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Research Article

Psychological traits of League of Legends players who prefer different positions and roles in the game

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ABSTRACT

Understanding the psychological characteristics of video game players provides game designers with greater opportunities to develop personalized gaming experiences. In this light, this study examined the relationships between preferred roles and positions in the video game League of Legends (LoL) and players' indicated basic personality traits, empathy, and social rank styles. The study involved 3220 LoL players from around the world. Canonical covariance analysis was applied, with the left set of variables comprising preferences for positions and roles in LoL (Top, Mid, Jungle, Bot, Support positions; Tank, Fighter, Assassin, Mage, Marksman, and Support roles), and the right set representing personality traits from the HEXACO model, dimensions of empathy, and social rank styles. Three pairs of significant quasi-canonical functions were extracted. The structure of the first pair of quasi-canonical functions suggests that preferences for the Fighter and Assassin roles and, to a lesser extent, the Jungle position, as well as for avoidance of the Support role, are associated with a lack of affective resonance and honesty/humility and high affective dissonance, emotional stability, ruthless self-promotion, coalition avoidance, and uncooperativeness. The second pair of quasi-canonical functions indicates that preferences for the Jungle and Support positions and the Support role, as well as for avoidance of the Top position, are linked to dominant leadership, coalition building, extraversion, cognitive empathy, and openness to experience. The third pair of quasi-canonical functions implies that preferences for the Mid

position and the Mage and Marksman roles are associated with ruthless self-promotion, emotional instability, a lack of honesty/humility, and affective dissonance. The results of this study suggest that personality characteristics are grouped differently in the latent space depending on which style of play individuals prefer, indicating that there are gaming patterns associated with specific psychological personality profiles.

Keywords: League of Legends, HEXACO, empathy, social rank styles

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Introduction

The global prevalence of video games is currently best illustrated by data documenting that there are over 2.9 billion players in the world and that the market value of video games has been recently estimated at 178.73 billion dollars (in 2021), with 85% of the revenue generated through games that are free, a category in which League of Legends (abbr. LoL) is included (Video Game Industry Statistics, Trends and Data In 2023, n.d.). Resultantly, this ever-expanding segment has become an increasing focus of research in numerous fields, including Psychology. Yet this growth of research into video games in recent years has not led to a consensus on how to approach researching video games.

In psychological research, video games are often divided into: actions, role-playing, simulations, and strategies (Arsenault, 2009; Krzywinska & Brown, 2015; Qin, Rau, & Salvendy, 2009 according to Braun et al., 2016). The problem with such classification is that the division is made according to the most basic mechanics of video games, with other essential elements that differentiate video games at the core, as well as the players themselves, left out and merged into one category. For example, according to this classification, the genres known as massively multiplayer role-playing game (abbr. MMORPG) and role-playing game (abbr. RPG) are typically classified into one category called role-playing games despite being fundamentally different. MMORPGs inherently imply internet connection, competition with other players, and often necessary cooperation with other players since, due to the essential mechanics of the games, the individual player is not able to do certain functions independently. In contrast, RPG games, as a rule, are played independently and do not require an Internet connection, while the player depends exclusively on him/herself and does not interact with other players.

Multiplayer online battle arenas (abbr. MOBAs) are currently one of the most popular and successful types of computer video games (Clement, 2023). Due to their popularity, competitive nature, and complex team strategies, they have many similarities with traditional sports and as such form a suitable ground

for psychological research. Currently, the most popular MOBA in the world is LoL and for this reason it was chosen as the subject of this study. Accordingly, the primary goal of this research was to examine the relationships between preferred positions and roles in LoL and the corresponding players' indicated social rank styles, empathy, and basic personality characteristics.

League of Legends

League of Legends is a team-based, strategy game where two teams of five players each control different heroes who fight to destroy each other's base to win the match. Each hero that players choose has their own weaknesses and strengths, as well as distinctive abilities, and therefore choosing a specific hero is an important aspect of the game. Towards achieving victory, teams must select and manipulate heroes whose different abilities allow them to fulfill a specific role according to the strategy and tactics they have decided or judged to have the best chance of winning the current match. The MOBA genre is itself a combination of action game, role-playing game, and real-time strategy game, which means that LoL, belonging to this genre, has elements of several genres of video games. This makes it highly suitable for initial analysis in the context of videogame research, as it allows for comparisons involving seemingly very different video game types, their mechanics, and elements.

