Exploring the Effective Help for Social Anxiety: MMORPGs Delivering Online Help

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Abstract

Most research discusses the characteristics of massive multiplayer online role-playing games (MMORPGs), few studies have applied MMORPGs to provide psychological and behavioral help. The purpose of this research is to explore the online help application of MMORPGs and ascertain their effectiveness in providing online help. Participants included 269 university students. The questionnaire demonstrated adequate validity and complements a Likert-type self-reporting measure of social anxiety, quality of life, as well as help outcomes related to a decrease in social anxiety and improvement of social relationships. Before playing MMORPGs, the results indicated that performance anxiety, intimacy anxiety, and observation anxiety significantly decreased quality of life. Participants showed less anxiety and improved social relationships after moderately playing MMORPGs. This study supports the implication that MMORPGs provide relative effectiveness as well as the function of online help.

Keywords: MMORPGs, social anxiety, online help, quality of life, social relationship

1. Introduction

Today's massive multiplayer online role-playing games (MMORPGs) are mostly free-of-charge, popular online games, making socialization with others less expensive and easy to use. The virtual world can accommodate multitudinous people, and the vast public environments encourage game players to engage in social interactions. Furthermore, game players are able to increase their senses of daily activities, develop long-term and intimate relationships, and imitate useful strategies of social skills by interacting with others in MMORPGs (Mechanic, 1999). In addition, in the virtual environment, people can relax and feel less restricted, thereby helping them open their minds to express things that they feel are difficult to say in the real world (Suler, 2004).

People with social anxiety fear and avoid social interactions in their daily lives. Fortunately, MMORPGs provide an alternative social place for socially anxious people, and socially anxious people can acquire an opportunity to meaningfully and purposefully interact with and learn from game friends (Schrader & McCreery, 2008). MMORPGs offer the possibility to become a significant online help and learning platform in the near future. This research investigates MMORPGs' characteristics and examines how the virtual environment provides help to socially anxious people. The purpose of this study is to investigate whether MMORPGs could help socially anxious people reduce their level of anxiety while also improving their social skills.

1.1 Social Anxiety and Quality of Life

Social anxiety refers to distress that occurs when interacting with other people. Specifically, the primary concerns include fears of failing to express, being perceived as boring, sounding or looking stupid, being incapable to respond to social interactions, and being neglected (Mattick & Clarke, 1998). Low self-esteem and evaluations inhibit these people from engaging in social interactions. Social anxiety causes chronic anxiety and fear over social situations. Socially anxious people fear social occasions; as such, they are inclined to avoid people in their real lives. As social anxiety grows, it impedes individuals' quality of life in every aspect in terms of oneself, family life, neighbors, friends, psychological health, social relationships (Westaway, Olorunju, & Rai, 2007), and opportunities for learning and recreation (Brissos, Dias, & Kapczinski, 2008; Kang et al., 2008).

The classification of social anxiety has been referred to four facets: performance anxiety, intimacy anxiety, assertiveness anxiety, and observation anxiety (Holt, Heimberg, & Hope, 1992; Klinger et al., 2005; Roy et al., 2003).

1.2 Performance Anxiety

Constant and unreasonable anxiety coupled with the avoidance of social situations is the core features of performance anxiety, while the cause of performance anxiety is that people are concerned about others' negative evaluations (Antai-Otong, 2008). The fear of negative evaluation is the central cause of negative cognition in performance anxiety (Rector, Kocovski, & Ryder, 2006). People with performance anxiety fear the cognitive and behavioral consequences of anxiety in front of other people in the social environment. For example, people with performance anxiety usually experience significant anxiety in situations in which they are evaluated by others or are the center of attention (Antai-Otong, 2008).

H₁: Performance anxiety is negatively related to quality of life.

1.3 Assertiveness Anxiety

Assertiveness anxiety usually comes from a lack of self-confidence in social situations. People usually experience such anxiety when distance exists between communicators and/or when communicators use facial expressions and gestures (Miller & Stone, 2009). People with assertiveness anxiety usually desire to protect their interests and viewpoints because they want to be respected by others (Roy et al., 2003). Nonetheless, people who have assertiveness anxiety have a particular way of doing things thought to be passive and indirect (Deltsidou, 2009). For example, these people cope with presentations by rehearsing extensively, considering every aspect in order to avoid looking foolish.

