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Psychological needs and virtual worlds: Case Second Life

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Abstract

The most advanced contemporary virtual worlds provide their users with a possibility for living versatile virtual lives together with other users. A growing number of users worldwide are utilizing this possibility. The aim of this research was to study active virtual world users' satisfaction of psychological needs both inworld and outworld. A global online survey for the users of Second Life was constructed based on a model of ten psychological needs. The results based on 258 responses indicated that self-esteem, autonomy and physical thriving were the most highly satisfied needs inworld. Furthermore, the results indicated that autonomy, physical thriving, and money-luxury were needs, which were satisfied to a significantly larger extent in the virtual world than in the users' real lives (when not using a computer). On the other hand, the needs for competence, relatedness, security, and popularity-influence were more extensively satisfied in the users' daily lives than when in Second Life. The qualitative findings highlighted relatedness needs as motivations for Second Life usage and revealed five central themes in the motivations for Second Life usage: Second Life as self-therapy, as a source of instant pleasures, as liberation from social norms, as a tool for self-expression, and as exploration and novelty. In all, the findings suggest that the use of advanced virtual worlds is driven by a variety of different psychological needs. Virtual world usage is also related to need satisfaction in the users' lives outside the virtual world.

Keywords: Virtual worlds; Second Life; Psychological needs

1. Introduction

The current virtual worlds have their roots in different text-based environments, for example, discussion forums and multi-user dungeons (MUDs), which emerged as early as in the late 1970s and gained wide success in the 1990s when Internet became commonplace. One of the main advantages of virtual worlds is overcoming the limitations related to geographical distances (the need to commute). During the last few years, three-dimensional (3D) virtual worlds have finally gained global popularity. The most advanced environments provide their users with detailed 3D graphics, animation, different communication methods including voice communication, features for personalization and building new objects, and a massive number of places and objects created by others already available. These options are available in Second Life, which is widely considered as the most advanced virtual world currently available. It also includes a virtual economy and its own currency. However, many virtual worlds offer only little external rewards and their use is consequently largely motivated by the psychological needs of the users. The role of different psychological needs in the use of virtual worlds is not entirely clear based on previous research, which has largely focused on activities and usage patterns instead of the needs and motivations behind the usage.

The aim of the current study was to study Second Life users' psychological needs in an explorative manner in order to create a more advanced understanding of the users' psychological needs and motivations underlying their use of the virtual world. Such an understanding would be an important basis for designers and researchers working on 3D virtual worlds. The framework of ten candidate psychological needs by Sheldon et al. (2001) was adopted as the main viewpoint on psychological needs and the related questionnaire method was applied to the study of virtual worlds and extended with qualitative research

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methods. Second Life was chosen as the virtual environment under study, because most other alternatives were constrained by a limited set of functionality, which guides user activity in the direction planned by the designers. In Second Life, a great number of different activities are available, and the users have tools for continuously developing new activities and personalizing the experience according to their own tastes. In addition, there are no general rules or objectives as in games, and consequently the inworld activity is largely based on the users' real psychological needs and motivations.

2. Related work

Different theories of human psychological needs have been suggested in the literature, the most famous probably being the hierarchy of needs by Maslow (1943), which classifies needs to five levels: physiological, safety, love/belonging, esteem, and self-actualization needs. As it is now, one of the most widely appreciated need theories is the self-determination theory (Deci and Ryan, 2000). It addresses both intrinsic and extrinsic factors, which either facilitate or undermine motivation. Psychological needs derived from the self-determination theory include autonomy (to actively participate in determining own behavior without external influence), competence (to experience oneself as capable and competent in controlling the environment and being able to reliably predict outcomes), and relatedness (to care for and be related to others). These three needs are now seen as critical in the light of the well-being of an individual (e.g. Deci and Ryan, 2000; Reis et al., 2000).

By building on the three needs suggested in self-determination theory (Ryan and Deci, 2000) and the hierarchy of needs by Maslow (1943), Sheldon et al. (2001) presented a model of ten candidate psychological needs. By also including psychological needs suggested by other researchers (e.g. Epstein, 1990), they formed a group of ten needs: autonomy, competence, relatedness, self-actualization-meaning, physical thriving, pleasure-stimulation, money-luxury, security, self-esteem, and popularity-influence. They also presented a questionnaire method for studying the degrees of satisfaction for the ten needs using 30 statements (three statements for each need) and applied the method in two studies on the most and least satisfying experiences of college students in two different cultural settings. Their results supported the self-determination theory, as they found that autonomy, competence, and relatedness were consistently among the top four needs, when their participants reported the degrees of need-satisfaction in the context of satisfying events. Self-esteem and security were also rated highly salient in satisfying events, whereas self-actualization-meaning, physical thriving, popularity-influence, and money-luxury were found to be of moderate salience.

Motivations for participation in virtual communities have been studied to some extent. Kollock (1999) suggested three non-altruistic motivations for using online communities: anticipated reciprocity, increased recognition, and sense of efficacy. Existing research has shown that motivations for participation vary by type of online community. For example, in using Facebook, different kinds of social motives such as needs for maintaining relationships and social browsing emerged as the strongest motivators for the use of the service (Joinson, 2008). On the other hand, when the motives of contributors to collaborative encyclopedia Wikipedia were studied, social motivations were not found to be especially strong, but motivations related to fun, ideology and personal values were rated as significantly more important (Nov, 2007). In online communities developing open-source software Lakhani and Wolf (2005) found that feelings of creativity, intellectual stimulation, and improving professional skills were more important drivers for participation than social motives. Based on an interview study, Leitner et al. (2008) suggested that motivations for using online communities include friendship, and people's ambition of being an open-minded person that is up to date, well informed, and able to make self-reflected decisions.

The users' motivations for participation in virtual communities have not been very extensively studied in the context of three-dimensional virtual worlds. Ryan et al. (2006) found that for online video games the basic needs of autonomy, competence, and relatedness were associated with game enjoyment, preferences, and changes in well-being pre- to post-play. Competence and autonomy perceptions were also related to the intuitive nature of game controls and the sense of presence or immersion in participants' game play experiences.

Yee (2007) analyzed online 3D computer game players' motivations. The analysis revealed 10 motivation subcomponents, which were grouped into 3 overarching components: achievement, social, and immersion. The achievement component included advancement (e.g. gaining status and power), mechanics (understanding the system and underlying rules), and competition (desire to challenge and compete with others). The social component included socializing (helping and chatting with others), relationship (forming long-term meaningful relationships with others), and teamwork (being part of a group effort). The immersion component consisted of the following subcomponents: discovery (finding and knowing new things), role-playing (creating personas and stories), customization (personalization of characters), and escapism (avoiding thinking about real life problems).

Besides motivations for the usage of virtual worlds, behavioral, affective, and cognitive aspects of virtual world usage have been examined in previous research. Whang and Chang (2004) showed that on-line players of 3D game Lineage developed their own distinctive lifestyles in the virtual world. Baños et al. (2008) showed that positive emotions such as joy and relaxation could be manipulated in users of virtual environments by exposing the user to different in-world events. Riva et al. (2007) found that