

PERSONALITY AND MOTIVATIONS FOR PLAYING ONLINE GAMES

SHIH-PING JENG

Fu-Jen Catholic University, Taiwan, ROC

CHING-I TENG

Chang Gung University, Taoyuan, Taiwan, ROC

Using the five-factor model of personality and a previously theorized motivation typology, the authors investigated the relationship between personality and motivation for playing online games. The results indicated that openness was positively related to discovery and role-playing motivation, and conscientiousness was positively related to escapism motivation. In addition, extraversion was positively related to teamwork motivation, and agreeableness was positively related to advancement motivation. However, neuroticism was negatively related to teamwork motivation. These findings have several implications and could provide further research directions.

Keywords: five-factor model, personality, motivation, online game, game play.

The popularity of multiplayer online games has received worldwide attention, especially as many players spend hours participating daily and interacting with other players online, revealing their strong motivation to play online games. Firms and various advertisers, such as Google, are interested in understanding who is playing online games and for what reasons (Adam & Johnson, 2007), and therefore these managers need to gain more knowledge about online game players.

Shih-Ping Jeng, PhD, Fu-Jen Catholic University, Taiwan, ROC; and Ching-I Teng, PhD, Department of Business Administration, Chang Gung University, Taoyuan, Taiwan, ROC. Shih-Ping Jeng is now at the Department of Shipping and Transportation Management, National Taiwan Ocean University, Keelung, Taiwan, ROC.

Appreciation is due to anonymous reviewers.

Please address correspondence and reprint requests to: Ching-I Teng, Department of Business Administration, Chang Gung University, 259 Wenhua 1st Rd., Gueishan Shiang, Taoyuan 333, Taiwan, ROC. Phone: +886-3-2118800 ext 5418; Fax: +886-3-2118500, Email: chingit@mail.cgu.edu.tw or cguchingit@yahoo.com.tw

Previous studies have proposed that players experience varied motivation to engage in online game playing, including discovery, role-playing, teamwork, advancement, or escapism (Yee, 2006). However, little is known about the source of those motivations. Personality has emerged as being influential in various contexts (Barrick & Mount, 1991; Teng, Huang, & Tsai, 2007), which suggests that personality traits could be a source of motivation. This study was aimed at investigating the relationship between personality traits and game-playing motivations and therefore contributing to knowledge about online game players.

FIVE-FACTOR MODEL AND FIVE MOTIVATIONS FOR ONLINE GAME PLAYING

The five-factor model of personality remains one of the most widely accepted, comprehensive typologies of personality traits (McCrae, Jang, Livesley, Riemann, & Angleitner, 2001; Yamagata et al., 2006). Its five constituent traits include openness (i.e., tendency to be curious, creative, and imaginative; Bakker, van der Zee, Lewig, & Dollard, 2006), conscientiousness (i.e., tendency to be organized, efficient, and systematic; Barrick & Mount, 1991; Saucier, 1994), extraversion (tendency to be sociable, talkative, and ambitious; Pervin, 1993), agreeableness (tendency to be cooperative, considerate, and tolerant; Barrick & Mount, 1991; Saucier, 1994), and neuroticism (tendency to experience negative emotions; Bakker et al., 2006; Teng, Hsu, Chien, & Chang, 2007). Because the five-factor model of personality has previously been applied successfully to Internet and online game contexts (Landers & Lounsbury, 2006; Teng, 2008), it is reasonable to expect that it will relate to motivations for online game play.

Yee (2006) proposed a comprehensive typology of motivations for playing online games, including ten specific categories. The present study covered five of those ten motivations that were likely to relate to the five factors of personality, namely: the discovery, role-playing, teamwork, advancement, and escapism motivations. Yee (2006, p. 773), defined *discovery motivation* as *the process of "finding and knowing things that most other players don't know about"*. *Role-playing motivation* has been defined as *"creating a persona with a background story and interacting with other players to create an improvised story"*. *Teamwork motivation* has been defined as *"deriving satisfaction from being part of a group effort"*. *Advancement motivation* has been defined as *"the desire to gain power, progress rapidly, and accumulate in-game symbols of wealth or status"*. Finally, *escapism motivation* has been defined *"as using online games to "relax, escape from real life, and avoid real-life problems"*.