As previously expressed, the archetypes found in multiplayer games are not only characteristic of LoL and the larger MOBA genre – in different games there are different, unique, archetypes. Yet the authors' assumption is that no matter how many roles, positions, or archetypes there are in different video games, they can be fundamentally reduced to three essential team roles, and that players who prefer one of these three, regardless of the genre and type of game, exhibit, and may possess, similar characteristics. The basic, primary roles, i.e., archetypes, are: Tank - the tank's role is to take damage instead of his party and to protect his teammates from enemy attacks; Healer - the role of the healer is to heal the group when they are injured or when they receive damage that the Tank failed to contain and their primary job is to keep their teammates alive until the enemy is defeated; Damage dealer (damage dealer, more often called

DPS - damage per second) – the DPS's job is to kill the enemy. In LoL, the Tank role is played by the characters Tank and Fighter, the Healer role is played by the Support character, and the role of DPS is played by all other titles - Mage, Assassin, and Marksman. Because LoL is designed as a game that involves complementary positions and roles, it can be reasonably assumed that a Tank or Fighter would typically represent the Top position, that the Mid position could be occupied by a Jungle Assassin, Tank, or Fighter, that in the position of Bot would be the character types Mage or Assassin, and that in the position of support would be found the titles Marksman and Support.

This paper starts from the assumption that there is a relationship between the preference of the above positions and roles in video games and the corresponding players' indicated social rank styles, empathy, and personality traits.

Empathy and League of Legends

Contemporary research on empathy (Shamay-Tsoory et. al., 2009) distinguishes two components of empathy - affective and cognitive. The cognitive aspect refers to the ability to recognize and understand other people's emotions, while the affective element refers to an adequate emotional response to those perceived feelings and thoughts (Dadds et al., 2008). Vachon & Laynam (2016) have claimed that empathy involves the cognitive processing of emotional arousal, as well as the ability to respond to, or resonate with, another's emotions. However, the capacity for empathy can also be determined by specific aberrations of empathy, or dissonance, which implies a paradoxical experience in the expression of emotions. Therefore, Vachon & Lynam (2016) introduced the ACME model into psychology, which also includes affective dissonance as a domain of empathy. Thus, the ACME model implies three components of empathy: cognitive empathy, which is defined as the ability to understand the emotional state and perspective of other people; affective empathy, which is defined as an individual's ability to vicariously feel the emotions of others (Reniers et. al., 2011); and affective dissonance, which is

defined as feeling a valence-incongruent emotional response, such as feeling pain when other people feel pleasure, or feeling pleasure when other people feel pain (Levitan & Vachon, 2021).

Empathy has already been linked to video game playing in the broadest sense and research has shown that playing violent video games reduces empathy (Funk et al., 2003). Relatedly, Greitemeyer (2010) conducted an experimental study in which he found that playing prosocial games leads to an increase in interpersonal empathy and a decrease in the feeling of pleasure caused by another's misfortune (Greitemeyer et. al., 2010).

As it is apparent that no previous research has been carried out directly linking LoL and empathy, the authors' assumption was that all three domains of empathy from the ACME model play a significant role in individuals' preference for positions and roles in LoL. For example, players who prefer to play the Jungle position would likely benefit more from possessing developed cognitive empathy than players who prefer to play the Top position, as those in the Jungle position are generally expected to cooperate more with the team.

Social Rank Styles and League of Legends

Competitive behavior is usually not driven by an underlying desire to harm others, yet at the same time, the realization of one person's intention usually prevents the realization of another person's intention (Mitić, 2017). In contrast, cooperation, which is also an essential part of team games, is defined as joint work to achieve goals shared by all participants; individuals work collaboratively to maximize their own productivity and achievement, as well as the productivity and achievement of other people (Johnson & Johnson, 1989). In this context, Zuroff et al. constructed a social rank style questionnaire (abbr. RSPQ; Zuroff et al., 2010), which contains three nearly independent dimensions: *Dominant leadership* - a competitive style of behavior, indicative of a person's disposition to strive for leadership positions and to do so in a dominant, assertive, and confident manner; *Coalition-building* – a cooperative style of behavior, implying a disposition towards fostering coalition, partnership relations, cooperation, respect for other people's points of view, consultation

when making decisions, and creating compromises; *Ruthless self-advancement* - an individualistic style of behavior, with a tendency towards personal advancement without regard for others. A series of confirmatory factor studies confirmed that the RSPQ has a robust factor structure and that it is grounded in theoretical expectations (Ronen & Zuroff 2017; Mitić et al., 2018). Also, research on the connection of RSPQ with features of the five-factor model has shown that the dimensions of RSPQ are not redundant with these traits (Mitić, 2017), which is particularly significant in the context of the goal of this study as it implies that these two phenomena do not have considerable overlaps.

