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Finding Healthcare Support in Online Communities: An Exploration of the Evolution and Efficacy of Virtual Support Groups

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Abstract

With the advent of social media technologies, debate continues to swirl around the ability of these technologies to either connect or isolate. Healthcare support communities represent an especially vulnerable population who can potentially gain most significantly from the ability to connect via online social support groups. This paper reviews current literature on the efficacy of online social support groups, with a particular interest in 3-D online social virtual worlds. The literature reveals the importance of social support in general; of finding support online in these mediated environments; and the strengths and weaknesses in the current technologies that offer virtual healthcare support groups. Characteristics of social virtual worlds including persistence, anonymity, 24/7 access to individuals globally, and virtual embodiment reveal powerful potential to build support online. For example, individuals with disabilities, chronic illness, or mental illness may not have physical or social resources necessary to get to face-to-face support groups yet the literature also finds that they may find meaningful support in avatar form.

Finally, the literature also frequently cites the growing need for a clear understanding of user privacy, informed consent, intellectual property and ethics in research in this arena. As cost and access to healthcare and social support may become more challenging, access to support online is becoming more mainstream with tremendous opportunity, especially for individuals whose lives are limited by chronic illness or disability.

1. Introduction

With the advent of social media technologies, debate continues to swirl around the ability of these technologies to either connect or isolate. Although not often thought of as a social medium, virtual worlds may perhaps be one of the most engaging and complete forms of social media, as they provide both synchronous and asynchronous communication via text messaging, voice enabled technology, file sharing and more, enhanced by immersion in a visually stimulating and interactive 3-D environment. These “places” provide a real sense of community, especially among individuals with chronic illness or disability who, as a result of impairment and isolation, may not have access to physical communities of support. Increasingly these individuals have turned to the Internet to find that support.

Healthcare support communities represent an especially vulnerable population who can potentially gain most significantly from the ability to connect via online social support groups. Feeling connected and socially integrated through frequent contact may be a form of social regulation, which helps chronically ill patients maintain a positive mood and optimism. Symister and Friend (2003) found that lack of belongingness may result in feelings of social isolation, loneliness, and depersonalization (low self-esteem), which can promote a negative mood and feelings of hopelessness. Contrarily, social support provided through friends, families, communities and organizations improves self-esteem and relieves depression. If connection and social integration are important not only to the able-bodied, but even more so to the vulnerable populations of the chronically ill, one might consider the potential use of online social networks to build social support. Evidence has shown that regardless of whether they are online or offline, support groups form when groups of people share common challenges and seek emotional or moral support as well as information about the challenges they face. This literature review will explore the evolution and efficacy of support groups from offline to online (via forums and websites) to 3-D immersive virtual worlds. The literature reveals the importance of social support in general; of finding support online; and the strengths and weaknesses in the current technologies that offer healthcare support groups in 3-D virtual environments.

2. Understanding the Role of Social Support

In an era of unprecedented ability to be connected to families, friends and others around the globe and around the clock via digital technologies, concern about living in a culture of isolation continues to increase. Those who live with disability, chronic illness or mental illness face a growing risk of isolation even though the benefits of social support have been well documented. Research exploring these benefits recognize greater resilience among individuals facing stressful life circumstances such as chronic or life threatening illness while conversely, “lack of social support contributes to physical illness and psychopathology” (Schaefer, Coyne & Lazarus, 1981, p.382). Social support provided through friends, families, communities and organizations improves self-esteem and depression. Specifically, as Symister and Friend (2003) explain, “social support is a central concept in healthy psychology that has important practical implications for patients adjusting to chronic illness” (p. 123).

Over the years researchers have challenged the very definition of social support. Schaefer, Coyne and Lazarus (1981) identified “a lack of clarity both in the definitions of social support and in the conceptualization of its effects on health outcomes” (p. 381) in their early exploration of social support and its effect on health. They identified three types of perceived social support including tangible, emotional and informational. Emotional support represents intimacy and attachment, tangible support includes direct aid such as money or providing service such as caregiving, and informational support represents actions such as providing advice or feedback.

