

The Relationship between Personality, Game Motive, and Game Genre Preference: Gender as a Moderator

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Abstract—This study examined the relationships between players' Big Five personality traits, game motives, gender, and their game genre preference. Results revealed various associations between a player's personality traits and game motives as well as between personality, game motives and game genre preference. A player's gender was found to moderate the relationship between neuroticism personality trait and both escape motive and fantasy motive.

Keywords: Personality, game motive, game genre preference, gender

I. INTRODUCTION

When a new video game hits the market, its gaming community may not be the creators' intended audience. At times, the resulting community is filled with much more toxic behavior and players than originally expected. But it's not the warnings and age ratings that determine and structure the audience as much as how the game is marketed. In a similar regard, game marketing often relies on gender and corresponding personality assumptions, but are these assumptions entirely valid? The analysis of specific audience personas would put those assumptions to the test and help determine a preliminary grasp of how positive or negative a gaming community may turn out to be. This, in turn, would allow for proactive management measures to be put in place earlier. In this study, I focus my attention on two characteristics of video game players: personality and game-playing motive (game motive).

The Big-Five Personality model depicts an individual's personality in five traits: openness, conscientiousness, extraversion, agreeableness, and neuroticism [1]. People with high openness are risk-taking, open-minded, have broad interests, and comfortable with exploring outside of their comfort zone. Those with high conscientiousness are meticulous, organized, and structured. Extroverts are sociable, talkative, and assertive, while introverts are shy and reserved. Agreeableness measures how easygoing, cooperative, and considerate a person is, while neuroticism measures a person's ability to deal with stress. People with higher neuroticism are likely to be emotionally unstable, anxious, and perform worse under stressful situations.

Demetrovics et al. [2] introduced a framework to categorize game motives into seven types: fantasy, skill development, recreation, escape, coping, competition, and social. When playing games with a fantasy motive, players immerse themselves in the game world and try things that they normally can't do in real life. Players with a skill development motive tend to play games to improve their gaming skills, while players with a recreation motive tend to play games more for entertainment reasons. With an escape motive, players play games to take their mind off things that bother them in their day-to-day lives, and with a coping motive, players play games to re-energize themselves in the face of

stress. Those with a high competition motive bask in the defeat of other players in order to gain a sense of achievement. In contrast, players with a high social motive play more so for the company of others, and view it as another venue for social interaction.

This study aims to analyze the extent to which players' personality and game motives influence their game genre preferences. Popular game genres considered in this study include board games, puzzle games, role-playing games, first-person shooters, strategy games, platform games, adventure games, sport games, and racing games [3], [4]. Board games are computer versions of original tabletop games, such as chess and solitaire. Puzzle games focus on solving out-of-the-box puzzles, like in "The Room," and in role-playing games, or RPGs, players control a fictional character in an imaginary world, such as "The Witcher." Games like "Call of Duty" and "Halo" fall into the first-person shooter category. In strategy games, such as "World of Warcraft," players rely on skillful thinking to defeat an opponent. Platform games (e.g. "Super Mario Bros.") require players to interact with platforms such as running, jumping, or falling, etc.. Adventure games call the players to join a quest, as seen in "The Legend of Zelda." Sports games simulate sports coaching, like in the EA's "FIFA World Cup" series, whereas racing games involve competing against other racers for the best time as in "Mario Kart."

This study examines the relationships between a player's personality, game motive, gender, and game genre preference. I argue that players are drawn to certain game genres if those types of games satisfy their game motives or align with their personality. Only limited research has looked into the influence of personality or game motives on game genre preference, e.g. [5], [6], [7]. Nascent studies link personality to game motive to construct a more accurate picture of the audience and their potential interactions [8]. I am only aware of two studies in this research stream which focus on the general population rather than college students and young adults—the most avid video game consumers [8], [9]. Furthermore, in both studies, gender has yet to be used as moderator.

