# The Stereotype of Online Gamers: New Characterization or Recycled Prototype?

# **Rachel Kowert**

The University of York Department of Psychology Heslington, York YO10 5DD rvk501@york.ac.uk

# Julian Oldmeadow

The University of York Department of Psychology Heslington, York YO10 5DD julian.oldmeadow@york.ac.uk

#### **ABSTRACT**

The stereotypical online gamer is a socially inept, reclusive, male, with an obsession for gaming. This characterization is shared with a number of other groups too, suggesting it reflects a set of behaviors and concerns common to a range of groups. This study examines the content of the stereotype of online gamers in relation to other similar groups in an attempt to identify the core behaviors or characteristics upon which the stereotype is based. By comparing the similarities and differences in the stereotypes of a range of related groups it is possible to identify the shared and unique features of online gamers that are being reflected in stereotypes about them. Results show similarities in stereotypic content between online gamers and other social groups, including other kinds of gamers. Additionally, the characteristic of social ineptitude, which is a key trait in the stereotype of this group, did not emerge as a distinctive feature for online gamers alone, questioning the unique role that mediated socialization plays in these spaces. Implications for future research within the online gaming population are discussed.

#### **Keywords**

online gaming, MMORPG, stereotype, socially inept

# **INTRODUCTION**

The stereotype of online gamers is becoming firmly established within society as it continues to be widely documented anecdotally. The stereotype of this population centers around themes of popularity, attractiveness, dominance, and social competence (Kowert, Griffiths, & Oldmeadow, under review), and conjures up images of socially inept, teenage boys, hypnotically engaged in their gaming worlds. This prototypical online gamer has been depicted in a variety of American television programs such as *Law and Order: SVU* (Truly, 2010), the *Big Bang Theory* (Lorre, Molaro, & Kaplan, 2008) and *South Park* (Parker & Stone, 2006, October 4), as well as the popular web series' *The Guild* (Day, 2007). As the community of online gamers continues to grow and develop, they will become an increasingly meaningful, and distinctive, category within the social environment. The formation of their stereotypes play a key role in this process, as stereotypes differentiate a group as distinct from others, position them within a status

 $Proceedings\ of\ DiGRA\ Nordic\ 2012\ Conference:\ Local\ and\ Global-Games\ in\ Culture\ and\ Society.$ 

© 2012 Authors & Digital Games Research Association DiGRA. Personal and educational classroom use of this paper is allowed, commercial use requires specific permission from the author.

hierarchy, and signal their distance from the mainstream. Evidenced anecdotally and empirically, a clear characterization of online gamers has already emerged, signifying a shared perception of a cohesive social group (Haslam, 2002; Spears & Haslam, 1997). However, it is the specific content of the characterization which provides insight into this group's position within society (Cuddy, Fiske, & Glick, 2008; McGarty, Yzerbyt, & Spears, 2002).

Current evidence suggests that online gamers are perceived as incompetent and undesirable, which positions them low in the status hierarchy and far from the mainstream (Kowert, et al., under review). Despite the fact that stereotypic content is believed to reflect the distinctive qualities of a group (Hamilton & Rose, 1980; Judd & Park, 1993), a variety of other social groups have similar stereotypic profiles, calling into question the idiosyncratic nature of online gamers' characterization. Dungeons and Dragons players, role-players, science fiction enthusiasts, computer hackers, and fans of multi-user dungeons (MUDs), could all be described as unpopular, isolated, and socially unskilled. Conversely, the stereotype of online gamers is also reminiscent of a highly competent group, software engineers (Graham & Latulipe, 2003).

As stereotypes provide information about a group's distinctive nature and their current position within society, uncovering the unique features of the stereotype of online gamers is integral to understanding how this emerging group is becoming differentiated from others. Evaluating the shared and unique features of the stereotype of online gamers in relation to other similar groups will uncover which unique characteristics of this population is being reflected in their current stereotype. This is the primary aim of this investigation. Particular attention will be given to the similarities and differences between online gamers and other gaming groups, especially in regards to the social aspects of the stereotype.