2.1 Connection and Isolation

In a later study of patients with end-stage renal disease and rheumatoid arthritis patients, Symister and Friend (2003) further explicated social support among chronically ill and found a dependence on family and friends for “esteem validation, as they struggle with the stresses and incapacities caused by their illness, and for tangible supports in dealing with the medical and other routines of their everyday lives” (p. 123). They concluded that esteem support is especially valuable when illness can affect self-worth, consequently resulting in depression, which in turn can decrease social support.

They found that “Feeling connected and socially integrated through frequent contact may be a form of social regulation which helps chronically ill patients maintain positive mood and optimism. Lack of belongingness may result in feelings of social isolation, loneliness, and depersonalization (low self-esteem), which may promote negative mood and hopelessness” (p. 127).

Considering the critical role that belongingness plays in the wellbeing of the vulnerable populations of the chronically ill, increased recognition of the potential use of online social networks to build social support warrants further review. However, early research following the effects of social technology reported the paradoxical relationship of social technology resulting in isolation, depression and a lack of meaningful relationships (Kraut, et al, 1998, Heim, 1991; Nie & Erbring, 2000; Turkle, 1984 and 1996) and has been supported more recently by Turkle (2010). Yet, debate continues over the positive and negative impacts of social technology on our social lives. For example, Katz and Rice (2002) found “the Internet offers new forms of building social capital that are in many ways different and more powerful than the local, physical means of earlier eras” (p. 332). Similarly, Ellison, Steinfield, and Lampe (2007) identified a concept of “maintained social capital,” referring to “online network tools which enable individuals to keep in touch with a social network after physically disconnecting from it” (p. 1). These explorations of social capital reflect the strength of ties and connectedness of social relationships as they exist online.

2.2 Evolution of Communities of Support

Regardless of perspective of social consequences, online communities continue to form. Preece, Maloney-Krichmar and Abras (2003) define online communities as a group of people who interact in a virtual environment with a purpose, supported by technology and guided by norms and policies. They also identified different qualities that shape online communities including that: they may or may not have a physical presence; may differ in purpose; are supported by varying types of software; and vary in size, age, stage in lifecycle, culture and governance.

Haythornthwaite and Kendall (2010) further explain, “People are using the Internet in ways that are driving change in communities – specifically, where and how they are constituted – and creating transformative effects on how we define, attach to, and retain communal identity across online and offline venue” (p. 1083). They add, “Early on, the question was whether community could exist online; now the question may be whether it can exist without online” (p. 1086). Their collection of literature, focused on Internet and community, repeatedly suggest that online relationships could be strengthened rather than weakened via online interactions and that close, personal ties are built and maintained through digital technologies.

These ties are not only important to individuals, but they are also perceived as important to the overall health of the online community. According to Ren, et al. (2012), the strength of online communities resides in their ability to develop member attachment. In their six-month field experiment, they found that when participants were exposed to community features that fostered attachment such as

access to profiles and repeated exposure to group activities, the study participants visited the community more frequently. Additionally, they found newcomers to the community embraced features that fostered interpersonal relationships. This finding reinforced prior research that suggests, “that member participation and retention depends on member attachment, which is cultivated by connecting members with topics of their interest and like-minded others (Preece, 2000).” Particularly, they found that members with strong attachment to their online communities were also the ones who provided value to others by their ability to answer their questions and concerns.

The effects of online interaction also appear to influence resilience in both online and offline communities. In a 2012 study of Facebook users who used the social medium to share information following tropical cyclone Yasi, Taylor, Wells, Howell, and Raphael (2012) identified the role of the social networking site as “psychological first aid as a support to community resilience building” (p. 20). They concluded that as a result of their Facebook interactions, “Overwhelmingly people reported feeling a sense of connectedness and usefulness, felt supported by others and felt encouraged by the help and support being given to people. To a slightly lesser extent people reported feeling hopeful about the future, actively involved and less worried” (p. 25).

