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## Deconstructing who you play: Character choice in online gaming

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## ABSTRACT

The major growth in gaming over the last five to ten years has been through the expansion in online gaming, with the most frequent gamers now playing more games online than with others in person. The increase in cooperative multiplayer online gaming, where players who do not know each other come together in teams to achieve a common goal, leads to interesting social situations.

The research in this paper is focussed on the online multiplayer game Overwatch, in this game playable characters are grouped into a number of classes and characters within these classes. A player chooses the character at the start of a given round, and whilst they can change the character during the game round this is generally undesirable. In this research we were interested in how players go about selecting a character for a given round of the game, this is a complex interaction where a player has to balance between personal character preference (either a character they enjoy playing or is well-mapped to their playstyle and skill) and ensuring a team has a balance of player classes. The interaction is complicated by the online nature meaning it is difficult to reward a team-mate for selecting a character they may not wish to play or playing a character which may mean they will perform poorly but the team will win.

We recruited over 1000 Overwatch players and surveyed them on how they make their character choices within the game, they were also asked to complete various psychometric tests. We found that a gamers player 'type' (i.e. Killer, Achiever, Explorer or Socialiser) was defined by their agreeableness and their gender. We also found that player's choice of character class was related to their level of agreeableness and extroversion modulated by the player's gender. We also found that those who rate highly in conscientiousness and agreeableness and are socialisers or achievers were more likely to choose a character in order to achieve a balanced team rather than personal preference.

The research is unique in the scale and number of respondents, it also addresses a problem in co-operative gaming where players must negotiate the composition of a team. This negotiation is often performed without any background knowledge of other player's skill levels, this is the first study at this scale considering this within the context of co-operative online gaming.

## 1. Introduction

According to recent research by Kleiner and Perkins [1] video games are rapidly becoming an intrinsic component of mainstream culture, with an estimated 2.6 billion gamers worldwide compared to only 100 million in 1995. Traditionally, gaming is associated with younger people however, Kleiner and Perkins found that average age of gamers was now 35 years old. This is further underlined in a survey by the Pew Research Center [2] that found that 49% of adults in America have played a video game, and 10% of those surveyed would describe themselves as 'gamers'. In addition to the amount of people playing games the way in which we are playing video games is also evolving. More and more people are playing online thanks to improved internet

connectivity and availability. A recent study by the Entertainment Software Association [3] suggests that the most frequent gamers now play games online for an average of 6.5 h per week, compared with only 5 h per week spent playing with others in-person.

What is perhaps not entirely obvious to a player of an online game is that the choices that they make within the virtual world can provide a reflection of themselves. In this paper we investigate what information about the personality of player can be obtained simply by analysing their choice of characters, and the reasoning behind these choices in a game called Overwatch [4].

Overwatch is an online multi-player game, with over 30 million unique players [5] across PlayStation, Xbox and PC platforms and won a number of 'Game of the year' awards in 2016. The game is a

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cooperative, team-focussed first-person shooter with each round a competition between two opposing teams of six players. The game is split into two different modes, quickplay which provides a casual gaming mode in which players are matched together based on a general skill level and competitive mode where players maintain a rank through each 3 month season. During competitive play, players on the winning team have their rank increased, whilst players on the losing team have their rank decreased. Hence, the individual decisions a player makes can directly impact on the success and failure of their team as a whole, and in competitive play effect the rankings of the players on the whole team.

Overwatch provides an interesting game to study since it is not only popular, but all of the game modes are inherently co-operative and team-based. This co-operative nature means individual players must interact not only with the game and the game environment but also interact with their team mates both during and before a given round. Individual players are rewarded (or penalised) based on the team performance, so there are inherent motivations to getting a successful team outcome—this makes Overwatch a particularly fascinating game to study.

Before each round commences the players decide which characters to play in order to stand the best chance of success. During the character selection screen players have no direct ability to influence a team-mates selection, although the game will give warnings if the team is dramatically unbalanced. Hence there needs to be a degree of self-awareness and ‘situational understanding’ in order to create a team that stands a chance of succeeding. Characters are split across four main classes, it is generally believed a good team involves a balance across these four classes, although as the game evolves the ‘meta’ changes and the ideal team balance tends to shift as new character synergies are identified (e.g. Pharah and Mercy). The characters a player can use within the game are split into the following four classes:

- **Offense** characters are highly mobile and able to do a large amount of damage, however they tend to be relatively fragile and unable to sustain large amounts of damage.
- **Defense** characters are designed to protect particular locations and create strategic ‘choke points’ or ‘kill boxes’.
- **Tank** characters tend to be slow and able to sustain a large amount of damage whilst dealing a moderate amount of damage, most have some ability to shield either themselves or others.
- **Support** characters are able to do small amounts of damage, however their primary role is to heal or enhance their team mates abilities or weaken those of their opponents.