In previous research, we have found that the stereotype of online gamers centers around four main themes: (un)popularity, (un)attractiveness, (non)dominance, and social (in)competence (Kowert, et al., under review). A lack of social competence is one of the most differentiating qualities of this characterization and is what distinguishes online gamers from other gaming groups. Unlike other forms of gaming, such as co-located console or arcade gaming, online gaming environments give special consideration to the promotion of sociability among fellow players. Aligning with other players is often the only way that individuals can accomplish the most difficult tasks and obtain the most desirable rewards (Ducheneaut & Moore, 2005; Moore, Ducheneaut, & Nickell, 2007). Virtual spaces that require individuals to work with others are not necessarily problematic; the concern lies in the idiosyncrasies of this mediated social environment. Social interaction in online gaming worlds is unique as it is largely asynchronous (Halloran, 2011; Moore, et al., 2007), with explicit gesturing systems (Williams, Caplan, & Xiong, 2007; Yee & Bailenson, 2008), and an almost complete lack of non-verbal cues (McKenna & Bargh, 2000). It is argued that increased socialization in these spaces comes at the expense of pre-existing offline relationships (Morahan-Martin & Schumacher, 2003; Williams, 2006), and can lead to further social consequences, such as declines in social ability (Andrew, 2009; Chiu, Lee, & Huang, 2004; Griffiths, 2010; Morahan-Martin & Schumacher, 2003; Sigman, 2009). While it remains unclear as to whether prolonged interaction in these gaming environments actively contributes to social declines or if individuals with pre-existing social difficulties are drawn to these social spaces due to the different socialization patterns (Chak & Leung, 2004; Peters & Malesky, 2008), the link between online gaming and social competence continues to be the focus of academic inquiry and parental concern. Consequently, individuals who engage in these spaces have come to be perceived as socially deficient from their peers. As the prospect of social repercussions has become exclusively attributed to online gaming, it is expected that the stereotypical distinctions between online gamers and other gaming groups will be exceptionally marked in this domain.

The stereotypic profile of online gamers will also be examined in relation to other technologically savvy groups. Williams (2005) has suggested that the contemporary stereotype of the online gamer may not be unique to this population or activity, but instead related to a broader distrust of new types of media. Since the advent of the radio, popular media has approached new forms of entertainment with suspicion. Video games are no exception as controversial debates about them have been evident since their introduction in the 1970s. While some concerns have been fuelled by the fundamental qualities of the games themselves (e.g., the long-standing debate on the relationship between violent video games and aggression), others derive solely from the fact it is a new form of entertainment. Online games, and those who play them, may simply be the most recent target of the media's concern, a fear that could be exacerbated by the fact that it is not only a new media, but also a social one. If the stereotypic content of online gamers and other technology related groups is fueled by the media's concern, then a substantial overlap in stereotypic content between these groups should be found.

#### **PILOT STUDY**

To generate a list of groups similarly characterized to online gamers, a pilot study was conducted. Participants were recruited through the popular social news forum Reddit, where a link to an online survey was placed on two of its sub-forums (front page and r/gaming). When participants opened the link, they were presented with the following instructions:

People perceive members of some social groups to be more similar to each other than other groups. For example, if someone was asked which social groups are similar or may be associated with "game hunters," they may be more likely to respond with "outdoorsmen" than "university students." The purpose of this study is to investigate this interconnectedness of group perceptions. Take a moment to think about the social group of online gamers. In this context, the term online gamer is referring to devoted players of electronic games played through an Internet connection in conjunction with other individuals. This includes playing with people they know and/or do not know in the offline world. What image comes to mind when someone mentions an online gamer? What other social groups invoke similar images? Which groups do you believe would have many online gamers as members? In the space below, report any group(s) you believe to be similar and/or related to online gamers.

One hundred and fifty-three individuals completed this online survey. Most respondents were male (90%) and from the USA (65%), however a substantial proportion resided in Canada (10%) and England (7%). Prior to finalizing the list of comparable groups, concept mapping was employed in order to collapse similar groups into a single category. For instance, computer scientist, programmer, hacker, and video game designer, were collapsed to create the single category of "computer scientist."