HYPOTHESES

Openness has been reported to be characterized by curiosity (Bakker et al., 2006). Curiosity can determine exploratory behavior (Berlyne, 1950), so it can be reasonably expected that high-openness individuals will like exploring. Thus, it

may be that players with high openness will particularly enjoy exploring the game world in terms of discovering items or rewards, solving quests, and experiencing the stories in online games. This preference for finding and knowing things that most other players do not know is consistent with Yee's (2006) definition of discovery motivation.

Hypothesis 1: Openness will positively relate to discovery motivations for playing online games.

Persons high in openness have been shown to be imaginative (Barrick & Mount, 1991). While in general people enjoy using their imagination in role-playing (Ladousse, 1987), people with enhanced imaginations could be expected to enjoy role-playing more than others. As a result, they should enjoy playing as new avatars and interacting with others to make up a story and history for their avatars, consistent with Yee's (2006) definition of role-playing motivation. Thus we hypothesized a positive relationship between openness and role-playing motivation for playing online games.

Hypothesis 2: Openness will relate positively to role-playing motivations for playing online games.

Previous studies have demonstrated that conscientiousness may predict real-world achievement, including job performance (Barrick & Mount, 1991; Major, Turner, & Fletcher, 2006), career success (Judge, Higgins, Thoresen, & Barrick, 1999), and educational achievement (Chowdhury & Amin, 2006). Studies have supported the idea that conscientious people are more self-disciplined and prepared for the future, take on more responsibilities in real life (Major et al., 2006), and are less likely to devote excessive time to playing games (Phillips, Butt, & Blaszczyński, 2006). Therefore, we posit that high-conscientiousness people mainly play games for a temporary distraction, relaxation, or emotional release. In other words, they have an escapism motivation (Yee, 2006). In addition to a positive relationship between conscientiousness and escapism motivations, conscientious players have alternative sources of achievement in the real world and therefore may not be motivated by advancement needs.

Hypothesis 3: Conscientiousness will relate positively to escapism motivations for playing online games.

Extraverted people are likely to be highly sociable and active and to demonstrate more frequent and intense personal interactions (Bakker et al., 2006). Moreover, extraverted people were found to be essential for the creation of highly cohesive and energetic teams (Tett & Burnett, 2003) which are crucial in online games. Thus, highly extraverted players could be expected to have excellent teamwork during online game play, consistent with Yee's (2006) definition of teamwork motivation.

Hypothesis 4: Extraversion will positively relate to teamwork motivations for playing online games.

Agreeableness has been found to entail a positive evaluation in tasks that require helping others (DeFruyt & Mervielde, 1999). While highly agreeable individuals have been proven to be willing to help others (Barrick & Mount, 1991), in online games they must have advanced avatars (online virtual characters) with enough power in games to achieve this. That is, advanced avatars can be said to be essential for players to help others in games. Highly agreeable players would therefore be motivated to advance their avatars in order to help others. Thus, we hypothesized:

Hypothesis 5: Agreeableness will relate positively to advancement motivations for playing online games.

Finally, neurotic persons tend to use ineffective coping strategies (Bolger, 1990) and have strong emotional reactions (van Heck, 1997) in stressful situations. In online games, teams generally form to complete tough tasks that place the team members in stressful situations. Teamwork has been found to require a high level of rational, cooperative behavior, and not strong emotional reactions. Therefore, high neuroticism players may not be welcomed in teams in online games, which could reduce their motivation to participate as part of a team. A negative relationship between neuroticism and teamwork motivation therefore seems possible.

Hypothesis 6: Neuroticism will relate negatively to teamwork motivations for playing online games.