H₂: Assertiveness anxiety is negatively related to quality of life.

1.4 Intimacy Anxiety

Intimacy anxiety is described as facing conflict in intimate relationships. People with intimacy anxiety have difficulty maintaining positive intimate relationships with others, and they show greater anxiety within intimate interactions (Riggs, Byrne, Weathers, & Litz, 1998). As such, people with intimacy anxiety avoid nodding, smiling, and making eye contact with other people as much as possible because they fear negative feedback from others. Moreover, these people do not share feelings of closeness and personal information with others (Schneider & Tessier, 2007).

H₃: Intimacy anxiety is negatively related to quality of life.

1.5 Observation Anxiety

People with observation anxiety feel anxious or nervous at the prospect of being stared at by others when they are close to a crowd (Roy et al., 2003). In particular, these people exhibit discomfort when they engage in activities in view of other people. Such activities include eating, drinking, writing, walking, and working in the presence of others or using public conveniences (Westaway et al., 2007).

H₄: Observation anxiety is negatively related to quality of life.

1.6 MMORPGs within Online Help

The game world offers the advantages of visual anonymity, privacy, less intimacy, and easy access, providing a feasible option for those who are looking for help to decrease their defensiveness. Players' favorite aspect of the game is social interaction (Griffiths, Davies, & Chappell, 2003). Massively-multiplayer online games rely on interpersonal relationships between players (Caplan, Williams, & Yee, 2009). Motivations to play MMORPGs are heterogeneous (e.g., achievement, socialisation, immersion in virtual worlds) (Billieux et al., 2013). Male gamers play MMORPGs to pursue feelings of achievement and for social motives, whereas females mostly play for the purpose of passing time and for being entertained (Ko, Yen, Chen, Chen, & Yen, 2005). Internalising problem behaviour, including withdrawal and anxiety has also been suggested as an effect from playing MMORPGs (Holtz & Appel, 2011). MMORPGs could be developed to incorporate a therapeutic and skill-building environment for socially anxious individuals, enabling them to develop strategies of socialization through their highly interactive, social, and dynamic environment (Mattick & Clarke, 1998). For example, avatars in games provide mirror images or serve as the imaginary self of the players' persona, thereby releasing players from the restrictions they perceive in their real lives (Louie, 2007). Furthermore, most individuals enjoy playing MMORPGs and improve their real-life social interactivity skills through MMORPGs' simulated social experiences (Smyth, 2007). In the popular game World of Warcraft, users, through their online avatars, can develop cooperative ''guilds'' and work together toward common goals. Real-time communication often occurs

during game play, and online and offline relationships develop between players (Cole & Hooley, 2013).

As previously mentioned, socially anxious individuals can talk about problems that they have encountered in real life with their game friends and look for resolutions. With the self-help mechanism developed for use in MMORPGs, anxious players can rectify their dysfunction of cognition and behavior in order to cope better with their social anxiety problems (Mattick & Clarke, 1998). MMORPGs could be regarded as a technology for developing skills associated with communication, information sharing, problem solving, and social interaction for socially anxious individuals. Therefore, the study surmises that MMORPGs may effectively reduce socially anxious individuals' anxiety level.

H$_5$: MMORPGs help socially anxious players decrease their levels of social anxiety.

H$_{5a}$: MMORPGs help socially anxious players decrease their levels of performance anxiety.

H$_{5b}$: MMORPGs help socially anxious players decrease their levels of assertiveness anxiety.

H$_{5c}$: MMORPGs help socially anxious players decrease their levels of intimacy anxiety.

H$_{5d}$: MMORPGs help socially anxious players decrease their levels of observation anxiety.

In addition, MMORPGs enable people to share their experiences, thereby integrating their behavioral and mental actions from their daily lives. People are able to give descriptions of their environment, objects, events, and characters in the game world (Peters & Malesky, 2008). MMORPGs also provide interactive elements to encourage players with whom it may not be easy to talk in face-to-face situations, interact with others, and seek social connections.

