

The Stoic Male: How Avatar Gender Affects Help-Seeking Behavior in an Online Game

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Abstract

Men are more reluctant to seek help for their problems than women. This difference is attributed to social expectations regarding the male gender role. Today, help-seeking is moving online: instead of traditional peer groups and counselors, people depend on online communities and e-counselors. But online users can appear in guises that differ from their physical sex. An empirical study was conducted in an online game to examine whether users' avatars' gender influences how they seek and receive help. Analysis is based on user-to-user communications and back-end data. Results indicate that male avatars are less likely to receive sought-for help than female avatars and more likely to be the recipients of indirectly sought help. The authors conclude that avatar gender influences help seeking independent of physical sex: Men overcome their inhibition for help seeking when using female avatars. Practitioners should ensure that means for indirect help seeking are available in order not to exclude male-pattern help seekers.

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Research in social psychology has shown that the ways in which people seek help for their problems follow certain sociodemographic patterns. In particular, it has been shown that men are more reluctant to seek help than women (e.g., Kessler, Brown, & Broman, 1981; Thom, 1986; Yamaguchi & Nishikawa, 1991). It has also been suggested that men prefer to employ indirect means of seeking help rather than requesting it outright (Tudiver, 1999). One explanation for these observations is found in social expectations relating to the male gender role: the myth of the male as a strong, stoic, self-sufficient figure. Unfortunately, this reluctance to seek help results in increased risks, vulnerabilities, and impediments to learning. As a result, help-seeking behavior is an important topic for research with direct implications for clinical, pedagogic, and other practical work.

Today, help seeking is becoming increasingly computer mediated. Processes of urbanization and labor mobility have diminished peer groups such as neighborhoods and extended families that traditionally offered support and advice to their members (Putnam, 1995, 2000). Many turn to online groups for peer support and advice (Caplan & Turner, 2007; Rheingold, 2000; Steinkuehler & Williams, 2006). Professional helpers such as health care providers, counselors, and educators are increasingly complementing and even replacing face-to-face consultations with computer-mediated help (Barak & Bloch, 2006; Hsiung, 2000; Miller, 2009). In societies with rapidly aging populations, widespread adoption of telemedicine may be the only way to provide sufficient care in the future. Moreover, the adoption of new computer-mediated tools and environments for working, learning, and conducting social lives is itself creating a massive new need for help in how to use those systems. Such help is often sought among other users of the systems.

One prominent area of computer-mediated sociability and consequently also computer-mediated help seeking is online gaming. Online game companies employ large numbers of customer service representatives to respond to their players' help requests (Mulligan & Patrovsky, 2003). Players also seek and receive help from each other (Wang & Wang, 2008). Effective peer support has direct financial significance for game companies, because providing professional customer support can be the biggest expense category in operating an online game (Plunkett, 2008). Peer support extends from in-game problems to other areas of life, providing gamers with important social and educational benefits (Steinkuehler, 2008; Steinkuehler & Williams, 2006).

For reasons outlined above, understanding help-seeking behavior in online games and other computer-mediated contexts is an increasingly important topic. Traditional literature on prosocial behavior is insufficient for this need, because seeking help through computer-mediated channels has some important differences to traditional settings. The most obvious of these is that when all intercourse is mediated,

participants have no direct way of observing each others' body and physical appearance, which creates a layer of anonymity and allows individuals more control over the way others perceive them (Suler, 2004a, 2004b; Turkle 1995). In this article, we approach this gap through the question of gender in online help seeking.

In many online peer groups, a significant proportion of the participants present themselves through a guise that differs from their physical sex (Hussain & Griffiths, 2008; Roberts, 1999). It is not clear at all how previous findings regarding gender and help seeking apply in such situations. Gender role theory posits that many gender-based differences in behavior are explained by social norms and expectations rather than essential biological differences (Lindsey, 2005). If this is the case, then avatar gender could have an influence on help-seeking behavior in online environments. This could have important implications for dealing with the stoic male issue as help-seeking becomes increasingly computer mediated.