The most commonly reported categories were as follows: Nerd/Geek (38%), Dungeons and Dragon player (18%), Active Forum User (16%), Student (15%), Teenager (15%), Teammate (14%), Role-player (9%), Technophile (8%), Computer Scientist (7%), Live-

action Role-player (LARP) (6%), Comic Book Enthusiast (5%), Trading Card Game Player (5%), Console Gamer (5%), Engineer (4%), Massively Multiplayer Online Role-Playing Game (MMORPG) Gamer (3%). Even though Console Gamer (5%) and MMORPG Gamer (3%) were only reported by a small amount of participants, they were retained in order to allow for an examination amongst different gaming categories. Arcade Gamer was also added to this list to address Williams (2005) suggestion that the current stereotype of online gamers related to stereotypes of other technologically savvy groups.

#### **METHOD**

# **Participants**

In total, 182 participants completed an online survey. In order to reach a broad sample, participants were primarily recruited through Amazon's Mechanical Turk (MTurk). MTurk is an online open marketplace that allows individuals to advertise jobs that require human intelligence to complete (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). Overcoming setbacks that have previously troubled social sciences, workers on MTurk have been found to be more demographically diverse than the typically recruited undergraduate university population, and have been shown to be intrinsically motivated to complete the task (Buhrmester, et al., 2011). Additionally, research has found little evidence to suggest that data collected online is of poorer quality than that collected from subject pools (Gosling, Vazire, Srivastava, & John, 2004; Paolacci, et al., 2010), as test-retest reliabilities are similar to those found in traditional methods of testing, and the quality of data meets or exceeds the standards associated with published research (Buhrmester, et al., 2011).

Prior to analysis, four participants were removed, one who was under the age of 18, one who did not indicate their age, and two who did not fully complete the survey, leaving 178 participants. Of these, most were Caucasian (58.33%) males (53.93%), ranging in age from 18-60, with an average of 29.45 (SD = 9.24). The amount of participants within each age bracket largely varied. As too few participants fell within the age categories under the age of 20 (N = 17) and over 40 (N = 27) to allow for analyses across age, they were removed from the analysis.

Of the remaining 127 participants, the majority were residents of Western European countries (65.55%), with a substantial proportion residing in the United States (28.89%). One hundred and twenty-one (95.3%) participants reported having played video games at some point and 125 (82.7%) reported having played online games at some point. Just under half of the sample (49.6%) played video games at least once a week, while the remaining participants played less frequently. Only 4.7% of the sample (6 participants) reported never having played video games.

# **Procedure and Materials**

To uncover the boundaries of the stereotype of online gamers, methodologies were adapted from previous stereotype content investigations (see Wade & Brewer, 2006). An online survey was constructed and participants were given the following instructions:

On the following pages, you will be presented with a list of adjectives and nine different social groups. From the list, select the adjectives that you believe appropriately describe each of the social categories. Please choose 10-12 adjectives per group. Short descriptions are provided for each of the categories. Please note that the order in which

you report the adjectives does NOT matter. You can use the same adjective to describe more than one category.

For each participant, and for each social category, a randomized list of 105 adjectives was presented. Thirty of these words were taken from previous stereotype content research (Kowert, et al., under review), and directly pertain to the currently held stereotype of online gamers. An additional 57 words were chosen from Wade and Brewer's (2006) stereotype content study, and nine competence and nine warmth traits were included. The addition of specific traits that refer to competence and warmth were included due to previous research which found that these two traits underlie the differentiations seen within group stereotypes (Cuddy, et al., 2008). While specific stereotypes may contain idiosyncratic content, it is believed that the underlying differences lie among competence and warmth perceptions.

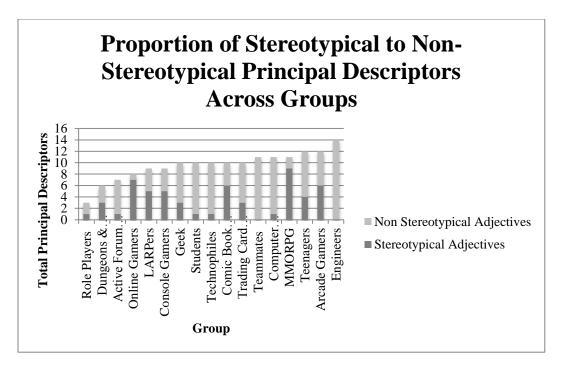
Participants rated nine social groups in total, a random selection of 8 of the 16 related groups as well as the comparison group of online gamers. Short descriptions were provided for each of the social categories (see Appendix 1).

