts and change who we are”.

Research from the Stanford Persuasive Technology Lab supports the view that game engagement can transform attitudes: Yee and Bailenson (2006) placed their university-aged subjects in a virtual

environment where they controlled avatars – digital representations of themselves – that resembled elderly people. The researchers then tested the attitudes of their subjects towards the elderly. They concluded that adopting the avatar of another person in a controlled computer simulation increases empathy towards people with similar traits to that of the avatar and decreased the players’ stereotypes of the elderly.

2.8.4 Procedural Rhetoric

Updating the Aristotelian theory of persuasion by rhetoric, Ian Bogost proposes that games persuade by using “procedural rhetoric”, which he defines as “the practice of using processes persuasively” (2007). Procedural rhetoric, he says, is a technique for making arguments with computational systems:

“Following the classical model, procedural rhetoric entails persuasion – to change opinion or action. Following the contemporary model, procedural rhetoric entails expression – to convey ideas effectively.... [I]ts arguments are made not through the construction of words or images, but through the authorship of rules of behavior, the construction of dynamic models. In computation, those rules are authored in code, through the practice of programming.”

As an example, he describes *The McDonald’s Videogame*, where the parameters of the game require the player to make difficult decisions about profit, factory farming and environmental degradation,

through which the player learns “the necessity of corruption in the global fast food business, and the overwhelming temptation of greed... [t]he game imposes constraints simulating necessary evils on one hand, and on the other hand ... business practices that are self-defeating and, really just stupid” (2007). Every action in the game has its consequences, built into the game’s procedures by the designers, with the rhetoric of these procedures impelling the player to realize the complexity, compromises, constraints and consequences of the fast food industry. Instead of being told explicitly that selling hamburgers cheaply and quickly requires raising cattle in cramped factory farming conditions which in turn leads to environmental degradation, the player learns it through the game play, which, Bogost believes, is a more effective and longer-lasting way of assimilating information.

2.8.5 How Games Persuade – A Summary

From the above arguments – immersion, flow, engagement, procedural rhetoric – it seems that games can persuade (or “modify or change the values, wants, beliefs and actions of others”) when the player becomes absorbed in the game world and assimilates its values and logic. However, that game world has to be both convincing and compelling. If the player feels the game is not interesting or believable, they won’t be persuaded.

2.8.5 Impeding Factors

There are other factors that may also inhibit or impede the persuasive effect of videogames. The medium itself is a major factor. When playing a videogame, it is sometimes difficult for the player to forget that they are using a computer or console – an obstacle to achieving a state of flow or immersion. The videogame player is not actually standing on the Pellamor Fields, sword in hand, battling orcs; she is sitting in her bedroom, hunched before a 20" flat screen, controlling an animated construct that moves on that screen in response to the movement of her fingers and thumbs on the joystick. And, as Rehak (2003) notes: "Interactions with computers are complicated by the interruptions of everyday life, hardware and software failure, and an affective user response ranging from joyful transport to seething rage. In addition, the discourse of the screen is itself a collage of different hails that compete for recognition and attention: multitasking operating systems 'window' applications so that users move jarringly among word-processing documents, games of Solitaire, and the World Wide Web".

According to King (2006), the game player is usually conscious that they are playing a game: "Players of videogames understand

themselves quite clearly to be playing.” Furthermore, she says, this artificiality can create frustration and anxiety: “Myriad disturbances, interruptions and shortcomings that can interfere with the process.” Amory also feels that players are too focussed on the game’s mechanics to engage with the game designer’s rhetoric (2006).

One could counter this argument by noting the continued evolution of game interfaces, with such recent innovations as the Nintendo Wii and the guitar-shaped interface used in *Guitar Hero 3* leading towards a future when interfaces will not be so obtrusive. However, even if the interface effects are gradually becoming less intrusive through improvements in technology and design, there are other arguments against the effectiveness of persuasive videogames. Kraft (1971) argues that games are hampered by their built-in assumptions: “Playing games in which values are set in advance and are not open to discussion will not help people understand why human beings and societies cherish the values they do cherish, and how one goes about deciding, in a world of conflicting values, what is indeed worth striving for and getting.”⁶ Carlson (1971) notes the danger that games – most of which mirror current political and economic institutions – may encourage quiescent and conformist attitudes. Similarly, King (2006) claims that games are better at strengthening

⁶ See above for a discussion of this in relation to *SimCity* and *Civilization*, for example.

existing beliefs than changing opinions: "Gameplay... has more potential to re-confirm (or respond to) existing cultural tendencies with which it resonates one way or another than to create something distinctly new of its own."⁷

The game design can also be a limiting factor. De Castell and Jensen caution that educational videogames need to be well designed to be effective. An effective educational videogame, they say, would activate or suppress potentialities already present within the player's personal and social environments. It should be "an engaging, immersive play-space in which users want to stay, explore, and learn." Unfortunately, they say, "neither educators nor developers have been able to create an educational game that offers its players the kind of engaging, immersive play-space in which users want to stay, explore, and learn, as they do consistently in commercial games" (De Castell & Jenson, 2003). Instead, most educational games consist of a structured series of puzzles or tasks embedded in a narrative structure with which the puzzles or tasks have, typically, only the slenderest of connections. As Garris (2002) warns, "Ultimately, we run the risk of

⁷ A related issue is the ethics of using videogames for persuasion. The game designer's biases, and what he or she puts in or leaves out of a game are often unknown to the game player. Do persuasive game developers have an obligation to disclose their biases? This, and other ethical considerations such as the appropriateness of targeting persuasive games to adolescents and children, are issues that need to be discussed.

designing instructional games that neither instruct nor engage the learner. Bargain bins in software stores attest to the difficulty in designing appealing and instructionally sound computer games.” The same argument could be applied to persuasive games.

According to some theorists, the age of the player may also be an impeding factor in game persuasiveness. In his discussion of the effectiveness of educational games, Prensky (2000) differentiates between “digital natives” – those people born in the 1980s and after who have never known life without computers and “digital immigrants”, those born before the age of the personal computer. According to Prensky, digital immigrants are more suspicious of digital media, including videogames, and therefore less susceptible to being influenced by such media. It should be noted that Prensky does not supply any empirical evidence for his claim, and as noted below, the current study shows no correlation between age and videogame persuasiveness.

Finally, there is the argument that no matter how well-balanced the game-play, how unobtrusive the interface, how engaging the game, its effect will be limited because it won't reach the right audience. If persuasive games are only played by those inclined to the game's point of view in the first place, they will be much less effective. As Bennett notes about books (2007): “[they] seldom prompt a course

of action. Books generally just confirm you in what you have, perhaps unwittingly, decided to do already. You go to a book to have your convictions corroborated." It is unlikely anyone but a committed supporter of John McCain would have gone to his website to play *Pork Invaders*, for example.

2.9 Determining the Effectiveness of Persuasive Games

Having established how games can persuade, can we determine how effective they are? How many of the *America's Army* players who click through to GoArmy.com take the next step towards enlisting? And will the schoolchildren who play *Food Force* retain an interest in the politics of food distribution when they leave the classroom?

Games that are intended to lead to actions are easier to evaluate in this regard. If one is attempting to get people to vote for a candidate, then one could count the number of game players who voted for the candidate (attempting to control for other factors that might influence the decision to vote, of course). If the intention is to get people to visit a website, then one can tally the number of players who clicked through from the game to the website.

Many games do not have such concrete goals though. They are intended to influence the player, perhaps, rather than directly lead to an action. Can this influence be measured? According to some

persuasion theorists, it can. Persuasion can be measured, says O'Keefe, by comparing attitudes before and after the application of the persuasive message (2002). Various techniques can be used, he says, such as semantic differential evaluative scales (good/bad, undesirable/desirable), or paired-comparison procedures and ranking techniques, such as Likert scales. However, Miller (2002) flatly states that no means exist for directly observing or measuring an attitude and that only a minimal relationship is often observed between verbal indicators of an attitude and other attitudinally related behaviours. He also notes that persuasion "is seldom, if ever, a one-message proposition; people are constantly in the process of being persuaded." Therefore, even if a change in attitudes can be measured, it would be difficult to separate out the sources of that change.

Another consideration is whether the attitude being changed is strongly linked to the receiver's core values (Miller, 2002). Superficial attitudes are easier to change than ones linked to deeply held beliefs and values. Further, value-based attitudes tend to be longer lasting and more predictive of future behaviour (Booth-Butterfield, 2002). Measuring the effectiveness of persuasive games should ideally take this into account.

2.9.1 Previous Studies

Nevertheless, some quantitative studies of persuasive games have been undertaken. In the 1960s and 1970s, Cleo Cherryholmes measured the effectiveness of some of the social simulations developed at Johns Hopkins. The results were mixed: "While agreeing that simulations do create more student motivation and interest, he found that they produce no consistent or significant difference in learning retention, critical thinking or attitude change" (Carlson, 1971). Sarane Boocock also did empirical measurements of the effectiveness of some of the Johns Hopkins simulations, specifically *Life Career* and the *Game of Democracy*. She tested the games with 1,200 delegates to a 4H Clubs convention. Half played one of the games while serving as a control group for the other game (Boocock, 1968). Again, the results were mixed. She discovered that:

"Boys who took a feminine role or the role of a potential dropout in the game were more likely to take a liberal or sympathetic attitude toward these roles after their game experience. The effect on girls of taking a deviant role seems to operate in the opposite direction, although it is not possible to say at this point whether this is a general reaction of girls or unique to this particular group of conformist, achieving girls. What seems to 'allow' boys who take deviant roles to feel sympathy toward their role is identity with this person.... The experience of playing a deviant role does not create empathy with dropouts generally unless feelings of identity with the particular person are aroused."

Boocock points out that the study took place over a two-day

period and that perhaps substantial changes shouldn't be expected in such a short period of time.

More recent studies have been undertaken, of course. Lieberman in 1997 published results of her research on the effectiveness of health promotion games for children. She found the children were both highly motivated to play and highly involved with the games. For example, children who played an antismoking videogame for one hour expressed significantly stronger intentions not to smoke (though there is no indication of how long the effect lasted). Lieberman also found significantly higher knowledge of health issues and better self-efficacy with asthma self-management for children playing the games.

Also in the field of health games, the Virtual Reality Medical Center reports that 15 adolescents who played its anti-smoking game changed their beliefs about smoking-related habits (Khaled, 2007). Khaled's own game, *Smoke?*, was successful in shifting peoples' anti-smoking attitudes, she writes. After playing *Smoke?*, subjects reported an increase in negative beliefs towards smoking, an increased resistance to smoking, and a stronger intention to quit. She also reports a decrease in positive beliefs towards smoking and decreased temptation to smoke.

Advergaming has also been studied. Buckner (2002) reports that in 2001 Ford Motor Company sent a game by email to 13,000

contacts and that 42 percent of recipients opened the game and accessed the company's web site as a result. Eight percent of the original recipients of the game forwarded it, on average, to three of their friends or acquaintances with an 80 percent response rate. The same year, a game created to promote BBC America and Samsung Monitors generated 66 percent repeat visits as users sought to improve their individual performance (Buckner, 2002). In a recent German study on people's attitudes towards advergaming, 80% of participants were able to recall the brand promoted and 50% said they felt more positively toward the brand. More than half passed the game on to their friends (Khaled, 2007).

Educational games have also been studied, with mixed results, as Garris notes (2002). Citing a meta-analysis of educational game effectiveness by Pierfy, he reports that three of the studies reported results favouring the effectiveness of games over conventional teaching; three reported results favouring the effectiveness of conventional teaching over games; and the remaining 15 found no significant differences. Another study that showed mixed results was one undertaken by Linderoth and his colleagues at the University of Gothenberg of Swedish schoolchildren playing videogames. Any learning that took place was very specific to the game itself: "learning occurs during game play because the children learn the skill of

handling games and developing local conceptual tools in game environments” (Linderoth et al., 2004).

Even in the above-mentioned areas – advertising games, health games and educational games – there have been only a few studies, with no large-scale or longitudinal studies. Other types of persuasive games have been even less studied. For example, little, if any, research has been undertaken as to whether videogames can change peoples’ attitudes towards social or environmental issues. And yet, games intended to do so continue to be produced, with new titles being frequently announced.

The current study was undertaken to address this scarcity of empirical data about the effectiveness of social advocacy videogames. Given a videogame deliberately designed to change peoples’ opinions about a social issue, can that game’s effectiveness be measured?

3 *Homeless: It's No Game*

As noted above, some studies of health and advertising games seem to indicate a measurable persuasive effect for particular games. But studies in the area of social advocacy games are lacking. Can a social advocacy videogame change the attitudes of its players?

Homeless: It's No Game was developed to add to our understanding of the effectiveness of these advocacy games and to explore possible avenues for future research in this field.

3.1 Why Homelessness?

Homelessness was chosen as a game topic because it is a social problem that is growing in public awareness, because of its immediate and significant impact on the lives of people, its implications for social policy, because of uncertainty and misunderstanding about its causes and solutions, and because of the need for public support of measures to alleviate the problem. Few studies of cultural and national differences in attitudes towards homelessness have been undertaken except for North America and Europe. Data on attitudes towards the homeless in Asian countries, for example, is difficult to find (Toro & Tompsett, 2007). With regard to North America, there is evidence an

increase in awareness of homelessness in recent decades, along with an increase in sympathy towards the homeless (Toro & McDonell, 1997; Vancouver Homeless Funding Model, 2006).

In the Vancouver region, homelessness is a very visible and growing problem, due to a number of inter-related factors including a scarcity of housing, the attractiveness of the region and its climate, decreased government support for housing, and the de-institutionalization of mental health patients (Vancouver Homeless Funding Model, 2006). Despite recent efforts by provincial and local governments to ameliorate the problem, homelessness still persists. The first part of this decade saw a significant growth in the number of homeless in the region, almost doubling from 1,121 persons in 2002 to 2,174 persons in 2005, according to an analysis by Michael Goldberg of the results of the 2005 Greater Vancouver Regional District Homelessness Census (Goldberg, 2005). Most homeless are in that situation because of a lack of income (44%) or because of the cost of housing (22%), Goldberg concluded. Health or addiction issues account for only 25% of homelessness, he said.

People in Vancouver are aware of the issue: a poll of Vancouver residents in 2006 indicated that 24% of residents felt homelessness was the top issue in the city, while 72% thought the problem was getting worse (CTV Vancouver, 2006). Yet, despite this awareness,

misconceptions about the issue are still prevalent. Although the Homelessness Census found that health or addiction issues accounted for only one quarter of homeless cases in Vancouver, the same CTV poll shows area residents believe these issues account for 57% of the problem. The poll also shows 14% of respondents feel the homeless are too lazy to work.

Poll respondents were also asked how they felt when they saw a homeless person. As noted in Table 3.1, fewer than half the respondents reported feeling sympathetic upon seeing a homeless person.

Table 3.1 Feelings of poll respondents upon seeing a homeless person

Feeling upon seeing a homeless person	Percentage reporting feeling
Sympathetic	48
Uncomfortable	16
Neutral	15
Angry	8
Ashamed	6
Afraid	2
Guilty	2

Source: Strategic Counsel poll for CTV, Globe and Mail and CKNW Radio, November 2006. Margin of error: plus or minus 4.4 per cent, 19 times out of 20.

Homelessness seems to attract extreme emotions. A complaint on the Gamespot discussion board about the way the homeless were treated in a new videogame (*Condemned 2: Bloodshot*) provoked the following responses (the thread has since been deleted):

most of them needed a good tasing and a small pipe to the face

Why can't these homeless people in the world of *Condemned* just do what homeless people do best, sit around holding out a Tim Hortons cup looking for loose change from people who walk by so they can buy some booze.

shut UP!!!! i HATE the homeless! all they want is my money and cigarettes!!! "spare sum change" "spare a smoke" NO WAY! TIME TO DIIIIIIIEEEEEEEEEEE!!!!!!!

if my lazy ass has to get a job and work, so do they! (granted, there are a few exceptions, like the one's that are completely out of their mind, so those ones should just be shipped out to a deserted island and forgotten about!) (Gamespot.com, 2008).

There is clearly an opportunity to try to change people's attitudes towards the homeless, and perhaps increase public support for finding a societal solution to the problem. Homelessness is a complex issue and one that can probably never be solved completely. But perhaps a videogame that puts its player in the role of a homeless

person can increase the player's sympathy for the homeless and thereby increase the likelihood that they would support measures to alleviate homelessness or even just respond positively they next time they're asked for spare change by a street person.

3.2 Homelessness in Videogames

Homelessness has not been a popular topic for videogames. In the 1980s, a game for the Leisure Vision console was released called *Hobo 1042* that featured a "bum" engaged in typical arcade game activities such as racing, dodging obstacles and navigating mazes. More recently, American McGee released *Bad Day L.A.*, which featured a homeless person as its protagonist. However, the character, a well-off scriptwriter, had deliberately chosen to be homeless because of his disgust with society. *Bad Day L.A.* attracted considerable controversy even before its release, with some homeless advocates denouncing it for its depiction of homeless people and calling on the game's manufacturer to cease production and others defending the game: "Alienated homeless guy saves city and reluctantly defends people who normally wouldn't give him the time of day. What's not to like?" (McGee, 2005). *Street Survivor*, developed by Australian social activist Kirsty Baird, looks at homelessness from a first-person perspective. The game, which has been delayed because of funding issues, is intended to discourage at-risk youth from living on the streets (Baird

personal communication, June 16, 2006).

In a similar vein is *Street Smart Detroit*, which is still under development at the time of writing. According to the game's website:

The concept for the game is gameplay that would raise awareness of homelessness issues. In the medium of a game, the player would see the issues of homelessness through the eyes of the homeless. The game would include some facts about homelessness with the goal of educating the player, but would primarily focus on changing attitudes – or in the words of one advocate – make people see the homeless as human. From perspective of the player, they would be challenged to see if they would be smart and tough enough to live (and eventually get off) the streets of Detroit (*Street Smart Detroit*, 2008).⁸

A more commercial product is *Condemned Two: Bloodshot*, a first-person action game for the Xbox 360 and PlayStation 3 released in March 2008. In this game, homeless people are the villains – “bums” who have been possessed by demonic forces. Like *Bad Day L.A.*, it has generated some controversy over its depiction of homeless people (Gamespot, 2008).