In a game like LoL, players have the choice to exhibit all three social rank styles, and the researchers hypothesized that players who prefer different roles and positions would associate with different, corresponding social rank styles. The amount of resources players can collect during the relevant match itself is proportional to the strength of their hero, while the essential design of the game leaves the players themselves to decide on the amount and manner of interaction with their teammates. It is possible to insist that all resources go to one player, and it is also possible to share these resources.

Personality traits, HEXACO model and the League of Legends

In video game research, personality differences between players and non-players have been widely examined (Abbasi et al., 2022; Braun et al., 2016), as well as differences among players who favor specific game genres (Peever et al., 2012; Zeigler-Hill & Monica, 2015). Wang et al. (2019) examined the relationship between MOBA users play styles and the Big-5 personality traits. His results indicate that in MOBA games, high Agreeableness correlates with better cooperation, leading to fewer deaths and higher winning rates. Conscientious players favor champions with strong control abilities, aiding in effective management of risky situations. Emotional stability is associated with selecting champions with high control and utility ratings, resulting in more kills and lower death rates. Extroverted players are inclined towards champions with high damage and mobility ratings, leading to successful kills and an interest in

exploring a broad range of champions. Lastly, high Openness is linked to curiosity and creativity, reflected in the selection of versatile champions with strong control, damage, and utility ratings (Wang et al., 2019).

In this study, we chose to rely on the HEXACO personality model, which has a notable overlap with the Big Five/FFM. Thielman et al. (2022) suggest that while there are some differences, these models capture much of the same core personality characteristics The HEXACO model is a lexical personality framework that includes six basic personality traits: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (Ashton & Lee, 2007; 2009). The choice of the HEXACO model for this study is based on its inclusion of Honesty-Humility, a trait not encompassed by traditional models like the Five-Factor Model, which allows for a broader examination of personality (Lozić et. al., 2022) in relation to in-game roles and behaviors. For instance, we could assume that players who prefer the Marksman archetype would likely exhibit low levels of Honesty-Humility, characterized by a strong sense of self-importance, as gameplay strategies often revolve around protecting the Marksman as the primary late-game carry. However, no studies have specifically investigated the association between HEXACO traits and the roles players prefer in *League of Legends*.

Research aims

The aim of this study was to determine whether players who prefer different positions and roles in the League of Legends game are characterized by certain domains of empathy from the ACME model, social rank styles, and personality traits from the HEXACO model. Based on the description of what each position and role in the game entails and the theoretical definitions of the phenomena measured in this study, the following hypotheses were formulated:

H1: It was expected that a pattern of associations would be found between the preference for the Bot and Mid positions, Marksman, Mage, and Assassin roles, (which correspond to the general DPS archetype) and the following elements: positive associations with affective dissonance from the

ACME model; positive associations with ruthless self-advancement and avoidance of coalition building from the social rank styles; and low honesty-humility and low cooperativeness from the HEXACO model.

H2: A preference for the position of Supporter and the role of Support, corresponding to the general archetype of Healer, would display the following associations: positive associations with cognitive empathy and affective resonance from the ACME model; positive associations with coalition building from the styles of social rank; and positive associations with extraversion, conscientiousness, and cooperation as personality characteristics from the HEXACO model, alongside low emotionality.

H3: A preference for the Jungle and Top positions and the role of Tank and Fighter, corresponding to the general archetype of Tank, would associate as follows: positively with cognitive empathy from the ACME model; positively with dominant leadership and coalition building from the styles of social rank; and positively with the personality characteristics of extraversion and cooperation from the HEXACO model, alongside low emotionality and openness to experience.

Method

Sample

The survey was conducted in July 2021 via the Internet. A set of questionnaires was created through the SoSci survey website and shared on the Reddit website, more precisely on the League of Legends subreddit. The questionnaires were in English, and there were a total of 8,967 clicks from different parts of the world on the link leading to the battery, including accidental clicks. Out of 8,967 respondents, 3,232 submitted their answers. The minimum age reported by respondents was 0, due to a data entry error, and the maximum age was 44. Although it was necessary for the respondents to confirm that they were 18 years old (or if not, that they had been given parental consent) to access the questionnaires, the researchers decided to exclude all

respondents who identified themselves as under the age of 13, as the general terms and conditions when accessing this game require users to be 13 or older. The final sample consisted of 3,220 respondents with an average age of 23 years (range 13–44; *SD* = 4.17). The data on gender was not collected. The research was approved by the ethics committee of the Department of Psychology at the University of Novi Sad.