3. Online Communities for Social Support

3.1 Access to Shared Experiences

Just as Yasi, Taylor, Wells, Howell, and Raphael (2012) found benefits resulting from social support from online communities, numerous studies have explored the role of online communities -- specifically as an avenue for social support. For example, Preece and Maloney-Krichmar (2003) extended their research of online communities to online patient support communities and found these communities provide social support in ways their physical world may not. For instance, these communities provide patients with access to individuals who are willing to share experiences and insights with a level of empathy that “may encourage strong relationships to develop making these communities some of the most important on the Internet” (p. 35). They add that online health communities may provide access to individuals who may lack mobility or are isolated.

The sense of isolation experienced by heart patients likewise led Boniface and Green (2007) to review the effects of the HeartNet website among those with heart conditions. After interviewing 50 patients using the website, Boniface and Green found patients had been dissatisfied with the information they had been able to find online and as a result sought out “a new ‘place’ (an online community), where they could ‘ask difficult questions’, and ‘gain support and wisdom’ from others” (p. 67).

These benefits were also recognized in the work of White and Dorman (2001) whose study of online support as a function of health education asserted “These support groups have certain benefits for users who may not be able to or do not have the desire to attend face-to-face sessions” (p. 693). Just over a decade ago, this research revealed that little was known about online social support groups. At that time online support communities were primarily housed in listservs or supported via email lists, and even then, they found that debate revolved “around the status of virtual groups and whether they can be defined as ‘communities’, with the concomitant requirements of reciprocity, interpersonal responsibility and common obligation” (p. 693).

Regardless of whether they are online or offline, support groups form when groups of people share common challenges and seek emotional or moral support as well as information about the challenges

they face. To study this phenomenon Turner, Grube and Meyers (2001) explored online and offline support groups specific to cancer support communities. The offline support was provided by matching face-to-face partners for offline interaction and the online support was measured based on engagement on cancer-related listservs. The results revealed a “nonsignificant difference between participants’ perceptions of the list and their perceptions of their face-to-face partner regarding support for their specific illness” (p. 245). Additionally, they found that among the patients involved in their research, in the face-to-face interaction there appeared to be a tendency to “protect” (p. 246) the ill partner from feedback they thought might offend them. Contrarily, Turner, Grube and Meyers concluded that the “Online support members may be less concerned with preserving face and may communicate support in a more ‘bald on record’ way” (p. 246), a quality in the communication that patients wanted.

3.2 Strengths and Weaknesses of Mediated Spaces

These results offer interesting insights into the potential benefits of the hyperpersonal communication within computer-mediated communication (CMC). Like White & Dorman (2001) and Turner, Grube & Meyers (2001), Eysenbach et al. (2004) looked at interaction on computer-based peer-to-peer communities used for health related issues, but with the intent to explore whether virtual communities are harmful or beneficial as social support groups. It is important to make the distinction that this study defined virtual communities as “social networks formed or facilitated through electronic media” (p. 1) which could include any number of technologies such as mailing lists, forums, chat rooms, etc. The authors concluded, “Despite extensive searches in the health, social sciences, communication, and informatics literature we failed to find robust evidence on the health benefits of virtual communities and peer to peer online support” (p. 3). However, they also reported that “The absence of evidence does not mean that virtual communities have no effect” (p. 3). Rather, they found no evidence of harmful effect and suggest that the value of virtual communities is still difficult to measure.

Extending Eysenbach et al.’s research, a systematic review of the growth of online support groups in virtual world environments offered comparisons of online and offline support groups, which revealed mixed results in Norris (2009). While he cited numerous studies completed later than Eysenbach (Lieberman (2005), Zebriec (2005), Weinert (2005), and Coulson (2007)) as references, all revealing potential strengths in online support groups, he also returned to Eysenbach (2003) in his conclusion stating, “Past research had led to the conclusion that the efficacy of online support groups and communities had not been established” (p. 17).

Although Norris was looking exclusively at 3-D virtual worlds as the technological platform for these support groups, the author identified the complexity of online virtual worlds and their features as a barrier to understanding what encourages or inhibits effective group formation. Norris suggests further study of health care support groups in virtual worlds “may allow one to tailor virtual worlds to successfully address particular healthcare issues. With a better understanding one would also be able to include in-world help for those types of healthcare support groups that one would be expected to be popular” (p. 18).