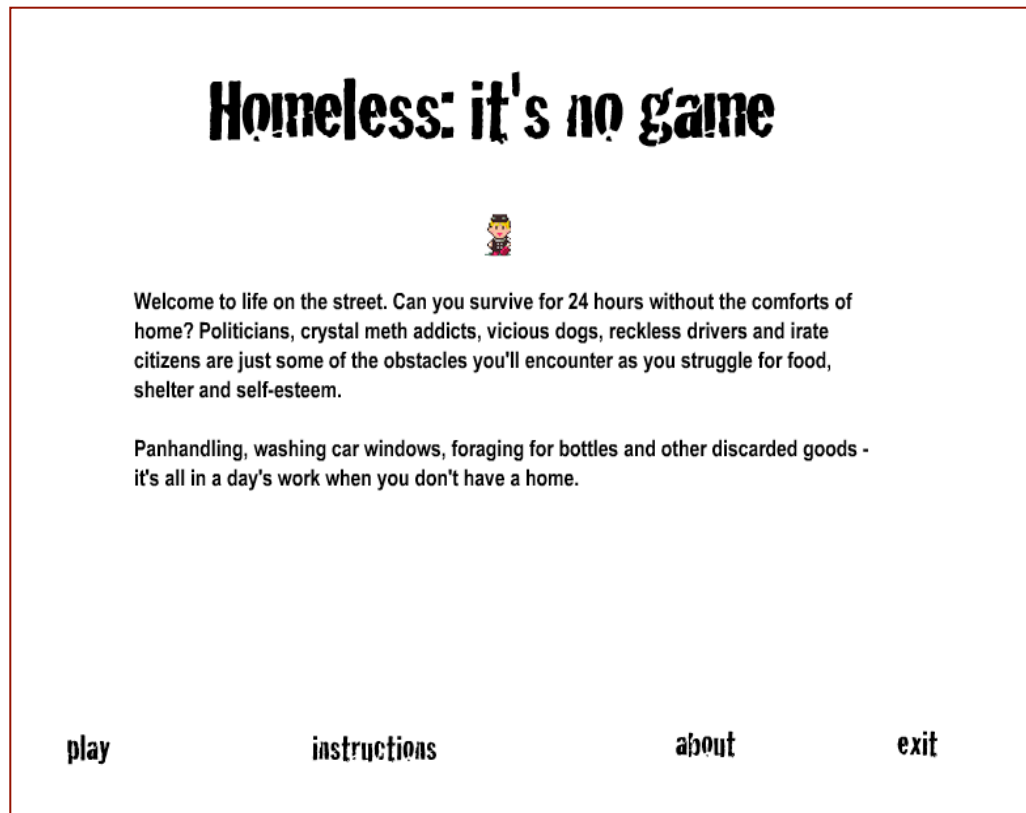
3.3 Homeless: It's No Game

Homeless: It's No Game puts the player in the position of a homeless woman trying to survive on the street for 24 hours. She has to find food, shelter, water and rest – and a place to go to the bathroom; all the while dodging police, vigilantes, drug dealers, nasty

⁸ *Street Smart Detroit* was inspired by *Homeless: It's No Game*, according to the game's lead developer, Rich Elswick (personal communication, 2008).

dogs and muggers. Success or failure is measured through “self-esteem”: positive encounters increase esteem, negative encounters decrease it. During the game, the player experiences events and situations that homeless people face in reality, such as lack of washroom facilities, encounters with hostile authority figures, and the need to find food, water and shelter.

Figure 3.1 *Homeless: It's No Game* opening screen



The character is a young woman who has recently become

homeless after growing up in foster care⁹. A female character was chosen for two reasons: first: most videogame protagonists are male and second, women have greater difficulty finding a place to relieve themselves when on the streets than men do, adding to the game challenge. Possible negative homeless characteristics, such as drug and alcohol dependency, were not included. Other ways in which the game departs from a realistic depiction of homeless: there is no mention of mental illness, yet this is a major contributing factor to homelessness, as Goldberg (2005) notes. Also, the homeless character in the game has no faults (a characteristic remarked upon by several homeless people who took part in the participatory design workshops during the game development). Another departure from realism is the omission in the game of other options for the homeless – such as shelters and social services. These omissions were made for two reasons. First, homelessness is a complex issue, and it is difficult to depict all its aspects in a casual game. Second, since the game's purpose is to increase sympathy for the homeless, at the risk of detracting from the game's realistic depiction of homelessness. However, this led to the possibility that players would sense the game is unrealistic, which could lessen its credibility, and consequently, its

⁹ The foster care backstory was added at the suggestion of the Vancouver School Board, which used the game as part of a homelessness awareness teaching module for grades 5 and 6.

effectiveness. As noted below, participants were asked how realistically they felt the game depicted homelessness, and their responses were correlated to how persuasive they felt the game was.

3.4 Persuasion in *Homeless: It's No Game*

The intent of the current study is to see if attitudes towards the homeless, can be changed through the playing of a videogame about homelessness. The change in attitude is to be achieved by having the player become a homeless person, trying to survive on the city streets and constrained to a limited set of actions. The arbitrariness, tedium, ambiguity, futility and harshness of the game world will lead to increased sympathy for the homeless character and, by extension, to increased sympathy for homeless people in general, as per the findings of Yee and Bailenson referenced earlier.

To use Bogost's procedural rhetoric framework, the player experiences the despair and arbitrariness of life on the street through the random but limited choices that the game forces upon her. As in real life, a person without resources has limited options, and the outcome of those options influences subsequent events. Some parts of the gamescape are accessible; others are not, depending on circumstances, such as the time of day or the character's resources. Again, these programming choices reflect the reality of a homeless

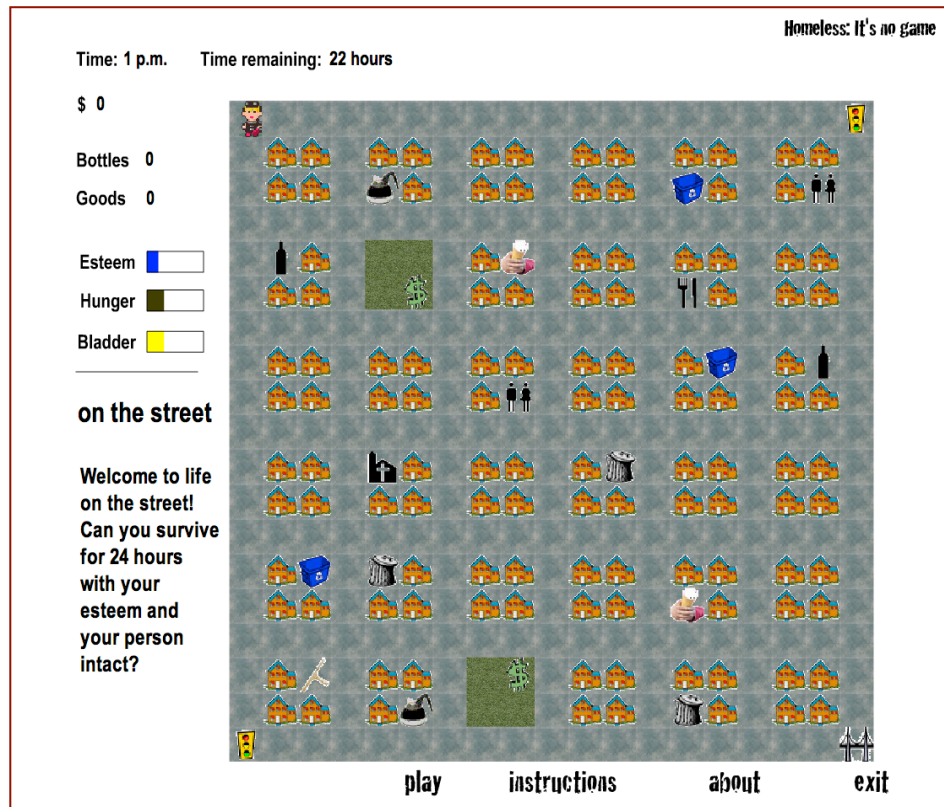
person's experience.

3.5 Game Mechanics

Homeless: It's No Game is a casual videogame¹¹. It was created in Adobe Flash 8.0 (it is compatible with Flash 6.0 or greater). The game world is a finite, 2-dimensional, 19 x 19 grid. Game squares can be streets, houses (which are not accessible), coffee shops, public washrooms, liquor stores, garbage and recycling bins, churches or parks. The graphics are rendered in a retro-1980s style. The practical reason was a lack of resources to create anything more elaborate, but the simple graphics and interface have the benefit of allowing the player to concentrate on the game play rather than the mechanics or appearance of the game.

¹¹ The Casual Games Association (2007) gives the following definition: "Developed for the general public and families, casual games are video games that are fun and easy to learn and play. The games are platform agnostic, meaning they can be played via the Internet, PC and Macintosh computers, Xbox, PlayStation, Nintendo DS, Wii and even mobile phones and PDA. They're nonviolent, arcade-style games that involve puzzles, words, board and card games, game show and trivia."

Figure 3.2 Homeless: It's No Game game world



The goal of the game is to survive for 24 hours in game time (about 15 minutes in real time) without allowing self-esteem to drop to zero. Random encounters are generated with other characters, such as police officers, muggers, irate citizens and other homeless people. There are four interrelated feedback loops employed in the game – hunger, thirst, bladder level, and self esteem. The results of encounters with non-player characters are conditioned by a positive feedback loop – the higher the character’s self-esteem, the more likely the encounter will be positive (adding to self-esteem), the lower the

self-esteem, the more likely the encounter will be negative (decreasing self-esteem).

Self-esteem, which has been defined as one's worth as a person with a particular identity (Tafarodi & Ho, 2006) was chosen as the key scoring mechanism in the game after discussion with people who worked with the homeless, who emphasized the importance of this trait as the difference between someone just getting a handout and someone motivated to take the next steps to break themselves out of the poverty cycle. High self-esteem leads to increased self-confidence and to self-motivation. A fragile construct, self-esteem can be influenced by even the simplest interaction, such as a person smiling at you rather than avoiding eye-contact. "These are fragile people and their sense of their own self-worth is very low," said one advocate for the homeless. A positive encounter of any sort will raise that self-worth and make them feel life is worth living; a negative encounter will lessen it and make it less likely they'll be motivated to keep on trying (Graves, personal communication, 2006).

Other feedback loops are based on the character's hunger, thirst and bladder discomfort levels. These affect the character's performance negatively – the higher the hunger, thirst or bladder discomfort levels, the less the character is able to function successfully.

The game instructions are simple:

You're living on the streets of one of the most beautiful cities in the world. After growing up in foster care, you're out on your own, and on the street; no job, no money, no home.

Your goal is to survive on the city streets for 24 hours while building up your self-esteem. Meanwhile, you have to eat, which costs money, unless you run into the mobile soup kitchen or get a hot meal at the church. Get money by hunting for (and selling) items from dumpsters, by collecting bottles and redeeming them at the liquor store, or by panhandling and washing car windows. But watch out for the police. They don't like your kind.

You build up your esteem by making money, by completing actions successfully (like convincing the coffee shop barista to let you use the washroom or to give you a glass of water). You win if you gain enough esteem within 24 hours. If you don't, or if your esteem hits 0 at any time, you lose.

Move through the streets by pressing the arrow keys. Good luck.... you'll need it.

P.S. Don't forget to pay attention to your body's needs. And watch the clock - the streets aren't safe at night.

The tile creation code is based in part on code in *Flash MX 2004 Game Design Demystified* (Makar & Winiarczyk, 2004). The character sprite was downloaded from videogamesprites.net. Sound effects were downloaded from freesound.iua.upf.edu. The ActionScript code is reproduced in Appendix 7.1 of this paper.

3.6 Game Development

Homeless: It's No Game was initially created as a board game, played on a makeshift board divided into squares that represented streets, laneways, houses, parks, stores and restaurants. It was developed for IAT 842, Theory and Design of Games, a graduate-level course in the School of Interactive Arts and Technology at Simon Fraser University taught by Chris Shaw in the Spring 2006 term. In the first (board game) iteration, one player was the homeless person, while up to three other people played characters such as a police officer, homeless advocate, or neighbourhood vigilante. Players rolled the dice to determine the number of squares they could move. The goal of the person playing the homeless person was to avoid the other players, while the other players tried to intercept the homeless person for their own motives. Several rounds of game play and suggestions from classmates and the instructor led to the introduction of new elements of conflict and tension, such as the need to get food and drink to heighten game play.

The game was then converted into a single-player Flash-based videogame and underwent further field testing in small participatory design sessions with various groups, including university students, homeless people, homeless advocates and teachers. The gameplay was considered adequate but suggestions were made to make it more

exciting by shortening the time it took to play and by introducing the concept of self-esteem, by introducing a game square where the protagonist could shelter, and by adding dehydration as a new element to be measured. At this time the numerical displays for hunger, bladder and self-esteem were replaced with display bars. The algorithms to determine self-esteem were also adjusted to make game play easier as there was a general feeling that it was too difficult to win the game.

After these changes, further testing with volunteers led to the conclusion that the game was now good enough to use for the study. At this point game development was essentially complete although some minor tweaks to eliminate non-critical bugs and to refine the self-esteem and random chance algorithms were later made in response to suggestions during the pilot test.

3.7 Game Distribution

Homeless: It's No Game is available for play on the World Wide Web at www.homelessgame.net. It can be played online (the Flash executable file is 316 kilobytes in size) or downloaded and played on any Flash-enabled computer. It is distributed through a Creative Commons Attribution NonCommercial-ShareAlike license and the source code is available for others to improve or localize the game.

4 Research

4.1 Thesis

Homeless: It's No Game was created to see what, if any, persuasive effect of a particular videogame could be empirically measured. The hypothesis was that there would be a measurable, significant change in attitudes towards the homeless among people who played the game. To test the hypothesis, a survey was designed to measure attitudes towards the homeless. Because it was a preliminary study, various scales were used to see which ones yielded the most fruitful lines of enquiry. Attitudes were measured through a nine-item scale adapted from Batson (1997) and by directly asking the respondents how sympathetic they feel towards the homeless and how they felt about the character they played in the game.¹²

Participants in the study were randomly divided into three groups. One group played *Homeless: It's No Game*, a second group read a short story based on the narrative of the game, and the third group acted as a control. The story group was added to test the possibility that the homeless narrative in the game might be the

¹² The questions relating to attitudes towards the homeless were drawn from the following sources: Batson (1997), Kingree and Davies (1997), Toro and McDonell (1992) and Greater Vancouver Regional Steering Committee on Homelessness (2005), with slight changes made to adjust for specific conditions of this study.

influencing factor in changing attitudes towards the homeless rather than gameplay.

The null hypothesis for the experiment was:

There will be no significantly measurable difference in attitudes towards the homeless between people who played *Homeless: It's No Game* and others drawn from the same population.

4.2 Methodology

A pilot test was conducted with 42 people recruited through university mailing lists and social contacts. The volunteers were randomly assigned to one of three groups – a control group, a group that would play the videogame, and a group that would read a short story based on the game. All participants completed a web-based survey of their attitudes towards homelessness. After a week, the game group was contacted again and invited to play *Homeless: It's No Game* while the story group was invited to read the story based on the game. One week later, members of all three groups were asked to redo the survey.

Based on the pilot test, the survey instrument was refined, as participants complained that it was too long and that some of the questions were ambiguous. Some of the questions which did not yield any useful data in the pilot test were eliminated (questions as to personal or familial experience with homeless) and others were

reworded to make them less ambiguous.

Participants for the main study were then recruited through Syracuse University's IST Study Response Project (Syracuse University, 2007; Stanton & Weiss, 2002) and, as in the pilot study, randomly assigned to the game group (Group 1), narrative group (Group 2) or control group (Group 3). As it had been observed in the pilot study that the attrition rate was higher for the narrative and game groups, assignment, though random, was weighted towards these groups to ensure a reasonable balance of complete responses.

All participants completed an initial survey of attitudes towards the homeless and towards videogames (Appendix 7.3.1). Members of the control group (Group 3) completed a similar survey three weeks after the first survey. One week after the initial survey, members of the game group (Group 1) played *Homeless: It's No Game* and completed a survey to elicit immediate reaction to the game (Appendix 7.3.2) while members of the narrative group (Group 2) read a short narrative about a day in the life of a homeless woman and then completed a survey to elicit immediate reaction to the narrative (Appendix 7.3.3).

Seven days after playing the game or reading the narrative, members of Groups 1 and 2 completed a final survey, similar to the initial survey, but with additional questions relating to the game or the

narrative respectively (Appendices 7.3.4 and 7.3.5).

The initial questionnaire included questions about amount of time spent playing videogames, and also asked respondents to rank various media on their effectiveness of raising awareness of social issues. The main part of the instrument was about attitudes towards the homeless and knowledge of the issue of homelessness. The significant questions were:

On a scale of 1 to 5 (1 = not knowledgeable, 5 = knowledgeable) how knowledgeable do you consider yourself about homelessness?

On a scale of 1 to 5 (1 = not interested, 5 = very interested) how interested are you in the issue of homelessness?

Of the following, what do you think are the most important causes of homelessness? Please rank according to order of importance: Unemployment, Eviction/Foreclosure, Mental illness, One's own choice, Family conflict, Drug and/or alcohol problems, Lack of affordable housing.

The final group of questions measured attitudes towards the homeless on a scale of 1 to 9:

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: For most homeless people, it is their own fault that they are homeless.

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people just don't want to work.

How much do you personally care about the plight of the

homeless (1 = not at all, 9 = very much)?

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society does not do enough to help homeless people.

Compared with other social problems we face today (e.g., crime, education, drugs, AIDS, global warming, traffic), how would you rate the importance of helping homeless people? (1 = not at all important, 9 = extremely important).

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society should do more to protect the welfare of homeless people.

In general what are your feelings towards homeless people? (1 = extremely negative, 9 = extremely positive).

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people could get a job and off the streets if they wanted to.

On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people choose to live that way.

Results of the nine items were summed and averaged to produce a homeless attitude index (Cronbach's $\alpha = .829$).

Immediately after either playing the game or reading the narrative, members of Groups 1 and 2 were asked:

On a scale of 1 to 5, please rate your feelings towards homeless people, having played the game. 1 = much less sympathetic, 2 = less sympathetic, 3 = no change in

feeling, 4 = more sympathetic, 5 = much more sympathetic.

