

# Need for Presence and Other Motivations for Video Game Play Across Genres

Paul Skalski, Francis Dalisay, M. Kushin, & Yung-I Liu

School of Communication  
Cleveland State University

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### **Abstract**

The popularity of video games is well documented, but questions remain about why players choose specific kinds of games over others. The type of player a person is may be one explanation, and a number of player types have been identified by game theorists (Klug & Schell, 2006). Some players may even have a “need for presence,” or tendency to enjoy feeling “there” in game environments, that drives their game selection. The present study extends work on player types as motivations for video game play in two primary ways. First, it draws from the presence literature and considers how a person’s “need for presence” relates to established player types. Second, it expands the predictive utility of player type research and explores how motivations for play relate to game use across multiple genres and platforms, including MMOs and other popular forms of gaming. It accomplishes these goals by reporting the results of an ongoing online survey of gamers (N = 253). Results suggest that player motivations do relate to specific game use and are discussed in light of the video game and presence literatures.

# **Need for Presence and Other Motivations for Video Game Play across Genres**

## **Introduction**

The popularity of video games is well documented, but questions remain about why players choose specific kinds of games over others. What drives a player to choose a Massively Multiplayer Online (MMO) game over a first-person shooter (FPS), or a game on a social media site over a game on a mobile device? The type of player a person is may be one explanation, and a number of player types have been identified by game theorists (Klug & Schell, 2006). Some players may even have a “need for presence,” or tendency to enjoy feeling “there” in game environments, that drives their game selection. Understanding these and other reasons for video game play has important implications for both media use theories and the game industry.

The present study extends work on player types as motivations for video game play in two primary ways. First, it draws from the presence literature and considers how a person’s “need for presence” relates to established player types. Second, it expands the predictive utility of player type research and explores how motivations for play relate to game use across multiple genres and platforms, including MMOs and other popular forms of gaming. It accomplishes these goals by reporting the results of an ongoing online survey of gamers.

## **Literature Review**

### **The Specific Popularity of Video Games**

Most published video game research to date has reported general sales figures or general usage data in the introduction (e.g., Skalski, Tamborini, Shelton, Buncher, & Lindmark, 2011), seemingly to justify video games as a subject of scientific inquiry. This

common practice may be necessary given the perception by some that games are trivial, but an unfortunate consequence is that it neglects the complexity of the “video game use” construct. People are not only spending many hours consuming video games, but they are spending long hours consuming *specific* forms of video games. Wolf (2001) identifies more than 40 interactive genres of video games, including adventure, fighting, platform, racing, and sports games. The most popular video game genre in 2011, according to the Entertainment Software Association, was “action,” accounting for 19 percent of all games sold (Sales & Genre Data). One specific action title, the first-person shooter *Call of Duty: Modern Warfare 3*, broke all movie, game, and book records upon its release by grossing \$775 million in five days (Williams, 2011).

Popular video games may also be broken down in other ways. Juul (2009), for example, writes about the rise of the *casual video game*, defined as relatively simple, quick games that anyone can play. The emerging popularity of these video games can be seen in the success of the Nintendo Wii and mobile titles such as *Angry Birds*. Games are also increasingly appearing on social media websites such as Facebook (Radoff, 2011). Clearly, video game use extends far beyond a general phenomenon. It has richness and nuance that, when considered by researchers, can help better understand the phenomenon of game play. Although a full consideration of specific game genres is beyond the scope of a single study, this investigation attempts to predict several popular forms of game use, including general game play, game play on specific platforms (such as consoles, mobile devices, and the Web), and forms of online game play, including MMO, FPS, and social media gaming. It predicts these specific forms of game play using a structural-functional perspective.