4. Support Groups in Virtual Worlds

According to NPD Group (2012), there are an estimated 211.5 million “gamers,” or individuals who spend time engaged with others in online virtual games and worlds in the U.S. The numbers are reflected globally with an estimated 105 million in India, 100 million in Europe and 200 million in China (McGonigal, 2011). Virtual worlds are also called multi-user virtual environments (MUVES), multi-user domains (MUDs), massively multiplayer online (MMOs), and massively multi-players online

role playing games (MMORPGs) such as *World of Warcraft*. However, there is an important distinction between video games and online social worlds. Video and online games are typically goal oriented with a beginning and an end, and have set environments programmed by their developers, where virtual social worlds provide a persistent computer-generated environment that can simulate real or fantasy worlds, and where people interact via their digital surrogates (avatars) much like they may in their physical world. They may create homes, communities, businesses and even virtual families. In each platform, avatars can interact via text chat, often with voice chat, and by using pre-set animations that can graphically engage an avatar to dance, fly, do tai chi, fight, meditate or any assortment of other actions.

4.1 Defining Features of Virtual Worlds

Regardless whether a gaming or social environment, these worlds share certain features. For example, Castronova (2001) identified the defining features of virtual worlds as interactivity, which provides simultaneous remote access to one shared environment by a large number of people; physicality, which allows people to access a program that “simulates a first-person physical environment on their computer screen (p. 6),” central to presence; and persistence, or the ability for the program to run whether in use or not while storing data regarding the individuals and their online objects. Bell (2008) further expanded the definition of virtual worlds as a synchronous, persistent network of people, represented as avatars, facilitated by networked computers. These environments offer common time communication in a sense of real space that continues to exist and function whether the participant is online or not, much like the real world. The networks of people, the networks of computers, and graphic representations of the individual, or the avatar are also key.

In their observational study of Second Life®, Yee, Bailenson, Urbanek, Chang, and Merget (2007) defined these worlds as “a 3-D online persistent space totally created and evolved by its users. Users navigate, interact and view the world through their own customized avatar – a digital representation of themselves” (p. 116). Among these worlds there are a number of programs, such as Second Life®, that allow users not only to craft their own virtual identity but the environment around them as well. As Second Life® creators Linden Lab proclaim, “Second Life® is a 3-D world where everyone you see is a real person and every place you visit is built by people just like you.” Where you can “enter a world with infinite possibilities and live a life without boundaries, guided only by your imagination” (Linden Research, Inc., 2013). They likewise claim to be the Internet’s largest user-created 3-D virtual world. Due to the visually engaging nature of these worlds, especially the social worlds that can be programmed and built by users such as Second Life®, researchers have begun to identify many uses to explore online social behaviors.

4.2 Emerging Uses of Virtual Worlds

Educators were perhaps the first to widely explore uses of virtual worlds for more than entertainment purposes. As evidenced in the discussion of social support groups, individuals seeking help or social support, especially among the chronically ill, have gravitated toward these worlds as well. Only recently has research begun to emerge to better understand this phenomenon. One such study found more than 152 healthcare support groups in Second Life® including a number of mental health support groups such as Support for Healing, Positive Mental Health, and Depression Support Group; the Transgender Resource Center that provided support for gender identity issues; and Wheelies, a support space for individuals with disabilities (Norris, 2009). The groups had a total of approximately 10,000

members combined. However, due to limitations of the technology, such as limits on how many group memberships an account can have, it is difficult to know how accurate those numbers are.

Norris found that niche communities were able to flourish in this space. He explained, “For a healthcare support group, this is a boon, in that it allows those with rare diseases to interact with each other. However, in a larger sense, it also allows people with unique approaches to their issues to interact with each other” (p. 6). The study looked at other platforms apart from Second Life® such as IMVU, There and Kaneva, but found that Second Life® by far offered the largest number of participants and was the most graphically advanced of the platforms. For instance, “IMVU uses more of the “simple ‘chat’ type groups” (p.8).