Instruments

Position and role preference in League of Legends

The preference for positions and roles in *League of Legends* was measured through two surveys developed by the authors for this research. Both surveys contained five-point Likert-type questions, ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). For instance, participants were asked to rate statements such as, "When I'm playing alone, I prefer to play top lane" and "When I'm playing alone, I prefer to play tank." The full list of survey items included preferences for specific positions (e.g., top, mid, jungle, bot, support) and roles (e.g., tank, fighter, assassin, mage, marksman, support). Based on these responses, individual preferences for certain positions and roles were determined, without calculating total scores.

HEXACO-PI-R scale

To measure basic personality traits, the *HEXACO-PI-R scale* (Ashton & Lee, 2009) was used. This scale comprises 60 five-point Likert-type statements, with 10 statements measuring each personality dimension: Honesty-Humility, Emotionality, Extraversion, Cooperativeness, Conscientiousness and Openness to experience (Lee & Ashton, 2004). The HEXACO personality inventory on this sample displayed satisfactory internal consistency: α_H=.74; α_E=.80; α_X=.82; α_A=.76; α_C= .78; α_O=.73.

Affective and Cognitive Measure of Empathy – ACME

Empathy was measured by the scale *Affective and Cognitive Measure of Empathy – ACME* (Vachon & Lynam, 2016), which contains 36 five-point

Likert-type statements, operationalized by the subscales cognitive empathy (α=.93), affective resonance (α =.86), and affective dissonance (α=.85).

Rank Style with Peers Questionnaire – RSPQ

Social rank styles were measured by the *Rank Style with Peers Questionnaire – RSPQ* (Zuroff et al., 2010), which is a five-point Likert-type scale that is divided into three scales - Dominant leadership (α=.87), Coalition-building (α=.78), and Ruthless self-advancement (α=.70). A higher score on the scale means that a given style of social competition is expressed to a greater extent.

All scale scores were calculated by averaging the sum of all items (where applicable, reversely worded items were first recoded), providing composite scores for each variable.

Data Analysis

Statistical analyses were conducted using the program SPSS 26. Syntax QCCR version 1.0 for quasi-canonical correlation analysis (QCCA) was used for data analysis (Knežević & Momirović, 1996). QCCA (also known as the canonical analysis of covariance) allows researchers to examine the relationship between two sets of variables, by extracting the pairs of latent variables – quasi-canonical functions (QCF), which are extracted so as to optimize the explained variance from both sets of variables. Since in this study we have two sets of variables – one consisting of preference for LoL positions and role and the other consisting of personality variables, QCCA was a method of choice. As opposed to canonical correlation analysis, QCCA allows pair of QCF to be mutually correlated i.e. for the next extracted pair of functions to explain the portion of variance already explained by the previous pair(s) of functions. In the context of LoL, that means that we did not expect players to have a preference for only one player archetype while discarding all other archetypes. It is more common for players to try and play different positions and roles, but to prefer one of the archetypes best. Allowing for mutual correlations between the QCFs enabled us to capture the players' exploration of different roles while still having a primary preference.

Results

Descriptive statistics of the questionnaires and scales used in this research were shown in Table 1. Table 1 demonstrates that the skewness and kurtosis levels of all variables do not exceed ± 1.5, indicating no significant deviation from the normal distribution. Table A in the Supplementary materials provides the intercorrelations among the study variables.

Table 1

Descriptive indicators of variables

Variables	Min.	Max.	*M*	*SD*	Skew.	Kurt.
Top	1.00	5.00	3.04	1.46	-0.11	-1.38
Mid	1.00	5.00	3.18	1.38	-0.26	-1.17
Jungle	1.00	5.00	2.48	1.48	0.45	-1.25
Bot	1.00	5.00	2.70	1.44	.020	-1.36
Support	1.00	5.00	3.11	1.50	-0.15	-1.41
Tank	1.00	5.00	3.01	1.35	-0.13	-1.21
Fighter	1.00	5.00	3.37	1.30	-0.45	-0.91
Assassin	1.00	5.00	2.74	1.36	.017	-1.22
Mage	1.00	5.00	3.42	1.23	-0.51	-0.67
Marksman	1.00	5.00	2.94	1.43	-0.01	-1.35
Support	1.00	5.00	3.15	1.45	-0.20	-1.31
Cognitive empathy	1.00	5.00	3.53	0.78	-0.62	0.17
Affective resonance	1.08	5.00	3.98	0.61	-0.74	0.74
Affective dissonance	1.00	5.00	1.97	0.68	0.73	0.29
Dominant leadership	1.00	5.00	3.35	0.92	-0.42	-0.18
Coalition-building	1.00	5.00	4.03	0.53	-0.53	1.24
Ruthless self-advancement	1.00	5.00	2.86	0.73	0.17	0.05
Honesty–humility	1.10	5.00	3.37	0.67	-0.26	-0.07
Emotionality	1.00	4.90	2.97	0.70	-0.02	-0.34
Extraversion	1.00	5.00	2.76	0.75	0.14	-0.35
Agreeableness	1.00	5.00	3.20	0.65	-0.21	-0.27
Conscientiousness	1.20	5.00	3.25	0.65	-0.10	-0.25
Openness to experience	1.40	5.00	3.49	0.64	-0.24	-0.26