#### **RESULTS**

To evaluate the divergence of group perceptions, principal descriptors for each group were first identified. A trait was deemed a principal descriptor if it was chosen as a characteristic feature by at least 25% of the participants. The amount of principal descriptors retained for each category ranged from 3 to 14 with an average of 9.6 adjectives per group. No single trait was agreed upon by 25% of the participants across all 17 groups.

Despite the fact that the pilot study suggested that the 17 social categories included in this study are somehow related to one another, the groups showed a wide variation in their general perceptions. In general, the social groups were well established, with Role-Players emerging as the least established category, with only three principal descriptors, whereas Engineers were the most established category with 14.

To evaluate the overall uniqueness of the stereotype of online gamers, a Total Stereotypical Rating (TSR) was calculated. To create the TSR, the occurrence of 16 traits identified as central to the stereotype of online gamers were tabulated for each social group. Of these 16 words, 12 (unattractive, overweight, loner, obsessive, young, underachiever, isolated, pale, socially inept, lazy, reclusive, and introverted) were adjectives that have been empirically established as central to stereotype of online gamers (Kowert, et al., under review) and four (addict, aggressive, immature and awkward) were taken from the anecdotal characterizations found in the literature and popular media. For each group, the raw TSR score, which could range from zero to sixteen, was divided by the total number of possible descriptors, in order to tabulate a proportion of stereotypic traits. This TSR proportion, or TSR-P, will allow for the direct comparison of each social group with online gamers to determine the extent to which stereotypical perceptions differ. The proportion of stereotypic (TSR words) to non-stereotypic principal descriptors attributed to each social group can be seen in Figure 1.



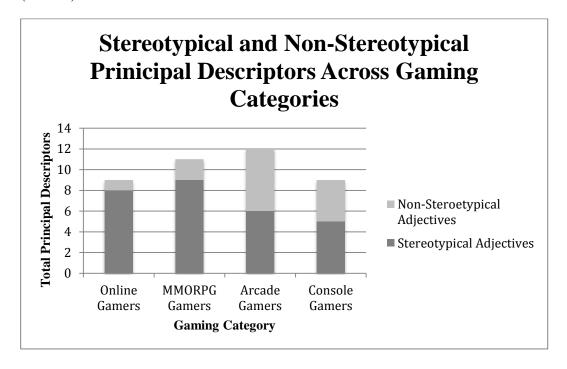
**Figure 1:** Proportion of stereotypical and non-stereotypical principal descriptors across groups

As participants were presented with a randomized selection of groups, sample sizes between social group ratings varied. Therefore, sixteen separate repeated-measures ANOVA analyses were conducted. The results showed that the stereotypic profile of online gamers (as determined by the TSR-P) significantly differed from 12 of the 16 groups. With the exception of MMORPG Players, Online Gamers were attributed more stereotypical adjectives the other social groups (F's > 5, p's < .05). Arcade Gamers, Dungeons and Dragons Players, Comic Book Enthusiasts, and Geeks all obtained a TSR-P that did not significantly differ from Online Gamers.

A closer evaluation of the four gaming groups (Arcade, Console, MMORPG, and Online Gamers) uncovered substantial variation in the overall stereotypic perceptions of these semantically related categories (see Figure 2). Five principal descriptors were shared amongst all gaming categories: competitive, young, addict, obsessive, and immature. Of the words uniquely attributed to each gaming category, Console Gamers were perceived the most positively, as the idiosyncratic principal descriptors attributed to them were largely positive: skillful, lazy, fun-loving, and determined. MMORPG Gamers were perceived the most negatively. In addition to being the only group amongst all sixteen groups to have a significantly more stereotypical profile than Online Gamers, the unique descriptors attributed to them were predominantly negative: introverted, determined, and awkward.