Second Life® was also the platform used by researchers to look more globally at health-related activity (Beard, Wilson, Morra & Keelan, 2009) and for medical and health education purposes (Boulos, Hetherington & Wheeler, 2007). Similar to Norris (2009), Beard, Wilson, Morra and Keelen searched for health-related sites but remained exclusive to the Second Life® platform. They found the most common type of use of the social virtual world for health purpose was for “patient education or to increase awareness about health issues” (p. 2) while the second most popular use was for support. They found that one of the most important attributes of the environment resulting in these outcomes were “both anonymity and interactivity” (p 12). They wrote, “They [participants] can consult with experts and other individuals with shared experiences, either privately or publicly in a group setting. Even when engaged in public discourse, there is still an element of privacy that does not exist in real-world interactions” (p. 13).

Boulos, Hetherington and Wheeler (2007) conducted a “hybrid review-case study” of Second Life® to learn more about its health education potential. They concluded that “Virtual medical and health libraries, access to remote librarians, and other medical and health related educational applications through such worlds are not remote possibilities” and “offer great potential to creative medical and health educators and librarians” (p. 242).

4.3 Strengths and Weaknesses of Virtual Worlds for Health-Related Social Support Groups

As evidenced in the literature of offline, online and virtual world support groups and their potential, numerous strengths and weaknesses in the technological platforms emerge. With its rapid evolution, large numbers of applications, wealth of information sources, and global reach to homes, the Internet has added uncertainty to the impact of technology on society (Kraut et al., 1998). Kraut’s study provides useful insight into the benefits and harms of internet usage. For instance, the Internet allows people to join groups on the basis of common interests rather than exclusively for convenience. This holds true for social virtual worlds as well.

The Internet could lead to more and better social relationships by freeing people from the constraints of geography or isolation brought on by stigma, illness, or schedule. Kraut believes that at the individual level, social disengagement can affect one’s health. In fact, studies about loneliness conducted by neuroscientists Cacioppo and Patrick (2008) suggest, “Loneliness not only alters behavior but shows up in measurements of stress hormones, immune function, and cardiovascular function. Over time, these changes in physiology are compounded in ways that may be hastening millions of people to an early grave” (p. 5).

When people have more social contact, they are happier and healthier, both physically and mentally (Cacioppo & Patrick, 2008). Users of online support groups don’t simply share a virtual space, but they share interests and experiences. The Internet, especially the hypersocial and visually

engaging platforms of online social virtual worlds, can therefore be used for social purposes – to communicate and socialize not only with colleagues, friends, and family, but with individuals who share common struggles. Significantly, Kraut says that strong and weak ties alike provide people with social support. People receive most of their social support from people with whom they are in most frequent contact.

This concept of social support may also be interpreted through the lens of social capital. Putnam (1993) identified different forms of social capital, including bridging and bonding social capital. Bridging social capital is linked to “weak ties,” or loose connections between individuals who may share information but do not share emotional support. Contrarily, bonding social capital is that which is typically found in friends and families, who share close emotional relationships. Ellison et al. (2007) introduced an additional form of social capital as it applies to the Internet in a concept of “maintained social capital,” referring to “online network tools which enable individuals to keep in touch with a social network after physically disconnecting from it” (p. 1). As evidenced in the research of online support groups, bridging, bonding and maintaining capital can form in virtual worlds.

According to White and Dorman (2001), additional benefits of using online support include having 24 hour a day access to the platform. Also, family members of someone in need of social support can participate in these online communities, which, in turn help them better understand the situation. Online social spaces can also potentially provide access for the difficult to reach – those who wouldn’t normally interact with face to face support groups whether geographically isolated or socially resistant. On the other hand, disadvantages include lack of access to Internet or technology, concerns about addiction, and growing questions about privacy and confidentiality (White & Dorman, 2001).

Although it may seem counterintuitive, numerous scholars including Turkle (2010) and Kraut (1998) believe that another risk of Internet usage is that it may make people socially isolated and cut off from genuine social relationships. The Internet supports asocial functions that make it easier for people to be alone and to be independent yet consequently may impede social contact with those in physical proximity. When people use these technologies intensively for activities that are not interactive such as learning new software, playing asynchronous computer games, or retrieving electronic information, they consume time and may spend more time alone.