This question, and the ones from the initial survey, were asked again in the final survey, which was administered a week after playing the game or reading the narrative. In this post-test survey, participants were also asked questions pertaining to the game, and how they felt about the homeless character they had played or read about. The question about the effectiveness of various media (videogames, movies, television, newspapers, magazines) was also repeated.

4.3 Results

4.3.1 Demographic Distribution

Of the 120 initial volunteers, 82 completed the experiment. Of these, 25 were in the control group, 35 in the game group and 22 in the narrative group. A majority of the participants were female (60%) and from the United States of America (71%). In terms of age, 52% were under the age of 40 and 48% were 40 or older. Fifty percent had at least some university education and a similar percentage had an annual income over \$50,000.

Most respondents were infrequent players of videogames, with 35% saying they did not play videogames at all and 29% saying they played games fewer than 5 hours a week. Eight percent reported

playing more than 20 hours per week. There was a significant gender difference (for women, $M = 1.06$ hours/week; for men, $M = 1.67$ hours/week), but no significant age difference. Knowledge of homelessness was distributed normally, ($M = 3.02$ out of 5). Interest in homelessness was moderately high ($M = 3.62$ out of 5). These distributions were similar for all three groups.

4.3.2 Quantitative results

To test the hypothesis, measurements were made of changes in the following areas: knowledge of homelessness, interest in homelessness, major causes of homelessness, and attitudes towards the homeless.

No significant change was found in either knowledge of homelessness or interest in homelessness in any of the three groups in the second survey. The question asking participants to rank the most important causes of homelessness did not yield any significant results either. The number of participants in the game group ranking unemployment as the most important cause of homelessness dropped from 14 to 11, while those listing alcohol/drug addiction as the primary cause dropped from 8 to 4, but the results were not statistically significant. Similar results were recorded for the narrative and control groups.

There was no significant change in attitudes as measured by any of the individual questions in Batson's scale or the index derives from the nine questions (Table 4.1). However, when members of Group 1 (the group that played the game) were asked directly how they felt about homeless people, a significant attitudinal shift was observed. Participants in Group 1, responding to the question "On a scale of 1 to 5, please rate your feelings towards homeless people, having played the game (1 = much less sympathetic, 5 = much more sympathetic)", showed increased sympathy (Table 4.2) towards the homeless immediately after playing the game ($M = 4.05$, $SD = .697$). This sympathy persisted through the final survey seven days later as well ($M = 4.35$, $SD = .606$), $t(17) = 3.00$, $p < .05$ (Figure 4.1). This result did not hold true for reading the narrative. Members of Group 2 reported increased sympathy immediately after reading the narrative ($M = 4.06$, $SD = .802$) but their level of sympathy had dropped significantly by the time of the final survey ($M = 3.50$, $SD = .786$), $t(18) = 3.00$, $p < .05$. It must be noted though that the numbers involved were not large – 19 members in the narrative group and 17 members in the game group.

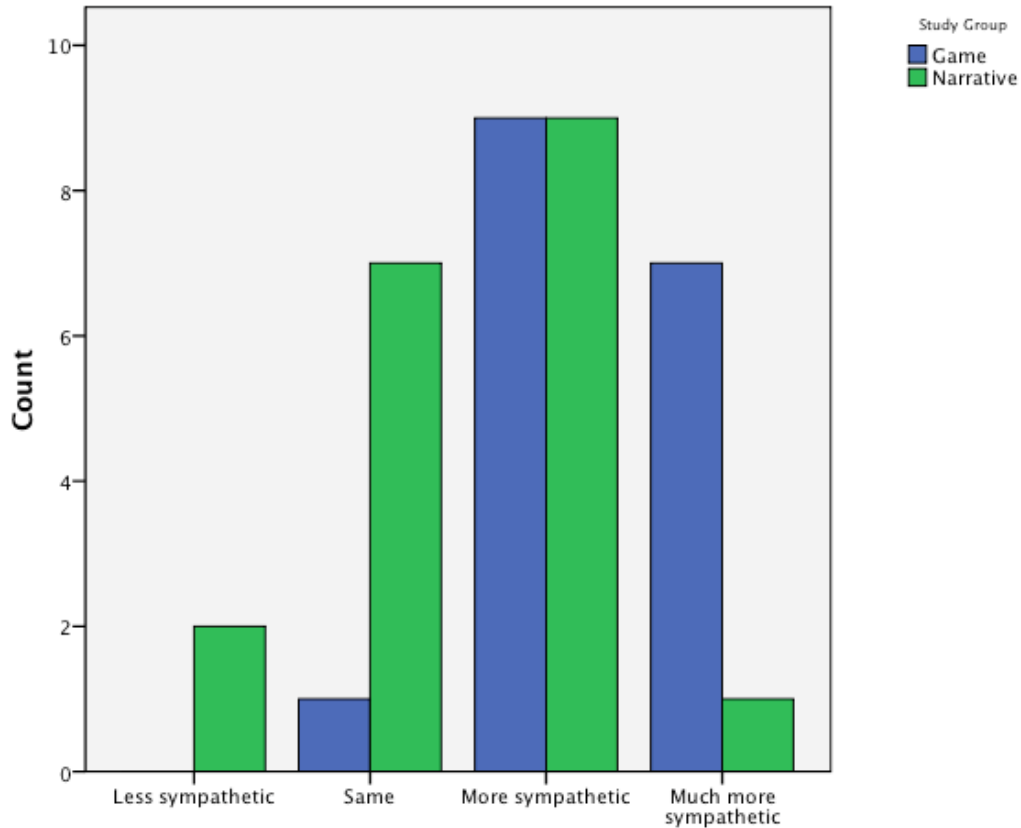
Table 4.1 Attitudes towards the homeless (Batson's 9-item attitude scale), Game group (Group 1, N = 28)

Question	Pre-test mean	Post-test mean	Sig. (2-tailed)	SD
Indicate your level of agreement with the following statement: For most homeless people, it is their own fault that they are homeless	6.25	6.04	.396	1.315
Indicate your level of agreement with the following statement: Most homeless people just don't want to work	6.79	6.61	.518	1.442
How much do you personally care about the plight of the homeless?	6.39	6.07	.370	1.867
Indicate your level of agreement with the following statement: Society does not do enough to help homeless people	6.68	6.75	.855	2.054
Compared with other social problems we face today, how would you rate the importance of helping homeless people	6.52	6.30	.312	1.121
Society should do more to protect the welfare of homeless people	6.50	6.54	.927	2.045
In general what are your feelings towards homeless people	5.59	5.56	.904	1.581
Indicate your level of agreement with the following statement: Most homeless people could get a job and off the streets if they wanted to	6.04	5.96	.879	2.510
Indicate your level of agreement with the following statement: Most homeless people choose to live that way	6.18	6.25	.864	2.193
Attitude index	6.33	6.23	.539	.89

Table 4.2 Feelings towards the homeless after playing the game/reading the narrative (M)

	Group 1 (Game)	Group 2 (Narrative)
Day 1	4.05	4.06
Day 8	4.35	3.50

Figure 4.1 Change in reported sympathy one week after playing the game/reading the narrative (N)



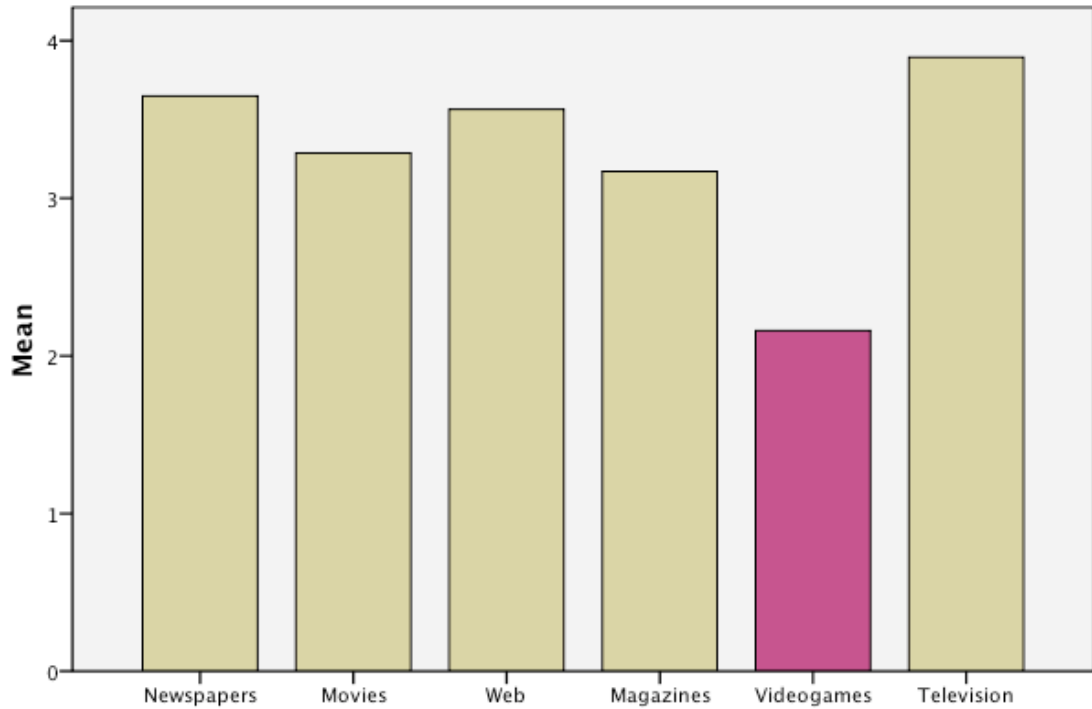
Playing the game also had a significant effect on players' perception of the effectiveness of videogames in raising awareness of social issues (Table 4.3). In the initial survey, members of all three groups rated videogames as the least effective media at raising awareness of social issues (Figure 4.2). In particular, members of Group 1 (the game group) did not think videogames were effective ($M = 1.74$, $SD = 1.05$), but after playing they did believe that videogames could raise awareness ($M = 2.65$, $SD = 1.46$), $t(23) = 2.50$, $p < .05$).

No such result was observed for either Group 2 or Group 3. Nor was such an increase observed with the game group for the other media options – movies, the world wide web, magazines or television.

Table 4.3 Pre- and post-test comparison of effectiveness of various media in raising social awareness

Pre-test=1, Post-test=2	Game group N = 26 (M, SD)	Narrative Group N = 21 (M, SD)	Control Group N = 23 (M, SD)	Overall N = 70 (M, SD)
Videogames 1	1.74, 1.054	2.30, 1.261	2.33, 1.151	2.11, 1.170
Videogames 2	2.65, 1.465	2.05, 1.050	2.57, 1.399	2.44, 1.332
Newspapers 1	3.96, .916	3.65, 1.089	3.58, 1.283	3.74, 1.099
Newspapers 2	3.38, 1.134	3.90, 1.165	3.83, 1.274	3.69, 1.198
Movies 1	2.92, 1.230	3.43, 1.028	3.42, 1.139	3.24, 1.152
Movies 2	3.35, 1.384	3.43, 1.121	3.29, 1.367	3.35, 1.288
Web 1	3.52, 1.221	3.52, 1.030	4.00, 1.206	3.68, 1.168
Web 2	3.33, 1.074	3.67, 1.017	3.48, 1.238	3.48, 1.107
Magazines 1	3.12, 1.143	3.14, 1.062	3.48, 1.039	3.24, 1.083
Magazines 2	3.19, 1.167	3.71, 1.007	3.43, 1.199	3.43, 1.137
Television 1	4.04, 1.038	3.86, 1.108	4.12, .900	4.01, 1.007
Television 2	3.73, 1.116	3.86, 1.153	4.25, .847	3.94, 1.054

Figure 4.2 Effectiveness of media at raising awareness (all three groups, initial survey)



Finally, a One-Way ANOVA (Table 4.4) showed a significant positive correlation between how realistic respondents in Group 1 felt the game to be and two other variables: their feelings towards the game character ($F(4,10) = 3.77, p < .05$) and how effective they thought the game would be in increasing awareness of homelessness ($F(4,11) = 3.33, p < .05$). Those who felt the game was not realistic were less likely to feel the game would be effective in increasing homelessness awareness ($M = 1.00$) and were also less likely to feel positively towards the character they played ($M = 3.00$), while those who felt the game was very realistic felt strongly that the game would be effective ($M = 4.75$) and felt positively towards the game character

(M = 7.20). This correlation was not observed with Group 2, the narrative group, with regard to the homeless character they read about.

Table 4.4 Relationship between perception of game realism and game effectiveness, feelings towards game character (Game group)

How realistic was the game?	Effectiveness at increasing awareness (out of 5)	Feel positively towards character (out of 9)
1 (Not realistic)	1.00	3.00
2	4.00	6.00
3	4.00	6.00
4	3.80	5.60
5 (Very realistic)	4.75	7.20

4.3.3 Qualitative Results

Those who played the game were also invited to comment on their experiences. The responses were mixed, with some players indicating an immersive effect and a change in empathy¹³:

“This game make me think how to survive everyday. With no home or job. How to find junk things at recycle bin and to sell things. How other people look down at me. Wandering around... better understanding”

“The relentless grind for survival”

“playing made me feel hopeless, therefore i understand why homeless people walk with their heads down, avoiding

¹³ This section includes responses to the pilot experiment, as well as the primary experiment as the game (except for some insignificant programming changes) and story were not changed after the pilot test.

contact and sometimes these people are difficult to approach”

“An effective way of getting the message home”

“I became involved, I was homeless for a minute”

“I really could not survive playing the game so I figure out if I were a homeless I would be in a BIG trouble. This change the way I see the Homeless because is not a game is reality show.”

“I think this game is a great way to educate about the homeless, it really puts you on the street”.

However, others had a different experience:

I was too involved in trying to figure out the game to focus on the subject behind it.

This game was not real.

we need to help the homeless, not do games about it !

The game was lame. Homelessness is much too serious to quantify in a simple game

Homeless can not be interpreted into a game.

It's just a game; and, not very realistic.

Some participants objected to using a videogame to treat a serious issue:

Homelessness is an issue that can not be played by game it needs consciousness.

don't think that playing a game regarding homelessness will raise awareness in society or change people's attitudes

- i actually didn't appreciate the game considering the seriousness of homelessness - it is not a game (perhaps i should not be so serious???) - there must be other ways of getting a message across.

Opinions regarding the quality of *Homeless: It's No Game* varied, with some praising it for its "realistic" portrayal of life on the street, and others slamming it for being too unrealistic.

its cool

very informative game

it was a enjoyable game and also practical

The game not really can attract people to play due to the game itself lack of attractiveness

The game was too simple. Although it contained some good examples, it did not portray homelessness very well.

Others had trouble with the game mechanics:

The game was buggy. at times it was hard to tell what was happening.

The squeegees didn't seem buyable, character seemed slow at times, and comments quickly changed before you could read them, some of the icons could of been clearer as to what they were

I was willing to play the game but there was no explanation as to how to start. Nothing made sense, unless that's the point.

A summary of the responses shows a sizable number who said the game increased their awareness of homelessness. On the other

hand, a large number thought the game was not realistic and/or they had problems with the game mechanics.

Table 4.5 Summary of qualitative responses

Response	Number of participants expressing response
liked the game	7
found the game interesting	6
game piqued curiosity about homelessness	3
game increased awareness of homelessness	26
game can be used to increase awareness	13
game was realistic	6
game was not effective	5
it's just a game	4
game was not realistic	21
game mechanics too difficult/flawed	12
game trivializes the issue	5
game was biased	3
game was not very good	3

4.4 Analysis of Results

The null hypothesis:

There will be no significantly measurable difference in attitudes towards the homeless between people who played *Homeless: It's No Game* and others drawn from the same population

was only partly accepted. Although there was no significant

change in the ranking of the causes of homelessness, knowledge of homelessness or interest in the issue among those who played *Homeless: It's No Game*, there was a significant difference between this group and the other two groups in sympathy towards the homeless after playing the game. Also, playing the game increased players' belief in the effectiveness of videogames to raise awareness of social issues. Finally, there was a positive correlation between how realistic players considered the game and their opinion of the game's effectiveness at increasing awareness of homelessness and between the game's realism and how positively they felt towards the game character.

At first glance, the results of the experiment would seem to conflict. The questions on the Batson scale of attitudes towards the homeless showed no significant effect. However, the question about whether the player's feelings about the homeless had changed after playing the game showed increased sympathy, a result borne out by some of the comments in the qualitative portion of the study. As noted, 72 percent of respondents in Group 1 (the game group) said they felt more sympathetic to the homeless after playing the game. While a similar proportion of members of Group 2 (the narrative group) said they felt more sympathetic after reading the story, the effect did not persist with this group. Their level of sympathy had

dropped when the identical question was posed a week later, whereas for the game group, the level of sympathy significantly increased. When asked why they felt more sympathetic, many participants said that the game increased their awareness of what a homeless person goes through and also increased their sympathy towards the homeless. Some said the game could be used to increase awareness of the homeless. A few even mentioned an immersive effect (“I became homeless”).

Examining the questions more closely though, it may be that they are measuring different things. The questions based on Batson’s study measured attitudes on a more analytic, less emotional level: “society does not do enough to help”, “how would you rate the importance of helping homeless people”, “society should do more to protect the welfare of homeless people”, etc. The sympathy question, on the other hand, is on a more personal level: “please rate your feelings... less sympathetic... more sympathetic”. In other words, perhaps there is no discrepancy and the two sets of questions are measuring attitudes towards the homeless on different levels – a societal level versus a personal level, or on an intellectual versus an emotional level. Perhaps the game affected players emotionally, but not intellectually.

However, the small number of respondents and the high level of structure of the post-test measures, makes this particular result difficult to interpret. For example, the Batson scale included nine separate questions, each with nine possible gradations. Yet the group that played *Homeless: It's No Game* had only 26 members. Further research, with a larger sample, and with less emphasis on scalar data and more emphasis on qualitative data would be useful.