Note. Min. – Minimum; Max. – Maximum; Skew. – Skewness; Kurt. – Kurtosis.

To test the hypotheses, QCCA was applied, where the left set variables consisted of the preferences of positions and roles in LoL, and the right set included the personality traits from the HEXACO model, the three dimensions of empathy, and social rank styles.

Table 2

Quasi-canonical correlations and significance tests of extracted pairs of quasi-canonical functions

Function	*ro*	ro^2	*F*	*p*
1	.22	.05	155.99	.00
2	.16	.02	79.02	.00
3	.10	.01	34.92	.00

Note. Rho (ro) - quasi-canonical correlation coefficient; Squared Rho (ro^2) - the proportion of variance explained by the pair of quasi-canonical functions.

The QCCA identified three significant QCFs (Table 2). Table 3 presents the quasi-canonical coefficients (β) and saturations (r) for the three extracted QCFs. While a cut-off value of .30 is typically recommended (Costello & Osborne, 2005), this study employed a stricter threshold of .40. This higher cut-off was chosen due to the large number of variables, ensuring that only the most significant contributors to each function were highlighted for clearer interpretation. The first QCF shows that players who prefer the Jungle position and the Fighter and Assassin roles, while avoiding the Support position and role, tend to avoid cooperation, pursue ruthless self-advancement, exhibit low emotionality and honesty, and display higher affective dissonance and lower affective resonance. The second QCF indicates that players who prefer both the Jungle and Support positions as well as the Support role, while avoiding the Top position, exhibit higher cognitive empathy, extraversion, openness to new experiences, and a tendency toward coalition-building and dominant leadership. The third QCF reveals that players favoring the Mid position and the Mage and

Marksmen roles are characterized by low honesty-humility, high emotionality, a drive for ruthless self-advancement, and greater affective dissonance.

Table 3

Quasi-canonical coefficients (β) and quasi-canonical saturations (r) on three extracted quasi-canonical functions

Variable	Function 1		Function 2		Function 3	
	β	*r*	β	*r*	β	*r*
Left set						
Top	.13	.37	-.34	**-.43**	.05	-.03
Mid	.17	.33	.06	.01	**.56**	**.76**
Jungle	.31	**.44**	**.72**	**.65**	**-.41**	-.38
Bot	-.14	-.30	.17	.20	.18	.37
Support	-.38	**-.79**	.30	**.44**	.04	-.05
Tank	-.25	-.23	.17	.15	-.15	-.33
Fighter	.36	**.64**	.11	-.02	-.01	-.10
Assassin	**.49**	**.66**	.27	.28	**.40**	**.40**
Mage	-.20	-.15	.20	.25	**.47**	**.70**
Marksman	-.11	-.21	.11	.17	.27	**.44**
Support	**-.46**	**-.80**	.29	**.43**	.09	-.03
Right set						
Cognitive empathy	.12	.03	.39	**.60**	.29	.16
Affective resonance	-.29	**-.67**	.12	.37	-.06	-.05
Affective dissonance	.39	**.71**	-.01	-.17	.23	**.40**
Dominant leadership	.30	.33	**.43**	**.74**	-.20	-.20
Coalition-building	-.23	**-.43**	.32	**.52**	.24	.07
Ruthless self-advancement	.31	**.62**	.07	.04	**.54**	**.62**
Honesty–humility	**-.40**	**-.65**	.04	.03	-.28	**-.50**
Emotionality	-.39	**-.45**	-.06	-.09	**.43**	**.45**
Extraversion	.20	.24	**.47**	**.71**	**-.40**	-.37
Agreeableness	-.22	**-.46**	.00	.10	.08	-.12
Conscientiousness	-.24	-.22	.30	**.40**	-.06	-.19
Openness to experience	-.25	-.22	**.48**	**.56**	.20	.14

Note. Values ≥ .40 are marked in bold.