4.4 Attributes Specific to Virtual Worlds

Most of the advantages and disadvantages of online support also apply to virtual worlds. Virtual worlds provide the opportunity to overcome the limitations related to geographical distances. Additionally, as a result of a perceived absence of physical and resource limitations or social prejudice, participants may experience a heightened sense of autonomy (Davis, 2011). Virtual worlds have evolved from text-based environments such as multi-user dungeons in the 70s, which became popular in the 90s when Internet became commonplace, to the modern 3-D worlds. These worlds provide users with detailed 3-D graphics, user-controlled animation, and different communication features common among social media platforms. In these spaces, individuals can personalize their avatar to create their own virtual identity, they have the ability to create virtual goods, and there are a massive number of places and objects created by others already available.

These features, as supported in Second Life®, along with providing a source of “instant pleasures, as liberation from social norms, as a tool for self-expression, and as exploration and novelty” (Partala, 2011, p. 787) resulted in positive emotions, including joy and relaxation among those studied in the virtual world. These emotions can be manipulated in virtual environments by exposing the user to

different in-world events. Likewise, different emotional responses play a central role in the user's acceptance of virtual worlds, and vary by type of online community.

Similarly, for people with disabilities, engaging with technology can be empowering. In the review of healthcare support groups in Second Life, Norris (2009) found 25% of those groups belonged to the disabilities category. In their study one such group of adults with disabilities in Second Life, Zielke, Roome and Krueger (2009) reference "e-empowerment," a concept that posits that the Internet is a powerful avenue to reframe identity, increase self-efficacy and skills, social compensation, and high self-disclosure. They found that taking part in virtual realities allows participants to experience control over their environment and success in activities that are usually inaccessible to them. These authors conclude that as a result of participation in a virtual environment, participants with severe intellectual and physical disabilities could be attracted to more active and physically demanding leisure activities in real life. Additionally, they found that support groups in general base themselves on the premise that people who share similar difficulties, misery, pain, disease condition, or distress may understand each other better and offer mutual emotional and pragmatic support. Their research suggests that online support groups are therefore successful because of, among other factors, the expression and connecting to emotions, and the effects of interpersonal relationships and social processes (Zielke, Roome and Krueger, 2009).

Second Life®, "is widely considered as the most advanced virtual world currently available" (Partala, 2011, p. 787). Second Life®, which is free to download, reported that "residents" log an average of more than 50 million user hours per month and exchange more than \$500 million in user transactions annually (Linden Research, 2013). Although MMORPGs such as Second Life® have been categorized as video games that offer virtual spaces in which the players interact, they are not just a piece of game software; they are often considered a community, a society, and even a culture (Preece and Maloney-Krichmar, 2003).

Users can register for a free basic account on SL and download free software to run the program. Second Life® can be accessed from any location with a high-speed internet connection. Worlds exist before the user logs on, and still exist and transform as a result of the activity of other participants when the user is logged off. Virtual worlds therefore reflect the persistent social and material world (Preece and Maloney-Krichmar, 2003). Other virtual world platforms are typically constrained by "a limited set of functionality, which guides user activity in the direction planned by the designers," (Partala, 2011, p. 788).

To enhance the interpersonal communication necessary for online social support and functional support groups, Second Life® also uses a real-time communication mechanism. Avatars can publicly or privately chat with each other either through voice or text tools. Social interaction occurs through both verbal and non-verbal forms that are consistent with real-life communication including speech, writing, and body language. In this sense, the nonverbal cues include avatar posturing, appearance, movement, proximity to other avatars, and sound effects are typically enacted via and "animation override" or menu and as such are rhetorical performance of reality (Verhulsdonck and Morie, 2009); the verbal forms include both text chat and voice chat (Preece and Maloney-Krichmar, 2003; Wang & Hsu, 2009). To further replicate reality, the technology is designed "to make sounds become louder as the avatar moves closer to the source" (Beard, Wilson, Morra & Keelan, p. 3).