METHOD

PARTICIPANTS

A total of 92 undergraduate students from a Northern Taiwan university who have online games experience were used as subjects, because both research and practical investigations have suggested that college students comprise a high proportion of online games players. All samples were valid for analysis. Among them, 60% were men and all were aged between 18 and 27 years. Eighty-nine percent of participants earned a monthly income of less than US\$300, which shows that the sample reflects the characteristics of Taiwanese college students accurately.

MATERIALS

The items used to measure five factors of personality were modified slightly from Saucier's (1994) scale in order to maintain the interest of the participants and to minimize respondent refusal. These measures were also adopted by Teng (2008). Each construct relied on two or three items. However, the lack of well-established, multiple-item measures in published works and the impatience of online game players prompted us to employ a single item to measure each

of the five motivations (discovery, role playing, teamwork, advancement, and escapism) proposed by Yee (2006). For example, participants were asked to indicate their response to "I like to explore areas/characters/quests not well-known by other players" for our measure of discovery motivation. The response options ranged from 1 (*very disagreeable*) to 7 (*very agreeable*). The items we used to measure each personality factor all achieved Cronbach's α that exceeded .7, which supports their sufficient reliability (Nunnally & Bernstein, 1994). Participants were also asked to provide information regarding their gender, age, and monthly income.

RESULTS

Regression analysis was used to test the hypotheses. The five motivations for online game playing served as the dependent variables, and the five personality factors represented the independent variables. Gender, age, and monthly income were used as the control variables for the following reasons: first, Teng (2008) found that players and nonplayers significantly differ in gender and age, which suggests that these two demographic variables may be related to motivation for playing online games. Second, whether players can play online games constantly should depend on their monthly income.

Overall, all of our hypotheses were supported. Openness was found to positively relate to discovery motivation ($\beta = .27, p = .03 < .05$), which supports H1, as well as role-playing motivation ($\beta = .24, p = .05$), which supports H2. Conscientiousness was indicated to positively relate to the escapism motivation ($\beta = .24, p = .06 < .10$), which marginally supports H3. We found that extraversion positively related to teamwork motivation ($\beta = .34, p = .01 < .05$), which supports H4. Although it only marginally supported H5, agreeableness was positively related to advancement motivation ($\beta = .22, p = .06 < .10$). Finally, neuroticism was indicated to be negatively related to teamwork motivation ($\beta = -.23, p = .04 < .05$), which supported H6. The variance inflation factors were all below 10 (ranging from 1.06 to 1.31), which suggested the absence of multicollinearity and thus supported the adequacy of using regression for our analysis.

DISCUSSION

This article reports the application of the five-factor model of personality to try to understand people's motivation to play online games. We discovered that personality traits were strong predictors of game-playing motivations. Specifically, those with high openness were found to play games in response to their discovery and role-playing motivations. Conscientious people were found to be motivated by a need for escapism, and extraverted people were found to

play so that they could derive satisfaction from the teamwork involved in online games. Persons higher in agreeableness were found to experience an advancement motivation, and finally, neurotic persons felt less of a teamwork motivation.

Our study contributed to existing knowledge by confirming that personality traits influence player motivations, in addition to the demographic features suggested by Griffiths, Davies, and Chappell (2003, 2004) and Yee (2006). Prior literature on organizational behavior and education has considered personality traits (e.g., Chowdhury & Amin, 2006; Major et al., 2006); this research extended such a consideration to demonstrate that personality traits also play an important role in online game contexts. Our study also increased understanding of online game player features, which have been found to have strong influences on motivation for playing online games.

Furthermore, this study provided several empirical applications. Online game service providers can use this information to design their games and develop marketing strategies to suit different personality orientations. For example, to satisfy conscientious players' desire for temporary distraction, online game service providers could incorporate smaller, interesting areas within a larger game to create a sense of immediate relaxation and fun. New roles and stories within the game could also be designed to meet the discovery and role-playing needs of players with high openness. Finally, this study discovered preliminary evidence about the relationship between personality traits and motivations for playing online games. Further studies could develop multiple-item scales for all of the ten motivations proposed by Yee (2006), which would supply reliable and useful tools for investigating motivation issues in online game contexts.