Another possibility is that a Hawthorne effect may have been present. Perhaps respondents did not want to seem unsympathetic towards the homeless when asked directly about their level of sympathy. A Hawthorne effect is unlikely for three reasons. First, the study was anonymous – participants never met either each other or the author of the study as it was administered over the World Wide Web. This makes it less likely that participants would be concerned about how they appeared to the study administrator or to other participants. Second, a Hawthorne effect, if present, would most likely have been evident in all three groups. But, as noted above, only members of the game group showed a persistent increase in sympathy towards the homeless. Finally, a Hawthorne effect should have been evident in the responses to other questions as well, but as has been noted, no significant changes were observed in the other attitude-based questions.

Another result of significance was the positive correlation between the perceived level of realism in the game and positive feelings towards the game character, a result not observed with the narrative group. Intuitively it would seem that the more realistic players considered the game, the more empathetic they felt towards the character they played; however, it is possible the causal relation goes in the opposite direction – that positive feelings towards the character lead to an increased belief that the game realistically depicts homelessness. As the direction of the relationship was not tested, a definite conclusion cannot be drawn.

Finally, the positive correlation between playing *Homeless: It's No Game* and believing that videogames can be effective in raising awareness of social issues should be noted. Before playing the game, participants in the experiment rated videogames as the least effective media at increasing awareness of social issues ($M = 2.10$ out of 5 compared to $M = 3.24$ for the next lowest rated media, magazines and movies). As shown above (Table 4.3), the only significant change was among people who played the game – after playing, they were more inclined to think that games were effective ($M = 2.65$). One could conclude that the experience of playing an advocacy game led to an increased realization that games could be used to explain social issues.

The qualitative data also showed mixed results, with some

players of the game indicating an increase in empathy (“I became involved, I was homeless for a minute”) and others showing no such result (“This game was not real”). None of the independent variables – age, gender, education, income, videogame experience or knowledge of homelessness – had a significant effect on attitudes towards the homeless.

5 Discussion

Homeless: It's No Game does seem to have had a measurable persuasive effect, at least on some of those who played it. The group that played the game reported an increase in sympathy towards the homeless immediately upon playing the game, an effect that persisted over the period of the study. This result was borne out by some of the comments of the players: "I was homeless for a moment," said one. "Playing made me feel hopeless," said another. Another indication of a measurable persuasive effect was the correlation between how realistic players considered the game at depicting homelessness and how positive they felt towards the game character (Table 4.4). Those who considered the game very realistic felt highly positive towards the character they played (7.20 out of 9.00). On the other hand, those who read the narrative about the character did not show this effect – even those readers who thought the narrative was realistic did not feel overly positively towards the character they read about (mean of 4.75 out of 9.00). From this one could conclude that the game was more effective than the narrative at getting the player/reader to identify with the homeless character. Being the homeless woman was more

likely to lead to increased sympathy and positive emotions than reading about her, at least in the case of this videogame and this story. It would be rash to draw any conclusions from this about the contrasting immersive powers of videogames and stories however – most readers can readily recall many immersive experiences from non-interactive novels printed on old-fashioned paper, and writers such as Charles Dickens were noted for their ability to increase sympathy for their indigent characters.

A possible reason that the game was more effective than the narrative in increasing sympathy for the homeless is that the game personified the homeless experience for those who played it. As Batson (1991) notes, attitudes are influenced by many factors, such as personal trials and tribulations or incidents that reflect negatively on the person or group that is the subject of the attitude, etc. Playing the game as a homeless person may help strengthen sympathy by allowing the player to get inside the character of the homeless person and become homeless, at least vicariously.

It must be noted that by no means all the players of the game were persuaded by it: "Game seemed pointless. Didn't really tell me anything I didn't know" and "This game was not real," are typical of the remarks of some of those who played *Homeless: It's No Game*. As O'Keefe (2002) notes, capturing attitudinal change is difficult. In the

current study, a measurable persuasive effect was registered for some of the players, but not for others. The success of the persuasive message in this study did not seem to be dependent on factors such as age, sex, interest in homelessness or experience in playing videogames, reflecting the complexity and uncertainty of persuasion.

Three other results emerged from the study that should be of interest to designers of persuasive games. First, there was the correlation between game realism and game effectiveness. As noted, participants who rated the game as realistically depicting homelessness were more likely to consider the game effective in increasing awareness of this social issue. Conversely, those who thought the game was not realistic were less likely to think it could be effective at increasing awareness. Intuitively, it would seem that, in order to be effective, a persuasive game must convincingly depict the situation it illustrates (although as noted above, one cannot be sure of causal relation here).

Second, the current study shows that videogames still have a problem being treated seriously as a medium of expression. When participants were asked to rate the effectiveness of various media in raising awareness of social issues, videogames rated the lowest ($M = 2.11$ out of 5), significantly lower than movies ($M = 3.24$) or television ($M = 4.01$). Some of the comments of people who played the game

bear this out: “i (sic) actually didn’t appreciate the game considering the seriousness of homelessness – it is not a game” and “Homelessness is much too serious to quantify in a simple game”. Once people actually played the game, their rating for videogame effectiveness did rise, to 2.65 out of 5 – but still significantly below the rating given to other media. If this skepticism about the effectiveness of videogames as agents of change is a general one – and some argue that it is (Mileham, 2008) – it does not bode well for social activists, political parties, health organizations or educators hoping to use videogames to further their goals. Serious games already have to struggle with the reputation (sometimes justified) that they are boring to play (Peters, 2007). If these games are considered frivolous as well as boring, it will be difficult to attract people to play them or to convince decision-makers to allow their use in persuasive or pedagogical campaigns.

Finally, it should be noted that many participants in the study expressed difficulty or frustration with the game’s interface. “I was too involved in trying to figure out the game to focus on the subject behind it,” was a typical comment of members of this group. While it could be argued that the frustration in this particular instance is part of the procedural rhetoric of the game – forcing players to experience the frustration of trying to survive as a homeless person – it is more likely

that an awkward or difficult interface hinders the persuasive effect. A player who gives up in frustration or has to struggle with an unintuitive interface is less likely to absorb a game's message.

However, the study has demonstrated that games may have an immersive effect and increase sympathy, and that this effect may be measurable. The study also highlighted the ambivalence members of the public have regarding games as persuasive tools and the implications this has for the effectiveness of persuasive games.

Another result of the current study is support – though tentative – for an immersive effect (as per Yee and Bailenson noted above), with reference to the comments of some participants (“I was homeless for a minute”) and with reference to the difference in sympathy levels between those who played the game and those who read the story. The study also shows a procedural rhetoric at work (viz. Bogost). The central idea of *Homeless: It's No Game* – that being homeless is hard, repetitive and dreary – was built into the design of the game and effectively conveyed to its players through the game play.

However, playing the game did not increase either knowledge of homelessness or interest in the issue among those who played it. This could be accounted for by the fact that the participants in the study already self-reported a moderate level of knowledge about the issue (a mean of 3.02 out of 5) and a high level of interest in homelessness

(mean of 3.62 out of 5). Perhaps expecting them to increase that level of interest or knowledge after playing a 15-minute casual game that they did not seek out voluntarily is unrealistic.

5.1 Limitations of the Study

For various reasons, results of this study can only be considered to be preliminary and any conclusions must be tentative. The sample was small (N = 82) and when the participants were distributed among three groups the numbers in each group necessarily become difficult to use for generalization. As noted above, the observations of attitudinal change were based on responses from only 17 players of the game and 19 readers of the narrative, dividing up their responses among five options. The same observation holds true for several of the other questions, including the homelessness attitude scale, which consisted of nine questions each with nine possible responses. With such a small sample, focusing on interviews rather than scalar data might have yielded more robust and useful insights.

Another limitation to the study is the fact that the participants played only one game, and that game only once. It would have been useful to see the effect of different types of games treating the issue of homelessness – for example, would a role-playing game or a 3-d first-person perspective game have a different effect? Or would the

persuasive effect increase or decrease if the participants played the current game more than once? As it stands, conclusions cannot be drawn about long-term effects or the influence of such factors as the quality of the game, or participants' like or dislike for particular game genres or videogames in general.

6 Conclusion

Persuasion is a complex process, affected by many interrelated variables. Clearly, a persuasive message will not affect all its receivers in the same way. And, as Miller (2002) notes, persuasion is rarely achieved through a single message. The current study certainly supports these observations. A persuasive effect was observed among those who played *Homeless: It's No Game*, but not all players exhibited the effect and no relation was observed to such variables as gender, age or game-playing experience. Why were some players affected and others not? Interviews – whether structured or semi-structured – might have yielded answers to this central question, but the study – which was web-based – did not include such interviews. This was the major shortcoming of the present study, and one which would need to be rectified in future research.

The qualitative data could also have benefited from interviews. Why did the game make one player feel homeless for a minute? Why did others consider the game unrealistic?

This study should be considered a pilot test. It yielded some useful data worth exploring further. However, because of the small sample size and the absence of structured interview data, any

conclusions should be considered tentative. It would be useful to repeat the experiment with variants of the game – would the results differ if the character were more likable or less likable? Would changing the character’s gender or age make a difference? Insights could also be drawn from repeating the experiment with different genres of games treating the issue of homelessness. For example, would a 3-dimensional game based on a first-person shooter game engine be more immersive?

A larger sample would also yield useful results. A larger sample would allow for testing across such variables as religious beliefs, political convictions, culture and nationality. For example, would South Asians be more or less sympathetic to the homeless than North Americans or Europeans? Khaled (2007) has begun to address the influence of culture on persuasive technology, but there is still much to explore in this area. In the current study, respondents were classified according to age, gender, income and education, but no significant results emerged. A larger sample would allow for greater insight into whether these factors do play a role in persuasiveness of videogames.

A longitudinal study would also be worth considering – how do attitudes change over time, or with repeat gameplay? Persuasion research indicates that messages need to be reinforced over time; otherwise the persuasive effect is lessened (Miller, 2002). But can

videogames, with their particular characteristics of immersion and agency, have a more lasting effect?

Finally, it would be worth studying how game design affects persuasion. Is a game that has “flow” or is immersive more plausible and persuasive than one that is less engaging? Does a game with more complexity, more interactivity and more choices of outcomes get across a message better than a simpler game, or does the message get lost in the complexity and the immersion? What is the balance between enjoyment and persuasion?

These are just some of the potential avenues for further research that have been opened up by this study.

The ethics of creating and distributing persuasive games need to be considered, especially as games get more sophisticated and prevalent. Is it right to create a videogame that misleads its players, even if the game designer believes it is in a good cause? *Homeless: It's No Game* was deliberately designed to elicit sympathy for the homeless by oversimplifying their life and by presenting a game character with no flaws – as several homeless people who played the game pointed out. Is the game any different than America's Army or even White Law in this regard, even if the ends are more benign? This is an issue that needs to be addressed, especially as videogames become more pervasive, realistic and sophisticated. For example,

could game designers employ procedural rhetorics to increase aggressive patriotism among teenage males to encourage them to join military or paramilitary forces? Less overt persuasion also needs to be considered, such as, for example, a game that on the surface has no persuasive agenda, but subtly encourages the purchase of a particular product through the game's procedural rhetoric. In this light, it would be useful to explore the duration of the persuasive effect with both overtly and covertly manipulative games.

One cannot generalize based on a single study involving a small sample playing a single videogame. However, the fact that at least some of the players of *Homeless: It's No Game* felt more sympathetic to the homeless after playing the game and that this effect persisted over time is encouraging for those interested in developing persuasive games or measuring their effectiveness. Clearly though, there are many questions that remain to be answered. How persistent is the persuasion? What effect is played by other factors such as the type of game, its complexity or its interface? Would repetition influence the persuasive effect? What factors lead to some players being affected by the game and others not?

Videogames clearly have a role to play in persuasive communication. Further research will help clarify this role and enhance the usefulness of persuasive games. Though the current study

achieved ambiguous results with regard to measuring the effectiveness of persuasive games, it does give support to the view that in order to be effective, persuasive games need to be enjoyable and challenging and that their persuasive message needs to be integral to the game, and not slapped onto an existing game as an afterthought.

Homeless: It's No Game has helped to show that videogames can be used to address serious social issues, and that they can do so in a way that does not trivialize the issue and at the same time provide an entertaining game experience. Though the game's graphics were primitive and the interactivity somewhat lacking, most people who played *Homeless: It's No Game* enjoyed it, and many of them ended the game feeling more sympathetic towards the homeless, and feeling that perhaps videogames can be useful tools for persuasion – a heartening result for producers of persuasive videogames.

7 Appendices

7.1 Correlation Matrices

7.1.1 Correlation Matrix – Batson’s 9-item Attitude Scale – Game Group

Communalities

	Initial	Extraction
Own Fault 2	1.000	.791
Won't Work 2	1.000	.732
Personally Care 2	1.000	.683
Society Not Enough 2	1.000	.733
Importance 2	1.000	.761
Society Do More 2	1.000	.817
Feelings 2	1.000	.838
Get a Job 2	1.000	.821
Own Choice 2	1.000	.668

Extraction Method: Principal Component Analysis.

Total Variance Explained						
Com- ponent	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.967	44.073	44.073	3.967	44.073	44.073
2	1.666	18.515	62.588	1.666	18.515	62.588
3	1.211	13.453	76.042	1.211	13.453	76.042
4	.745	8.280	84.321			
5	.446	4.951	89.272			
6	.411	4.561	93.833			
7	.258	2.869	96.702			
8	.180	2.002	98.704			
9	.117	1.296	100.000			
Extraction Method: Principal Component Analysis.						

Component Matrix

	Component		
	1	2	3
Own Fault 2	.720	.500	.151
Won't Work 2	.746	.402	-.118
Personally Care 2	.631	-.399	.354
Society Not Enough 2	.679	-.180	-.489
Importance 2	.655	-.572	.074
Society Do More 2	.830	-.322	-.156
Feelings 2	.327	-.075	.852
Get a Job 2	.427	.790	.117
Own Choice 2	.790	.054	-.202

Extraction Method: Principal Component Analysis.

7.1.2 Correlation Matrix - Principal Quantitative Variables

Correlation	Age	Sex	Income	Education	Knowledge of Homelessness 1	Interest in Homelessness 1	Empathy Index 1	Empathy Index 2	Game Effectiveness	Game Realism	Positively towards character
Age	1.000	.102	-.046	.023	.203	.198	.141	.180	-.316	-.069	.206
Sex	.102	1.000	-.245	.110	.074	-.162	-.389	-.384	-.280	-.107	-.089
Income	-.046	-.245	1.000	-.151	-.315	-.074	.210	.318	-.027	.065	.004
Education	.023	.110	-.151	1.000	.148	-.112	-.248	-.202	-.253	.063	.057
Knowledge of Homelessness 1	.203	.074	-.315	.148	1.000	.622	.353	.215	.146	.114	.404
Interest in Homelessness 1	.198	-.162	-.074	-.112	.622	1.000	.530	.472	.057	.124	.301
Empathy Index 1	.141	-.389	.210	-.248	.353	.530	1.000	.800	.437	.266	.634
Empathy Index 2	.180	-.384	.318	-.202	.215	.472	.800	1.000	.421	.252	.530
Game Effectiveness	-.316	-.280	-.027	-.253	.146	.057	.437	.421	1.000	.492	.354
Game Realism	-.069	-.107	.065	.063	.114	.124	.266	.252	.492	1.000	.334
Positively towards character	.206	-.089	.004	.057	.404	.301	.634	.530	.354	.334	1.000

Reproduced Correlation	Age	Sex	Income	Education	Knowledge of Homelessness 1	Interest in Homelessness 1	Empathy Index 1	Empathy Index 2	Effectiveness increasing awareness	How realistic was the game?	Positively towards character
Age	.640 ^a	.093	.085	.202	.288	.337	.188	.207	-.457	-.206	.231
Sex	.093	.419 ^a	-.402	.335	.136	-.108	-.436	-.467	-.336	-.166	-.177
Income	.085	-.402	.733 ^a	-.142	-.475	-.172	.246	.373	-.021	.037	.044
Education	.202	.335	-.142	.719 ^a	.096	-.218	-.275	-.252	-.238	.227	.172
Knowledge of Homelessness 1	.288	.136	-.475	.096	.785 ^a	.633	.383	.256	.147	.146	.472
Interest in Homelessness 1	.337	-.108	-.172	-.218	.633	.716 ^a	.588	.497	.147	.010	.433
Empathy Index 1	.188	-.436	.246	-.275	.383	.588	.853 ^a	.819	.461	.326	.615
Empathy Index 2	.207	-.467	.373	-.252	.256	.497	.819	.816 ^a	.397	.306	.577
Effectiveness increasing awareness	-.457	-.336	-.021	-.238	.147	.147	.461	.397	.833 ^a	.569	.357
How realistic was the game?	-.206	-.166	.037	.227	.146	.010	.326	.306	.569	.655 ^a	.477
Positively towards character	.231	-.177	.044	.172	.472	.433	.615	.577	.357	.477	.681 ^a
Residual ^b											
Age		.009	-.131	-.180	-.085	-.139	-.047	-.027	.141	.137	-.025
Sex		.009	.157	-.225	-.061	-.054	.047	.083	.056	.059	.087
Income		-.131	.157	-.010	.159	.098	-.036	-.055	-.006	.028	-.040
Education		-.180	-.225	-.010	.051	.106	.027	.050	-.015	-.164	-.114

Knowledge of Homelessness 1	-0.085	-0.061	.159	.051		-0.010	-0.030	-0.041	-0.002	-0.032	-0.067
Interest in Homelessness 1	-0.139	-0.054	.098	.106	-0.010		-0.058	-0.024	-0.091	.114	-0.132
Empathy Index 1	-0.047	.047	-0.036	.027	-0.030	-0.058		-0.019	-0.024	-0.060	.018
Empathy Index 2	-0.027	.083	-0.055	.050	-0.041	-0.024	-0.019		.024	-0.055	-0.047
Effectiveness increasing awareness	.141	.056	-0.006	-0.015	-0.002	-0.091	-0.024	.024		-0.077	-0.003
How realistic was the game?	.137	.059	.028	-.164	-0.032	.114	-0.060	-0.055	-0.077		-.143
Positively towards character	-0.025	.087	-0.040	-.114	-0.067	-0.132	.018	-0.047	-0.003	-0.143	