As the unique social aspect of online gaming is believed to be a differentiating quality amongst the other kinds of gaming groups, it was predicted that 'socially inept' would be associated only with online gamers, and subgroups of online gamers (e.g., MMORPG Gamers), but not to any non-online gaming categories (Arcade and Console gamers). Results show that 'socially inept' was endorsed to varying degrees amongst three of the four gaming groups. The largest percentage of participants rated MMO Gamers as

socially inept (36.36%), followed by Arcade Gamers (26.87%), and lastly Online Gamers (25.20%).



**Figure 2:** Stereotypical and non-stereotypical principal descriptors across gaming categories

To assess the hypothesis, that the stereotype of online gamers is fuelled by a fear of new technologies (Williams, 2005), the relationship between Arcade Gamers, Online Gamers and Technophiles was examined. If these stereotypic categorizations are fueled by a fear of new technology, the same relationship found between Arcade Gamers and Online Gamers (that is, no significant difference in TSR-P) should be found between Online Gamers and Technophiles. Repeated-measures ANOVA analyses revealed that Online Gamers and Technophiles do not share similar stereotypic profiles, as significantly lower proportion of stereotypical words were attributed to Technophiles (M = .15, SD = .15) than Online Gamers (M = .32, SD = .24); F(1, 63) = 41.45, P < .001.

# **DISCUSSION**

The primary aim of this study was to uncover the boundaries of the stereotype of online gamers to determine if the characterization is unique to this population and this activity as well as identify the particular features that differentiate online gamers from other similar groups. While the TSR-P of Online Gamers significantly differed from most other groups, four social categories emerged with a similar stereotypic profile: Arcade Gamers, Comic Book Enthusiasts, Dungeons and Dragons Players and Geeks. Additionally, the characteristic of social ineptitude, which is a key trait in the stereotype of online gamers, was identified as a principal descriptor for three of the four gaming categories (Arcade, MMORPG, and Online). These results suggest that the stereotypic content previously established as central to the stereotype of online gamers is not unique to this population and is instead shared amongst other groups, both general (Geeks) and specific (D&D Players). While the origin of the stereotype remains unclear, the stereotype of online

gamers does not seem to be an over generalization of other similar social groups or originate from a fear of new technologies.

The principal descriptors ascribed to Online Gamers confirm that they are perceived in ways that align with the anecdotal stereotype: competitive, addicted, loners, who are obsessive, socially inept, isolated, immature and young. The image of an individual playing alone and for long periods of time seems to be at the heart of this conceptualization, as multiple traits refer to the idea of being engrossed in the activity (addicted, obsessive), and doing so without the company of others (loner, isolated). The addition of socially inept hints at the inability for online gamers to interact with others even if desired. Examining the content overlap between Online Gamers and other gaming groups with similar stereotypic profiles (Arcade Gamers and MMORPG Gamers) will provide insight into the core characteristics upon which their individual stereotypes are based.

Arcade Gamers were the only gaming group with a TSR-P that did not significantly differ from Online Gamers. Arcade Gamers shared seven of Online Gamers' eight principal descriptors, including 'socially inept'. Fun loving, persistent, determined, carefree, and skillful were uniquely attributed to Arcade Gamers whereas loner was the only trait ascribed to Online Gamers that was not also used to describe Arcade Gamers. These differences may be reflective of the distinctive environments in which these two activities take place. While both groups are immersed in a virtual, rather than 'real', world, Arcade Players do so in a shared physical space with the co-presence of others, whilst online players gather in a shared virtual space, where co-players tend to be virtually, not physically, present. This likely contributes to the perception that online gamers engage solitarily (i.e., alone), despite the fact that they often play in conjunction with a wide variety of other individuals (Griffiths, Davies, & Chappell, 2004), and arcade games engage with others, even though they may not necessarily be actively interacting with other individuals. Generally, the individuating characteristics prescribed to these groups paint broadly different pictures, a fun loving and talented arcade gamer one the one hand, and an online gamer playing alone on the other.