Discussion

The aim of this study was to determine whether players who prefer different positions and roles in the game League of Legends are characterized by certain domains of empathy from the ACME model, social rank styles, and personality traits from the HEXACO model. Based on the design of this game, representative of similar multiplayer games, it was expected that three archetypal roles in multiplayer video games would be distinguished from the domain of preferences for different positions and roles, which would be characterized by a specific set of personality characteristics.

According to H1, a positive pattern of association was expected between the Bot and Mid positions, the Marksman, Mage, and Assassin roles, which correspond to the general DPS archetype, and affective dissonance, ruthless self-advancement, avoidance of coalition building, and the personality characteristics of low honesty-humility and low cooperation (agreeableness). This hypothesis is supported by the third QCF, which indicated that players reporting a preference for the position of Mid and the roles of Mage and Marksmen were distinguished by the following personality characteristics: pronounced affective dissonance, ruthless self-advancement, emotionality, and low honesty-humility. It is important to note that the preference for the Bot position is mostly found in the latent space of this function, but due to the stricter cut-off criteria for quasi-canonical saturation adopted in this study, this position did not belong to the distinct profile in this context.

Inflicting damage in LoL is correlated to the amount of resources a player can collect during a match. Therefore, in order for these players to fulfill such a primary role on their team, they must gain the largest amounts of resources possible, which can often be obtained by greedily stealing resources from teammates, behavior that is consistent with ruthless self-advancement and low honesty-humility (Ashton & Lee, 2008; Mitić et al., 2018). Here, it should be highlighted that one of the essential differences between the Fighter, Assassin, and Tank roles, on the one hand, and the Mage and Marksman roles, on the other, is the way they deal damage – more precisely, from what distance

they deal damage to enemy heroes. Traditionally, the Marksman and Mage deal ranged damage, while the other roles deal melee damage.

The association of emotionality with the roles of Mage and Marksman can be explained by the fact that these roles suffer the most when receiving damage, often being quickly removed from the playing field, even with a small amount of damage. Therefore, players in these roles might be afraid to receive damage and they heavily depend on their teammates to protect them. Ashton et al. (2014) suggest that those with high emotionality often experience fear of physical danger, anxiety in stressful situations, and a need for emotional and social support from their teammates, which aligns well with the behaviors observed in these in-game roles. From the description of these roles, it is also clear that their essence is to remove the enemy heroes from the playing field as soon as possible and to save the lives of their heroes while performing that task. Based on this, the pronounced affective dissonance found to be associated with these roles makes theoretical sense, for if these heroes do their job well enemy heroes are prevented from doing their job. Essentially, the nature of the game itself inclines those who prefer these roles to feel the opposite way from how their enemies feel, i.e., they rejoice in the misfortune of their opponents (Vachon & Laynam, 2016).

H1 is also supported by the first QCF, which describes the player profile characterized by a preference for the Jungle position and the Fighter and Assassin roles, while avoiding the Support position and Support role. The results indicate that such player profiles were characterized by pronounced affective dissonance and ruthless self-advancement and low honesty-humility, which can likely be explained as operating in much the same way as those positions in the third QCF, as in these preferred roles we also found a negative association with affective resonance, avoidance of building coalitions, and a lack of cooperativeness. From the description of the role of the Assassin, it should be noted that their task in the match is to independently remove the primary enemy target before the team fight actually begins, therefore the Assassin heroes do not cooperate directly with their team or build coalitions (Ashton & Lee, 2008; Zuroff et al., 2010).

These findings align with Delhove and Greitemeyer's (2020) observation that more aggressive hero choices, such as *Overwatch*'s Offense role, are linked to darker personality traits, including lower empathy and higher aggression. The preference for roles like Assassin and Fighter in *League of Legends*, which are similarly aggressive in nature, also reflects a lack of cooperation and a tendency toward ruthless self-advancement. Conversely, Support heroes in *Overwatch* showed higher empathy and agreeableness, similar to the characteristics associated with the Support role in *LoL* in this study (Delhove & Greitemeyer, 2020).