Rotated Component Matrix^a

	Component			
	1	2	3	4
Age	.434	-.622	.074	.244
Sex	-.198	-.249	-.504	.252
Income	-.052	-.073	.852	-.003
Education	-.092	-.088	-.176	.820
Knowledge of Homelessness 1	.717	.012	-.512	.089
Interest in Homelessness 1	.795	-.093	-.163	-.222
Empathy Index 1	.803	.245	.358	-.143
Empathy Index 2	.722	.192	.498	-.099
Effectiveness increasing awareness	.256	.860	.064	-.156
How realistic was the game?	.225	.659	.115	.397
Positively towards character	.695	.262	.118	.341

Rotated Component Matrix^a

	Component			
	1	2	3	4
Age	.434	-.622	.074	.244
Sex	-.198	-.249	-.504	.252
Income	-.052	-.073	.852	-.003
Education	-.092	-.088	-.176	.820
Knowledge of Homelessness 1	.717	.012	-.512	.089
Interest in Homelessness 1	.795	-.093	-.163	-.222
Empathy Index 1	.803	.245	.358	-.143
Empathy Index 2	.722	.192	.498	-.099
Effectiveness increasing awareness	.256	.860	.064	-.156
How realistic was the game?	.225	.659	.115	.397
Positively towards character	.695	.262	.118	.341

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

7.3 Flash 8 ActionScript code for *Homeless: It's No Game*

```
1.  var dt = new Date();
2.  hour = 12;
3.  game = {};
4.  game.columns = 19;
5.  game.rows = 19;
6.  game.spacing = 30;
7.  game.depth = 1000;
8.  game.path = _root.grid;
9.  game.numberOfTypes = 25;
10. timeLeft = 24;
11. hourText = "12 p.m.";
12. money = 0;
13. esteem = 2;
14. esteemMax = 10;
15. bottles = 0;
16. goods = 0;
17. squeegee = 0;
18. loctext = "on the street";
19. hunger = 2;
20. hungerMax = 10;
21. nightencounter = 0;
22. bladder = 2;
23. bladderMax = 10;
24. sex = "f";
25. loadSounds();
26. lockArray();
27. encountercheck();
28. messageTxt = "Welcome to life on the street! Can you
survive for 24 hours with your esteem and your person
intact?";
29. message2 = "";
30. pm = 0;
31. focus = 0;
32. oldloc = 1;

33. function loadSounds() {
34.  glassSound = new Sound(this);
35.  glassSound.attachSound("glass_shatter");
36.  homelessSound = new Sound(this);
37.  homelessSound.attachSound("homeless");
38.  crackheadSound = new Sound(this);
```

```
39. crackheadSound.attachSound("crackhead");
40. vigSound = new Sound(this);
41. vigSound.attachSound("vig");
42. socialworkerSound = new Sound(this);
43. socialworkerSound.attachSound("socialworker");
44. politicianSound = new Sound(this);
45. politicianSound.attachSound("politician");
46. churchSound = new Sound(this);
47. churchSound.attachSound("church");
48. soupSound = new Sound(this);
49. soupSound.attachSound("soup");
50. touristSound = new Sound(this);
51. touristSound.attachSound("tourist");
52. parkSound = new Sound(this);
53. parkSound.attachSound("park");
54. policeSound = new Sound(this);
55. policeSound.attachSound("police");
56. cashSound = new Sound(this);
57. cashSound.attachSound("cash");
58. toiletSound = new Sound(this);
59. toiletSound.attachSound("toilet");
60. carSound = new Sound(this);
61. carSound.attachSound("carhorn");
62. dogSound = new Sound(this);
63. dogSound.attachSound("dogbark");
64. bikeSound = new Sound(this);
65. bikeSound.attachSound("bike");
66. dumpsterSound = new Sound(this);
67. dumpsterSound.attachSound("dumpster");
68. bottleSound = new Sound(this);
69. bottleSound.attachSound("bottles");
70. coinSound = new Sound(this);
71. coinSound.attachSound("coins");
72. coffeeSound = new Sound(this);
73. coffeeSound.attachSound("coffeeshop");
74. dinerSound = new Sound(this);
75. dinerSound.attachSound("diner");
76. muggingSound = new Sound(this);
77. muggingSound.attachSound("mugging");
78. shopbellSound = new Sound(this);
79. shopbellSound.attachSound("shopbell");
80. wineSound = new Sound(this);
81. wineSound.attachSound("champagne");
82. yawnSound = new Sound(this);
83. if (sex == "m") {yawnSound.attachSound("yawn_male")}
else yawnSound.attachSound("yawn_female");
84. }
```

```

85. function buildGrid() {
86. board = board.firstChild;
87. var tempArray = [];
88. tempArray = board.childNodes;
89. for (var j = 1; j<=game.rows; ++j) {
90. var tempArray2 = [];
91. tempArray2 = tempArray[j-1].childNodes;
92. for (var i = 1; i<=game.columns; ++i) {
93. var name = "cell"+i+"_"+j;
94. var x = (i-1)*game.spacing;
95. var y = (j-1)*game.spacing;
96. var type = tempArray2[i-1].attributes.type;
97. game.path.attachMovie("cell", name, ++game.depth);
98. game.path[name]._x = x;
99. game.path[name]._y = y;
100. game[name] = {x:i, y:j, name:name, type:type,
clip:game.path[name]};
101. game[name].clip.tile.gotoAndStop(type);
102. }
103. }
104. initializeChar();
105. }
106. function lockArray() {
107. locked = new Array();
108. for (var j = 1; j<=25; ++j) {
109. locked[j] = 0;}
110. }
111. function encountercheck() {
112. encounterLock = new Array();
113. for (var j = 1; j<=10; ++j) {
114. encounterLock[j] = 0;
115. }
116. }

117. function initializeChar() {
118. game.speed = 3;
119. game.path.ball.swapDepths(10000);
120. game.ball = {startx:1, starty:1, clip:game.path.ball};
121. var x = (game.ball.startx-
1)*game.spacing+game.spacing/2;
122. var y = (game.ball.starty-
1)*game.spacing+game.spacing/2;
123. game.ball.clip._x = x;
124. game.ball.clip._y = y;
125. game.ball.x = x;
126. game.ball.y = y;
127. game.ball.radius = game.ball.clip._width/2;

```

```

128. }

129. function moveChar(dir) {
130. ob = game.ball;
131. if (dir == "right") {
132. var tempX = ob.x+ob.radius+game.speed;
133. var tempY = ob.y;
134. var cellX = Math.ceil(tempX/game.spacing);
135. var cellY = Math.ceil(tempY/game.spacing);
136. var tempCell = game["cell"+cellX+"_"+cellY];
137. if (tempCell.type > 0 && tempCell.type < 26 &&
tempCell.type != 7) {
138. oldloc=loc;
139. loc=tempCell.type;
140. ob.x += game.speed;
141. ob.clip._x = ob.x;}
142. return;

143. } else if (dir == "left") {
144. var tempX = ob.x-ob.radius-game.speed;
145. var tempY = ob.y;
146. var cellX = Math.ceil(tempX/game.spacing);
147. var cellY = Math.ceil(tempY/game.spacing);
148. var tempCell = game["cell"+cellX+"_"+cellY];
149. if (tempCell.type > 0 && tempCell.type < 26 &&
tempCell.type != 7) {
150. oldloc=loc;
151. loc=tempCell.type;
152. ob.x -= game.speed;
153. ob.clip._x = ob.x;}
154. return;

155. } else if (dir == "up") {
156. var tempX = ob.x;
157. var tempY = ob.y-ob.radius-game.speed;
158. var cellX = Math.ceil(tempX/game.spacing);
159. var cellY = Math.ceil(tempY/game.spacing);
160. var tempCell = game["cell"+cellX+"_"+cellY];
161. if (tempCell.type > 0 && tempCell.type < 26 &&
tempCell.type != 7) {
162. oldloc=loc;
163. loc=tempCell.type;
164. ob.y -= game.speed;
165. ob.clip._y = ob.y;}
166. return;

167. } else if (dir == "down") {

```

```

168. var tempX = ob.x;
169. var tempY = ob.y+ob.radius+game.speed;
170. var cellX = Math.ceil(tempX/game.spacing);
171. var cellY = Math.ceil(tempY/game.spacing);
172. var tempCell = game["cell"+cellX+"_"+cellY];
173. if (tempCell.type > 0 && tempCell.type < 26 &&
tempCell.type != 7) {
174. oldloc=loc;
175. loc = tempCell.type;
176. ob.y += game.speed;
177. ob.clip._y = ob.y;};
178. return;
179. }
180. }
181. _root.onEnterFrame = function() {
182. getloc(loc);
183. if (Key.isDown(Key.RIGHT)) {
184. moveChar("right");
185. } else if (Key.isDown(Key.LEFT)) {
186. moveChar("left");
187. }
188. if (Key.isDown(Key.UP)) {
189. moveChar("up");
190. } else if (Key.isDown(Key.DOWN)) {
191. moveChar("down");
192. }
193. _root.esteemBar._xscale = esteem*10;
194. hunger = hunger + 0.003;
195. bladder = bladder + 0.003;
196. discomfort();
197. goTime();
198. if (esteem >=10) {
199. messageTxt = "Congratulations! You've won!";
200. gotoAndStop("you win");}
201. if (timeLeft <=0 || esteem < 0) {
202. messageTxt = "Sorry. You lost.";
203. gotoAndStop("you lose"); }

204. };

205. function goTime()
206. {
207. hour = hour + 0.005;
208. if (hour%2 > 0 && hour%2 < .005) lockArray();
209. timeLeft = timeLeft - 0.005;
210. timeLeft_disp = Math.round(timeLeft) + " hours";
211. if (timeLeft<2 && timeLeft>1) timeLeft_disp = "1

```



```

hour";
212. if (hour > 22 || hour < 5) gonight();
213. if (hour < 12)
214. {hourText = Math.floor(hour) + " a.m.";
215. return;}
216. if (hour>=13 && hour<24) {
217. hourText = (Math.floor(hour)-12) + " p.m.";
218. return;}
219. if (hour>=12 && hour <13) {
220. hourText = (Math.floor(hour)) + " p.m.";
221. return;}
222. else {hour = hour-24;
223. hourText = Math.floor(hour) + " a.m.";
224. return;}
225. };

226. function getloc(loc) {
227. //if (oldloc != loc) {
228. //messageTxt = "";
229. //message2 = "";}
230. if (loc == 1) {
231. loctext = "the street";
232. gostreet(); }
233. else if (loc == 2) {
234. loctext = "liquor store";
235. goliqor(); }
236. else if (loc == 3) {
237. loctext = "church";
238. gochurch(); }
239. else if (loc == 4) {
240. loctext = "coffee shop";
241. gocoffee(loc); }
242. else if (loc == 5) {
243. loctext = "recycling bin";
244. gobottles(loc); }
245. else if (loc == 6) {
246. loctext = "park";
247. goPark(loc);}
248. else if (loc == 7) {
249. loctext = "private property!";
250. messageTxt = "You can't go here.";
251. return;}
252. else if (loc == 8) {
253. loctext = "street corner";
254. gobeg(loc); }
255. else if (loc == 9) {
256. loctext = "dumpster";

```

```
257. gobin(loc); }
258. else if (loc == 10) {
259. loctext = "squeegee corner";
260. gowash(loc); }
261. else if (loc == 11) {
262. loctext = "market";
263. gobarter(loc); }
264. else if (loc == 12) {
265. loctext = "public restroom";
266. gopee(loc); }
267. else if (loc == 13) {
268. loctext = "coffee shop";
269. gocoffee(loc); }
270. else if (loc == 14) {
271. loctext = "dumpster";
272. gobin(loc); }
273. else if (loc == 15) {
274. loctext = "market";
275. gobarter(loc); }
276. else if (loc == 16) {
277. loctext = "street corner";
278. gobeg(loc); }
279. else if (loc == 17) {
280. loctext = "recycling bin";
281. gobottles(loc); }
282. else if (loc == 18) {
283. loctext = "squeegee corner";
284. gowash(loc); }
285. else if (loc == 19) {
286. loctext = "squeegee corner";
287. gowash(loc); }
288. else if (loc == 20) {
289. loctext = "restaurant";
290. goeat(loc); }
291. else if (loc == 21) {
292. loctext = "hardware store";
293. goshop(loc); }
294. else if (loc == 22) {
295. loctext = "dumpster";
296. gobin(loc); }
297. else if (loc == 23) {
298. loctext = "recycling bin";
299. gobottles(loc); }
300. else if (loc == 24) {
301. loctext = "public restroom";
302. gopee(loc); }
303. else if (loc == 25) {
```

```

304. loctext = "under the bridge";
305. gosleep(loc);}
306. };

307. function discomfort() {
308.  _root.hungerBar._xscale = hunger*10;
309.  _root.bladderBar._xscale = bladder*10;
310.  if (hunger < 6 && bladder < 6) {
311.    game.speed =3;
312.    return;}
313.  if (hunger >= 6) {
314.    message2 = "You're hungry";
315.    focus = focus -1;}
316.  if (hunger >= 10) { hunger = 10;
317.    message2 = "You're so hungry, you can't concentrate";
318.    game.speed = 2;}
319.  if (bladder >= 6) {
320.    message2 = "You need to go to the bathroom";
321.    focus = focus -1;
322.    game.speed = 4;
323.    return;}
324.  else if (bladder > 8) {
325.    message2 = "You need to go so badly you can't
concentrate";
326.    focus = focus - 2;
327.    return;}
328.  else if (bladder >=10) { bladder = 10;
329.    message2 = "Too late. You lose control and pee in your
pants.";
330.    focus = focus -3;
331.    esteem = esteem - 1;
332.    return;}
333.  }

334. function gobin(loc) {
335.  dumpsterSound.start();
336.  messageTxt = "It's dumpster diving time";
337.  message2 = "Look for things to sell at the market in
the park.";
338.  if (loc == 9 && locked[9] == 1) {
339.    message2 = "It's too soon to try again.";
340.    return;}
341.  if (loc == 14 && locked[14] == 1) {
342.    message2 = "It's too soon to try again.";
343.    return;}
344.  if (loc == 22 && locked[22] == 1) {
345.    message2 = "It's too soon to try again.";

```

```

346. return;}
347. if (loc == 9) locked[9] = 1;
348. else if (loc == 14) locked[14] = 1;
349. else if (loc == 22) locked [22] = 1;
350. binner = Math.random();
351. if (focus < -2) binner = binner -.2;
352. else if (focus < 0) binner = binner -.1;
353. if (binner < .2) {
354. messageTxt = "The bin is locked";
355. return; }
356. if (binner < .3) {
357. hunger = hunger - .5;
358. messageTxt = "You find food. It's gone off, but it's
better than nothing.";
359. return; }
360. if (binner < .7) {
361. goods = goods + 1;
362. esteem = esteem + 0.5;
363. messageTxt = "You find 1 item to sell";
364. return ; }
365. if (binner < .8) {
366. goods = goods + 2;
367. esteem = esteem + 0.5;
368. messageTxt = "You find 2 items to sell";
369. return ; }
370. if (binner < .9) {
371. goods = goods + 3;
372. esteem = esteem + 1;
373. messageTxt = "Yes! You find 3 items to sell";
374. goMessage(messageTxt);
375. return ; }
376. if (binner < .97) {
377. squeegee = squeegee + 1;
378. messageTxt = "Yes! You find a squeegee!";
379. esteem = esteem + 1;
380. return; }
381. else messageTxt = "Ow! You're pricked by a needle!";
382. esteem = esteem - 0.5;
383. return;
384. }

385. function goPark(loc) {
386. messageTxt = "The park. A place to relax, rest your
feet.";
387. message2 = "";
388. if (locked[6] == 0) parkSound.start();
389. locked[6] = 1;

```

```

390. if (hour<5 || hour >22) {
391. messageTxt = "The park is closed at night.>";
392. return;
393. }

394. function gobarter(loc) {
395. messageTxt = "The street market.";
396. message2 = "Here you can buy and sell things";
397. if (hour > 22 || hour < 6) {
398. messageTxt = "The park is closed at night";
399. return;}
400. squeeeran = Math.random();
401. if (squeeeran > .5 && money >= 5) {
402. cashSound.start();
403. messageTxt = "You buy a squeegee";
404. squeegee = 1;
405. money = money - 5;
406. esteem = esteem + 0.5;
407. return;
408. }
409. else {
410. barter = Math.random();
411. if (focus<0) barter = barter-.1;
412. if (goods < 1) {
413. messageTxt = "You have nothing to sell";
414. return;}
415. if (barter < .2 ) {
416. messageTxt = "You don't sell anything";
417. return;
418. }
419. if (barter < .4 && goods >= 1) {
420. cashSound.start();
421. messageTxt = "You sell 1 item";
422. goods = goods - 1;
423. money = money + 1;
424. esteem = esteem + 0.5;
425. return;
426. }
427. if (barter <.6 && goods >= 2) {
428. cashSound.start();
429. messageTxt = "You sell 2 items";
430. goods = goods - 2;
431. money = money + 2;
432. esteem = esteem + 0.5;

433. return;
434. }

```

```

435. if (barter <.8 && goods >=3) {
436. cashSound.start();
437. messageTxt ="You sell 3 items";
438. goods = goods - 3;
439. money = money + 3;
440. esteem = esteem + 1;
441. return;
442. }
443. if (barter <.9 && goods > 3) {
444. cashSound.start();
445. messageTxt = "You sell everything!";
446. money = money + goods;
447. esteem = esteem + 1;
448. goods = 0;
449. return;
450. }
451. if (barter > .89) { messageTxt = "The police
confiscate your goods";
452. policeSound.start();
453. goods = 0;
454. esteem = esteem - 1;
455. return;
456. }
457. messageTxt = "No luck today.";
458. return;
459. }
460. }

461. function gopee(loc) {
462. messageTxt = "Public Washroom.";
463. message2 = "Better hope it's not locked or out of
service.";
464. if (locked[loc] ==1) {
465. message2 = "It's too soon to go again";
466. return;}
467. if ( hour < 7 || hour > 20 || Math.random() < .3) {
468. messageTxt = "The washroom is closed!";
469. locked[loc] = 1;
470. return; }
471. else
472. {
473. toiletSound.start();
474. messageTxt = "You use the washroom.";
475. bladder = 0;
476. focus = 0;
477. locked[loc] = 1;
478. return;