## **Structural-Functional Approaches to Media Use**

The structural-functional approach to media use is guided by the fundamental assumption that individuals' uses of media are a function of the individuals' purpose for using media. This approach and its guiding assumption serve as the foundation of the uses and gratifications theory (Rosengren, 1974; Rubin, 1994). Early conceptualization of this theory by Katz, Gurevitch, and Hass (1973) explicated five groups of "needs" that drive individuals' uses of media: (1) needs for strengthening information, knowledge, and understanding; (2) needs for strengthening pleasurable, emotional, and aesthetic experience; (3) needs for credibility, confidence, and stability; (4) needs for strengthening contact with family, friends, and the world; (5) needs for escape and the release of tension.

The uses and gratifications theory has been adapted by several researchers to explain preferences and motivations for uses of video games (e.g., Selnow, 1984; Lucas & Sherry, 2004; Sherry, Greenberg, Lucas, & Lachlan, 2006). Selnow (1984), for instance, adapted Greenberg's (1974) television uses and gratifications scale and identified five factors for video game play—particularly, arcade video game use: (1) playing video games facilitates solitude/escape, (2) playing video games is preferable to having human companions, (3) playing video games facilitates companionship, (4) people can learn through playing video games, and (5) playing video games facilitates activity/action. More recently, Sherry et al. (2006) used a multi-method approach to outline six factors of video game use. These include (1) arousal (playing video games stimulates emotions), (2) challenge (playing video games allows one to achieve a level of accomplishment), (3) competition (playing video games allows one to prove to others

that they have the best skills), (4) diversion (playing video games allows one to avoid stress or responsibilities), (5) fantasy (playing video games allows one to do things they cannot possibly do in real life), and (6) social interaction (playing video games allows one to interact with others). The uses and gratifications for video game play identified by Sherry and colleagues provide an important foundation for understanding why people play video games. However, as Sherry et al. (2006) note, questions remain about what factors influence game genre selection, and the role of personality types in game use. This research begins to address these questions by relating specific types of game play to player type motivations.

### **The Concept of Player Types**

As reviewed by Klug and Schell (2006), play theorists have identified several types of video game players distinguished by needs that are met through game play. Since needs are fulfilled, player types are similar to uses and gratifications, but they are more trait-like rather than driven by user states. Prominent player types identified by Klug and Schell include competitors (who play to be better than others), explorers (who play to experience game worlds), collectors (who play to acquire in-game objects), achievers (who play to be better in ranking over time), jokers (who play for fun and socializing), directors (who play to be in charge), storytellers (who play to build narratives in game worlds), performers (who play for show), and craftsmen (who play to build, solve, and engineer). Importantly, player types are not mutually exclusive; rather, multiple types can be present to varying degrees within a single player. The most well-known and studied set of player of player types comes from Bartle (1996).

## **Research on Bartle's Player Types**

Bartle (1996) conceptualized four types of motivations that potentially drive people's use of multi-user dimension (MUD) video games. These motivations include (a) achievement within the game (players have specific game-related goals and seek to achieve them), (b) exploration of the game (players attempt to explore as much as they can about the virtual world), (c) socializing with others (players use video games as a context to converse with others), and (d) imposition upon others (players use video games to impose distress or help others).

Extending and systematically examining Bartles' conceptualization of these four player types, Yee (2007) used a factor analytical approach and found that motivations for use of MMO video games are comprised of three main components: (1) achievement (comprised of advancement, mechanics, and competition as subcomponents), (2) sociability (comprised of socializing, relationship, and teamwork as subcomponents), and (3) immersion (comprised of discovery, role-play, customization, and escapism as subcomponents). A subsequent study conducted by Williams, Yee, and Caplan (2008) revealed that the three factors were significant predictors of video game total playing time. Interestingly, sociability and achievement were positively related, while immersion was negatively related to video game total playing time.

### **“Need for Presence” and Player Types**

The emergence of “immersion” as a player type suggests that there may be a player type motivation that could be called “need for presence,” if contextualized within the burgeoning literature on the concept of presence (cf., Bracken & Skalski, 2010). In this study, we adopt the International Society for Presence Research (2001) definition of

presence as “a sense of being there” which “occurs when part or all of a person’s perception fails to accurately acknowledge the role of technology that makes it appear that s/he is in a physical location and environment different from her/his actual location and environment in the physical world.”