MMORPG Gamers also emerged with a similar stereotypic profile to Online Gamers, subsuming all eight of the principal descriptors of Online Gamers. In addition to the shared descriptors, MMORPG Gamers were attributed three differentiating traits: introversion, determination, and awkward. It is difficult to determine the relevance of this overlap as it could be partially due to the subgroup status this group holds in relation to Online Gamers. However, the attributes that were uniquely attributed to MMORPG Gamers display which characteristics uniquely distinguish them from the global category from which they descend. Perceived to be introverted, determined, and awkward, MMORPG Gamers seem to be viewed more negatively, and more stereotypically, than Online Gamers as a whole.

These perceptual differences could be indicative of a paradigm shift for the broader social category of Online Gamers. A recent surge in the development of casual online games (i.e., games that do not require a substantial time investment or a set of special skills in order to progress through its content) is beginning to propel them into the mainstream. Individuals with no prior experience with video games are now playing casual, social online games at a staggering rate. A reported 20% of the U.S. population has played a casual social game through a social networking site, 35% of which had never played any other kind of video game. Additionally, 50% of *Facebook* users report signing into their

account just to play these kinds of online games (Patel, 2011). This shift in the consumption and accessibility of online gaming could be transforming the broader group of online gamers into one that is perceived closer to the mainstream, while MMORPG gamers, a more specific online genre that remains popular within a niche group of individuals, continue to be perceived on the periphery of conventional culture. Further research is needed to examine this possibility.

There are limitations to this study that should be addressed in future research. While significant similarities were found amongst the social groups, it was not possible to determine the magnitude of the overlap. For instance, 'socially inept', which is believed to be one of the most distinguishing qualities of Online Gamers, was a principal descriptor for three of the four gaming groups. However, it is unclear whether it is the most or least distinctive quality of any particular group. As a key feature of the stereotype of Online Gamers, it was expected that this quality would only be ascribed to Online and MMORPG gaming groups. However, within this study 'socially inept' was also assigned to Arcade Gamers. Therefore, future studies should include a measure of trait applicability (i.e., magnitude) in order to determine if 'socially inept' is more applicable to online (e.g., Online and MMORPG) than offline (e.g., Arcade) gaming groups. If this is not the case, then the assumed contribution that mediated socialization plays in the social competencies of online gamers would need to be further examined.

Future research should also investigate the perception of aloneness, which emerged as the differentiating factor between the perceptions of Arcade and Online Gamers. While 'socially inept' was attributed to both groups, the particular attribution of 'aloneness' may be an important contributor to the growing concerns about the link between online gaming and social competence. The perception that Online Gamers engage solitarily fails to account for the fact that they are not actually playing alone, but are engaging with a multitude of other individuals in a shared virtual space. Future research is needed to further examine the role that perception of aloneness plays in their stereotypical characterization.

Future research should also employ a wider sample, as the participants for the current analysis were limited to ages between 20 and 34. While it is likely that this age group will have a better idea of the shared beliefs of some of these groups (such as MMORPG Gamers), they may have less of an idea of the stereotype of other groups, such as Arcade Gamers. Future research should also incorporate additional subcategories of Online Gamers to determine if the results found here between Online and MMORPG Gamers are attributable to a difference in categorization level or specific subcategories.

While commonalities were found amongst all of the social groups, the results suggest that the stereotypic perception of online gamers seen today is neither a broad generalization nor a conglomeration of other, similar, stereotypes. Supporting previous findings, online gamers remain positioned low in the status hierarchy and far from the mainstream. However, this may be changing as online games continue to evolve and become a less of a niche activity and more accepted and accessible within society. The prototypical online gamer may be in the process of becoming a recycled prototype, as the anti-social, unkempt, teenage male becomes less applicable to online gamers as a whole and more relevant to specific subgroups of online gamers, such as MMORPG Gamers. Future research should examine these possibilities and continue to survey the development of these characterizations as the social group of online gamers continues to evolve.

# Appendix 1

**Dungeons and Dragons Players:** Dungeons and Dragons, or D&D, is a fantasy role-play game first published in 1974. Each player is assigned to a specific character and embarks upon imaginary adventures within a fantasy setting.

**Forum users:** Active forum users refers to those who are actively engaged in online discussion sites where people hold conversations in the form of posted messages.

**Role players:** This refers to anyone who engages in activities where they assume the role of a character in a fictional setting.