In the following sections, we review previous literature on gender, help seeking, and computer-mediated communication, and develop hypotheses regarding the influence of avatar gender on help-seeking behavior. We then describe an empirical study to test the hypotheses in a real online environment. The study is based on observational data from *Uncharted Waters Online (UWO)*, a Japanese massively multiplayer online game. In the final section, we provide conclusions and practical suggestions for professional e-helpers and developers of online environments.

Background

Gender Differences Help-Seeking Behavior

Help seeking is defined as “any communication about a problem or troublesome event which is directed toward obtaining support, advice, or assistance in times of distress,” and “includes both general discussions about problems and specific appeals for aid” (Gourash, 1978). Everyone experiences situations and problems that cannot be solved without the help of others. Help seeking is not necessarily an easy endeavor, however. Studies have demonstrated that help seeking results from a complex decision-making process influenced by diverse factors (DePaulo, 1983) and may incur significant costs to the help seeker, such as threats to self-esteem (Fisher, Nadler, & Whitcher-Alagna, 1982) and indebtedness (Befu, 1980).

Personal characteristics have significant influence on help-seeking behavior. Gender is a prominent example with persistent effects across cultures: A large volume of studies have highlighted the reluctance of males to seek help from medical and counseling professionals (Kessler et al., 1981; Padesky & Hammen, 1981; Russo & Sobel, 1981; Thom, 1986), and a similar tendency can be seen in men's help-seeking behavior from nonprofessionals (Yamaguchi & Nishikawa, 1991). Despite the higher average vulnerability to illness and mortality rate observed among men, the usage rate of health and medical facilities by males is lower than that of females (Gove & Hughes, 1979; Lewis & Lewis, 1977; Nathanson, 1977;

Verbrugge, 1979). The male inhibition to help-seeking behavior has given rise to the medical concern that men may be exposed to increased physical and psychological risks relative to women (Eisler, Skidmore, & Ward, 1988; Good & Mintz, 1990; Good & Wood, 1995).

The male social role, which in almost all cultures suggests that men should be strong and independent, is often seen as the main cause of male inhibition to help-seeking behavior. Nadler, Maler, and Friedman (1984) found that the inhibition to help seeking is greater in males with a strong awareness of gender roles. Psychological ambivalence, which is inherent in help seeking, can be largely categorized into two groups: ambivalence caused by interpersonal inconsistencies, such as impulses and beliefs, and ambivalence based on social structural inconsistencies, such as social roles and culture (Merton & Barber, 1963). The obstacles for male help seeking can be seen as deriving from the latter, that is, social ambivalence. The factors that constitute the barriers for male help seeking may include a need for control and self-esteem, minimization of problems and grief, distrust of care givers, privacy, and emotional control (Mansfield, Addis, & Courtenay, 2005).

Some studies have also indicated that when help is sought, males are less likely to be helped than females (Simon, 1971). Takagi (1998) speculates several causes for this tendency. First, males may be considered to have higher problem-solving abilities than females and are consequently more likely to be held responsible for failing to solve their problems. In contrast, the causes of problems for females may more often be considered circumstantial and beyond their control. Help is given more readily when the helper perceives that the help seeker is not responsible for causing the problem. As a result, females enjoy a greater chance of being successful when they seek help. Second, the social accusation of declining to help can be more severe when the help seeker is female. Thus, when the help seeker is female, there is a higher probability that the helper chooses to provide help in order to avoid social sanctions. Finally, Takagi proposes a cause rooted in physiology: The physical risk of helping females is smaller than that of helping males, as it is less likely that a physically smaller female helpee would suddenly harm the helper.