```

```

479. }
480. }

481. function gostreet() {
482. messageTxt = "Concrete. Noise. Cars. Not very
pleasant.";
483. message2 = "";
484. if (hour > 22 || hour < 5) gonight();
485. streetRandom = Math.random();
486. if (streetRandom < .998) return;
487. encounterRan = Math.random();
488. if (encounterRan < .1 && encounterLock[1] == 0) {
489. goPol();
490. return;}
491. if (encounterRan < .2 && encounterLock[2] == 0) {
492. goCop();
493. return;}
494. if (encounterRan < .3 && encounterLock[3] == 0) {
495. goSocial();
496. return; }
497. if (encounterRan < .4 && encounterLock[4] == 0) {
498. goVig();
499. return;}

500. goHomeless();
501. return;}
502. if (encounterRan <.6 && encounterLock[6] == 0) {
503. goDog();
504. return;}
505. if (encounterRan <.7 && encounterLock[7] == 0) {
506. goSoup();
507. return;}
508. if (encounterRan <.8 && encounterLock[8] == 0) {
509. goSUV();
510. return;}
511. if (encounterRan <.9 && encounterLock[9] == 0) {
512. goTourist();
513. return;}
514. if (encounterLock[10] == 1) return;
515. goCycle();
516. return;
517. }

518. function goPol() {
519. politicianSound.start();
520. encounterLock[1]=1;
521. messageTxt="You meet a politician. He tells you to get

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a job.";
522. encounterPol = Math.random();
523. if (encounterPol < .5) {
524. message2= "You say nothing in return";
525. esteem = esteem - 0.1;
526. return;}
527. if (encounterPol <.7) {
528. message2 = "You tell him to go away";
529. esteem = esteem + 0.1;
530. return;}
531. message2 = "You swear at him and walk away";
532. return;}

533. function goCop() {
534. messageTxt="You're stopped by the police.";
535. policeSound.start();
536. encounterLock[2]=1;
537. encounterCop = Math.random();
538. if (encounterCop < .5) {
539. message2 = "They take away your stuff, claiming
they're stolen goods";
540. bottles = 0;
541. goods = 0;
542. squeegee = 0;
543. esteem = esteem - 0.5;
544. return;}
545. if (encounterCop <.7) {
546. message2 = "They let you go with a warning";
547. esteem = esteem - 0.1;
548. return;}
549. if (encounterCop <.9) {
550. message2 = "You protest that they have no right to
stop you. They go away.";
551. esteem = esteem +0.5;
552. return;}
553. message2 = "You protest but they search you and take
your stuff";
554. bottles = 0;
555. goods = 0;
556. squeegee = 0;
557. esteem = esteem -0.5;
558. }

559. function goSocial() {
560. socialworkerSound.start();
561. messageTxt="You're stopped by a social worker.";
562. encounterLock[3]=1;

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563. if (Math.random <.5) {
564. message2 = "She gives you information on social
services in the neighbourhood";
565. esteem = esteem +1;
566. return;}
567. message2 = "You tell her to go away";
568. return;
569. }

570. function goVig() {
571. vigSound.start();
572. messageTxt="An irate resident tells you to get out of
his neighbourhood";
573. encounterLock[4]=1;
574. encounterVig = Math.random();
575. if (encounterVig < .3) {
576. message2 = "You tell him he knows nothing about you,
and you walk away.";
577. esteem = esteem +0.1;
578. return;}
579. if (encounterVig <.3) {
580. message2 = "You ignore him and walk away.";
581. esteem = esteem + 0.1;
582. return;}
583. if (encounterVig <.6) {
584. message2 = "You shout and swear at him.";
585. esteem = esteem -0.1;
586. return;}
587. if (encounterVig <.7) {
588. message2 = "You ignore him but he continues to shout
at you.";
589. esteem = esteem - 0.1;
590. return;}
591. if (encounterVig <.9) {
592. message2 = "You tell him he knows nothing about you.
He apologizes and gives you $1";
593. esteem = esteem + 0.5;
594. money = money + 1;
595. return;}
596. message2 = "You try to ignore him but he gets agitated
and pushes you, so you take a swing at him and walk away";
597. esteem = esteem - 0.5;
598. focus = focus - 1;
599. return;
600. }

601. function goHomeless() {

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602. homelessSound.start();
603. messageTxt="You encounter another homeless person. He
asks you to help him out.";
604. encounterLock[5]=1;
605. if (Math.random <.2) {
606. message2 = "You give him some money.";
607. money = Math.round(money/2);
608. esteem = esteem + 0.5;
609. return;}
610. message2 = "Forget it. You have enough problems of
your own.";
611. esteem = esteem - 0.1;
612. return;
613. }

614. function goDog() {
615. dogSound.start();
616. messageTxt = "You get chased by a dog!";
617. encounterLock[6]=1;
618. dogbite = Math.random();
619. if (dogbite < .5) {
620. message2 = "You get away from the brute.";
621. esteem = esteem - 0.1;
622. return;}
623. if (dogbite < .8) {
624. message2 = "He bites you!";
625. esteem = esteem - 0.5;
626. return;}
627. else messageTxt = messageTxt + "His owner encourages
him to bite you!";
628. return;
629. }

630. function goSoup() {
631. soupSound.start();
632. messageTxt = "You run into the mobile soup kitchen";
633. message2 = "You get a hot meal and a nice chat.";
634. food = 0;
635. esteem = esteem + 0.1;
636. encounterLock[7]=1;
637. return;
638. }

639. function goSUV() {
640. carSound.start();
641. messageTxt = "A car driver shouts at you to get out of
the road";

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642. message2 = "You shake your fist and walk on your weary
way.";
643. esteem = esteem - 0.1;
644. encounterLock[8]=1;
645. return;
646. }

647. function goTourist() {
648. touristSound.start();
649. messageTxt = "A tourist asks you for directions";
650. if (Math.random < .3) {
651. message2 = "You're not able to help him.";
652. return;}
653. if (Math.random < .5) {
654. messageTxt = messageTxt + "You swear at him and he
scurries away.";
655. return;}
656. message2 = "Luckily, you can help him. He thanks you
and gives you $2.";
657. esteem = esteem + 0.5;
658. money = money + 2;
659. encounterLock[9]=1;
660. return;
661. }

662. function goCycle() {
663. bikeSound.start();
664. encounterLock[10]=1;
665. if (Math.random <.7) {
666. messageTxt = "A cyclist hits you and rides off";
667. message2 = "You swear at her and continue on your
weary way.";
668. esteem = esteem -0.1;}
669. else {
670. messageTxt = "A cyclist hits you.";
671. message2 = "She stops to see if you're alright,
apologizes and gives you $1.";
672. esteem = esteem +0.5;
673. money = money + 1;}
674. }

675. function gowash(loc) {
676. messageTxt = "Squeegee corner: You can make a lot of
money here."
677. if (squeegee == 0) {
678. message2 = "You don't have a squeegee";
679. return; }

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680. if (loc == 10 && locked[10] == 1) {
681. message2 = "It's too soon to work this corner again.";
682. return;}
683. if (loc == 18 && locked[18] == 1) {
684. message2 = "It's too soon to work this corner again.";
685. return;}
686. if (loc == 19 && locked[19] == 1) {
687. message2 = "It's too soon to work this corner again.";
688. return;}
689. washran = Math.random();
690. if (loc == 10) locked[10] = 1; else if (loc == 18)
locked[18] = 1; else if (loc == 19) locked[19] =1;
691. if (focus <0 || hour < 6 || hour > 21) washran =
washran-.1;
692. if (washran < .2) {
693. messageTxt = "You make no money";
694. esteem = esteem - 0.5;
695. return; }
696. if (washran < .4) {
697. cashSound.start();
698. messageTxt = "You make $2";
699. money = money + 2;
700. esteem = esteem + 0.5;
701. return; }
702. if (washran < .6) {
703. cashSound.start();
704. messageTxt = "You make $4";
705. money = money + 4;
706. esteem = esteem + 0.5;
707. return; }
708. if (washran <.8) {
709. cashSound.start();
710. messageTxt = "You make $6";
711. money = money + 6;
712. esteem = esteem + 0.5;
713. return; }
714. if (washran <.9) {
715. cashSound.start();
716. messageTxt = "You make $8";
717. money = money + 8;
718. esteem = esteem + 1;
719. return; }
720. else {
721. policeSound.start();
722. messageTxt = "The police confiscate your squeegee";
723. esteem = esteem - 1;
724. squeegee = squeegee-1;

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725. return;}
726. }

727. function gobeg(loc)
728. {
729. messageTxt = "Spare change?";
730. if (loc == 8 && locked[8] == 1) {
731. message2 = "It's too soon to work this corner again.";
732. return;}
733. if (loc == 16 && locked[16] == 1) {
734. message2 = "It's too soon to work this corner again.";

735. begran = Math.random();
736. if (focus<0 || hour < 7 || hour > 21) begran = begran-
.1;
737. if (loc == 8) locked[8] = 1; else if (loc == 16)
locked[16] = 1;
738. if (begrans <.2) {
739. messageTxt = "Spare change? Not today, not for you.";
740. esteem = esteem - 0.1;
741. return;}
742. if (begrans <.4) {
743. coinSound.start();
744. messageTxt = "Spare change? Yes! You make $1";
745. money = money + 1;
746. return;}
747. if (begrans <.6) {
748. coinSound.start();
749. messageTxt = "Spare change? Yes! You make $2";
750. money = money + 2;
751. esteem = esteem + 0.5;
752. return;}
753. if (begrans <.8) {
754. coinSound.start();
755. messageTxt = "Spare change? Yes! You make $3";
756. money = money + 3;
757. esteem = esteem + 0.5;
758. return;}
759. if (begrans <.9) {
760. coinSound.start();
761. messageTxt = "Spare change? Yes! You make $5";
762. money = money + 5;
763. esteem = esteem + 0.5;
764. return;}
765. else {
766. policeSound.start();

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767. messageTxt ="The police make you move on";
768. esteem = esteem - 0.5;
769. return; }
770. }

771. function gobottles(loc) {
772. messageTxt = "Recycling bin.";
773. message2 = "You can find bottles to redeem for cash.";
774. if (loc == 5 && locked[5] == 1) {
775. message2 = "You've already checked this bin."
776. return;}
777. if (loc == 17 && locked[17] == 1) {
778. message2 = "You've already checked this bin."
779. return;}
780. if (loc == 23 && locked[23] == 1) {
781. message2 = "You've already checked this bin."
782. return;}
783. bottlesran = Math.random();
784. bottleSound.start();
785. if (loc == 5) locked[5] = 1;
786. if (loc == 17) locked[17] = 1;
787. if (loc == 23) locked[23] = 1;
788. if (focus<0) bottlesran = bottlesran-.1;
789. if (bottlesran<.2) {
790. messageTxt = "The bin is locked";
791. return; }
792. else if (bottlesran<.4) {
793. messageTxt = "The bin is empty";
794. return; }
795. else if (bottlesran<.6) {
796. messageTxt = "You find 1 bottle";
797. bottles = bottles + 1;
798. return; }
799. else if (bottlesran<.7) {
800. messageTxt = "You find 2 bottles";
801. bottles = bottles + 2;
802. return; }
803. else if (bottlesran<.8) {
804. messageTxt = "You find 3 bottles";
805. bottles = bottles + 3;
806. esteem = esteem + 0.5;
807. return; }
808. else if (bottlesran<.9) {
809. messageTxt = "You find 4 bottles";
810. bottles = bottles + 4;
811. esteem = esteem + 0.5;
812. return; }

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813. else if (bottlesran<.95) {
814. messageTxt = "You find 6 bottles";
815. bottles = bottles + 6;
816. esteem = esteem + 1;
817. return;}
818. else {
819. messageTxt = "Ouch! You're cut by glass!";
820. esteem = esteem - 0.5;
821. return;}
822. }

823. function goliqur(loc) {
824. messageTxt = "The liquor store.";
825. message2 = "Get cash for your bottles";
826. if (hour < 10) {
827. messageTxt = "It's too early. The store is closed.";
828. return;}
829. else if (hour > 22) {
830. messageTxt = "It's too late. The store is closed.";
831. return;}
832. shopbellSound.start();
833. if (bottles < 1 && money < 5) {
834. message2 ="You have no bottles to cash in.";
835. return;}
836. cashSound.start();
837. messageTxt = "You redeem your bottles";
838. money = money + bottles;
839. bottles = 0;
840. esteem = esteem + 0.5;
841. return;
842. }

843. function gochurch(loc) {
844. messageTxt = "Your local church."
845. message2 = "You can get a hot meal and shower, even if
you're a non-believer.";
846. if (hour < 9) {
847. messageTxt = "It's too early. The church is locked.";
848. return; }
849. if (hour > 18) {
850. messageTxt = "It's too late. The church is locked.";
851. return; }
852. if (locked[3] == 1) {
853. message2 = "It's too soon to come back.";
854. return; }
855. if (Math.random() < .25) {
856. messageTxt = "A sign on the door says the church is

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closed.";
857. return;}

858. locked[3] = 1;
859. bladder = 0;
860. flushSound.start();
861. focus = 0;
862. hunger = 0;
863. esteem = esteem + 1;
864. messageTxt = "You have a hot meal and a shower and use
the toilet.";
865. return;
866. }

867. function gocoffee(loc) {
868. if (loc == 4 && locked[4] == 1) {
869. message2 = "It's too soon to show your face in here
again.";
870. return; }
871. if (loc == 13 && locked[13] == 1) {
872. message2 = "It's too soon to show your face in here
again.";
873. return; }
874. if (loc==4) locked[4]=1;
875. else if (loc==13) locked[13]=1;
876. shopbellSound.start();
877. messageTxt = "It's a coffee shop - one of those fancy
ones with high prices and complicated coffees.";
878. if (money >= 2) {
879. coffeeshopSound.start();
880. messageTxt = "You buy a coffee and muffin and use the
washroom.";
881. money = money - 2;
882. bladder = 0;
883. focus = 0;
884. hunger = hunger - 2;
885. esteem = esteem + 0.5;
886. return; }
887. if (esteem < 2 && money < 2) {
888. messageTxt = "You have no money and they think you
look too scruffy.";
889. message2 = "They throw you out.";
890. esteem = esteem - 0.5;
891. return;}
892. {
893. toiletSound.start();
894. messageTxt = "You convince the server to let you use

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the washroom.";
895. bladder = 0;
896. focus = 0;
897. esteem = esteem + 1;
898. return; }
899. }

900. function goeat(loc) {
901. messageTxt = "Your local diner.";
902. message2 = "It's not cheap, but it's filling.";
903. if (hour < 7) {
904. messageTxt = "It's too early. The restaurant is
closed.";
905. return;}
906. if (hour > 22) {
907. messageTxt = "It's too late. The restaurant is
closed.";
908. return; }
909. if (locked[20] == 1) {
910. message2 = "It's too soon to show your face in here
again.";
911. return; }
912. shopbellSound.start();
913. if (money > 7) {
914. dinerSound.start();
915. messageTxt = "You buy a hot and tasty meal.";
916. money = money - 8;
917. bladder = 0;
918. hunger = 0;
919. focus = 0;
920. esteem = esteem + 0.5;
921. return;
922. }
923. locked[20]=1;

924. if (Math.random() > .75 && esteem > 2) {
925. toiletSound.start();
926. messageTxt = "You convince the server to let you use
the washroom";
927. bladder = 0;
928. focus = 0;
929. return;}
930. else
931. {
932. messageTxt = "You have no money and the servers think
you look too scruffy.";
933. message2 = "They throw you out.";

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934. esteem = esteem-0.5;
935. return;
936. }
937. }

938. function goshop(loc) {
939. messageTxt = "Your local hardware store.";
940. message2 = "It sells squeegees.";
941. if (hour < 10) {
942. messageTxt = "It's too early. The store is closed.";
943. return;}
944. if (hour > 20) {
945. messageTxt = "It's too late. The store is closed.";
946. return; }
947. shopbellSound.start();
948. if (money > 10) {
949. cashSound.start();
950. messageTxt = "You buy a squeegee.";
951. money = money - 10;
952. squeegee = squeegee + 1;
953. esteem = esteem + 0.5;
954. return;}
955. messageTxt = "Squeegee sale! Only $5.00!";
956. return;
957. }
958. function gonight() {
959. if (nightcounter == 1) return;
960. nightcounter = Math.random();
961. if (nightcounter < .1) {
962. muggingSound.start();
963. messageTxt = "You're robbed by a crack addict. You
lose everything.";
964. money = 0;
965. bottles = 0;
966. goods = 0;
967. squeegee = 0;
968. esteem = esteem - 1;
969. nightcounter = 1;
970. return;
971. }
972. if (nightcounter < .2) {
973. policeSound.start();
974. messageTxt = "The police take you in for questioning
and confiscate all your possessions.";
975. bottles = 0;
976. goods = 0;
977. squeegee = 0;

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978. esteem = esteem - 1;
979. nightencounter = 1;
980. return; }
981. return;
982. }
983. function gosleep() {
984. messageTxt = "Under the bridge.";
985. message2 = "It's creepy, but it's shelter from the
rain.";
986. if (locked[25] == 1) {
987. message2 = "It's too soon to sleep again.";
988. return; }
989. sleepyTime = Math.random();
990. locked[25] = 1;
991. hour = hour + 3;
992. hunger = hunger + 0.1;
993. bladder = bladder + 0.1;
994. if (sleepyTime < .6) {
995. messageTxt = "You get some rest.";
996. esteem = esteem + 1;
997. return ; }
998. if (sleepyTime < .8) {
999. messageTxt = "It's too crowded and noisy here. You
don't get any rest.";
1000.     return ;}
1001.     if (sleepyTime < .9) {
1002.         messageTxt = "Somebody steals your stuff while
you're asleep!";
1003.         goods = 0;
1004.         money = 0;
1005.         bottles = 0;
1006.         squeegee = 0;
1007.         esteem = esteem - 0.5;
1008.         return ; }
1009.     else {
1010.         messageTxt = "The cops force you to move on.";
1011.         esteem = esteem - 0.1;
1012.         return;}
1013.     }
1014.     board = new XML();
1015.     board.onLoad = buildGrid;
1016.     board.load("game.xml");
1017.     loadSounds();

```

7.3 Participant Comments on *Homeless: It's No Game*

7.3.1 Survey 2G - Game Group

Question: Why do you feel more sympathetic towards homeless people (after playing the game)?

It showed me that places which are normally accessible (for those who can pay, or during "regular" hours) are "off limits" when you are homeless.