**Technophiles:** The term technophile refers to anyone who has a strong enthusiasm for technology.

**LARPers:** Live action role-playing is one form of role-playing game where participants physically act out their characters' actions. The players pursue goals within a fictional setting represented by the real world, while interacting with each other in character

**Trading Card Game Players:** Trading card game players refers to those who play collectible card games such as Magic: The Gathering. These games involve specially designed cards and require strategic game play.

**Console Gamers:** Console gamers are devoted players of electronic games that are played on consoles such as an Xbox, PlayStation or Wii.

**MMO gamers:** A MMORPG, or massively multiplayer online role playing game, is a genre of role playing video games where a very large number of players interact with one another in an online virtual game world. MMORPGs are distinguished from other role play games by the number of players and the games persistent world which continues to exist and evolve even when the player is offline. The most popular MMORPG on the market today is World of Warcraft.

**Teammates:** The term teammate is referring to any collection of members from a team. This can include, but is not limited to, paintball teams, debate teams, or football teams.

Geeks: Geek is a slang term referring to someone who may be peculiar and overly intellectual.

**Students:** In this context, student is referring to anyone who attends an educational institution

**Teenagers:** The term teenager refers to anyone between the ages of 13 and 19

**Comic book enthusiast:** Comic book enthusiast are those individuals who hold a high enthusiasm for this genre of literature. Comic books comprise of narrative artwork in the form of separate panels that represent individual scenes, which are often accompanied by both dialogue and directive prose.

**Engineer:** An engineer is a professional practitioner of engineering, concerned with applying scientific knowledge and mathematics to develop solutions for technical and

practical problems. Most engineers specialize in a discipline such as mechanical engineering, software engineering, or civil engineering.

**Computer Scientist:** A computer scientist is someone who has extensive knowledge in the field of computer science, which is the study of the theory and methods of processing information in digital computers, the design of computer hardware and software, and the applications of computers.

**Arcade Gamers:** Arcade gamers are individuals who frequently play coin operated entertainment machines. Most arcade games are video games, pinball machines, and merchandisers (claw machines)

**Online Gamers:** The term online gamer refers to a devoted player of electronic games that are played through an Internet connection in conjunction with other individuals. This includes playing with both people they know and do not know in the real world.

### **BIBLIOGRAPHY**

Andrew, C. (2009). The Real-World Effects of Online Gaming: Socially Inept. from <a href="http://www.associatedcontent.com/article/1712963/the\_realworld\_effects\_of\_online\_g">http://www.associatedcontent.com/article/1712963/the\_realworld\_effects\_of\_online\_g</a> aming\_pg3.html?cat=41

Buhrmester, M., Kwang, T., & Gosling, S. (2011). Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data? *Perspectives on Psychological Science*, 6(1), 3 - 5.

Chak, K., & Leung, L. (2004). Shyness and Locus of Control as Predictors of Internet Addiction and Internet Use. *CyberPsychology & Behavior*, 7(5), 559 - 570.

Chiu, S., Lee, J., & Huang, D. (2004). Video Game Addiction in Children and Teenagers in Taiwan. *CyberPsychology & Behavior*, 7(5), 571 - 581.

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2008). Competence and warmth as universal trait dimensions of interpersonal and intergroup perception: The stereotype content model and the BIAS map. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*. NY: Academic Press.

Day, F. (Writer). (2007). Wake-Up Call, The Guild.

Ducheneaut, N., & Moore, R. (2005). More than just 'XP': learning social skills in massively multiplayer online games. *Interactive Technology and Smart Education*, 2(2), 89 - 100.

Gosling, S., Vazire, S., Srivastava, S., & John, O. (2004). Should We trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, *59*, 93 - 104.

Graham, S., & Latulipe, C. (2003). CS Girls Rock: Sparking Interest in Computer Science and Debunking the Stereotypes. Paper presented at the SIGCSE, Reno, Nevada.

Griffiths, M. (2010). Computer game playing and social skills: a pilot study. *Aloma*, 27, 301 - 310.

Griffiths, M., Davies, M., & Chappell, D. (2004). Demographic factors and playing variables in online computer gaming. *CyberPsychology and Behavior*, 7, 479 - 487.