Past research has often linked a player's gender to their preferred game genre, categorizing women as likely to play causal and nonviolent game genres, while men are likely to play competitive and aggressive video game genres [6]. In all of these previous studies that I encountered, few investigated the relationship between gender and game motive, as well as how gender moderates the relationship between personality and motive. Some research suggests the same personality trait will manifest in different behaviors based on gender. For example, Muscanell and Guadagno [10] find that the personality trait of openness is a significant predictor of playing games on social networking sites for men, but not for women. So can gender also be expected to influence a person's relationship between personality and game motive as well?

Thus, in this research, the following research questions were devised:

RQ1. *What is the relationship between a player's Big Five personality and their game motives?*

RQ2. *Does a player's gender influence the relationship between their Big Five personality and game motives?*

RQ3. *Do personality and game motives predict a person's preferred game genre?*

This study is exploratory, but I expect a few relationships between personality traits and game motive. For example, individuals with higher neuroticism will show higher tendencies toward escape, fantasy, coping motives, as their lack of control over their emotions and pessimistic outlook on their day-to-day lives lead to a sense of unhappiness and unfulfillment [11], so they look toward video games to temporarily relieve themselves of their life's many turmoils. For the competition motive, I expect extroverted people to have a positive relation to the competition motive, as they are assertive, dominant, and seek social interaction, while agreeable people are more of a team player, are more cooperative, and less dominant [12]. I also expect that the player's gender will moderate their relationship between their personality traits and game motive.

II. METHOD

Procedure and Sample

Data was collected from college students enrolled in several business classes of a large midwestern university. With the instructors' endorsement, an email was sent to students explaining the research purpose and confidentiality as well as providing a weblink to an online Qualtrics survey. The students were offered extra credit for the course or a chance to be entered into a \$25 Amazon gift card drawing if they completed the survey and/or referred their friends to complete the survey. A total of 456 usable surveys were returned. After excluding 83 respondents who did not play games from the sample, the final sample contained 373 respondents. The respondents' age ranged from 18 to 31, with an average age of 20.6 (SD = 1.68). 57.9 percent of respondents were males, while 42.1 percent were females.

Measurement

The Big Five personality was assessed using 19 items developed by Donnellan et al [13]. Some sample items include: "I get upset easily" (neuroticism), "I talk to a lot of different people at parties" (extraversion), "I have a vivid imagination" (openness), "I sympathize with others' feelings" (agreeableness), and "I get chores done right away" (conscientiousness). The response scale ranges from 1-very inaccurate to 5-very accurate. The reliability alpha is .80 (extraversion), .63 (neuroticism), .72 (openness), .74 (agreeableness), .62 (conscientiousness).

The seven game motives were measured by the 27-item scale developed by Demetrovics et al. [2]. Some sample items include: "[I play video games] Because I can get to know new people" (social motive), "Because gaming helps me to forget about daily hassles" (escape motive), "Because gaming helps me get into a better mood" (coping motive), "Because I can do things that I am unable to do or I am not allowed to do in real life" (fantasy motive), "Because it is entertaining" (recreation motive), "Because I enjoy competing with others" (competition motive), and "Because it improves my skills" (skill development motive). The response scale ranges from 1-never to 5-always. The reliability alpha is .79 (social motive), .82 (escape motive), .78 (coping motive), .88 (fantasy motive), .78 (recreation motive), .84 (competition motive), .90 (skill development motive).

Additionally, participants were also given a list of 9 game genres—with descriptions and examples—based on common game categorizations from previous studies, e.g. [3], [4]. Participants were asked to select their favorite game genres. The 9 game genres include: board games, puzzle games, role-playing games, first-person shooters game, strategy games, platform games, adventure games, sport games, and racing games. A sample item is: "Role playing games—gameplay focusing on controlling a fictional character(s) to undertake a quest in an imaginary world, e.g. 'The Witcher.'"

Participants reported their age and gender in the study as well. Gender was coded as 0 (male) and 1 (female).

Data Analysis

Data was analyzed using the hierarchical regression in the version 25 of the SPSS statistic package. In the first stage of data analysis, only age, gender, and the Big Five personality traits were entered to predict the seven game motives. In the second stage, the previous variables from step one were kept, and interaction terms between gender and the Big Five personality traits were entered to predict the seven game motives. The significant interaction effects from this stage were graphed using Dawson's online tool¹. In the final stage of analysis, age, gender, the Big Five personality traits, and the seven game motives were used to predict the respondents' preference for nine game genres.

