The Relationship Between Video Game Motivations and Personality

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ABSTRACT

Is there a link between personality and the reasons people play video games? We created gaming categories based on the motivations for playing and the types of games played: social gamer, addictive gamer, competitive gamer, casual gamer, and immersive gamer. We found significant relationships between personality traits and gaming styles.

BACKGROUND

Gaming and Motivation

• Video games create enjoyable environments that offer cognitive challenges, opportunities for socialization and competition, while minimizing the consequences of failure.

• Existing research reports that the aspects of social connectivity, competition, immersion (possibly related to the experience of flow-states), and goal-achievement are important to the enjoyment of video games (Kallio et al., 2011; Browns & Cairns, 2004; Hoffman & Nadelson, 2009; Yee, 2006).

Classifying Gamers

• Bartle's (1996) work in sorting MUD players inspired many other attempts to stratify gamers based on their preferred in-game behaviors, although no prevailing model has emerged.

• The Five-Factor Model, although related to gaming preferences, may be too broad on its own to provide a foundation to psychologically stratify players (Zammitto, 2011)

• Identification of psychological player traits may be more useful in exploring gaming motivations (Bateman et al., 2011)

METHODS

Study 1
Participants: n = 561 (F=291, Age μ=27.71)

Procedure:
Principal Component Analysis: We generated a set of 34 questions designed to capture different motivations (social, competitive, rewards-based, addictive, immersive) and collected responses using Amazon Mechanical Turk. Questions were represented on a 7-point Likert scale.

Study 2
Participants: n= 271 (F=103, Age μ=28.23)

Materials: Short Big 5 Inventory (John & Srivastava, 1999), team-developed measure
Procedure: Data was collected off of Mturk. Each B5 attribute was compared against the seven components that emerged in Study 1.

Study 3
Participants: n = 129 (F=48, Age μ=31.39)

Materials: 9-item Need for Cognition Scale (Sherrard & Czaja, 1999), Revised Competitiveness Index (Harris & Houston, 2010), Brief Self-Control Scale (Tangney et al., 2004), Empathic Concern Scale + Perspective Taking Scale (Davis, 1983), team-developed measure
Procedure: Data was collected off of Mturk, with personality measures compared against components as in Study 2.

RESULTS

Study 1 Factor Loadings – Promax Rotation

Item Loadings	PC1	PC2	PC3	PC4	PC5	PC6	PC7
When I game, I generally play online		0.66049					
When gaming, I preferinteracting with other players as opposed to playing by myself		0.896005					
When gaming I enjoy working with other players to accomplish a goal		0.88295					
I like playing with other gamers on a team		0.926768					
I have met friends or make friends through gaming		0.525496					0.340366
I'm interested in cultivating allies or partners when I game		0.733817					
I'm interested in finding or cultivating community when I game		0.708523					
I get frustrated when I lose				0.406276			
I am intersted in my own performance when I game		0.363196		0.670483			
I am concerned with my statistics in specific games				0.84787			
I am concerned with my Kill/Death Ratio (in applicable games)				0.826398			
I am concerned with my Win/Loss ratio (in applicable games)				0.848337			
I actively try to improve my gaming skills		0.303749		0.371852			0.484244
Having a high rank or level is important to me				0.617359			
I seek achievements or trophies					0.809234		
I take pride in completing my online trophie collections					0.860856		
I play levels, scenarios, or maps again to make sure that I have unlocked as much as possible	0.437331				0.499936		
I enjoy unlocking new tools/weapons	0.72918						
I enjoy unlocking new areas or locations	0.84937						
I enjoy being able to demonstrate my collection (trophies, equipment, perks)				0.768948			
(If currently a student) I neglect homework to play video games			0.809906103				
I neglect housework to play video games			0.851605013				
I find myself playing even when I don't want to			0.516215454				0.504328
I find myself starting tasks, and often shift back to playing a game			0.690143783				
I find myself starting to play without even thinking about it			0.520254825				0.589312
I put things I know I should do aside to play video games			0.851865524				
I enjoy games that are interactive		0.716304					
I enjoy exploring the game environment for clues or secrets		0.794505					
I enjoy taking time to figure things out in an environment		0.686396					
I enjoy games where my choices impact the story		0.634659					
I like to envision myself as the main character, or as the character I'm playing						0.899707	
I enjoy games where I am immersed in the game's world		0.630195				0.330275	
I try to put myself in my character's shoes						0.867077	
I enjoy playing in ways that are true to my character's personality						0.688415	

Study 2 Correlation Matrix   * P >.05   ** P >.01

	Openness	Agreeableness	Extraversion	Neuroticism	Conscientiousness
Explorer	.398**	0.118	0.048	0.005	.191**
Social	.129*	.164**	.234**	-.166**	0.079
Impulsive	-0.076	-0.246**	-0.076	.179**	-.335**
Competitive	.160**	-0.041	0.089	-0.013	0.11
Achievement	0.097	0.049	0.119	0.052	0.107
Immersive	.420**	.144*	0.117	-0.058	0.117

Study 3 Correlation Matrix   * P >.05   ** P >.01

	Empathic Concern	Perspective-Taking	Self Control	NFC	Enjoyment of Competition	Contentiousness
Explorer	.234**	.330**	0.106	.343**	.292**	.230**
Social	0.107	.241**	-0.047	0.07	.314**	0.166
Impulsive	-0.068	-0.041	-.521**	-0.008	0.17	-0.031
Competitive	-0.021	.181*	0.036	.219*	.388**	0.145
Achievement	0.088	.208*	0.085	0.154	.286**	0.104
Immersive	.318**	.393**	0.106	.340**	0.095	0.079

DISCUSSION

• Our hypothetical categories largely clustered in expected/interpretable ways, although the items in our "Immersive" category appear to have split among 2 factors.
• As expected, Openness was significantly correlated with the "Immersive" and "Explorer" categories, although Openness appears to be an important trait related to other aspects of gaming experience.
• Our "Impulsive" category showed significant negative relationships with Conscientiousness and Self-Control, inviting further investigation of its relationship to problematic gaming behavior.

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