Halloran, J. (2011). Game Changer? How VoIP Is Impacting the Way We Play. *International Journal of Interactive Worlds*, 2, 1 - 27.

Hamilton, D., & Rose, T. (1980). Illusory correlation and the maintenance of stereotypical beliefs. *Journal of Personality and Social Psychology*, 39, 832 - 845.

Haslam, A. (2002). From personal pictures in the head to collective tools in the world: how shared stereotypes allow groups to represent and change social reality. In C. McGarty, V. Yzerbyt & R. Spears (Eds.), *The Formation of Meaningful Beliefs about Social Groups*. Cambridge: Cambridge University Press.

Judd, C., & Park, B. (1993). Definition and Assessment of Accuracy in Social Stereotypes. *Psychological Review*, 100(1), 109 - 128.

Kowert, R., Griffiths, M., & Oldmeadow, J. (under review). Geek or Chic? Emerging Stereotypes of Online Gamers.

Lorre, N., Molaro, S., & Kaplan, E. (Writer). (2008). The Barbarian Sublimation. In F. Belyeu (Producer), *The Big Bang Theory*. USA: Warner Brothers Studios.

McGarty, C., Yzerbyt, V., & Spears, R. (2002). *Stereotypes as Explanations. The Formation of Meaningful Beliefs about Social Groups*. Cambridge University Press.

McKenna, K., & Bargh, J. (2000). Plan 9 from cyberspace: The implications of the Internet for personality and social psychology. *Personality and Social Psychology Review*, 4(1), 57 - 75.

Moore, R., Ducheneaut, N., & Nickell, E. (2007). Doing Virtually Nothing: Awareness and Accountability in Massively Multiplayer Online Worlds. *Computer Supported Cooperative Work, 16*(3), 265 - 305.

Morahan-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the internet. *Computers in Human Behavior*, 19, 659 - 671.

Paolacci, G., Chandler, J., & Ipeirotis, P. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making*, 5(5), 411 - 419.

Parker, T., & Stone, M. (Writer). (2006, October 4). Make Love, Not Warcraft. In T. Parker, M. Stone & A. Garefino (Producer), *South Park*. United States: South Park Studios.

Patel, S. (2011). Social Gaming: The Good, The Bad, & The Ugly. Retrieved April 19, 2012, from <a href="http://www.singlegrain.com/blog/social-gaming-the-good-the-bad-the-ugly/">http://www.singlegrain.com/blog/social-gaming-the-good-the-bad-the-ugly/</a>

Peters, C., & Malesky, A. (2008). Problematic Usage Among Highly-Engaged Players of Massively Multiplayer Online Role Playing Games. *CyberPsychology and Behavior*, 11(4), 481 - 484.

Sigman, A. (2009). Well connected? The biological implications of 'social networking'. *Biologist*, 56(1), 14 - 20.

Spears, R., & Haslam, A. (1997). Stereotyping and the burden of cognitive load. In R. Spears, N. Oakes, N. Ellmers & A. Haslam (Eds.), *The Social Psychology of Stereotyping and Group Life*. Oxford: Blackwell.

Truly, D. (Writer). (2010). Bullseye. In W. Films (Producer), *Law and Order: Special Victims Unit*. USA: NBC Studios.

Wade, M., & Brewer, M. (2006). The Structure of Female Subgroups: An Exploration of Ambivalent Stereotypes. *Sex Roles*, *54*, 753 - 765.

Williams, D. (2005, June). *A Brief Social History of Game Play*. Paper presented at the DiGRA 2005 Conference: Changing Views – Worlds in Play, Vancouver, British Columbia, Canada.

Williams, D. (2006). Groups and goblins: The social and civic impact of online games. *Journal of Broadcasting and Electronic Media*, 50, 651 - 681.

Williams, D., Caplan, S., & Xiong, L. (2007). Can You Hear Me Now? The Impact of Voice in an Online Gaming Community. *Human Communication Research*, 33(4), 427 - 449.

Yee, N., & Bailenson, J. (2008). A method for longitudinal behavorial data collection in second life. *Presence: Teleoperators and Virtual Environments, 17*(6), 594 - 596.