In summary, males are less likely to solicit help than females and, when help is sought, females are more likely to be helped than males. On the other hand, there is more than one way to seek help, with variations in the directness of both methodology and expression (Blau, 1955; Ervin-Tripp, 1977; Labov & Fanshel, 1977; McKessar & Thomas, 1978). Help-seeking tactics can be roughly divided into two categories: direct tactics represented by explicit requests, and indirect tactics represented by implicitly issued requests and nonverbal cues. A similar distinction was made in the analysis of Malo (1994), who distinguished between “directly made” requests and requests “indirectly expressed when complaining about a problem.”

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 to himself. This reduces the threat to the helpee’s social status and self-esteem. It can thus be hypothesized that indirect help seeking presents fewer obstacles for men and is

consequently preferred as a help-seeking tactic among male helpees. Indeed, several qualitative studies have suggested that male help seekers tend toward more indirect means of seeking help. For instance, a study based on focus group research involving 30 medical practitioners reported that male help seekers prefer indirect help seeking (Tudiver, 1999). However, this tendency remains to be addressed in large-scale statistical studies on help-seeking behavior.

Gender and Help Seeking in Computer-Mediated Communication

As help seeking moves online, studies of online help seeking have also started to appear. Several studies have examined online support groups and the factors that contribute to their functioning (Barak & Bloch, 2006; Barak, Boniel-Nissim, & Suler, 2008; Caplan & Turner, 2007; Hsiung, 2000; Leimeister, Schweizer, Leimeister, & Krcmar, 2009). A smaller number of studies have examined online help-giving behavior and personal characteristics that explain it (Lewis, Thompson, Wuensch, Grossnickle, & Cope, 2004; Wang & Wang, 2008). Only a handful of studies have examined helping in the context of games (Wang & Wang, 2008). Factors influencing online help-seeking behavior, and particularly the role of gender in online help-seeking behavior, remain mostly unexplored. Contrary to some expectations, the impact of gender has not disappeared in computer-mediated communications (Christofides, Islam, & Desmarais, 2009; Leonard, 2006). Gender is such a fundamental way of organizing social reality that it is even attributed to supposedly gender-neutral computer agents (Nass & Moon, 2000; Nass, Moon, & Green, 1997). Yet the nature of computer-mediated interaction significantly changes the help-seeking situation, in ways that make it necessary to reexamine the links between gender and help seeking.

By definition, participants in mediated communication are unable to directly observe each others' voice, body, and physical appearance. High-bandwidth media, such as video conferencing and telepresence systems, relay much but not all of this information, while low-bandwidth media, such as text-based forums and chat rooms, relay little or none of it. This implies that indirect help seeking is more restricted to verbal techniques. Many if not most online peer groups as well as some professional e-helping services are moreover anonymous: Participants have almost no information regarding each others' physical identity (Barak et al., 2008). This sets participants free to assume roles that differ from their ordinary social and physical identities (Suler, 2004a, 2004b; Turkle, 1995). The original identity is never completely erased, though, because participants' language and self-presentation necessarily convey some hints about their nationality, education, and other sociodemographic factors (Kendall, 1998).

In many visual multi-user environments and online games, text-based interaction is augmented by the use of avatars: characters that represent participants in the virtual space and open up new possibilities for nonverbal communication. While participants typically draw on their self-image when constructing an avatar, it is also common to exaggerate or even reverse these qualities, especially when the context

is perceived as playful rather than serious (Vasalou & Joinson, 2009; Yee & Bailenson, 2007). Compared to purely text-based communications, avatars lend tangibility and permanence to an assumed identity, but the choices available when creating an avatar also constrain the range of identities that can feasibly be assumed (Yee & Bailenson, 2007). For example, it is typically necessary to choose either a male or a female avatar.

