

GAMES: Virtual Worlds and Reality

Selected Papers of ISAGA 2008

Eugenijus Bagdonas & Irena Patasiene (eds.)

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Are Tendencies in Real–World Social Behavior Reproduced in the Virtual World? – Investigation and Implications

Mika Igarashi, Yosuke Nagashima, Akira Baba

Abstract

Using the example of help-seeking behavior and tactics, this paper investigates if tendencies in real-world social behavior are reproduced in a virtual world and discusses the possibilities as to how the virtual environment can be used to facilitate or inhibit a certain social behavior. A dataset from an online game was analyzed. The result indicated that the real-world tendencies in help-seeking behavior and tactics also existed in the virtual world. The use of virtual environments in reducing the obstacles for help-seeking by men is proposed.

Keywords: social behavior; real and virtual environments; help-seeking; MMORPG.

Problem

Various factors influence our social behavior. These effects may be positive or negative. In real world society, even when we know what factors cause these positive or negative effects, it is not necessarily possible or easy to change the personal properties, social structure or culture to facilitate or avoid these effects. For instance, existing studies have attested that being male, due to the social male gender role encouraging strength and independence, inhibits men from seeking help even when necessary (Russo & Sobel, 1981; Nadler & Friedman, 1984). This is believed to become an obstacle for men to obtain necessary help; being a strong concern for men's wellbeing (Good & Mintz, 1990). However, it is difficult for men to stop being men, or to change the image of masculinity so widely spread and culturally approved. Nonetheless, the virtual worlds of many digital games and simulations are more flexible environments where various identities and social structures can be employed or implemented, i.e. depending on the use or design of virtual worlds, these effects can be magnified or reduced.

When considering this, it should be noted that the causal relationship between a factor and its effect on social behavior in the real world may not necessarily exist in the virtual world. Therefore, we need to assure that certain tendencies in social behavior in the real world are reproduced in the virtual world. If this is the case, the system architectures of virtual environments can be designed according to these findings.

Mentoring, cheating, harassment and helping are only a few examples of social conducts that would be worthwhile investigating in order to facilitate or prevent them and enhance learning effects or enjoyable game-play experience for instance. In this paper, as has been discussed earlier, we shall pay attention to help-seeking behavior. Nowadays, there are numerous games and simulations where participants cooperate with each other during game-play. We believe that providing and asking for help play an important role in: communication, bonding, development of friendship and fellowship between players, evoking a sense of commitment to the game community in the players and providing pleasurable game-play experience and improved usability to the players. Thus, this paper tests whether certain tendencies in social behavior in the real world are reproduced in the virtual world, i.e. the tendencies of help-seeking behavior observed in the real world are also observed in the virtual world. From the existing researches pointing to the hardship for men in help-seeking, we propose the following hypothesis:

- i. Females are more likely to receive sought help than males.

There is more than one way to seek help, with variations in directness in methodology and expression. DePaulo (1983) speculates that, by employing indirect help-seeking tactics, the helpee can seek help without admitting that he is asking for help to others or himself. The male preference for indirect help-seeking tactics was reported (Tudiver, 1999). This leads to the following hypothesis:

ii. Males are more likely than females to conduct implicit help-seeking.

It is known that gender acts as the determinant for these tendencies, however, unlike the real world, there are two kinds of gender-related personal properties in the virtual world: the players' biological gender and the avatar gender. Hypothesizing that it is the avatar gender that influences the help-seeking behavior, this paper employs the avatar gender for analysis. Since help-seeking is largely an interpersonal behavior, it can be assumed that it is more significantly influenced by the gender of the helpee as 'perceived by others' rather than their habitual behavior, helping norm, or daily routine based on their gender awareness.

Data

With the cooperation of the KOEI. Co., Ltd. game company, the log data of the MMORPG *Uncharted Waters Online* (UWO)¹ was analyzed. UWO has been in service in Japan since 2005; its stage is set in the XVI and XVII centuries and involves players setting out on various expeditions around the world. The number of subscribed players was 27,000 in March 2007. According to the player questionnaire conducted on the UWO official website in October 2006 (n=5,898), 86.74% of the players were male and 13.26% were female. The ages of the players varied from below 14 years to over 50 years; 13.50% in their early twenties, 30.21% in their late twenties, 33.16% of the players were in their early thirties and 13.46% in their late thirties. In UWO, all of the remarks that are made or heard by a player are automatically recorded and saved as a chat log.

In January 2007, we had three informants who played UWO provide us with their chat logs. Each of them submitted chat logs corresponding to one month of play-time (1st - 31st of July 2006). These three players were working males between 20 and 30 years of age. Since the remarks made by characters around them or in the same chat channels are recorded in the chat logs, not only the behavior of the chat log providers but also other players can be analyzed. However, helping behaviors conducted or sought by the characters controlled by the chat log providers were excluded from the analysis to avoid bias. Since our analysis requires the context of the conversation to be taken into account, only chat channels that allowed relatively continuous communication and thus provided sufficient context were chosen for our analysis. As a result, the participating characters in the dataset for the analysis amounted to 242.