A player’s character selection can have a significant impact on the team’s success or failure, this leads to a challenging situation where some players will be trying to influence another’s choice of character. However, they may have no evidence of a player’s skill or the ability to reward them for playing a character they may not wish to play. In this paper we focus on the decisions that players make during character selection and the reasoning behind these decisions. We then look at how these decisions can be influenced by an individual player’s personality traits including their openness to experience, conscientiousness, extroversion, agreeableness, neuroticism, self-monitoring and perfectionistic self-presentation.

The remainder of this paper is structured as follows. In Section 2 we provide a brief discussion of the related work, Section 3 provides the hypotheses that have driven this work. Section 4 gives an overview of the method used to collect this data, in Section 5 we provide an analysis of the results of the research. Section 6 goes on to discuss the implications of these findings and finally, Section 7 draws conclusions from our findings and discusses the potential for future work in this area.

## 2. Background

A number of authors have speculated that there are positive effects of online gaming [6] even in violent games [7], although there is some evidence of psychological effects in niche hyper-violent games, particularly when experiencing taboo activities such as rape and torture [8]. However, the systematic review by Connolly et. al. [9] outlined a significant number of positive outcomes from gaming including affective and motivational outcomes, knowledge acquisition, perceptual and cognitive skills, motor skills, behaviour change, physiological outcomes and social/ soft skills outcomes.

Previous work has shown that it was possible to identify individuals based on how they played a game of Tetris [10]. The motivation for that research was that individuals have an innate set of traits and gaming skills that they display when playing a game. We would anticipate this to also be true in more complex games (although the complexity of the game might make it difficult to extract particular features from gameplay), however we would also expect these traits to have an effect on how an individual selects characters and builds a team before starting gameplay.

There are a number of approaches to assessing individual differences that allow one to describe the distinctive features of a person. One popular approach is a five-factor model derived from a wide review of the personality literature [11,12]. This identified five major personality factors that could be used to describe individual differences, these were Neuroticism, Extraversion, Openness to Experience, Conscientiousness and Agreeableness. This five-factor model uses broad constructs to summarise personality assessment and identify whether an individual ‘is chronically predisposed to emotional distress versus emotionally stable (Neuroticism); energetic and thrill-seeking versus sober and solitary (Extraversion); curious and unconventional versus traditional and pragmatic (Openness to experience); kind and trusting versus competitive and arrogant (Agreeableness); disciplined and fastidious versus laidback and careless (Conscientiousness).’ [13].

There is a large body of work focussing on the effects of personality on decision making particularly when related to tasks perceived to be high-risk or made under pressure, e.g. [14–16]. These studies often involve lab-based experiments of the task in which decision making is performed, we are interested in the manifestation of these effects in cyberspace and in our particular case within online competitive games. We hypothesise that assessing the effect of personality on decision making within the same context as the decisions making process occurs would allow our data to more accurately map to the decision making that actually goes on during game play.

There has been a significant volume of research considering the motivation individuals have for playing games and the original paper by Bartle [17] in the mid-90s is the seminal work on the topic. He broke down gamers in multi-user dungeon games into four discrete player types based on how they interact with other players and the game itself. These player types he described as ‘Killers’ who wished to act on other players (i.e. kill or attack); ‘Socialisers’ who wish to interact with other players; ‘Achievers’ who wish to act on the virtual world (i.e. achieve within the game context) and ‘Explorers’ who wish to interact with the virtual world (i.e. explore, manipulate or customise the virtual world). Other work [18] has looked to identify other motivations and player types, however we have taken Bartle’s simple breakdown of player types as they map well with the cooperative, task-orientated nature of Overwatch.

Brain Hex [19] was one of the first attempts at mapping personality types to gaming motivation archetypes, this created a larger number of gaming archetypes and identified some correlations with the Mayers-Briggs psychotypes to these resulting archetypes, this was done across a number of different games and gamers were asked to consider an abstract situation to consider their gaming archetype. In our research we ground the study to one particular game and provide a tangible space in which the gamer can consider their play archetype.

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