A common form of identity play in online environments is to assume the guise of the opposite gender. In one of the first studies to address this topic, 40% of participants in a virtual environment had used an avatar of the opposite gender (Roberts, 1999), while in a more recent study, the figure was 57% (Hussain & Griffiths, 2008). According to Roberts (1999), the primary reason for gender-switching is the desire to play the role of a person different from one's self. Female participants also use male avatars to circumvent prejudices toward women in male-dominated environments and to avoid unwanted courting behavior (Roberts, 1999; Yee, 2008). Male participants use female avatars to enjoy benefits such as attention and gifts lavished by other males and to enjoy controlling and looking at a virtual female body without necessarily having any intention to play a feminine role (Hussain & Griffiths, 2008; Yee, 2008). The ability to engage in interactions through a self-selected gender role may also be psychologically important to members of sexual minorities and other groups (Gauthier & Chaudoir, 2004; Hegland & Nelson, 2002).

Since traditional help-seeking literature indicates that men and women follow different help-seeking behaviors, we posit the following research question concerning gender in online help seeking: *How does avatar gender influence the way in which individuals seek and receive help in an online environment?* One possible answer is that avatar gender has no influence, because no gender differences in online help-seeking behavior exist. The differences observed between male and female help-seeking in previous literature were in some cases believed to be arising from immediate physical risks to the helper. Such risks are not normally present in semi-anonymous online communication. Another possibility is that avatar gender has no influence, because online help-seeking behavior depends only on the participants' physical sex and not on gender role. Help-seeking behavior is rooted in deeply socialized or even physiologically shaped patterns of behavior, and therefore remains consistent, regardless of the medium.

A third possibility is that avatar gender prevails over physical sex when it comes to online help seeking. Earlier studies have identified instances where the visual appearance of an avatar has influenced its controllers' behavior. Participants assigned taller avatars behaved more confidently in a negotiation task (Yee & Bailenson, 2007), while participants assigned avatars with a black robe expressed a higher desire to commit antisocial behaviors than participants assigned a white-robed avatar (Peña, Hancock, & Merola, 2009). Players using male avatars might thus exhibit male-pattern help-seeking behavior, while players using female avatars might behave like female help seekers, regardless of their physical sex. This outcome would resonate well with gender role theory.

There are two main theoretical approaches in social psychology to explaining the mechanisms that could lead to such an outcome. One mechanism through which such influence might take place is behavioral confirmation: an effect where people's social expectations lead them to act in ways that cause another person to confirm the expectation (Snyder, Tanke, & Berscheid, 1977). Lee (2004) has shown that avatar gender influences the expectations placed on the avatar's controller by those observing the avatar. In this case, people interacting with a male avatar might expect the avatar's controller to behave "like a male should," and through such expectations subtly shape the controller's behavior. A second possible mechanism is self-perception theory: A person monitors their own appearance and adjusts their behavior so that it is consistent with the identity cues contained within the appearance, independent of the perceptions of others (Frank & Gilovich, 1988). Yee and Bailenson (2007) have demonstrated this effect with avatars in online environments. They argue that the deindividuating nature of anonymous online environments acts to strengthen the effect further, calling it the "proteus effect."

In summary, traditional literature on help-seeking behavior suggests that men seek help less frequently than women and may prefer indirect help-seeking tactics over direct tactics. In anonymous online communication, physical sex is masked, but recent studies suggest that the guises that participants assume for themselves can have a very real impact on their behavior through behavioral confirmation and/or self-perception theory. Although nonverbal communication is often limited in such environments, indirect help seeking can be conducted through implicit conversational techniques. Combining these findings, we put forward the following hypotheses regarding the influence of avatar gender on online help-seeking behavior:

Hypothesis 1: Players using male avatars are less likely to receive help triggered by help seeking than players using female avatars. That is, within all the help received by male avatars, the frequency of sought help as opposed to unsought help is lower than for female avatars.

Hypothesis 2: Players using male avatars are more likely to receive help solicited via indirect help-seeking tactics than players using female avatars. That is, within all the help sought and received by male avatars, the frequency of indirectly sought help as opposed to directly sought help is higher than for female avatars.

In the following section, we describe an empirical study to test these hypotheses.