The vast majority of research on the presence concept has treated it as an outcome of exposure to media form or content variables, but a handful of researchers have viewed it as an individual difference variable that could be used in predictive fashion. Witmer and Singer (1998), for example, developed an immersive tendencies questionnaire (ITQ) that gets at peoples’ predisposition toward experiencing presence. Although the ITQ has face validity issues and was criticized by some in the presence community (Slater, 1999), it represents early awareness of the idea that presence can be more trait-like, which others have picked up on (e.g., Jeffres, Bracken, & Skalski, 2010).

Here, we conceptualize this immersive tendency as “need for presence,” adopting the language of the classic “need for cognition” concept, which refers to “an individual’s tendency to engage in and enjoy effortful cognitive activity” (Cacioppo & Petty, 1982, p. 116). Need for presence likewise refers to a person’s tendency to enjoy experiencing presence, such as through video game play. It shares similarities with several existing player motivation and type factors, including the uses and gratifications motive of “fantasy,” the “explorer” player type from Klug and Schell, Bartle’s “exploration” motive, and Yee’s “immersion” dimension. These concepts suggest that the desire to experience what we would call presence has been identified independently by scholars as a central reason for game play. However, it has not been viewed in presence terms, nor has it been connected to specific forms of game play.



## **Rationale and Hypotheses/Research Questions**

The purpose of the present study is to examine how the need for presence and other motivations for game play relate to one another, before investigating how these motivations predict both playing video games in general and playing specific types of games.

As discussed, the player types reviewed above have logical intersections with presence. The “exploration” of space or discovery motivation overlaps with the concept of spatial presence or feeling “in” a media environment, as does Yee’s factor analytic dimension of immersion. Therefore, an initial hypothesis predicts:

H1: Players who report playing for exploration of space will also score high on need for presence.

In addition, the following research questions are posed to explore how game play motivations relate to both general and specific video game use:

RQ1: How are motivations of video game playing related to general use of video games on a console?

RQ2: How are motivations of video game playing related to use of video games on a computer?

RQ3: How are motivations of video game playing related to use of video games on a mobile device?

RQ4: How are motivations of video game playing related to use of Web games?

RQ5: How are motivations of video game playing related to use of games in social networking sites?

RQ6: How are motivations of video game playing related to use of first-person shoot games?

RQ7: How are motivations of video game playing related to massively multiplayer online role playing games (MMPORPGs)?

RQ8: How are motivations of video game playing related to online casino games?

## **Method**

### **Procedure and Sample**

A survey of college students attending a moderately large Midwestern university was conducted in the Spring of 2012. Participants were recruited in communication classes and offered course credit for their participation. The sample (n = 253) was comprised of 50% males (n = 127) and nearly 50% females (n = 126). The median income level of respondents was between \$51,000-\$75,000, and 143 (57%) respondents identified themselves as white, while 106 (43%) identified themselves as non-white.

## **Measures**

### **Independent Variables**

The measures of motivation for playing video games, discussed below, were derived from work by Sherry et al. (2006) and Yee (2007) and extended to include explicit “need for presence” items. A 5-point Likert-type scale with “tremendously” and “not at all” as anchors was used to assess motivations. Given time and space constraints (with the sample and instrument), the full scale of player type motivations was limited to 20 total items, which still allowed for a range of possible motivations to be examined (twelve in total), including advancement, mechanics, competition, socializing,

relationship, teamwork, discovery, role playing, customization., escapism, arousal, and need for presence.

***Advancement*** was measured by three items from Yee's work on Bartle player types, including playing "to level up/become more powerful" and "to accumulate items, money, or other in-game items" An additional, original item measured players' perceived importance of "in-game achievements."