This could also explain why individuals who showed preference for this role also showed a non-preference towards the position and the of Support, which are fundamentally characterized by the relatively opposite characteristics of personality, empathy, and social rank styles, which will be discussed more in the next section. The Fighter belonging to this grouping can be explained by this role's general proclivity to not need teammates to keep them alive while they do damage to enemy players, unlike the Mage and the Marksman who saturate the third function. What the Fighter and Assassin heroes have in common is that their damage is dealt at close range, requiring them to engage in hand-to-hand combat. Individuals with low emotionality are not easily deterred by the prospect of physical harm, feel little worry in stressful situations, and are less likely to share concerns with others, aligning with the demands of facing close-range combat without fear. Additionally, these traits imply emotional detachment and independence, further reflecting the nature of characters that engage in high-risk combat without hesitation (Ashton & Lee, 2008). Players who prefer these roles often thrive in life on the knife's edge, embracing the all-or-nothing nature of fights where they either eliminate the priority target or leave their team at a disadvantage.

H2 hypothesizes that the preference for the Support position and role, which align with the general archetype of the Healer, will be characterized by cognitive empathy, affective resonance, coalition-building, and the personality traits of extraversion, conscientiousness, and agreeableness, alongside low emotionality. H2 is supported by the first and second QCF. The second QCF

describes the profile of the player who expresses the preference for the position and role of Support, as well as the preference for the Jungle position and the avoidance of the Top position.

Conscientious players are more likely to choose champions with strong control abilities, allowing them to manage high-pressure situations effectively. This finding supports the association between the conscientious trait and roles like Jungle and Support, where players must manage neutral objectives, disrupt the enemy's strategy, and help their team strategically. Although these roles might not receive the same recognition as damage-dealing roles, they often secure victories through disruption and control (Wang et al., 2019).

It seems theoretically logical that the Jungle position belongs to this space, as players in this position, by the design of the position, do not have their own lane, but help other lanes to win. On the other hand, Top players are typically playing farthest afield from the other teammates, and thus were included in this grouping as a position typically avoided by those with a preference for the archetype of Healer.

This finding is also consistent with Worth and Book's (2014) research on *World of Warcraft* (WoW), where helping behaviors were found to correlate strongly with traits like high Agreeableness and Emotionality. In WoW, players who engage in cooperative and helping roles are often outgoing, patient, and empathetic, much like the *League of Legends* Support role. The role requires both emotional and social support skills, as players must seek out situations in which they can assist their teammates. These shared traits across games reflect the underlying personality characteristics that align with cooperative playstyles, emphasizing the importance of coalition-building and empathy in such roles (Worth & Book, 2014).

As already stated, while the Jungle position is not traditionally to strengthen and keep friendly heroes alive, their role is to help teammates, through removing or assisting in the removal of the enemy player from the game rather than having their teammate removed, or through providing additional resources through neutral objectives. Essentially, they make a fight which would be a one-against-one battle into a two-against-one affair and thus provide a better chance for their teammate to win. This aligns with the characteristic of

coalition-building (Zuroff et. al., 2010) with their teammates, which was shown to characterize the players who prefer this position.

The Jungle and Support positions, by game design, have the smallest source of resources and therefore the vitality and impact of their heroes' neutral objectives that give various bonuses to the entire team are of special importance. In order to ensure their own relevance in the match, they are most likely the ones who initiate when and how to assume a neutral objective, which is in line with the traits of dominant leadership and extraversion (Zettler et. al., 2020; Zuroff et. al., 2010). Another consequence of their possessing the smallest source of resources is that it opens up additional space, and the inclination and even obligation, to bring advantage to their team in creative, innovative, and unconventional ways, which is in line with the emphasis on openness to experience (Zettler et. al., 2020).

H2 was additionally confirmed by the first QCF and these results create space for additional theoretical considerations of video game playing style. Namely, the results of this research indicate that the characteristics of those players who reported preferring the positions and roles characteristic of the archetypal role of the Healer are quite opposite to those of the players who indicated preferring the positions and roles characteristic of the archetypal role of the DPS, not only in terms of the style and way of playing of these two archetypal roles but also regarding personality traits. In H2, we assumed that associations between the preference for the position and role of Support and cognitive empathy, affective resonance, coalition-building, extraversion, conscientiousness, agreeableness, and low emotionality. The first QCF indeed supports this, but primarily through the negative associations observed: instead of these traits aligning with a preference for these positions and roles, they were associated with their avoidance: instead of aligning with high affective resonance, these positions and roles were aligned low scores; instead of building coalitions, they demonstrated a tendency to avoid building coalitions; and instead of agreeableness/cooperation, a lack of cooperation stood out. Relatedly, cognitive empathy, extraversion, and conscientiousness were not

negatively associated with the Support function, while low emotionality was shown to be characteristic of both types of player preference.