Data and methods

The study is based on data from *UWO*, a Japanese massively multiplayer online game launched in 2005 and published by Tecmo Koei Games. An online game was chosen for the study, because it features gendered avatars, rich interaction, and occasions when there is clear need for help, which was thought to make the data easier to

interpret compared to a more open-ended platform (Lehdonvirta, Wilska, & Johnson, 2009). Online game data have also been used by other social scientists to test theories (e.g., Williams et al., 2006).

UWO involves participants assuming the role of merchants, explorers and privateers in a 17th-century world where sailing is the main means of transport. According to a survey conducted by Tecmo Koei Games in 2006 ($N = 5,898$), 87% of the game's participants are male and 13% are female. All age groups are represented, but 44% of the participants are in their 20s and 47% in their 30s.

Our data are based on two sources. One source is the avatar database of the game, provided to us by Tecmo Koei Games for research purposes. It contains information on every avatar controlled by the game's participants, but includes no personal information on the participants themselves. The other data source is a large sample of typed conversations taking place between participants in the game. This sample was gathered by recording the conversations overheard by three different avatars in various game locations at various times of the day over a period of 1 month. The sample consists of 271,939 lines of text. The sample does not include conversations by the data collectors themselves. As the sample is not truly random, we assessed its representativeness by comparing the gender distribution of the avatars in the sample with the gender distribution of the avatars in the avatar database, and found that they were not significantly different, as expected of a representative sample (two-tailed Z test: $Z = -0.215$, $p = .830$). Although this is only a simple assessment, we believe that the three variably situated data gathering points coupled with a long gathering period reasonably address possible sources of sampling bias.

Both data sets represent a form of unobtrusive observation, which has the benefit that the subjects are not influenced by the researcher's presence (Webb, Campbell, Schwartz, Sechrest, & Grove, 1981). Previous studies such as Wang and Wang (2008) rely on self-reported data, which is problematic in a subject area where social desirability bias can be expected to be significant. Self-reported data have recently been shown to be especially problematic in the study of gender differences in game environments: In a major study of online game *EverQuest 2*, male and female players were found to be underreporting their behavior in a systematically different way (Williams, Consalvo, Caplan, & Yee, 2009).

A content analysis method was used to identify and code instances of helping behavior in the conversation logs (Neuendorf, 2002). For this purpose, an operational definition of helping was necessary. Previous studies have often defined helping behavior by reference to the intentions of the helper (Takagi, 1998) or as behavior that improves others' well-being (Dovidio, Piliavin, Schroeder, & Penner, 2006). The former approach is problematic for real-life studies, because obtaining information on the helper's inner motivations is difficult. The latter approach is likewise problematic, because it involves assessing levels of well-being. In this study, we understood helping as *unforced and non-obligated giving of a resource such as material, advice or mental support*. Moreover, as suggested by Kumatoridani (1988), we assumed that helping results in an unequal relationship between the

Table 1. Examples of Direct and Indirect Help Seeking

Direct requests	Indirect requests
“Could you help me with some milk?”	“I’m in trouble because I don’t have any milk” (<i>indication of adversity</i>)
“Could you please give me some milk?”	“I ran out of milk/I don’t have enough milk” (<i>indication of a lack</i>)
“Could I have some milk, please?”	“Isn’t there any milk?/I’m looking for milk/I’m in need of milk” (<i>indication of a need</i>) “I’d love to have some milk” (<i>indication of a desire</i>) “Things would be easier if I had some milk” (<i>indication of an improvable situation</i>)

helper and helpee, which in the Japanese cultural context *the helpee attempts to repair and balance by means of expressions of gratitude and apology.*

Under this definition, instances of helping behavior are identified by expressions of gratitude, understood as thanking speech acts as defined by Searle (1969). The expressions of gratitude must be one-sided; mutual gratitude signals a *trade*, which by definition is not helping behavior, because it entails that both parties are obligated to give. The conversational context must furthermore indicate that the giving is unforced. The obvious drawback with this approach is that instances of helping that go unthanked for one reason or the other are not included in the coding, which detracts from its validity. On the other hand, by focusing on readily observable external signs of helping, we achieve better reliability than methods that rely on a higher degree of interpretation of mental states.