Also similar to the physical world, there is spatial geography in the virtual environment where users can freely interact. Additionally, as previously discussed, Second Life® offers users the ability to interact with and speak to real people in real time while preserving their anonymity (Beard, Wilson,

Morra & Keelan, 2009). The role of anonymity in virtual worlds is discussed in a study of relationships in Second Life® that concluded “study participants consistently cited anonymity via a virtual persona and the sense that virtual actions did not share the same depth of potential consequence as they would in real life, as a source of confidence to explore their sense of self and others in a perceived “safe” environment” (Author, 2011). Bargh and McKenna (2004) likewise found the “relative anonymity aspect encourages self-expression, and the relative absence of physical and nonverbal interaction cues (e.g. attractiveness) facilitates the formation of relationships on other, deeper bases such as shared values and beliefs” (p. 586).

4.5 Virtual Identity and Relationship Formation

As a result, there are possibilities for creative self-expression that may not exist in participants’ physical lives. Consequently, studies show that Second Life® has offline behavior implications, which in turn has implications for health care. Specifically, Beard, Wilson, Morra and Keelan (2009) found that “When people practice health behaviors in a virtual world, they are more apt to perform them in the real world” and suggest that, “The number of health sites within SL indicates a need for this type of interaction in health care” (p. 11).

Relationships, which are fundamental to successful social support groups, also play a crucial role for the user in Second Life®. In this virtual world it is “easier and faster to build deep and meaningful relationships with other people -- It is easier to find people with similar interests, life situations, or personality traits, and people can form relationships independent of real life barriers of race, gender, income, age, social status, or looks” (Partala, 2011, p. 793).

Partala found that some people experience higher self-esteem in Second Life® than in the physical world, and that SL develops that self-esteem, which, in some cases carries out to their physical world behavior. Furthermore, Partala says it is typical for Second Life® users to use the platform to gain positive psychological effects. Therapeutic uses of the platform maybe motivated by “real-life depression, stress, a handicap, issues related to physical appearance, or a given personality trait,” (p. 795) among other things. This kind of self-therapy can be very successful and could also lead to positive long-term personal development. In essence, Partala’s study found that there exists a two-way interaction between people’s virtual and physical lives and these lives impact each other.

An example of the benefits of social support in virtual worlds is likewise recorded in Stewart’s (2010) story of Timothy Carey who has Duchenne Muscular Dystrophy (DMD). In Second Life®, Carey’s avatar is a pilot, builder, and architect. “When he first logged on to SL, he had two thoughts: as a professional computer programmer and Web developer, he thought SL was the future of the internet, and as a person with a disability, he was amazed at how liberating it felt to have his avatar walk, fly, and socialize.” According to Stewart, Carey participates in various activities in SL “for the same reasons others do in the real world; they enrich and add meaning to his life and give him the opportunity to meet people” (Stewart, 2010, p. 256).

4.6 Technological Obstacles and Challenges

Although the benefits are numerous, among potential challenges for participating in SL in general, is that participants could get lost in the virtual world. Wang and Hsu (2009) overcame this by providing study participants with a notecard (a form of email within the virtual world) that included a landmark to the group, or URL (in Second Life called a SLurL) that provides an instant “teleport” or link to the virtual location. This process brings individuals in the virtual world together fast and efficiently. Wang

and Hsu also found that learning how to use SL was a difficult task because the basic classes provided by Linden Labs, the creators of Second Life, and others are relatively short, and the information could be overwhelming and confusing. Learning the key skills, according to Wang and Hsu, requires regular practice on participants' own time.

In discussion of challenges of functioning in the virtual world, Wang and Hsu also addressed the important role of facilitation in online support groups. In-person face-to-face groups have revealed that efficient facilitation includes directing communication amongst members, reminding of group tasks at hand, providing a structure to the group, and resolving potential conflicts. Facilitating group discussions in Second Life® require particular skills that must be tailored and shaped to account for this media. "Whereas in the in-person environment the facilitators' physical presence conveys a good deal through body language, the virtual environment... necessitates revision of communication so that a charismatic ambience may still be maintained in inspiring participation. Keys in virtual communication thus rely more heavily on avatar body appearance, some emoting of animations, and vocal inflections of the facilitator" (Wang and Hsu, 2009, p. 4).