III. RESULTS

Both Table 1 and Table 2 summarize the hierarchical regression results. Regarding the relationship between Big Five personality traits and game motives, results from Table 1 show that neuroticism is positively related to escape motive ($\beta = .11, p < .05$), coping motive ($\beta = .13, p < .05$), fantasy motive ($\beta = .10, p < .05$); that extraversion is negatively related to escape motive ($\beta = -.11, p < .05$), and fantasy motive ($\beta = -.12, p < .05$), but is positively related to competition motive ($\beta = .16, p < .01$); that openness is negatively related to social motive ($\beta = -.17, p < .01$) and positively related to recreation motive ($\beta = .12, p < .05$); that agreeableness is negatively related to social motive ($\beta = -.12, p < .05$), competition motive ($\beta = -.16, p < .01$), and skill development motive ($\beta = -.20, p < .01$), but is positively

¹ Dawson's online tool is available at:
<http://www.jeremydawson.co.uk/slopes.htm>

related to recreation motive ($\beta = .17, p < .01$); that conscientiousness is negatively related to social motive ($\beta = -.11,$

is positively related to conscientiousness ($\beta = .14, p < .05$), skill development motive ($\beta = .17, p < .05$), and recreation motive ($\beta = .20, p < .05$).

TABLE 1. Hierarchical Regression Results on the Relationships between Personality, Gender, and Game Motive

	Social Motive	Escape Motive	Competition Motive	Coping Motive	Skill Development Motive	Fantasy Motive	Recreation Motive
Step 1							
Age	.0	.05	-.04	.07	.06	-.01	.03
Gender	-.11*	-.07	-.32**	-.18**	-.07	-.06	-.32**
Neuroticism (N)	.01	.11*	.05	.13*	.10	.10*	-.01
Extraversion (E)	.04	-.11*	.16**	-.07	.06	-.12*	-.08
Openness (O)	-.17**	-.07	-.09	.03	.01	-.03	.12*
Agreeableness (A)	-.13*	-.11	-.16**	-.08	-.20**	-.22	.17**
Conscientiousness (C)	-.11*	-.03	-.02	-.03	.06	-.11*	.03
R ²	.10	.09	.15	.07	.05	.15	.14
Step 2							
Gender x N	-.36	-.49*	-.15	-.29	-.25	-.55**	-.08
Gender x E	.12	.21	-.01	-.14	-.05	.25	.07
Gender x O	-.02	-.16	-.22	-.25	-.11	-.08	-.52
Gender x A	-.41	-.07	-.55	-.42	-.57	-.50	-.19
Gender x C	-.01	.07	-.04	.14	-.02	.04	-.15
R ²	0.11	0.11	0.17	0.09	0.07	0.18	0.16

Notes: N=373. Standardized coefficients are reported. ** $p < .01$, * $p < .05$.

$p < .05$) and fantasy motive ($\beta = -.11, p < .05$).

Also shown in Table 1, gender only moderates two relationships between personality and game motive. Gender moderates the relationship between neuroticism and escape motive ($\beta = -.49, p < .05$). Gender also moderates the relationship between neuroticism and fantasy motive ($\beta = -.55, p < .01$). Figure 1 demonstrates that men have a more positive relationship between neuroticism and escape motive than women. Similarly, Figure 2 shows that the relationship between the neuroticism and fantasy motive is more positive for men than for women.