According to H3, the preference for the Jungle and Top positions, and the Tank and Fighter roles, which correspond to the general Tank archetype, is expected to be related to cognitive empathy, dominant leadership, and coalition-building, alongside the personality traits of extraversion, agreeableness, emotionality, and openness to experience. This hypotheses, however, was refuted in its entirity. Not only was the association of these positions and roles not distinguished in the latent space of these variables, but the preference for the role of Tank and the preference for the position of Top were not shown to significantly saturate any function. The results of this study indicate that there is no typical psychological profile that could be associated with a preference for these roles and positions. In LoL, the function of Tank and Fighter in the team is very similar, so, essentially, there is not much difference between the two roles, as it appears in other games.

To summarize, the second QCF in this research aligns with the archetypal Healer role commonly seen in multiplayer video games. In contrast, the first QCF reflects the opposite of this archetype, while the first and third QCFs together cluster player styles and preferences typically associated with the DPS archetype. In other games such as World of Warcraft and Final Fantasy IX there is a clear difference between melee DPS and ranged DPS roles, but the researchers had assumed that this difference would not be significant to register in the LoL game, which is part of the MOBA genre. However, this difference did prove to be significant, as two separate functions corresponding to these roles were singled out.

The results of this study indicate that personality characteristics are grouped differently in the latent space depending on which game style a person prefers; that is, there are patterns of playing video games that are associated with specific psychological personality profiles. The significant contribution of this research is reflected in that it stands as a different approach to video game research and represents an initial step in the further development of hypotheses and potential taxonomies of video game playing styles.

Limitations and future directions

A key limitation of this research is its focus on a single video game and genre, limiting the generalizability of the findings. Until these results are replicated in other MOBAs, such as Dota 2, or across different video game genres like MMORPGs, they cannot be extended beyond the scope of League of Legends. Future research should explore similar dynamics in other games and genres to validate these findings. Additionally, considering the global nature of video gaming, examining cultural differences in the relationship between game preferences and personality traits could provide valuable insights. Different cultures may emphasize individual performance or teamwork, influencing role preferences and gameplay approaches. Cross-cultural studies could further explore how personality traits, such as extraversion and agreeableness, manifest across different regions and cultural contexts. Incorporating more objective, data-driven methods by analyzing in-game behavioral data, such as role selection, win rates, and cooperation levels, could also enhance future research. These metrics, combined with self-reported personality measures, would reduce bias and provide more accurate behavioral insights. Additionally, exploring role-switching behavior may reveal whether players who frequently change roles possess distinct personality traits compared to those who consistently play one role, shedding light on the flexibility and adaptability of players in team-based games. Finally, in this study we did not consider gender differences in playing styles in relation to personality characteristics. As many research findings indicate that men and women approach gaming differently (see e.g. Vetri et al., 2014), the moderating role of gender in game playing should be taken into account in future studies.

Conflict of Interest

The authors have no conflicts of interest to declare.

Data availability statement

Data from the study are available at https://osf.io/gqhxd/?view_only=3a14625da4294a47b2476af180890890.

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Supplementary materials

Table A

Intercorrelations for the subscales of empathy, social rank styles, and HEXACO personality traits

	1	2	3	4	5	6	7	8	9	10	11
1. COG											
2. RES	-.05										
3. DIS	.27**	-.53**									
4. DL	.28**	.07**	.05**								
5. CB	.21**	-.30**	.48**	.21**							
6. RS	.002	.42**	-.32**	.18**	-.10**						
7. H	-.03	-.41**	.24**	-.15**	.19**	-.51**					
8. E	-.04*	-.13**	.40**	-.16**	.12**	-.09**	.01				
9. X	.32**	-.05**	.13**	.62**	.21**	.07**	-.10**	-.20**			
10. A	.06**	-.37**	.34**	-.15**	.33**	-.20**	.27**	-.07**	.06**		
11. C	.12**	-.18**	.09**	.22**	.14**	-.04*	.16**	-.05**	.11**	-.01	
12. O	.21**	-.78**	.22**	.26**	.19**	-.06**	.05**	.07**	.15**	.04*	.07**

Note. COG – Cognitive Empathy; RES – Affective resonance; DIS – Affective Dissonance; DL – Dominant Leadership; CB – Coalition-building; RS – Ruthless self-advancement; H – Honesty-humility; E – Emotionality; X – Extraversion; A –Agreeableness; C – Conscientiousness; O – Openness to experience.

* $p < .05$. ** $p < .01$.