Online interactions occurring in MMORPGs strike at the very heart of social anxiety because it is easier for socially anxious players to chat with others and seek help in the virtual world than in the real world. Players are able to communicate with others by typing text commands, experiencing the simulation and creativity of thoughts, behaviors, and social skills available within a large, heavily populated game world (Childress & Braswell, 2006).

Socially anxious individuals can interact with others to ensure efficient problem-solving strategies and appropriate suggestions in the game world. Socially anxious players are able to apply those suggestions to determine appropriate behavior. Likewise, online interaction directly improves individuals' learning curve of social skills (Billett & Pavlova, 2005). It may be useful to help socially anxious players learn social skills from others and to draw on those social skills in their social interactions. Therefore, MMORPGs have the potential to enable players with social anxiety to improve social skills and social relationships (Koegel, 2007). Consequently, it leads socially anxious players to establish relationships and get along well with peers, friends, and relatives.

H$_6$: MMORPGs help socially anxious players improve social relationships.

Although previous studies have discussed MMORPGs' characteristics, empirical study suggesting that socially anxious individuals gain therapeutic assistance from engaging in MMORPGs is limited. Therefore, this research examines how one's level of social anxiety can be reduced and social relationships can be improved by playing MMORPGs.

2. Method

2.1 Participants

Initially, researcher asked people who appeared to have social anxiety encountered on the streets, in cafeterias, in schoolrooms, and in stores to fill out the questionnaire; however, few people were identified as potentially having social anxiety. After collecting questionnaires for approximately four months, we had fewer than 30 valid questionnaires. This ultimately confirmed our suspicion that anxious people are less likely to be present in public areas. Thus, the study changed the approach to collecting questionnaires. A web-based questionnaire was sent to nearly 12,000 students via e-mail; it was made available on the website for two weeks during the spring 2012. In total, 563 people responded to the survey, and 269 participants (108 male and 161 female) indicated symptoms of social anxiety (i.e., their social anxiety scores were above 4.0 on a 7-point Likert scale). And as such, the bulk of the respondents are mostly graduates (97%) and undergraduate students (3%). In addition, 50.9% of the respondents spend less than 3 hours per day on gaming on average (as shown in Table 1).

Table 1. Demographics of participants

Subject	Item	Frequency	Percent
Gender	Male	108	40.1
	Female	161	59.9
Age	Below 20 years old	70	26
	20-30 years old	197	73.2
	More than 30 years old	2	0.7
Education	Graduate	261	97
	Undergraduate	8	3
Playing time (everyday)	Below 1 hour	36	13.4
	1-3 hours	101	37.5
	3-5 hours	86	32
	5-7 hours	29	10.8
	More than 7 hours	17	6.3

2.2 Measures

The respondents answered the questions based on social anxiety, quality of life, decreased social anxiety, and improved social relationships. The questionnaire adopted a 7-point Likert scale (1 = very strongly disagree and 7 = very strongly agree). The survey was designed with two sections: one is social anxiety and quality of life while the other is decreased social anxiety and improved social relationship. Participants were required to indicate their social anxiety and quality of life before playing MMORPGs, reporting the self-observations of their status of decreased social anxiety and improved social relationship since beginning to play MMORPGs. All statistical analyses were conducted with the application of SPSS 12. Multiple linear regression was employed to identify social anxiety facets associated with quality of life before playing MMORPGs. After playing MMORPGs, the significance of decreased social anxiety and improved social relationship was assessed using a one-sample *t*-test.

2.3 Social Anxiety

Participants' social anxiety was measured using 19 items (e.g., "I avoid activities in which I am the center of attention or acting, performing, or giving a talk in front of an audience"; α = 0.858) from the Fear of Negative Evaluation Scale (FNES) (Watson & Friend, 1969), the Liebowitz Social Anxiety Scale (LSAS) (Liebowitz, 1987), the Fear Questionnaire (FQ) (Marks & Mathews, 1979), and the Social Phobia Inventory (SPI) (Connor, Davidson, Churchill, Sherwood, & Weisler, 2000).