***Mechanics*** was measured with a single item from Yee asking how interested players were in "the precise numbers and percentages underlying the game mechanics."

***Competition*** was measured through two items, one from Yee asking players about the importance of "competing with other players" and an original item asking about the importance of "winning."

***Socializing*** was measured using two items from Yee asking players about the importance of "getting to know other players" and "chatting with other players."

***Relationship*** was measured with two items from Yee asking players about how often they find themselves "having meaningful conversations with other players" and how often they "talk to gaming friends about personal issues."

***Teamwork*** was measured using a single item adapted from Yee asking players to indicate the extent to which they would "rather play with others instead of alone."

***Discovery*** was measured through two items adapted from Yee's work, including items tapping the extent to which players "enjoy exploring the game just for the sake of exploring" and "enjoy finding things in the game that most people do not know about."

***Customization*** was measured using a single item adapted from Yee asking how much time players spend customizing their character "when given the option to do so."

*Escapism* was measured through two items from Yee asking players how often they play to “avoid thinking about some real-life problems or worries” and “to escape from the real world.”

*Arousal* was measured with a single original item asking players about the extent to which they play “for excitement (or to get ‘pumped up’)”.

*Need for Presence*, finally, was measured through two original items asking players about the extent to which they “like to be immersed in a fantasy world” and “like to feel ‘present’ in the game.”

### **Dependent Variables**

*Use of video games.* We asked respondents how many hours on a typical day they use video games in general ( $M = 1.17$  hours,  $SD = 3.18$ ), use video games on a computer ( $M = .59$  hours,  $SD = 1.28$ ), on a mobile device ( $M = .92$  hours,  $SD = 1.69$ ), use Web games ( $M = .14$  hours,  $SD = .45$ ), use games in social networking sites ( $M = .48$  hours,  $SD = 1.35$ ), use first-person shooter games ( $M = .37$  hours,  $SD = .88$ ), use multiplayer online role playing games (MMPORPGs) ( $M = .34$  hours,  $SD = 1.45$ ), and use online casino games ( $M = .07$  hours,  $SD = .39$ ).

### **Control Variables**

To control for influences on game use beyond player types, we asked respondents to report their gender, household income, ethnicity, and grade level in college, and included these variables in our analyses.

## Results

### Results for Hypothesis One

The hypothesis in this study predicted that “need for presence” would relate to the “discovery”/“exploration of space” motivation for game play uncovered in past work. To test this, and reduce the large number of motivations examined into a more manageable set of predictors, an exploratory factor analysis was run. As Table 1 shows, the data merged into 4 factors, the first of which is consistent with hypothesis one. It includes the two “need for presence” items and the two “discovery” items, as well as items measuring the extent to which players role play and engage in character customization.

Overall, we identify the factors as (a) need for presence/exploring ( $M = 2.55$ ,  $SD = 1.07$ ), (b) competing with others ( $M = 2.83$ ,  $SD = .90$ ), (c) interacting with others ( $M = 1.73$ ,  $SD = .83$ ), and escapism ( $M = 2.31$ ,  $SD = 1.04$ ). These 4 factors were relatively reliable, with Chronbach’s alpha scores greater than .70.

### Summary of Zero-Order Correlations

As Table 2 shows, all 4 factors were positively related with each other. Notably, factor 1 (need for presence/exploring) was highly correlated with factor 2 (competing) ( $r = .65$ ,  $p < .01$ ) and factor 4 (escape) ( $r = .61$ ,  $p < .01$ ). Factor 1 (need for presence/exploring) was related to use of video games on a console ( $r = .27$ ,  $p < .01$ ) a computer ( $r = .30$ ,  $p < .01$ ), first-person shooter games ( $r = .27$ ,  $p < .01$ ), and MMPORGs ( $r = .27$ ,  $p < .01$ ). Factor 2 (competing) was related to use of games on a console ( $r = .20$ ,  $p < .01$ ), computer ( $r = .22$ ,  $p < .01$ ), first-person shooter games ( $r = .35$ ,  $p < .01$ ), and MMPORGs ( $r = .23$ ,  $p < .01$ ). Factor 3 (interacting) was related to using games on a computer ( $r = .38$ ,  $p < .01$ ), first-person shooter games ( $r = .29$ ,  $p < .01$ ), and MMPORGs