FIGURE 1. The Effect of the Interactions between Neuroticism and Gender on Escape Motive

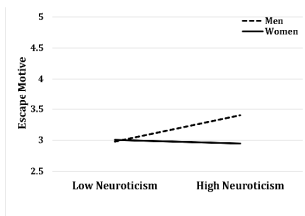
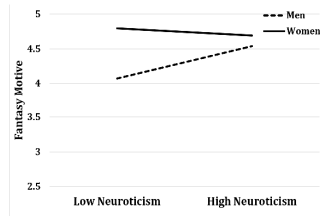


FIGURE 2. The Effect of the Interactions between Neuroticism and Gender on Fantasy Motive



As seen from Table 2, board game preference is positively related to conscientiousness ($\beta = .12, p < .05$) and skill development motive ($\beta = .16, p < .05$); puzzle game preference is positively related to skill development motive ($\beta = .22, p < .01$); role playing game preference is positively related to fantasy motive ($\beta = .33, p < .01$) and recreation motive ($\beta = .17, p < .01$), but is negatively related to competition motive ($\beta = -.16, p < .05$); shooter game preference is positively related to social motive ($\beta = .13, p < .05$), competition motive ($\beta = .13, p < .05$), and coping motive ($\beta = .19, p < .05$), but is negatively related to fantasy motive ($\beta = -.18, p < .05$); strategy game preference is positively related to competition motive ($\beta = .16, p < .05$) and skill development motive ($\beta = .31, p < .01$); platform game preference is positively related to skill development motive ($\beta = .21, p < .05$) and recreation motive ($\beta = .18, p < .05$); adventure game preference is positively related to openness ($\beta = .20, p < .01$), fantasy motive ($\beta = .22, p < .01$), and recreation motive ($\beta = .17, p < .05$); sports game preference is positively related to extraversion ($\beta = .12, p < .05$) and conscientiousness ($\beta = .10, p < .05$), but is negatively related to fantasy motive ($\beta = -.18, p < .05$); racing game preference

TABLE 2. Hierarchical Regression Results on the Relationships between Personality, Game Motive, and Game Genre Preference

	Board games	Puzzle games	Role playing games	Shooter games	Strategy games	Platform games	Adventure games	Sports games	Racing games
Age	-.01	.03	.10*	.06	.00	.02	-.01	-.01	-.08
Gender	.23**	.20**	-.19**	-.33**	-.16**	.13*	.02	-.40**	.06
Neuroticism (N)	.02	.03	-.03	.01	-.06	-.04	-.01	.04	.09
Extraversion (E)	-.01	-.06	.01	.06	-.05	-.07	-.08	.12*	.06
Openness (O)	-.08	.04	.02	-.30	.04	-.03	.20**	-.07	-.10
Agreeableness (A)	.09	.10	0	-.10	.03	.10	-.02	-.02	-.04
Conscientiousness (C)	.12*	.09	-.06	.03	-.02	.09	-.03	.10*	.14*
Social Motive	-.13	.02	-.01	.13*	-.05	.02	.00	.07	.03
Escape Motive	-.02	-.06	-.09	-.09	.07	.02	-.04	-.13	-.01
Competition Motive	.05	-.06	-.16*	.13*	.16*	-.09	-.10	.12	-.04
Coping Motive	-.07	-.18	.16	.19*	-.10	-.16	.05	-.02	-.18
Skill Development Motive	.16*	.22**	.01	.06	.31**	.21*	.00	.01	.17*
Fantasy Motive	.03	.13	.33**	-.18*	-.15	.05	.22**	-.18*	-.01
Recreation Motive	-.04	.04	.17**	.10	-.02	.18*	.17*	.12	.20**
R ²	.11	.11	.23	.33	.13	.09	.13	.30	.07

Notes: N=373. Standardized coefficients are reported. ** $p < .01$, * $p < .05$.

IV. DISCUSSION

RQ1. Personality and Game Motive

Neuroticism was positively related to the escape, coping, and fantasy game motives, as expected. The feeling of no control over life in the real world would logically translate to an individual seeking other worlds to exercise their control over that are separate from reality—like video games—so they can cope with, escape, and forget about their real-life stressors. In contrast, extraversion was negatively related to the escape motive and the fantasy motive. Perhaps escape and fantasy game motives are more oriented toward avoiding problems or realities, and can lead to passive confrontation behaviors when dealing with real-life stressors and issues. Since extroverted individuals tend to be assertive and dominant [12], they are more likely to be direct in facing their problems and opt for an active problem-solving process rather than a passive one.

