

Motivation for Persistent Play in Multiplayer Online Role-Playing Games



The popular appeal of online virtual worlds as a medium for collaborative play is unquestionable. Recently, the developer of the popular game World of Warcraft announced that the game's subscriber base had grown to over 8 million persons. To say another way, roughly .1% of all living persons on earth today spend an average 19.2 (SD = 14.38) hours a week pursuing entirely virtual aims in a computer driven fantasy world populated by elves, dwarves, and dragons. (Ryan, Rigby, & Przybylski, 2006). It is clear that these virtual environments are compelling though few empirical examinations have focused on the motivational dynamics of virtual environments (Przybylski, Rigby, & Ryan, 2007). Instead, the thrust of inquiry in games perseverates on negative correlates of play such as aggression (Anderson, 2001) and addiction (Young, 1996).

A Longitudinal Analysis of Psychological Needs & Engagement in World of Warcraft

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Abstract

A longitudinal study applies self-determination theory (SDT; Ryan & Deci, 2000) in investigating motivation and engagement across an eight month period following a group of players of the online role-playing game World of Warcraft. We posited and found that basic psychological need satisfaction, namely; autonomy, competence, and relatedness predicted target game enjoyment, recommendation to peers, estimated future play, and continued play eight months later.

Hypotheses

Hypothesis 1: Player experience of psychological need satisfaction assessed at time one will predict game enjoyment, estimation of future play and willingness to recommend the game to peers.

Hypothesis 2: Player experience of psychological need satisfaction at time one will predict continued play and willingness to recommend the game to peers eight months later at the second survey point.

Methods

50 participants, regular video game players and current subscribers to the video game World of Warcraft were recruited for our study. As compensation for participating participants were entered into a raffle to win a six month game subscription of their choice. Of the 50 participants initially surveyed 62% were still actively playing World of Warcraft by the time of the follow-up survey. Player experience of need satisfaction (PENS) was assessed at the initial survey period with shortened version of the PENS scale (Ryan, Rigby & Przybylski, 2006) one item assessed each psychological need. Game enjoyment was measured at the initial survey period with a four-item version of the intrinsic motivation inventory (IMI; Ryan, Mims & Koester, 1983). Willingness to recommend the game to peers was assessed at both time points with a single item: “I will recommend this game to my friends.”

Results

We tested Hypothesis 1 by regressing initial survey period enjoyment [$\beta = .50, p < .01$], estimation of future play [$\beta = .21, p < .05$], and willingness to recommend the game to peers [$\beta = .53, p < .01$], onto the PENS measure. Results demonstrate significant linear relations between PENS and, enjoyment, motivation for future play, and word of mouth. To test Hypothesis 2 we constructed a dichotomous variable; continued play. We coded participants still playing (31 of 50 participants) a 1 and coded participants who had stopped playing a 0. We then simultaneously regressed Continued play on initial survey period assessments of PENS [$\beta = .42, p < .01$], and enjoyment [$\beta = -.02, p = ns$]. We then simultaneously regressed willingness to recommend the game to peers assessed at the follow-up period on to initial survey period assessments of PENS [$\beta = .42, p < .01$], and enjoyment [$\beta = .03, p = ns$]. Results demonstrate significant linear relations between PENS and persistent play and word of mouth eight months later.

Conclusion

Our findings suggest that persistent engagement and play in online virtual game worlds is an active behavioral process that requires the player to stay motivated to continue subscribing. MMOs offer a player the freedom to explore novel spaces, conquer diverse challenges, and meaningfully interact with online peers. With this in mind it is no wonder millions of Americans devote tens of millions of hours a week developing wholly virtual aims. Common sense tells us that if people enjoy a game they will continue to play it. Contrary to that we found that level of enjoyment is not enough to keep players engaged. Our results suggest that this notion only holds true insofar as people have their basic psychological needs met during gaming sessions. We believe that by accounting for a player's experience of need satisfaction we can paint a more detailed picture of what is going on when millions log on to play.

References

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science*, 12, 353–359.
- Przybylski, A., Rigby S., & Ryan, R. M. (2007). *The Need Satisfying Potential of Video Games: Motivational and Energetic Outcomes of Play in Virtual Environments*. Presented at the Eighth Annual Conference of the Society for Personality and Social Psychology, Memphis TN.
- Rigby, S. (2004). *Player Motivational Analysis: A model for applied research into the motivational dynamics of virtual worlds*. Presented to the Motivation Research Group, University of Rochester, Rochester, NY.
- Ryan, R.M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A Review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, 45, 736-750
- Ryan, R.M., Rigby, S., & Przybylski, A. (2006). The Motivational Pull of Video Games: A Self-Determination Theory Approach. *Motivation and Emotion*, Vol. 30, Num. 4, 344-360.
- Young, K. S. (1996). *Internet addiction: The emergence of a new clinical disorder*. Presented at the 104th annual meeting of the American Psychological Association, August 11, 1996. Toronto, Canada.