( $r = .21, p < .01$ ). Factor 4 (escape) was related to use of games on a console ( $r = .23, p < .01$ ), a computer ( $r = .22, p < .01$ ), first-person shooter games ( $r = .23, p < .01$ ), and MMPORGs ( $r = .21, p < .01$ ).

### **Results for Research Questions**

RQ1 investigated how motivations of video game playing are related to general use of video games on a console. As Table 3 shows, significant predictors for general use of video games are sex or being male ( $\beta = -.136, p < .05$ ) and factor 1 (need for presence/exploring) ( $\beta = .199, p < .05$ ).

RQ2 investigated how motivations of video game playing are related to use of video games on a computer. As Table 3 shows, significant predictors of use of video games on a computer are income ( $\beta = -.131, p < .05$ ) and factor 3 (interacting) ( $\beta = .348, p < .001$ ).

RQ3 investigated how motivations of video game playing are related to use of video games on a mobile device. The regression model for predictors of use of video games on a mobile device was not significant.

RQ4 investigated how motivations of video game playing are related to use of Web games. As Table 3 shows, significant predictors for use of Web games are current grade ( $\beta = -.141, p < .05$ ), factor 1 (need for presence/exploring) ( $\beta = -.163, p < .10$ ), and factor 4 (escape) ( $\beta = .192, p < .05$ ).

RQ5 investigated how motivations of video game playing are related to use of games in social networking sites. As Table 3 shows, significant predictors for use of video games in social networking sites are sex or being female ( $\beta = .231, p < .01$ ) and

race—being non-white ( $\beta = -.133, p < .05$ ). None of the motivations of video game playing factors predicted use of video games in social networking sites.

RQ6 investigated how motivations of video game playing are related to use of first-person shooter games. As Table 3 shows, significant predictors of use of first-person shooter games are sex or being male ( $\beta = -.239, p < .001$ ), current grade ( $\beta = -.129, p < .05$ ), factor 2 (competing with others) ( $\beta = .241, p < .01$ ), and factor 3 (escape) ( $\beta = .162, p < .05$ ).

RQ7 investigated how motivations of video game playing are related to use of massively multiplayer online role playing games (MMPORPGs). As Table 3 shows, factor 1 (need for presence/exploring) as a predictor of use of MMPORPGs was approaching significance ( $\beta = .160, p < .10$ ).

RQ8 investigated how motivations of video game playing are related to use of online casino games. The regression model for predictors of use of online casino games was not significant.

## **Discussion**

With the popularity of video games, empirical questions remain about why players choose specific kinds of games over others. The present study attempted to extend research on player types as motivations for video game play by first considering how a person's "need for presence" relates to existing player types, and by expanding the predictive utility of player type research through exploring how motivations for play relate to game use across multiple genres and platforms, including MMOs and other popular forms of gaming. Consistent with past work (e.g., Yee, 2007), the results suggest

that need for presence is positively related to the discovery or exploration of space motivation for game play.

### **Implications for Presence Scholarship**

The findings of this study have implications for scholarship on the concept of presence. Considered in light of other research on motivations for game play, the “need for presence” motivation that emerged in this study seems to be a reliable explanation for at least some types of game play. Future work should attempt to refine this idea in light of the major sub-dimensions of presence identified by Lee (2004), including spatial presence (Wirth et al. 2007), social presence (Biocca, Harms, & Burgoon, 2003), and self presence (Ratan, 2011). The “need for presence” focused on in this investigation could more specifically be called “need for spatial presence” given its conceptual and empirical connection to exploration of space and virtual worlds. However, there may also be a need for social presence or feeling “with” others, for example. The interacting motive uncovered in this study, in fact, strongly suggests that there may be a need for social presence. Additional research should further explore this and other linkages between the presence and the media use motivation literatures, in part to explore the structural-functional basis of presence.