REFERENCES

- Adam, D., & Johnson, B. (2007). Google may use games to analyse net users. Retrieved May 12, 2007, from <http://www.guardian.co.uk/media/2007/may/12/newmedia.news>
- Bakker, A. B., van der Zee, K. I., Lewig, K. A., & Dollard, M. F. (2006). The relationship between the Big Five personality factors and burnout: A study among volunteer counselors. *The Journal of Social Psychology*, *146*(1), 31-50.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*(1), 1-26.
- Berlyne, D. E. (1950). Novelty and curiosity as determinants of exploratory behavior. *British Journal of Psychology*, *41*, 68-80.
- Bolger, N. (1990). Coping as a personality process: A prospective study. *Journal of Personality and Social Psychology*, *59*, 525-537.
- Chowdhury, M. S., & Amin, M. N. (2006). Personality and students' academic achievement: Interactive effects of conscientiousness and agreeableness on students' performance in principles of economics. *Social Behavior and Personality: An international journal*, *34*(4), 381-388.
- DeFruyt, F., & Mervielde, I. (1999). RIASEC types and Big Five traits as predictors of employment status and nature of employment. *Personnel Psychology*, *52*, 701-727.

- Griffiths, M. D., Davies, M. N. O., & Chappell, D. (2003). Breaking the stereotype: The case of online gaming. *CyberPsychology & Behavior*, *6*(1), 81-91.
- Griffiths, M. D., Davies, M. N. O., & Chappell, D. (2004). Demographic factors and playing variables in online computer gaming. *CyberPsychology & Behavior*, *7*(4), 479-487.
- Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The Big Five personality traits: General mental ability, and career success across the life span. *Personnel Psychology*, *52*, 621-652.
- Ladousse, G. P. (1987). *Role play*. London, UK: Oxford University Press.
- Landers, R. N., & Lounsbury, J. W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior*, *22*(2), 283-293.
- Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development activity. *Journal of Applied Psychology*, *91*, 927-935.
- McCrae, R. R., Jang, K. L., Livesley, W. J., Riemann, R., & Angleitner, A. (2001). Sources of structure: Genetic, environmental, and artifactual influences on the covariation of personality traits. *Journal of Personality*, *69*(4), 511-535.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Pervin, L. A. (1993). *Personality: Theory and research* (6th ed.). New York: John Wiley.
- Phillips, J. G., Butt, S., & Blaszczynski, A. (2006). Personality and self-reported use of mobile phones for games. *CyberPsychology & Behavior*, *9*(6), 753-758.
- Saucier, G. (1994). Mini-markers: A brief version of Goldberg's unipolar Big-Five markers. *Journal of Personality Assessment*, *63*(3), 506-516.
- Teng, C.-I. (2008). Personality differences between online game players and non-players in a student sample. *CyberPsychology & Behavior*, *11*(2), 232-234.
- Teng, C.-I., Hsu, K.-H., Chien, R.-C., & Chang, H.-Y. (2007). Influence of personality on care quality of hospital nurses. *Journal of Nursing Care Quality*, *22*(4), 358-364.
- Teng, C.-I., Huang, K.-W., & Tsai, I.-L. (2007). Effects of personality on service quality in business transactions. *The Service Industries Journal*, *27*(7), 849-863.
- Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, *88*(3), 500-517.
- Van Heck, G. L. (1997). Personality and physical health: Toward an ecological approach to health-related personality research. *European Journal of Personality*, *11*, 415-443.
- Yamagata, S., Suzuki, A., Ando, J., Ono, Y., Kijima, N., Yoshimura, K., et al. (2006). Is the genetic structure of human personality universal? A cross-cultural twin study from North America, Europe, and Asia. *Journal of Personality & Social Psychology*, *90*(6), 987-998.
- Yee, N. (2006). Motivations for play in online games. *CyberPsychology & Behavior*, *9*(6), 772-775.