Identified instances of helping behavior were coded as either directly sought, indirectly sought or unsought. Direct help seeking was defined as a speech act that directly requests an action of the hearer. Following previous literature, indirect help-seeking was understood as an expression that can be considered as a request of an action by the hearer even though it is not presented in the form of a request. Under our definition, it could take the form of an expression that indicates lack, desire, need, improvable situation, or adversity (see Table 1).

Three coders performed the content analysis. A translated summary of the coding instructions can be found in the Appendix A. For each instance of helping, the following variables were recorded: type of help, helper avatar’s name, and helpee avatar’s name. The avatar names were then cross-referenced with the avatar database to determine the helper and helpee avatars’ genders. Because of the volume of data, all coders were first instructed to analyze a fragment of the data (21,494 lines, 8% of the whole) to assess their reliability or level of agreement. As a measure of intercoder reliability, we used Krippendorff’s α , which is an appropriate measure for nominal data when there are more than two coders (Neuendorf, 2002). All coders recognized the same conversations as instances of helping in the fragment ($\alpha = 1$), which probably reflects the mechanical nature of this part of the process. When coders classified

those instances as directly sought, indirectly sought, or unsought, there was slight disagreement ($\alpha = 0.824$), which probably reflects the more interpretative nature of this part of the process. Data with $\alpha \geq 0.800$ is generally considered reliable, however (Neuendorf, 2002, p. 143). As we were satisfied that the coders performed consistently, we divided the rest of the data into three segments, which the coders processed individually.

The resulting coded data were then examined for differences between male and female avatars to address the hypotheses, as reported in the following section. The method used to examine the statistical significance of observed differences is Pearson's chi-square test for the analysis of contingency tables (Howell, 2007, p. 470). This is an appropriate method for examining random samples when each population is more than 10 times larger than its respective sample. Since it was expected that the number of cases in some categories could be small, the Yates' correction for continuity was applied (Howell, 2007, p. 472). For each analysis, we report the test statistic (χ^2) and the probability of observing such a difference if the null hypothesis is true (p).

A notable limitation in our research design is that we did not have access to the physical sex of the persons behind each individual avatar, only to the overall distribution of male and female players in the game. Therefore, to distinguish the influence of avatar gender from the influence of physical sex for the purpose of drawing conclusions, we have to rely on reasoning based on the overall gender distributions of the players and avatars. This method is adequate if the observed differences are sufficiently large. Another caveat is that as the data collection method relies on language, it introduces a degree of cultural specificity to the observed frequencies. This can be considered as either a measurement error or an essential feature of the data, depending on the definition of help seeking.

Results

A total of 628 instances of helping behavior were identified from the data. Distributions of the variables are presented in Table 2. Sought help accounts for approximately one third of all helping cases. Most of the successful help seeking is direct as opposed to indirect. The gender distribution of both helpee and helper avatars is approximately two-thirds male.

Table 3 shows the distribution of sought and unsought help separately for each gender. The analysis shows that the proportion of sought help is significantly lower for male helpees than for female helpees ($\chi^2 = 4.118, p = .0424$). Hypothesis 1: Players using male avatars are less likely to receive help triggered by help seeking than players using female avatars, is thus supported.