Other challenges or barriers for those seeking social support in the virtual world are technical functions. For instance, there may be a delay when the avatar moves to a new location, because all the specifications for the environment must be downloaded from the server (Bainbridge, 2007). Additionally, Second Life® has what may be considered high-end hardware requirements. Users might need to upgrade their computer equipment such as improved graphics card or internet speed in order to smoothly run Second Life® without delayed functioning or experiencing rough graphic effects. Wang and Hsu reported that many organizations and schools block the use of Second Life® because it occupies the network bandwidth (Wang and Hsu, 2009).

As more organizations begin to identify potential strengths and weaknesses of providing support or information in virtual worlds, perhaps the technical challenges will resolve more quickly. Already, non-profit and profit organizations and academic institutions have built islands and established a presence in SL to explore the related benefits to their target users. "Some organizations replicate real-world events in SL for users who cannot visit the events in person," (Wang and Hsu, 2009, p. 77).

Beard, et al. (2009) reported that individual consultations and support groups are also of interest to a growing number of organizations in Second Life® largely due to the anonymity the platform encourages and due to the many communication tools it provides. Some sites offer one-on-one appointments with doctors, nurses, medical librarians, therapists, and other health care professionals. Others provide virtual meeting places for groups to assemble and discuss the support group topic, moderated discussion groups, themed support group meetings, and group membership (Beard, Wilson, Morra and Keelan, 2009).

5. Conclusion

The complexity of the distinction between virtual and real emerges with frequency throughout the literature on social support online and in virtual worlds. Perhaps Boellstorff explained it best when he discerned the difference between virtual worlds and what most people call the "real world." Boellstorff said, "I talk about virtual worlds and the physical world because it's all real" (ChicagoHumanities.org, 2011). As a result of their actions and interactions in the virtual world, people develop real relationships, experience real emotions, develop real businesses and spend and earn real currency.

With this perspective of blended realities, the unique physical realities of the humans behind the interface in online social support in virtual environments must also be taken into account. For example,

in the exploration of ethical issues in virtual worlds, Hickey-Moody and Wood (2010) note that “while Second Life® affords users opportunities to create avatars without any of the physical limitations of their users, a lack of design guidelines for virtual worlds and variable technological accessibility still present limitations to how inclusive virtual worlds are for those with certain disabilities” (Hickey-Moody & Wood, ed. Wankel, 2010, p. 11).

The literature to date that explores social support in immersive 3-D virtual environments such as Second Life® suggests there are tremendous opportunities, especially for individuals who may be socially or physically isolated or who may prefer support in the “safety” of the anonymity that avatar performance provides. Yet, challenges remain. Still, due to the rapidly changing healthcare field, combined with increased access to high-speed internet and technologies, these groups show promise.

As Turner, Grube and Meyers suggested in 2001, online technology was evolving at a pace where access was less an issue while rising healthcare costs were more an issue. They concluded, “Continued study of the development of hyperpersonal communication within a variety of mediated contexts will give us further understanding of how supportive relationships can develop” (p. 249). If indeed they are strong, they could provide a powerful resource for those in need.

In conclusion, as cost and access to healthcare and social support is already challenging for millions of individuals around the globe, access to support online is becoming more mainstream as seen in the growth in telemedicine. Already there are a number of groups and organizations that provide online support, especially in the field of mental health and a growing number of healthcare researchers that are exploring these spaces for both physical and emotional therapeutic support. This trend provides tremendous opportunity, both for individuals whose lives are limited by chronic illness or disability and for organizations and care providers who can provide support in virtual worlds. Implications reveal important questions about using highly engaging immersive social media with a vulnerable population. As technology continues to evolve, especially in the healthcare arena, it will be increasingly important to understand long-term implications that offer benefit while remaining cognizant of the risks.

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