2.4 Quality of life

Participants' quality of life was measured using five items (e.g., "You felt unpleasantly different from everyone and everything around you"; α = 0.891) from Quality of Life Questionnaire-Respondent Self-Report Version (Bigelow, Gareau & Young, 1991).

2.5 Decreased Social Anxiety

Participants' decreased social anxiety was measured revising 19 items (e.g., "I have the courage to be in activities in which I am the center of attention or acting, performing, or giving a talk in front of an audience"; α = 0.939) from the FNES, the LSAS, the FQ, and the SPI; the 19 items were changed to be opposite statements (Watson & Friend, 1969; Liebowitz, 1987; Marks & Mathews, 1979; Connor et al., 2000).

2.6 Improved Social Relationship

Participants' improved social relationship was measured using five items (e.g., "Felt you met the needs of friends or relatives"; α = 0.8961) from Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LESQ) (Endicott, Nee, Harrison, & Blumenthal, 1993). Please refer to the appendix for all items.

3. Results

The results from the regression model indicated that, before playing MMORPGs, variances in quality of life were explained by four of social anxiety factors: performance anxiety, assertiveness anxiety, intimacy anxiety, and observation anxiety (F = 28.89, df = 4, p < .001, R^2 = .30). Independent variables for performance anxiety (β = .322, p < .001), intimacy anxiety (β = .119, p =.02), and observation anxiety (β = .259, p < .001) were more closely associated with quality of life than assertiveness anxiety variables (β = .149, p = .10). The results indicated that performance anxiety, intimacy anxiety, and observation anxiety were significant for decreasing quality of life.

Table 2. Regression analysis for quality of life (N=269)

Variables	β	Standard Error	t	p-value	VIF	CI	R^2	Adj. R^2	F
Quality of life							.47	.463	58.76***
Performance Anxiety	.322	.089	3.63	< .001	1.55	7.85			
Assertiveness Anxiety	.149	.090	1.66	.10	1.29	9.63			
Intimacy Anxiety	.119	.052	2.30	.02	1.36	17.76			
Observation Anxiety	.259	.055	4.74	< .001	1.27	20.37			

*p < .05, **p < .01, ***p < .001.

After playing MMORPGs, results of the one-sample t-test revealed that socially anxious players experienced a significant decrease in performance anxiety (M = 4.15, S.D. = .82, p = .003), assertiveness anxiety (M = 4.13, S.D. = .83, p = .015), intimacy anxiety (M = 4.25, S.D. = 1.03, p < .001), and observation anxiety (M = 4.27, S.D. = 1.03, p < .001). Results from the one-sample t-test determined that socially anxious players significantly improved social relationships after playing MMORPGs (M = 4.66, S.D. = .99, p < 0.001).

Table 3. One-sample t test for decrease in social anxiety and improvement on social relationship (N=269)

Variables	M	S.D.	t	d.f.	p-value
Decreased Performance Anxiety	4.15	.82	3.01	268	.003
Decreased Assertiveness Anxiety	4.13	.83	2.46	268	.015
Decreased Intimacy Anxiety	4.25	1.03	3.94	268	< .001
Decreased Observation Anxiety	4.27	1.03	4.23	268	< .001
Improved Social Relationships	4.66	.99	10.93	268	< .001

4. Contributions, Implications, Limitations and Further Research

No data were missing in this research because the web-based questionnaire required participants to fill out all given items. H_1, H_3, and H_4 are supported, as a significant decrease in quality of life was demonstrated by the multiple linear regressions. The results indicated that performance anxiety, intimacy anxiety, and observation anxiety decrease quality of life for participants at the university. Only assertiveness anxiety was not significantly related to decreased quality of life, meaning H_2 is not supported.

Performance anxiety is negatively related to quality of life because college students, who participated in this study, care about how other people judge them. Individuals with performance anxiety are so anxious about performing in public that they cannot perform competently (Powell, 2004). People with performance anxiety are deficient in social interactions because their anxiety inhibits their willingness to socialize with other people. Taken together—poor social interactions, resulting fearful emotions, and negative cognitions—these factors may explain the link between performance anxiety and poor quality of life.