In Table 4, the 184 cases of sought help are further divided into directly sought help and indirectly sought help, in order to examine differences in help-seeking tactics successfully employed by male and female avatars. The analysis shows that the proportion of indirectly sought help as opposed to directly sought help is

Table 2. Distributions of Variables used in the Study

Variable	Value	Frequency	Proportion (%)
Type of help	Sought, of which	184	29
	Directly sought	158	25
	Indirectly sought	26	4
	Unsought	444	71
Helpee gender	Male	408	65
	Female	220	35
Helper gender	Male	381	61
	Female	241	38
	Unknown	6	1
N		628	100

Table 3. Type of Help Received (Sought/Unsought), by Helpee Avatar’s Gender

Type of help	Male		Female		Total Frequency
	Frequency	Proportion (%)	Frequency	Proportion (%)	
Sought	108	26.5	76	34.5	184
Unsought	300	73.5	144	65.5	444
Total	408	100	220	100	628

Table 4. Successful Help-Seeking Tactics (Direct/Indirect), by Helpee Avatar’s Gender

Type of help	Male		Female		Total Frequency
	Frequency	Proportion (%)	Freq.	Proportion (%)	
Directly sought	85	78.7	73	96.1	158
Indirectly sought	23	21.3	3	3.9	26
Total	108	100	76	100	184

significantly higher for male helpees than for female helpees ($\chi^2 = 9.682, p = .0019$). Hypothesis 2: Players using male avatars are more likely to receive help solicited via indirect help-seeking tactics than players using female avatars, is thus supported.

Conclusions and Discussion

The results indicate that avatar gender is a significant predictor of help-seeking behavior among the target population. The role of gender has therefore certainly not disappeared as prosocial behavior moves online. One possible explanation for this

result is that men and women tend to pick an avatar that corresponds with their physical sex and continue to engage in the same gendered help-seeking behaviors as they do in face-to-face interactions. Correlation between physical sex and avatar gender has been observed in other online games (Yee, 2008), and there is no reason to expect that *UWO* is different in this respect. In this case, the conclusion that could be drawn from the study is that gender-based help-seeking behaviors persist as men and women move online.

However, correlation between physical sex and avatar gender is unlikely to be a sufficient explanation for the findings. Although we were not able to control for physical sex in this study, it is known that only 13% of *UWO* players are female, whereas more than 35% of helpee avatars and 38% of helper avatars in this study are female. A great majority of the female avatars are thus necessarily controlled by male participants. Some female participants have also most likely chosen a male avatar. Consequently, the most feasible explanation for the results is that avatar gender influences participants' help-seeking behavior independent of physical sex. This does not rule out the possibility that physical sex may also have an influence on help-seeking behavior in *UWO*, but since the population in this case is so overwhelmingly male, its influence is negligible.

This conclusion is interesting, as it suggests that while online behavior is often strongly gendered, the gender can be rather skin deep, as posited by gender role theory. It also confirms that the male inhibition to help seeking is related to gender roles. The influence of avatar gender on help-seeking behavior can be understood as taking place through one or both of the following psychological mechanisms. First, gender as perceived by other participants shapes the other participants' expectations toward the individual, which in turn influence the individual's behavior. Second, the individual adjusts their own behavior to be consistent with the gender of their self-representation, independent of the perceptions of others. Our analysis does not provide hints as to which mechanism is prominent, however.

Implications for Practitioners and Future Research

Some practical implications can be drawn from this conclusion. The direct implications of this study can only be claimed to reach as far as avatar-based online games, but we also put forward some speculation pertaining to other areas of e-helping, including telemedicine. This leap is justified by the notion that gaming helps highlight the changes that come with the introduction of adopted and self-made identities in a domain of interaction. As help seeking moves online, professional helpers to whom identity has so far been a simple matter of legal and physical identity will increasingly have to deal with people's online projections of themselves.

The most obvious implication from the study is that e-helpers should take seriously any gender guises that help seekers adopt in their online interactions. It might not be sufficient to simply consider the help seekers' physical identity, even if it is known, because correct consultation strategy may instead depend on adopted

identity. The issue of adopted identity is of course avoided altogether if interaction is conducted over a high-bandwidth medium that leaves no ambiguity over physical identity. But given that low-bandwidth interaction tends to be more conducive to self-disclosure (Suler, 2004a, 2004b; Turkle, 1995) and that many individuals feel more comfortable with their adopted identities than with the identities afforded by their physical qualities (Gauthier & Chaudoir, 2004; Yee, 2008), it may not be wise for professional e-helpers to circumvent the issue in this way. On the contrary, the results of this study suggest that the use of low-bandwidth and avatar-mediated communication should be explored further as a means to improve clinical outcomes by temporarily setting men free from the male gender role and thus allowing them to pursue help for their problems in earnest.