Method

We used the expression of *thanking*, defined as the acknowledgement of pleasure due to a benefit for the thanker (Kindaichi, 1980), for extracting helping behaviors from the log data. We presumed an occurrence of helping behavior preceding each occurrence of thanking. In order to avoid subjectivity bias of the extractors, expressions that were not designated as expressions of thanking by a thesaurus were excluded from the extraction. Then we evaluated if the context fulfills the expression to function as an act of thanking, as defined by Searle (1969). Hence, we identified the acts of thanking as a reception of helping by evaluating both the conversational content and context, using expressions of gratitude or appreciation as keywords, and extracting acts that fulfilled the definition of thanking in speech acts. The extraction was executed separately by three extractors and demonstrated 100% consistency in identifying helping behaviors in the log data.

The identification of a *request* was done using the definition of request as an illocutionary act (Searle, 1969). These requests were categorized into *explicit help-seeking* and *implicit help-seeking* according to the directness of the expression.

Explicit help-seeking is an expression that directly requests an action of the hearer, e.g.,

“Would you tell me where the post office is?”

“Will you guide me to the post office?”

“Can you please go to the post office with me?”

Implicit help-seeking is an expression that can be considered a request of an action by the hearer, although it is not in a clear form of request. This includes reference to a problem, such as an indication of adversity or need, and mention of an improvable situation, e.g.,

“I am in trouble because I don't have any milk.”

“I don’t have enough milk.”

“Things would be easier if I had more money.”

We define unsought help as a help not proceeded by a request.

Results

147 characters (129 helpers and 89 helpees, with a partial overlap) were involved in helping behaviors in the log data. Of these characters, 55.8% had male avatars and 44.2% had female avatars (137 male: 107 female). The extracted helping cases amounted to 627, of which 257 were helping cases that were not requested (unsought help) and 371 were helping cases that took place as a result of help-seeking (sought help). Male avatars were the helpers in 381 cases and female avatars in 241 cases. Male avatars were the helpees in 407 cases and female avatars in 219 cases. The SAS program was used for most of the analysis.

As for the pairing of unsought and sought help with avatar gender, more sought help was given to female avatars ($\chi^2(1,624)=4.7945, p<.05$) as seen in Chart 1. The respective difference in the ratio was analyzed. There was a significant difference in the helpee’s avatar sex ratio of the mother group for unsought/sought help ($z=2.190, p<.05$). In more precise terms, male avatars received more unsought help and female avatars were given more sought help.

Table 1: Unsought/Sought Help and the Helpee’s Avatar Sex

(The values at the top of each row refer to the number of helping cases and the values at the bottom of each row refer to the ratio of unsought/sought help for each avatar sex)

	Male Avatar	Female Avatar	Total
Unsought Help	300 0.735	144 0.655	444
Sought Help	108 0.265	76 0.345	184
Total	408	220	628

Next, we investigated if there was a significant relationship between avatar gender and the use of explicit/implicit help-seeking tactics. As seen in Chart 2, more help sought by implicit help-seeking was given to male avatars ($\chi^2(1,173)=11.177, p<.001$). The respective difference in the ratio was analyzed; there was a significant difference in the helpee’s avatar gender in the mother group depending on two different help-seeking tactics ($z=3.343, p<.01$). More explicitly sought help was given to female avatars and more implicitly sought help was provided to male avatars.

Table 2: Help-Seeking Tactics and the Helpee’s Avatar Sex

(The values at the top of each row refer to the number of helping cases and the values at the bottom of each row refer to the ratio of explicitly/implicitly sought help for each avatar sex)

	Male Avatar	Female Avatar	Total
Explicitly Sought Help	85 0.787	73 0.961	158
Implicitly Sought Help	23 0.213	3 0.039	26
Total	108	76	184

Discussion

When using avatar gender as the determinant, the following two real-world tendencies of help-seeking behavior were also observed in the virtual world of UWO:

- i. Females are more likely to receive sought help than males.

ii. Males are more likely than females to conduct implicit help-seeking.

The tendencies of real-world help-seeking behavior and tactics related to gender were reproduced in the virtual world when using avatar sex as the determinant.

As 86.74% of UWO is male, there is a high possibility that the majority of the participants in this study are also male and some of the female characters in this study are controlled by males. Given this assumption, it is intriguing that the real-world findings, for which female received more explicitly sought help, were reproduced in this environment. This implies that males seek help more readily when they seek it as female avatars. It has been reported that characteristics of the avatars used in online environments impact the users' behaviors; called the Proteus Effect (Yee & Bailenson, 2007). This rationale leads to the hypothesis that use of female avatars by males temporarily frees them from the shackles of the male social gender role, in turn reducing their help-seeking barrier and allowing them to seek help explicitly. This role modification may be a benefit of the effective use of online communities by males for help-seeking and should serve as a calling for future research to investigate the relationship between the gender of avatars and that of the users who control them.

This paper has demonstrated that tendencies of the real-world relationship of gender and help-seeking behavior and tactics was reproduced in a virtual world, and discussed the hypothesis that use of the virtual environment may reduce the obstacle for help-seeking by men.

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