IT IS HARD, YOU ARE ALWAYS HUNGRY AND THERE ARE NOT A LOT OF SAFE PLACES TO GO

I think that there is more challenges than what the game represented, but I feel that there are challenges that many including myself hadn't thought of.

This game make me think how to survive everyday. With no home or job. How to find junk things at recycle bin and to sell things.. How other people look down at me... Wandering around... better understanding

if they are homeless, they should undergo everything to stay on the roads and recover their self-esteem.

The relentless grind for survival

playing made me feel hopeless, therefore i understand why homeless people walk with their heads down, avoiding contact and sometimes these people are difficult to approach

I didn't consider all the time spent waiting around for things to be open or just walking around killing time. Or that things would be so far away from each other.

It make you realise that the homeless could be anyone

from any class, race, etc. Anyone could be homeless at some point in their life. We are not always sensitive but they are also people looking out for help.

I never thought about all they had to go through just to meet basic necessities such as going to the bathroom or getting sleep.

Well, I realised how difficult it may be to try to earn a few dollars

IT'S HARDER than I thought.

I really could not survive playing the game so I figure out if I were a homeless I would be in BIG trouble. This changes the way I see the Homeless because it is not a game, it is a reality show.

I became involved, I was homeless for a minute.

It is a tough position to be in.

how frustrating it is just to get the necessities of life, and how depressing it can be

Because it made me realise just how limited their options are.

its tough to live on the streets and hunt for everything you need, and avoid dangers

I was homeless once so I know how it feels

How do they find food. How do they get money to buy food. Nobody wants to help them.

It showed the daily struggle of homeless people

because i didn't realize their life was really that hard

I think it is because I could see how difficult it really is for

someone who is homeless to find something to eat, to find a place to go to the bathroom and to get self esteem.

sad for the people

i can see the daily struggles they go through

You can see what happens when they roam the streets.

because homeless is very pathetic in this world which is insecure for human beings without a home

i can't imagine running around all the time, having to find new places to get money

Have it hard.

Question: Why have your feelings not changed (after playing the game)?

I always have felt that a few are that way because they like it, the others want or need help

I was too involved in trying to figure out the game to focus on the subject behind it.

have always viewed it as a problem

I know before, that living on the street is brutal!

unsure a lot of it is self inflicted

i don't need a game about homeless people to change my views of them

I know that it is hard and there are limited resources for those who are homeless.

because that the way it is in this so called fair world

because I pretty much understand about the homeless and am very compassionate towards them

I think I am aware of troubles that face the homeless. I have attended to the homeless at times in my life

not enough reality

Because I had a pretty good idea of what the homeless put up with

Not realistic at all

I already feel for homeless people. I try to do what I can to help them, including conversation. Homelessness is not a game, it is a serious problem that we are all responsible for.

Game seemed pointless. Didn't really tell me anything I didn't know.

I am aware of homelessness and know of the terrible conditions that people have to suffer during this time.

Not very user friendly and informative

have to deal with them on a daily basis

because that's the way they live

This game was not real.

I understand the homeless issue more because I work with them

It's just a game; and, not very realistic.

I know that it's very hard to be homeless.

since I don't get why they would gain self-esteem for

finding bottles and goods from trash. Even if they might feel successful in FINDING it, it should only improve their way of life and become happier because they can get money to live. The homeless might even need to smoke and stuff so a couple of dollars isn't enough for them. It would be better if they get a job from the government or something to pick up ??

I understand that it is difficult to live at street, but people should take more care to not to get there from the beginning. If you have some work, even min wage one, you can afford to rent a room in a basement apartment. But yes, if you already do not have a place to live and work, it is very difficult to get some work or to find a room.

It was okay. I think they have more challenges than what the game presents.

Homeless is an issue that can not be played by game it need consciousness

Nothing has influenced me enough to change my opinions. I found no new information.

I feel really sad for them already

i have always felt sad and powerless about the plight of the homeless.

it's a game

It's an interesting game, but I don't think it's like the real thing.

7.3.2 Survey 2N - Narrative Group

Question: Why do you feel more sympathetic towards homeless people (after reading the narrative)?

They need help

I think a large part of helping homeless people is educating the general public (the non-homeless). There is much misinformation out there that fuels ignorant attitudes.

There but for the grace of God and a secure job walk I.

I have always seen homeless people as dangerous and to be avoided. My motto was always if I keep giving them my hard earned cash I'll be the next one begging for change.

I never thought of the simple/little things that they have to endure, such as finding a bathroom or having to swallow their pride to beg, knowing that most people will ignore them & treat them as sub-human. Or just being able to come home & relax. There is no place like home.

it showed the personal side of the story

spells out what they go thru on daily basis

It makes me see issues in the eyes of the homeless person.

It gave you more of an insight of what happens to them.

I didn't think about things like being able to get water or go to the bathroom at night (although i had thought about most other things).

Dealt more with issues of general survival, rather than solely the issue of housing.

It gave me a better overview of life for a homeless person, especially considering some people are living on the streets as they had no other choice.

You brought up things you don't really think about.

It made the homeless seem more like someone down on

their luck than out there by choice, and there, but for the grace of God, go I.

If the individual is homeless due to an abusive relationship, this is a decision that they have made for the better of their life and/or to protect themselves.

I didn't realise all the things we take for granted that a homeless person has to do without.

because this time I am involved , I am the homeless

I guess I mostly believed homeless was a choice not a necessity

I've always had sympathy for the homeless, or most of them, due to their situations.

because i never thought it that way. But i still think their lives are very tough, but they could do something to change it...

I do usually feel sympathy for the homeless, but have not previously considered those who become homeless due to an abusive home environment. I guess I feel more sympathy now than I used to.

just like homed people with needs of food and water

i view most of the homeless as people who are lazy and when offered a means of getting off the street, don't take it. However, I DO know there are those who are down on their luck due to losing their job, having kids to raise, health issues and more and are trying feverishly to improve their situation. But I also feel the bulk of the homeless are due to drugs and alcoholism and they refuse to change their ways in order to improve their living situation.

because we get a look into the real facts behind those leading a dreadful life and their hardships and agony

You described a lot of views being homeless I never thought about.

reminds me that it is a hard life

Some people have no other alternative—thus they become homeless—others prefer it—would rather stay on the street than go to a shelter

when you think about how difficult it would be to get out of the situation while just trying to survive —it makes you wonder how many people are that way, versus just get themselves in a mess with drugs and cannot quit.

The details bring out the hopelessness of their plight.

Gives us an insight to how they have to live.

Sometimes I forget just what a homeless person has to go through just for the basics in life that we don't even give a second thought about. I mean when was the last time you gave thanks for your washroom?

Well I already felt sorry for them and thought they had it rough, but I underestimated just how bad it really is. I think the way they get treated by other people makes it all worse, they are just human beings trying hard if not harder to survive. They are looked down upon and not given much of a break. I would not wish that on any one.

Feeling bad is hard and looking at those people in the street is nervous and they always follow you.

because they have to struggle just to live everyday and to find things that are necessities. They no longer have those guaranteed resources that most of us have like, food, water, and shelter.

As mentioned in the story, people are quick to judge homeless people without really knowing anything about them or why they are homeless in the first place.

Have always felt sympathetic. No-one chooses to be there.

makes you understand better or just realize more of the things we take for granted how someone that has no home must go through just to get through the day

I had never had homelessness explained in such detail before and I realise how hard it is.

After going through the bare facts I could realise how difficult the life of a homeless person is. We should have sympathy towards the homeless but again the social stigma, the fear, the risks keep haunting our minds and will require a good amount of effort to make it practically possible.

This particular case was not self inflicted or a case of laziness.

Because you never know what situation made them turn to the streets, normally on first thought it's something that they brought on themselves.

yes i do feel,because even some beggars have some small shelters to sleep in nights. it is very worsen than the beggars. human beings have some goal and they must thrive to achieve it, but their aim may not be some shelter. definitely beautiful home is a goal. i accept it. but it must not be a shelter. without the shelter how can he survive. he will suffer all the way for completing day to day activities. some NGOs may have to take the pain to shelter them properly

I think that many homeless people are in that condition not because of any fault of their own but because of circumstances over which they have no control. And I think that many have PTSD from traumas that they have suffered.....for example war veterans or have been sexually abused when they were children or abused by their spouse. The whole range of traumatic conditions that people suffer in this cold hard world can lead to many

different actions one of which is homelessness. I have great sympathy for those who suffer. If I was able I would try to help.

the causes of homelessness are many and this scenerio is the saddest especially in a big city where shelters are few

When you list out all of the challenges homeless people face, it makes it more realistic

the things we take for granted

it is difficult to accept that many are homeless while many more have excess in lifestyles

Well, I have been homeless before and I can relate with the story. I know how hard it is to lose everything and start over from nothing.

Question: Why have your feelings not changed (after reading the narrative)?

I already feel considerable compassion

Even though they are trying to stay alive, most homeless people brought it on themselves.

I've always known these things about being homeless.

The description does invoke some additional things I haven't thought of before but overall the plight of homelessness wasn't a surprise. The description though does make me wonder if the last line is true. Are they really so busy trying to survive that they can't put that same effort into changing their lives. Especially in the description you described where there is no obvious mental condition that is in play.

I am somewhat familiar with the issues that the homeless face and thought the description was a fair description to what several homeless citizens face.

because there are homeless shelters where a person can make a new start and there are places like temporary services that can do job placement.

It is really tough for the homeless to even survive.

It certainly outlined some of the hazards and I never thought about the water issue before — it would be sometimes tough to get water which is a shame, but having worked downtown as a bartender — I often let transients or homeless in for shelter or a cup of coffee (some did ask for water now that I think of it) during the slow times (when the boss wasn't around). I do sympathise but I also have to wonder if they are looking for all the resources available to them. In this scenario for instance, it is supposedly a fairly good size city and she left due to an abusive relationship — why did she not try to seek help in a battered women's shelter or use the police (and follow through on charges!) to have the abuser arrested? There are a great many people I empathise with ~ homeless or not ~ but you can't save someone if they are stuck in a victim role with the mindset that things only happen to them instead of being taking personal responsibility. I imagine once you are homeless, it is very very difficult

some of the homeless people just refuse to go to shelters and try for a better life, others sit out on the street like homeless beggars but make about \$40,000 or more begging, so that is their job.

This is same story

I already care about the homeless. I know once someone ends up on the street they need help to get back on their own two feet. I feel we should all do our part to help the homeless.

Because I have always see homeless people living like that but that does not mean it is all there is. People in that critical situation must do something on their own if they want to survive and set an example for themselves and others

I don't think that this story is very realistic. Most people I know have either friends or family to lean on in an emergency. There are also many shelters and charitable organizations that are in place to help people in bad circumstances.

It's the typical story of a homeless person.

i know its hard for people to live on the streets some more than others.

I feel that most homeless people can get a job and in my experiences a lot of them do make money in various ways, have bank accounts and choose to be homeless. I have been at the bottom with no money to pay my bills, no money for food for my child and I picked myself up, shook off the woe is me attitude, got a job-2 as a matter of fact and worked my you know what off to pay the bills and take care of my son.

I've always had a heart for the homeless.

I already have a good understanding of, and sympathy for, the plight of the homeless. I will say that this is a compelling representation of it, tho.

I've seen it first hand

I've always felt bad about the homeless.

Because it reaffirmed the way I feel about homelessness already.

Basically,we are ignorant of the homeless to some they are non-existence.

I have several friends who have been homeless for a variety of reasons, so I know how hard it can be.

I am very familiar with the hardships and challenges faced by people who are homeless. This narrative does a good

job of describing the experience, and I would hope more people could be exposed to it, as it might go a little way in changing some people's narrow-minded view of what 'homeless' means...

i already feel for the homeless

I always knew it was difficult to survive when you don't have a home, friends, money. The story seem to scratch the surface of what it must be like to be homeless

A lot of people that are homeless do not try to help themselves out of their situation. what help is given is often abused.

As the difficulties they undergo are virtually the same

I am aware of the problems surviving on the streets.

I knew that's what it was like

I was already aware of these things that homeless people face

Yes, I feel bad that circumstances happened to make them homeless, but they also have the opportunity to pick themselves up and do something about it.

I've always had a general feeling that many homeless people became that way due to circumstances over which they may have had little to no control. Homeless people as a rule do not disgust me nor do they make me fearful. When you really stop to think about it, there but for the grace of God go any one of us...

i know it is bad like they say and more was very close to be homeless once

The story pretty much summed up how I envision the life/circumstances of the majority of homeless people. That they are that living this way because of circumstances

that are beyond their control. Of course, I do believe that a percentage of them are just 'bad folks' for whatever reason. However, I believe that they are in the minority.

I know it is so very difficult to survive while on the street.

I know how hard it can be to have nothing

already know that, my dad used to take in homeless people all the time

I have had friends and myself for a short period of time who were in this predicament some made it out others didn't it is not an easy situation to get out off but it can be done

I have experienced many issues depicted in the story. For one who is resourceful and knows the system, there are ways to quickly exit the street.

already was aware of most of the details

Same story different day

The story told me nothing new, and I know a number of people who are feeding themselves very well just by going through dumpsters, so the story struck me as painting an extreme or exaggerated view, leading me to be wary.

I think there are different situations and different circumstances for each individual

I know that most people on the street can find work do not want to do it.

I live and work around homeless people regularly. They are a normal part of life here.

7.3.3 Survey 3G - Game Group

Question: Please enter any other comments you may have about
either the game or about homelessness

the game was interesting, did not change my opinion on
homeless people. there are too many that really need help.

It wasn't working right, i couldn't see it or read it

I didn't get to see it, it didn't show on my monitor

It is in bad taste. the homelessness is not to be made fun
of in any way

The graphic did not appear, just the sound

Could not activate the game. Homelessness is a problem
in every conurbation - alongside drugs and drink.

sorry couldn't get it to play. Want to continue with study
though.

The squeegees didn't seem buyable, character seemed
slow at times, and comments quickly changed before you
could read them, some of the icons could of been clearer
as to what they were

this game is a great way for people to find out what
homeless people really go through

Homelessness is very hard and nobody deserves it.

its cool

very informative game

it was a enjoyable game and also practical

this game is a great way for people to find out what

homeless people really go through

was a good game to help you realize how difficult little things like going to the bathroom .

there are one or two genuine cases but the majority should get things sorted

The words were blurry and there was no game.

Homelessness is society's responsibility.

The game does not show street-based assistance that is available in some cities for the homeless.

I feel that there are cases where it is an unavoidable situation and it takes a great deal of strength to lift yourself above the problems you face. Then there are others I see in my community that because of either lack of knowledge of resources out there or because they just are not motivated enough to move ahead, choose to pan handle as a way of life.

Good game. I think that there are unavoidable circumstances that can cause homelessness, and then there are instances when the person chooses it because of either lack of knowledge or ambition.

i am concerned about homelessness and wish i could do more to end it

I wish there was more being done in this country to help the homeless... the game was interesting

interesting game

Homeless can not be interpreted into a game.

The game was lame. Homelessness is much too serious to quantify in a simple game

This game indirectly can change people's point of view towards the homeless people.

any how they are humans and they have to live wherever they may be, this is for their survival.

I think this might be an educational game for kids, with a few modifications. However, we need to do some real work to solve the homeless problem that includes using the resources we have to help them out.

I was willing to play the game but there was no explanation as to how to start. Nothing made sense, unless thats the point.

An effective way of getting the message home

are we doing enough to help the homeless to be able to feed and house themselves? i don't know but would like to find out more about my city and its programs for the homeless

Game wouldn't function for me, with my personal experience with the homeless which has increased a lot in this neighbourhood in last 2 years, they knock on my door and request food, or a place to stay for night or while, then bring their friends in, take over the residence with threats against my family, deal drugs and prostitute anyone whom they can addict to drugs, steal and cash in everything not nailed down, incorporate vehicles and sell appliances that belong in house. One was a fellow employee who lost job due to missing work and being late. He would spend 45 min to 1 1/2 hour in bathroom, he was up to something. Others would speak kindly to me in front of house or while in local stores or while I was taking a walk. I have been shot at twice, beat up 2 times, almost strangled to death in my own living room. My pick truck had been stolen (grabed keys while I was sleeping or not watching) 3 times, gone as long as 7 days. All of them had a alcohol or drug problem. Those who are abused and don't have drug

game was interesting

There should be more government programs to help the homeless locally before it helps internationally.

The game was buggy. at times it was hard to tell what was happening.

it is really homeless peoples expressions

It would make people unfamiliar with the issue more aware

The game is a bit simple but I guess it illustrates the issues that homeless people face: money and self esteem

Sucks being homeless.

It only took me five minutes to "win" and get off the streets. Real people need more.

It was an interesting game.

I am taking for granted everything I daily enjoy as my family; my work; my car and having food to eat. This game opened my eyes about what I would do without all those important things my family and myself and others regularly do. This idea is SCARY. Why are homeless in this rich country? Good question. The answer some people say is FATE, BAD LUCK or DESTINY. I would say INJUSTICE and GREED.

I couldn't buy a squeegee even though I had 5\$ on hand and daytime which the store was open.

can't play in my computer

I think this game is a great way to educate about the homeless, it really puts you on the street

It was quite good at increasing awareness of homeless people

I thought the game was a great tool. I think I already am aware of many of the issues facing homeless people, but this game brought those issues home in a very helpful way.

A bit simplified but highlighted the situation of the homeless

don't think that playing a game regarding homelessness will raise awareness in society or change people's attitudes

i actually didn't appreciate the game considering the seriousness of homelessness - it is not a game (perhaps i should not be so serious???) - there must be other ways of getting a message across.

Gives one a greater appreciation of the problems of being homeless on a day to day basis

I have never heard of the game. Some of those you meet selling the big issue do look capable of holding down a job.

I have very mixed feelings about the issue because I know that there are homeless people who would do what they have to in order to change their situation with a little help but I also think there are those who expect everything to be handed to them and really do not make the effort to change their situation.

I know its just frustrating for them... also the game would have been had I not won as soon as I did

I know it's only a game, but it's not that easy to climb ur way out of a gutter.

I think it would be alright as a way to give a small child an idea of what it may be like for them.

I was unable to play the game.

I work in a family violence shelter and think the game

makes people think. there should be a version that focuses on a homeless family

It is problem that will not go away without help from the powers that be

one of way to educate people about homeless people.