A more concrete set of practical implications can be drawn from the specific pattern of the observed gender difference. In order to facilitate help seekers acting according to the stoic male behavioral pattern, designers of online games and environments should ensure that their technology provides means for indirect help seeking. In face-to-face situations, stoics can use conversational techniques and nonverbal cues to request help in an indirect manner. Similar conversational techniques are usually available in online peer groups, but nonverbal cues, such as visual expressions, are often limited and difficult to use in conversation. Better and more varied support for indirect help seeking could increase the occurrence of user-to-user helping, resulting in increased customer satisfaction, decreased churn rates, and decreased customer support costs.

Designers of partially or fully automated customer service systems, for online communities as well as in telemedicine, may be tempted to pursue efficiency through reducing interactions to predetermined patterns, such as menu choices. Such patterns leave little room for conversational ambiguity, not to mention visual signaling. The results of this study suggest that such technologies may impede help-seeking especially by males, and possibly increase their psychological and physical risks. For better business and clinical outcomes, it might be advisable to introduce systems that allow online help seekers to conduct indirect help seeking and assist professional e-helpers in identifying signals of indirect help-seeking behavior.

We suggest that there are three areas that future research into computer-mediated helping behavior should address: The influence of sociodemographic categories other than gender; the influence of context; and a more detailed understanding of how the nature and content of the help itself influences help seeking and giving. A typical demographic variable that moderates social behavior is age. Online peer groups tend to be structured around other measures of seniority, such as length of use and perceived status (Steinkuehler & Williams, 2006). A useful context factor could be playful versus serious, although even within a game, some situations and roles can be taken very seriously. Cultural context is another factor, even though this study examined facets of gender roles that are common across cultures (Lindsey, 2005). Finally, the type of help might be expected to bear significantly on individuals' helping behavior. For example, gender role theory suggests that males would

tend to specialize in material and “heroic” types of help, while females would tend toward more caring and psychological types of help.

Appendix A

English Summary of the Coding Instructions

0. Open the conversational corpus assigned to you and the spreadsheet template for recording the results.
1. Search the conversation corpus for the next instance of an expression of gratitude from the list. Check for varying writing forms: katakana, hiragana, kanji, romaji. (*note: the coders were provided with a list of expressions of gratitude and appreciation constructed using a thesaurus and augmented with derivative forms used in online conversations, e.g. thankies, thx [Japanese: ariri, ari]*)
2. Examine the conversational context of the expression to verify the following:
 - a. the expression pertains to a past act done by the hearer (for instance, the Japanese expression *sumimasen* is considered an expression of appreciation if its propositional content is a past act of the hearer, but an apology if its propositional content is a past act of the speaker);
 - b. the expression is one-sided (*mutual gratitude indicates trade*);
 - c. as far as can be determined from the context, the expression is voluntary and unforced.
If one or more of the above statements do not hold, discard the expression and return to step 1.
3. Otherwise, in the first empty row in the results spreadsheet, record the names of the speaker (*helpee*) and the hearer (*helper*) in the appropriate columns.
4. Examine the conversation preceding the expression of gratitude to identify whether the speaker has issued a request for the action that lead to the expression of gratitude. A request can either be a direct proposal for the hearer to take an action, or an indirect proposal issued by complaining about a problem or indicating a lack, desire, improvable situation or adversity. In the results spreadsheet, record the type of help accordingly as either “directly sought” or “indirectly sought;” or, if no request could be identified, “unsought.”
5. The coding of this instance is finished. Return to step 1.

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