### **Implications for Game Use Scholarship**

Our findings contribute to the current literature on video game use in several ways. First, the results suggest that the need for presence/explore motivation positively predicts use of games on a console and use of MMORPGs; yet the need for presence motivation is negatively associated with use of Web games. This finding makes intuitive sense given the nature of the games that would fall in our predicted categories.



MMORPGs like *World of Warcraft* or *Star Wars: The Old Republic* typically unfold in imaginative fantasy worlds that would be especially appealing to players who enjoy presence. Similarly, consoles offer “AAA games” with large production budgets allowing for the creation of high quality graphics and sounds (Williams, 2002), which should also facilitate presence. Hardcore gamers desiring immersive game experiences would also be more likely to purchase and own a console. Web games, conversely, are typically simpler, casual games. When we posed the question about Web game use to respondents, Yahoo! Games was provided as an example—this site contains virtual versions of board games and card games, along with modern puzzle games like *Bejeweled*. These games are not likely to be very appealing to players high in need for presence, given their primitive natures that would not facilitate a sense of “being there.”

Second, our findings suggest that the competing motivation positively predicts use of games on a mobile device and online first-person shooter games. The positive relationship between the competing motivation and use of video games is interesting, and may be reflective of the recently popular use of smart phones and tablets to play social media games such as *Words with Friends*. Future research should continue to examine the potential of games to attract players who desire competition. Yet it is not entirely surprising that the competing motivation is positively associated with the use of first-person shooter games like *Call of Duty: Modern Warfare 3*, as such games are highly competitive.

Third, our findings suggest that the interacting motivation positively predicts use of video games on a computer and online first-person shooter games. The positive link between the interacting motivation and use of online first-person shooter games points to

the potential for such games to facilitate social interaction, aside from appealing to competitive individuals. And, the relationship between computer game play and the interacting motive makes sense given the many communication channels available through computers—players of computer games can easily interact within the game or without through chat, email, social media sites, and other applications.

Finally, our findings suggest that the escape motivation is positively associated to use of Web games. This result again points to the casual nature of Web games, which offer quick diversions from work and other activities—in other words, escape. Overall, the relationships uncovered in this study support the central assumption that specific motivations for game play relate to use of specific genres and types of gaming. They extend the video games uses and gratifications work by Sherry et al. (2006) as well as research on player types by Yee (2007) and others.

### **Limitations and Conclusion**

A few limitations should be acknowledged. The present study used a convenience sample, which limits the generalizability of findings. The sample is also admittedly limited in size. In addition, the number of items included to measure player motivations and game types/genres could have been larger. We decided to use small sets of items given the exploratory nature of this research, but in light of the compelling findings, it would be better to include more items getting at motivations such as need for presence in the future, to better establish construct validity and measurement reliability.

It would also be interesting to examine the relationships between the four motivations of video game play identified in this study and other known outcomes of video game use. For instance, recent research shows that use of video games is positively

related with social capital (e.g., Williams, 2006), a feature of trust and reciprocity in communities essential to successfully engaging in group activities (Putnam, 2000). It would be interesting to investigate how the four motivations are associated with social capital.

In addition to building on existing scholarly literature, this paper has implications for the game industry. It suggests that players desire presence experiences, which could be facilitated through game technologies and content. The game industry would benefit from a review of studies on the causes of presence (or original research on the concept) to determine how to best give players a sense of “being there.” However, there may only be certain genres and forms of games in which players seek presence, and knowing these can help better allocate production resources.