Personally I believe is 50/50 % the responsibility every person has achieving the daily tasks that make the difference between being homeless or not. Having playing the game gave me the impression is very hard to live and learn how to survive in that kind of environment.

The game didn't play for me, but my personal experience in feeding them and allowing some to stay overnight in my home nearly got me killed. Assaulted and robbed numerous times over 2 years before I decided to leave it alone.

The game didn't work for me

The game not really can attract people to play due to the game itself lack of attractiveness

The game was too simple. Although it contained some good examples, it did not portray homelessness very well.

the issue of homelessness cannot be grouped in one package. There are some who choose to be homeless and make more money begging on street corners then working while others have some problems. There is not one single fix

The problem of homelessness shouldn't be ignored.

We and the society should help them, because they have not become homeless by own, but the problems made them like that, we all should help them a lot.

About the game: to make it more realistic, I would have

added darkening at the night and probably other homeless people/police. And I would have put the comments in audio. About the homelessness: we, as society, should help the homeless people to not to get to streets and to get away from them, to find a job and an affordable place to live. But not to help them to live at street, since it promotes even more homelessness. The welfare should be enough to cover the living expenses (probably subsidised), but way lower than even min full-time salary to promote people to work. Same for the homeless centres - they should be more focused on helping people to find a job, to support themselves and not to help people with their everyday needs.

games people are playing these days are stupid at best

I think that the game was overly difficult for homeless people. Where I live, at least, it is a lot easier for them to be on the street, to get food, to find places to stay, etc.

It made me more aware of the struggles the homeless have.

yes i recall but had trouble playing it

It seemed pointless

I think the game way oversimplifies the issue and is overly skewed in favour of the homeless.

7.3.4 3N - Narrative Group

Question: Please enter any other comments you may have about either the narrative or about homelessness

The world situation is difficult for anyone to face daily. Homeless people are just another area of the difficulties that people have to face every day. Another issue is the rape of innocent children in the schools as well as the churches.

made me sad :(

I believe that the story was very truthful in most homeless people's situation.

I feel this is a common cause of homelessness in women in large cities where there are not enough shelters for abused women

it is the root cause for all of the illegal things. we have to minimize the percentage of homelessness. because we cannot ruled out it.

It really opened my eyes

As this system deteriorates as it has been during the last century Societal problems will increase not only for homelessness but for all areas of difficulty.

A better mental healthcare system would go a long way to helping this situation.

A lot of people tend to treat homelessness people different like they have a disease or something. They need to be helped!

A lot of homeless people can but will not help themselves. Until they wake up and ask for help we really can not do much.

Everybody should have a right to have roof over their head.

There are times in life many people don't have a job. In the meantime the government must support so people don't loose their home.

Fear and pity

I believe that even though any government may try to solve the homelessness situation it is going to be

impossible because there are too many negative influences in our society. I however believe that this problem will be soon fixed thru God's kingdom we usually pray.

I believe that the lack of universal health care in the US is a large contributing factor to the homeless.

i feel because they are homeless people want nothing to do with them.

I need to learn more about homeless people.

I think there is a great number who have mental illnesses or drug/alcohol issues which keep them from holding down a job, but there are also many that just choose not to try and help themselves.

I think they are down on their luck people who need help from society to give them understanding and help to get back on their feet.

most people are homeless because of the grinding poverty of our country.

need more help to get started,with nothing you just need to survive. place to stay food something on your back. only then can you think of a job end more

Once they have entered the vicious cycle of the factors that led them to this point in time, it is very difficult for these people to help themselves out.

People always seem to fear homeless people like they are all crazy. I disagree because most homeless people are just like you or I that have had a disaster in their lives. They need help not ignorance

some need counselling, some just need a friend

there are shelters they can go to for help and most don't

There are so many young adults on the streets begging for money. Most sit in front of the banks. I feel as though they are just too lazy to look for work and would rather beg than being responsible adults. They still manage to afford smokes, tattoos and piercings.

There is always a choice. The choice may be difficult but there is a choice to be made. I realise many may have mental illness that prevents them from properly making the choice and they obviously need extra help.

Time after time I have asked homeless people if they wanted a job. Nine times out of ten they would say no, because they could make more money on the street corner.

Who in their sound mind would loves to be homelessness as for me whether you lives at Hollywood Beverly Hills or no homes,you are still another HUMAN BEING. There should be enough homes for every human being in this GOD'S planet.

7.4 Participant Surveys

7.4.1 Initial survey (all participants)

Wetcoast Surveys

12/07/08 3:18 PM

Wetcoast Surveys

Browse Responses

Data Entry

A Survey of Attitudes Towards the Homeless - 1
A survey to measure attitudes towards the homeless and towards videogames - part 1

Date Stamp:

1. Homelessness

0001 ***StudyResponse ID**

0002 **On a scale of 1 to 5 (1 = not knowledgeable, 5= knowledgeable) how knowledgeable do you consider yourself about homelessness?**

0003 **On a scale of 1 to 5 (1 = not interested, 5=very interested) how interested are you in the issue of homelessness?**

0004 **Of the following, what do you think are the most important causes of homelessness? Please rank according to order of importance.**

Your Choices:	Your Ranking:
Unemployment	1: <input type="text"/>
Eviction/foreclosure	2: <input type="text"/>
Mental illness	3: <input type="text"/>
One's own choice	4: <input type="text"/>
Family conflict	5: <input type="text"/>
Drug and/or alcohol pr	6: <input type="text"/>
Lack of affordable hous	7: <input type="text"/>

0005 **On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: For most homeless people, it is their own fault that they are homeless**

0006 **On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people just don't want to work**

0007 **How much do you personally care about the**

<http://www.wetcoast.org/phpsurveyor/admin/dataentry.php?sid=34>

Page 1 of 3

0008	plight of the homeless (1 = not at all, 9 = very much) On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society does not do enough to help homeless people	Please choose... ▾
0009	Compared with other social problems we face today (e.g., crime, education, drugs, AIDS, global warming, traffic), how would you rate the importance of helping homeless people? (1 = not at all important, 9 = extremely important)	Please choose... ▾
0010	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society should do more to protect the welfare of homeless people	Please choose... ▾
0011	In general what are your feelings towards homeless people? (1 = extremely negative, 9 = extremely positive)	Please choose... ▾
0012	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people could get a job and off the streets if they wanted to	Please choose... ▾
0013	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people choose to live that way	Please choose... ▾

0014 **In an average month, how many hours do you spend playing video games?**

- Never
- Less than 5 hours per month
- 5 - 10 hours per month
- 10 to 20 hours
- Over 20 hours

0015 **Please rank the following means of communication for their effectiveness in raising awareness of social issues (1 = not effective, 5 = very effective):**

- Newspapers
- Movies
- The World Wide Web
- Magazines
- Video games
- Television

2. Demographic Information

0016 **What is your age?**

0017 **What is your gender?**

0018 **What is your country of residence?**

0019 **What is your household income?**

0020 **What is the highest level of education you have completed?** Other:

This survey is not yet active. Your response cannot be saved



7.4.2 Second Survey (Game Group)

Wetcoast Surveys

12/07/08 3:22 PM

Wetcoast Surveys

Browse Responses

Data Entry

A Survey of Attitudes Towards the Homeless - 2(G)

Date Stamp:

0001 ***StudyResponse ID**

0002 ***The Flash-based game, Homeless: It's No Game, will now load. If you do not see the game after a few minutes, please click [here](#) to play the game. When you have finished, please return to this page and click "Next" at the bottom of the screen. If you do not have Flash on your system, please download it from [Adobe](#) and then return to the survey.**

0003 ***Did you play Homeless: It's No Game?**

[Only answer this if the following conditions are met:]
-to question '0003', you answered 'Yes'

0004 **On a scale of 1 to 5, please rate your feelings towards homeless people, having played the game.**

**1= much less sympathetic
2= less sympathetic
3= no change in feeling
4= more sympathetic
5= much more sympathetic.**

[Only answer this if the following conditions are met:]
-to question '0004', you answered ''

0005 **Why do you feel less sympathetic towards homeless people?**

[Only answer this if the following conditions are met:]
-to question '0004', you answered ''

0006 **Why do you feel more sympathetic towards homeless people?**

[Only answer this if the following conditions are met:]
-to question '0004', you answered ''

0007 **Why have your feelings not changed?**

[Only answer this if the following conditions are met:]
-to question '0003', you answered 'No'

0008 **Why didn't you play the game?**

- Couldn't get it to work
- Couldn't figure out how to play
- Too simplistic
- Too complicated
- Couldn't be bothered
- Not enough time to play
- Not sure
- Other

0009 **Please enter any other comments you have about either the game or about homelessness.**

This survey is not yet active. Your response cannot be saved



7.4.3 Second Survey - Narrative Group

Wetcoast Surveys

12/07/08 3:19 PM

Wetcoast Surveys

Browse Responses

Data Entry

A Survey of Attitudes Towards the Homeless - 2(N)

Date Stamp:

0001 *** StudyResponse ID**

0002 *** A Day in the Life of a Homeless Woman**

Congratulations. You live in one of the most beautiful cities in the world. Unfortunately, you're living on the street. Forced to leave your home to avoid an abusive relationship, you're alone in the city with no money, no friends, no resources. You're homeless.

It's a tough life when you're homeless. The trivial things that the rest of us take for granted, like having a place to sleep or shelter from the rain, are missing. You can't even go to the bathroom whenever you need to. Instead, you have to find a public washroom that's open or go into a restaurant and try to use their facilities. But public washrooms are few and far between and are often closed - for maintenance, for cleaning, or just closed for the night. And restaurant washrooms are only for patrons and if you're homeless and scruffy looking, you'll have a tough time convincing restaurant staff to let them use the facilities unless you buy something to eat.

And how can you buy something to eat if you don't have any money? You can try begging for change - but that takes nerve, and confidence, something that suffers when you're down on your luck. You can rummage in the garbage for

<http://www.wetcoast.org/phpsurveyor/admin/dataentry.php?sid=33>

Page 1 of 3

stuff to sell - you'd be amazed what people throw away - but it's filthy, and dangerous, and these days most dumpsters are locked. You can check out recycling bins for returnable bottles, but often you won't find anything -- you're not the only one trying to make a living on the street -- and there's always the danger of cutting yourself on broken glass, or worse. And once you do get your bottles or your salvage goods, then you have to turn them into money. The liquor store's only open certain hours, and only takes 12 bottles maximum, and often you can't find anyone who wants to buy what you've rescued from the dumpster.

You can always try washing car windows, but you need a squeegee and bucket for that, and chances are the police will hassle you or motorists won't give you anything.

One thing you miss when you're living on the street is water. You get thirsty when you're walking on concrete pavement all day, but where are you going to get water? Maybe that server in the restaurant will give you some, but don't count on it.

There's something about the look of a homeless person that brings out disgust and fear in even the most liberal-minded person.

Other hazards abound on the streets of the city - vicious dogs, reckless drivers, uptight residents who don't want you in their neighbourhood, junkies and thieves. And you, being vulnerable, are an easy target. And then there's the police -- they'll accuse you

of stealing your stuff, make you move on from the doorway where you've bedded down for the night or just hassle you on principle.

Yes, it's tough being homeless, and it's not easy to get yourself out of that situation when you're spending all your energy and resources just trying to survive.

0003 **On a scale of 1 to 5, please rate your feelings towards homeless people, having read the story.**

- 1= much less sympathetic**
- 2= less sympathetic**
- 3= no change in feeling**
- 4= more sympathetic**
- 5= much more sympathetic.**

[Only answer this if the following conditions are met:]
-to question '0003', you answered "

0004 **Why do you feel less sympathetic towards homeless people?**

[Only answer this if the following conditions are met:]
-to question '0003', you answered "

0005 **Why do you feel more sympathetic towards homeless people?**

[Only answer this if the following conditions are met:]
-to question '0003', you answered "

0006 **Why have your feelings not changed?**

This survey is not yet active. Your response cannot be saved



7.4.4 Third Survey - Game Group

Wetcoast Surveys

12/07/08 3:20 PM

Wetcoast Surveys

Browse Responses

Data Entry

A Survey of Attitudes Towards the Homeless - 3(G)

A survey to measure attitudes towards the homeless and towards the video game, Homeless: it's no game

Date Stamp:

1. Homelessness

0001 * StudyResponse ID

0002 On a scale of 1 to 5 (1 = not knowledgeable, 5=knowledgeable) how knowledgeable do you consider yourself about homelessness?

0003 On a scale of 1 to 5 (1 = not interested, 5=very interested) how interested are you in the issue of homelessness?

0004 Of the following, what do you think are the most important causes of homelessness? Please rank according to order of importance.

Your Choices:	Your Ranking:
Unemployment	1: <input type="text"/>
Eviction/foreclosure	2: <input type="text"/>
Mental illness	3: <input type="text"/>
One's own choice	4: <input type="text"/>
Family conflict	5: <input type="text"/>
Drug and/or alcohol pr	6: <input type="text"/>
Lack of affordable hous	7: <input type="text"/>

0005 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: For most homeless people, it is their own fault that they are homeless

0006 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people just don't want to work

0007 How much do you personally care about the plight of the homeless (1 = not at all, 9 = very much)

0008 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate

<http://www.wetcoast.org/phpsurveyor/admin/dataentry.php?sid=35>

Page 1 of 3

your level of agreement with the following statement: Our society does not do enough to help homeless people

0009 Compared with other social problems we face today (e.g., crime, education, drugs, AIDS, global warming, traffic), how would you rate the importance of helping homeless people? (1 = not at all important, 9 = extremely important)

0010 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society should do more to protect the welfare of homeless people

0011 In general what are your feelings towards homeless people? (1 = extremely negative, 9 = extremely positive)

0012 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people could get a job and off the streets if they wanted to

0013 On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people choose to live that way

2. Video Games

0014 Please rank the following means of communication for their effectiveness in raising awareness of social issues (1 = not effective, 5 = very effective):

- Newspapers
- Movies
- The World Wide Web
- Magazines
- Video games
- Television

0015 **Did you play Homeless: It's No Game?**

[Only answer this if the following conditions are met:]
-to question '0015', you answered 'Yes'

0016 ***How long did you play the game for?**

[Only answer this if the following conditions are met:]
-to question '0015', you answered 'Yes'

0017 **On a scale of 1 to 5, please rate your feelings towards homeless people, having played the game.**
1= much less sympathetic
2= less sympathetic
3= no change in feeling
4= more sympathetic
5= much more sympathetic.

[Only answer this if the following conditions are met:]
-to question '0015', you answered 'Yes'

0018 **How effective was Homeless: it's no game at increasing awareness of homelessness? (1 = not effective; 5 = very effective).**

[Only answer this if the following conditions are met:]
-to question '0015', you answered 'Yes'

0019 **How realistic was Homeless: it's no game in its portrayal of homeless people?**

[Only answer this if the following conditions are met:]
-to question '0015', you answered 'Yes'

0020 **How positively do you feel toward the homeless character in Homeless: it's no game? (1 = not at all, 9 = very)**

0021 **Please enter any other comments you may have about either the game or about homelessness.**

This survey is not yet active. Your response cannot be saved



7.4.5 Third Survey - Narrative Group

Wetcoast Surveys

12/07/08 3:20 PM

Wetcoast Surveys

Browse Responses

Data Entry

A Survey of Attitudes Towards the Homeless - 3(N)
A survey to measure attitudes towards the homeless

Date Stamp: 2008-07-12 18:20

1.

0001 * **StudyResponse ID**

0002 **On a scale of 1 to 5 (1 = not knowledgeable, 5=knowledgeable) how knowledgeable do you consider yourself about homelessness?**

0003 **On a scale of 1 to 5 (1 = not interested, 5=very interested) how interested are you in the issue of homelessness?**

0004 **Of the following, what do you think are the most important causes of homelessness? Please rank according to order of importance.**

Your Choices:	Your Ranking:
Unemployment	1: <input type="text"/>
Eviction/foreclosure	2: <input type="text"/>
Mental illness	3: <input type="text"/>
One's own choice	4: <input type="text"/>
Family conflict	5: <input type="text"/>
Drug and/or alcohol pr	6: <input type="text"/>
Lack of affordable hous	7: <input type="text"/>

0005 **On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: For most homeless people, it is their own fault that they are homeless**

0006 **On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people just don't want to work**

0007 **How much do you personally care about the**

<http://www.wetcoast.org/phpsurveyor/admin/dataentry.php?sid=36>

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0008	plight of the homeless (1 = not at all, 9 = very much) On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society does not do enough to help homeless people	Please choose...
0009	Compared with other social problems we face today (e.g., crime, education, drugs, AIDS, global warming, traffic), how would you rate the importance of helping homeless people? (1 = not at all important, 9 = extremely important)	Please choose...
0010	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Our society should do more to protect the welfare of homeless people	Please choose...
0011	In general what are your feelings towards homeless people? (1 = extremely negative, 9 = extremely positive)	Please choose...
0012	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people could get a job and off the streets if they wanted to	Please choose...
0013	On a scale of 1 to 9, (1 = strongly disagree, 9 = strongly agree), indicate your level of agreement with the following statement: Most homeless people choose to live that way	Please choose...

2.

0014 **Please rank the following means of communication for their effectiveness in raising awareness of social issues (1 = not effective, 5 = very effective):**

Newspapers

Movies

The World Wide Web

Magazines

Video games

Television

0015 **Did you read the narrative about the homeless woman in part two of this research study?**

0016 **On a scale of 1 to 5, please rate your feelings towards homeless people, having read the story.**
 1= much less sympathetic
 2= less sympathetic
 3= no change in feeling
 4= more sympathetic
 5= much more sympathetic.

[Only answer this if the following conditions are met:]
 -to question '0015', you answered 'Yes'

0017 **How effective was the narrative at increasing awareness of homelessness? (1 = not effective; 5 = very effective).**

[Only answer this if the following conditions are met:]
 -to question '0015', you answered 'Yes'

0018 **How realistic was the narrative in its portrayal of homeless people?**

[Only answer this if the following conditions are met:]
 -to question '0015', you answered 'Yes'

0019 **How positively do you feel toward the homeless character in the narrative? (1 = not at all, 9 = very)**

0020 **Please enter any other comments you may have about either the narrative or about homelessness.**

This survey is not yet active. Your response cannot be saved

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