The study also confirmed that extraversion is positively related to the competition game motive, while agreeableness is negatively related to it. Extroverts strive to be dominant and assertive in social interactions, and would likely try to dominate the rankings in online multiplayer games to maintain this prestige as the leader of a gaming community. In contrast, those with a higher agreeableness trait want to build social connections, not tear them down for the sake of competition and dominating the community. Agreeableness was also negatively related to the social motive. Agreeableness is associated with giving and accepting social support. As more agreeable individuals are content with their social life, they may not need to seek online interactions through video games to fill in for certain aspects of their social lives.

Similarly, conscientiousness was negatively related to the social motive and fantasy motive. The conscientious personality is associated with being organized, meticulous, and hyper-focused. So, any spontaneity would not go over well with someone with high conscientiousness, as it would distract them from the task at hand. Additional social interactions through video games and the distraction of immersing oneself in a different world and identity through video games would come into conflict with the conscientious mindset of always staying focused on one thing at a time.

RQ2. Gender with Personality on Game Motive

The study found that gender does not moderate the effect of personality traits on most game motives, with the exception of the relationships of neuroticism with the escape and fantasy game motives. The relationships between neuroticism and these two game motives were more positively related to each other for men than for women. These findings closely reflect the difference in society's social norms on women's mental health and men's mental health. Men are expected to be strong, tough, and show no weakness, so if they are going through a hard time, showing vulnerability or strong emotion will lead to them being ostracized. Since coping with their struggles in openly is looked down upon, men would be more likely to turn to games to avoid and forget about their struggles and suffer in private, whereas women are encouraged to express emotions and vulnerability with others to help alleviate their mental struggles, and have less of a need to turn to games to cope with their struggles as they are able to confront their issues directly without fear of being shamed.

RQ3. Preferred Game Genre Predictors: Big Five Personalities and Game Motive

Out of the Big Five personalities, there were three personalities that had significant relationships to preferred game genres. Extraversion was found to have a positive relation to the sports game genre. Perhaps, their desire to dominate social interactions would easily translate to an affinity for controlling a whole team of simulated sports players. Openness was found to have a positive relation to the adventure game genre. This lines up with the main drive of the openness trait –to experience new ideas and new activities, which can be explored in adventure games that often set a player up to explore a new virtual world. Conscientiousness was found to have a positive relation to the board game, sports game, and racing game genres. These types of games may appeal to those with high conscientiousness for containing straightforward and well-structured rules. For example, chess, a board game, requires a lot of meticulous planning and memorization of certain defenses, offenses, and counter-play.

Of the seven game motives, four had significant relationships to preferred game genres.

Interestingly, social motive positively related to shooter games. On the surface, this seems contradictory, as shooter games are very competitive. However, some shooter games have battle royale mechanics, where teams have to work together to win against competing teams, which gives incentive and opportunity to build social relationships and networks.

The competition motive was found to negatively associate with role playing games, but positively with shooter games and strategy games. This is likely due to the ranked game mechanics in shooter games and strategy games, compared to role playing games, which focus less on player competition.

In contrast, the skill development motive had positive relations to board games, puzzle games, strategy games, platform games, and racing games. These game genres all require specific sets of gaming skills that players need to master to play the game. A push for skill development in these genres would certainly translate to more time and attention towards these types of games.

Not surprisingly, the fantasy game motive showed a negative relation to sports games and a positive relation to adventure games and roleplaying games. The fantasy game

motive entails that the player plays games mostly to immerse themselves in the game world and try things they normally can't do in real life. So, adventure games where they can explore the game world, or role-playing games with heavy lore and worldbuilding would fulfill the wants of a player with a fantasy game motive. The negative relation to sports games might be explained by the factor that the sports game genre is based around a concept that is too mundane and regular to someone with a fantasy game motive.

Finally, the recreation game motive had a positive relation to role playing games, platform games, adventure games, and racing games. These game genres are likely more accessible and are able to bring short-term entertainment and fun to the player, fitting into the definition of what the recreation game motive strives for.

V. CONCLUSION

This research establishes some relationships between personality traits, gender, and game motive, and explores how they connect to a person's chosen game genre. These findings have potential to help game marketers to develop a better understanding of how to market their game to be more inclusive of their actual audience.

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