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Table 1: Exploratory Factor Analysis Results

	Presence/ Explore	Competing	Socializing	Escape
How much do you enjoy exploring the game world just for the sake of exploring?	<b>.789</b>	.135	.191	.139
To what extent do you like to be immersed in a fantasy world?	<b>.782</b>	.128	.263	.262
To what extent do you like to feel “present” in the game?	<b>.745</b>	.231	.228	.203
How often do you role play as your video game character?	<b>.701</b>	.043	.195	.305
How much time do you spend customizing your character when given the option to do so?	<b>.686</b>	.385	.068	.066
How much do you enjoy finding things in the game that most people do not know about?	<b>.601</b>	.403	.217	.114
How important is winning?	.039	<b>.789</b>	.090	.173
How important are in-game achievements to you?	.290	<b>.729</b>	.049	.159
How important is competing with other players?	.028	<b>.725</b>	.309	-.083
How important is it to you to “level up”/become more powerful?	.418	<b>.701</b>	-.020	.219
How important is it to you to accumulate items, money, or other in-game items?	.501	<b>.633</b>	-.059	.244
To what extent would you rather play with others instead of alone?	.140	<b>.457</b>	.452	-.116
How interested are you in the precise numbers and	.275	<b>.437</b>	.347	.167



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percentages underlying a game's mechanics?				
How often do you find yourself having meaningful conversations with other players?	.069	.125	<b>.857</b>	.138
How important is chatting with other video game players?	.190	.159	<b>.827</b>	.138
How important is getting to know other video game players?	.181	.210	<b>.810</b>	.067
How often do you talk to gaming friends about your personal issues?	.342	-.157	<b>.624</b>	.159
How often do you play so you can avoid thinking about some of your real-life problems?	.192	.111	.070	<b>.875</b>
How often do you play video games to escape from the real world?	.322	.102	.062	<b>.845</b>
To what extent do you play video games for excitement (or to get "pumped up")?	.279	.344	.242	<b>.544</b>

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Table 2: Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1. Presence/ Explore												
2. Competing	.65**											
3. Interacting	.49**	.41**										
4. Escape	.61**	.48**	.35**									
5. Games on a console	.27**	.20**	.09	.23**								
6. Games on a computer	.30**	.22**	.38**	.22**	.01							
7. Games on a mobile device	-.01	.08	-.03	.08	-.02	.10						
8. Web games	.01	.07	.06	.13*	.02	.19**	.01					
9. Games on social networking sites	.02	.01	-.04	.04	-.07	.16*	.41**	.09				
10. First- person shooter games	.27**	.35**	.29**	.23**	.49**	.26**	.02	.18**	-.02			
11. MMORPGs	.27**	.23**	.21**	.21**	.12*	.33**	-.04	.07	-.05	.22**		
12. Online casino games	.04	.09	.04	.03	-.02	.01	.05	.13*	-.03	-.03	.01	

Table 3: Regression Analysis of Types of Video Games by Feelings of Playing Video Games

	Games on a console	Games on a computer	Games on a mobile device	Web games	Games on social networking sites	Online first-person shooter games	Massively multiplayer online role playing games	Online casino games
Gender	-.14*	.03	.07	.06	.23**	-.24***	.05	.15*
Income	.09	-.13*	-.07	.00	-.05	.04	-.01	-.04
Ethnicity	.02	.00	-.08	-.12#	-.13*	.04	-.02	-.11#
Grade in college	-.08	-.08	-.10	-.14*	-.09	-.13*	-.01	-.01
Presence/ Explore	.20*	.11	-.13	-.16#	.06	-.10	.16#	.00
Competing	.01	-.03	.14#	.10	.04	.24**	.08	.14
Interacting	-.08	.35***	-.05	.05	-.06	.16*	.10	.01
Escape	.10	.06	.11	.19*	.07	.06	.06	-.01

*Note.* Values are standardized regression coefficients. # < .10 \* $p$  < .05 \*\* $p$  < .01 \*\*\* $p$  < .001