Meanwhile, individuals with intimacy anxiety feel anxious or nervous when other people approach them because these individuals lack expressive skills in face-to-face communications with other people (Schneider & Tessier, 2007). This finding may indicate that intimately anxious individuals may be sufficiently able to initiate and maintain intimate relationships with others. This may account for the results of this study—namely, that intimacy anxiety may play a causal role in the relative decrease in quality of life.

In the public environment, individuals with observation anxiety feel uncomfortable, even when merely walking along a street, entering a coffee shop, or sitting in a classroom. Observation anxiety emerges from the idea that people feel they are constantly under scrutiny, which results in the avoidance of crowds and social scenarios. Obviously, observation anxiety causes people to be isolated in areas of their social lives and certainly influences the quality of life.

Although the results for H_2 were not significant, assertiveness anxiety might decrease quality of life slightly. People with assertiveness anxiety have negative thinking patterns or fear social rejection when presenting in public places or interacting with others. Such problems stem from their lack of self-confidence, which results from the fear of making mistakes. Therefore, they will rehearse again and again in order to avoid making mistakes, which improves quality of life.

Our results complement those already reporting that MMORPGs significantly help decrease performance anxiety, assertiveness anxiety, intimacy anxiety, and observation anxiety; thus, H_{5a}, H_{5b}, H_{5c}, and H_{5d} are supported. Participants demonstrated less social anxiety after playing the MMORPG, thereby supporting H_5. Each facet of

social anxiety decreased significantly, which helped reduce individuals' unease in corresponding real-life situations. Decreased social anxiety may facilitate individuals' becoming involved in social interactions and building relationships with others. Indeed, the current results demonstrate that socially anxious players can significantly improve social relationships by playing MMORPGs, supporting H_6.

A great deal of social interaction occurs in the virtual environment, and young people commonly solicit personal assistance from MMORPGs (Blair, Thompson, & Wuensch, 2005). Researchers have argued that socially anxious individuals are more willing to seek personal relationships and help via the virtual environment because of the online advantages of the relative simplicity of interpersonal relationships, less uncertainty, and fewer etiquette requests (Roy et al., 2003; Stevens & Morris, 2007). Others feel more comfortable communicating in MMORPGs as—regardless of what they prefer—there is most likely a setting that can meet their needs.

MMORPGs provide socially anxious players with opportunities to develop close relationships that replicate real-world relationships. These close relationships lead players with social anxiety to decrease their vigilance of their acts of disclosure. The high level of self-disclosure and insightful personal observations can help game friends who may be socially anxious understand the problems they encounter in their daily lives. As a result, game friends are capable of providing—to the best of their ability—help to socially anxious players.

The online help implications of these findings are twofold. First, MMORPGs can provide significant help for people with social anxiety. Online help enables socially anxious players to rectify their behaviors that lead them to reduce their level of social anxiety. Possible ways to decrease social anxiety include reducing high-level performance standards, enhancing self-confidence, becoming comfortable in public environments, and learning specific social skills (e.g., self-disclosure). Second, socially anxious individuals learn strategies and skill for engaging in interactions through online help provided by game friends who offer social experiences for socially anxious players. In this way, MMOPRGs can help socially anxious players build up intimacy with their peers and relatives.

As such, MMORPGs offer an alternative approach to helping socially anxious individuals decrease their level of social anxiety while helping them understand how to face social situations. This research suggests that socially anxious individuals can seek help in MMORPGs and build long-term relationships with game friends, thereby significantly reducing social anxiety and effectively improving social relationships.

This research fills an important gap in the research literature related to online help in MMORPGs. Indeed, the present study aimed to provide evidence that online help is relatively effective in reducing social anxiety. Our results provide empirical support for the use of MMORPGs with socially anxious people as well as for its effective help.

Socially anxious individuals often have a high level of interpersonal dependency, including thoughts, feelings, and behaviors (Darcy, Joanne & Beck, 2005). The high level of interpersonal dependency more effectively modifies these individuals' thoughts and behavior via their close game friends. Socially anxious individuals build long-term relationships with game friends in MMORPGs which can lead these individuals to increase their trust and self-disclosure to friends, making them much willing to disclose their own personal problems to their friends. Thus, game friends can act as advisors who understand what problems socially anxious individuals encounter in their daily lives and give suggestions to these individuals. The advisors can assist socially anxious individuals in modifying their behavior in response to errors, negative feedback, maladaptive automatic thoughts, or unexpected action outcomes that spring from negative personal interpretations. These general advisors in MMORPGs are considered to play a positive role, as successful help presupposes the existence of both positive interactions and practical suggestions. Positive motivational beliefs and acceptable suggestions lead to effective online help outcomes.

In future research, questionnaires should include items to investigate whether—when socially anxious individuals encounter problems—they instantly ask their advisors for help. Moreover, there are items to investigate how frequent socially anxious individuals interact, ask, and discuss with the advisors. Advisors may best help socially anxious individuals through ongoing tracking of online help to not only maximize social anxiety reduction but also maintain communication until these individuals regain their health.

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Appendix

List of Items by Construct

Variables	Items	Sources
Performance Anxiety	1. I am afraid of participating in small groups. 2. I avoid activities in which I am the center of attention or acting, performing, or giving a talk in front of an audience. 3. Parties scare me. 4. Being criticized scares me a lot. 5. I am usually worried about what kind of impression I make. 6. 6. I often worry that I will say or do the wrong things.	Connor et al. (2000), Liebowitz (1987), Watson & Friend (1969)
Assertiveness Anxiety	7. I feel very upset when I commit some social error. 8. The opinions that important people have of me cause me little concern. 9. I am afraid that people will find fault with me. 10. If someone is evaluating me I tend to expect the worst. 11. I am afraid that others will not approve of me. 12. I am frequently afraid of other people noticing my shortcomings.	Watson & Friend (1969)
Intimacy Anxiety	13. Calling someone I don't know very well scares me. 14. Talking with people I don't know very well scares me. 15. Meeting strangers scares me. 16. I am afraid of expressing appropriate disagreement or disapproval to people I don't know very well.	Connor et al. (2000), Liebowitz (1987)
Observation Anxiety	17. Eating or drinking in public places scares me. 18. I am afraid of doing things when people might be watching. 19. Walking alone in busy streets scares me.	Connor et al. (2000), Liebowitz (1987), Marks & Mathews (1979)
Quality of Life	20. I feel unpleasantly different from everyone and everything around me. 21. I feel that people are unkind to me. 22. I feel uncomfortable to be around people. 23. I seldom speak with people I see at work or school or other daily activities. 24. I feel that people avoid me.	Endicott et al. (1993)
Decreased Performance Anxiety	25. I have the courage to participate in small groups. 26. I have the courage to be in which I am the center of attention or acting, performing, or giving a talk in front of an audience. 27. I have the courage to attend parties. 28. I care about being criticized less. 29. I am seldom worried about what kind of impression I make. 30. I rarely worry that I will say or do the wrong things.	Connor et al. (2000), Liebowitz (1987), Watson & Friend (1969)
Decreased Assertiveness Anxiety	31. I feel fine when I commit some social error. 32. The opinions that important people have of me cause me less concern. 33. I am not afraid that people will find fault with me. 34. If someone is evaluating me I tend to expect the best. 35. I am not afraid that others will disapprove of me. 36. I am not frequently afraid of other people noticing my shortcomings.	Watson & Friend (1969)
Decreased Intimacy Anxiety	37. I have the courage to call someone I don't know very well. 38. I have the courage to talk with people I don't know very well. 39. I have the courage to meet strangers. 40. I have the courage to express appropriate disagreement or disapproval to people I don't know very well.	Connor et al. (2000), Liebowitz (1987)
Decreased Observation Anxiety	41. I have the courage to eat or drink in public places. 42. I am not afraid of doing things when people might be watching. 43. I have the courage to walk alone in busy streets.	Connor et al. (2000), Liebowitz (1987), Marks & Mathews (1979)
Improved Social Relationships	44. I look forward to getting together with friends or relatives. 45. I enjoy talking with co-workers or neighbors. 46. I feel affection toward one or more people. 47. I joke or laugh with other people. 48. I feel I met the needs of friends or relatives.	Delsing, ter Bogt, Engels & Meeus (2008)

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