# CYPRUS UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MULTIMEDIA AND GRAPHIC ARTS



# **Thesis Project**

# GENDER STEREOTYPES AND GENDER PORTRAYAL IN VIDEO GAMES: THE CASE OF LOL

Iraklis Ioannou

# CYPRUS UNIVERSITY OF TECHNOLOGY DEPARTMENT OF MULTIMEDIA AND GRAPHIC ARTS MULTIMEDIA AND GRAPHIC ARTS

# **Thesis Project**

# GENDER STEREOTYPES AND GENDER PORTRAYAL IN VIDEO GAMES: THE CASE OF LOL

Iraklis Ioannou

Supervisor Dr. Andri Ioannou

Limassol 2015

### **COPYRIGHT**

Copyright © Iraklis Ioannou, 2016

All rights reserved.

The approval of the graduation thesis from the Department of Multimedia and Graphic Arts of Cyprus University of Technology does not necessarily imply acceptance of the views of the author by the Department.

I would like to show my gratitude and appreciation to my supervisor Dr. Andri Ioannou for her approval of my thesis as well as her assistance throughout the whole process of researching and writing. Finally, I am thankful to Michalis Constantinou, Irene Pantela, and Georgia Nicolaou for their contribution on the coding for my research.

#### **ABSTRACT**

Video games are unquestionably an integral part of our lives: they offer entertainment, education, and socializing. Video games fulfill much more than they used to when they first appeared and are by far more prevalent in our everyday routine, especially since the appearance of handheld devices and mobile gaming. Despite popular beliefs, video games do not fail to attract people of all ages and genders. In fact, about 50% of gamers are women – a facet that is often disregarded by video game companies when pitching or designing new video games. Being such a huge source of information to a wide range of people—a range that excludes no one-video games have reasonably been studied extensively. Researches and critics raise controversial matters on video games' content and uses. This thesis focuses on the case of *gender portrayal*, particularly how gender is generally represented in video games and what stereotypes prevail. This work uses the currently most popular video game, League of Legends, and its 130 playable characters (champions) as a case study, in an attempt to evaluate whether the game embraces or dismisses these gender stereotypes. Results show that the game does embrace certain gender stereotypes. Female champions are only as half as male ones and they are by far, more stereotypically depicted (skinny, small waists, large breasts, conventionally attractive) than men, whose appearances vary and often deviate from ideal standards of beauty. Female champions are also more likely to wear revealing and/or tight clothes, are generally younger, and are sometimes even promoted in certain ways so as to appeal through their bodies rather than skills or power, even though this is a fantasy strategy fighting game. The study provides guidelines for the design of stereotype-free video games and discusses implications of this work for future research and practice.

**Keywords:** video games, gender stereotypes, gender portrayal, gender representation, character design, sexism, League of Legends

# TABLE OF CONTENTS

ABSTRACT	iv
TABLE OF CONTENTS	ν
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
LIST OF TERMS	ix
LIST OF SYMBOLS	x
1. INTRODUCTION	xi
2. BACKGROUND KNOWLEDGE	1
2.1 Gender and Gaming	1
2.2 Representation and Stereotypes in Games	3
2.3 Game Characters in contemporary games	5
2.4 Psychological Influences on Players	6
3. METHODOLOGY	10
3.1 League of Legends	10
3.2 Sample	11
3.3 Coding Scheme	12
RESULTS	14
DISCUSSION	24
CONCLUSION	29
REFERENCES	31
Games Mentioned	34
APPENDIX	35
Coding Scheme	35

# LIST OF TABLES

Table 1: Champions' Roles and Gender (N=130)	11
Table 2: Results for Male Champions	17
Table 3: Results for Female Champions	18
Table 4: T-test Group Statistics	22
Table 5: T-test Results	23

# LIST OF FIGURES

Figure 1. Zarya in the official trailer.	6
Figure 2. Illaoi (left) and Kalista (right).	17
Figure 3. Different-gendered champions: Blitzcrank (top) and Orianna (bottom)	20
Figure 4. Some examples of female champions' bodies and poses.	21
Figure 5. Some examples of diversity in male champions' bodies, looks, and clothing	21

### LIST OF ABBREVIATIONS

LoL League of Legends

MOBA Multiplayer Online Battle Arena

### **LIST OF TERMS**

Champion a player-controlled character in League of Legends

eSport electronic sports, professional competitive video gaming

The Void a dark and timeless place in League of Legends

Twitch (twitch.tv) live streaming video platform, primarily focusing on video gaming

Voidborn monstrous creatures originating from the Void

Yordle short, cute, and often hairy creatures in League of Legends

# LIST OF SYMBOLS

M mean

SD standard deviation

t t variable

df degrees of freedom

#### 1. INTRODUCTION

Since their revolutionary appearance in the 70's, video games have managed to occupy an integral part of our lives. Through the years, a fast-paced advancement has led to the constant development of improved graphics, new ways to play and control, new consoles of all shapes and sizes, and much more. As technology advances, video games manage to spread into more scientific and artistic fields and fulfill more purposes. While still claiming a great part of our entertainment, video games are now considered a great medium for education, training, and socializing.

Video games do not discriminate when it comes to who is playing. People of all ages, genders, ethnicities, religions, and backgrounds enjoy playing video games. Even though at times certain titles are promoted as gender-specific, and even though games are always rated for specific ages (Entertainment Software Rating Board), the truth is that developers ultimately have no control over who is playing or watching their games.

All these facts make video games a well-researched topic. Just like other sources of media, such as TV-broadcasted shows or the Internet, video games need to be researched in order to ensure their usage remains benign to its audience and that it is used to its full potential. Many controversial topics have risen along with the fame and prevalence of video games, perhaps most famous of them being the case of how violence in video games affects gamers. In general, it is pretty common for studies to analyze how video games affect players' behavior (e.g., Anderson & Dill, 2000; Anderson & Bushman, 2001).

The case of gender representation in video games is also an often-debated topic. Since the appearance of human characters in video games, many critics and researchers have argued that both male and female characters are designed around the same tropes that strengthen certain stereotypes in our society (Dietz, 1998; Yang, 2012). It is often argued by critics that this happens in order to appeal to their alleged predominant buyers – boys and men (e.g. Sarkeesian, 2014). Video games have, after all, always been geared and promoted as a boys' activity, falsely spreading the idea that girls are not really interested in video games (Cassel & Jenkins, 1998; Lien, 2013). That, of course, can have numerous negative effects on players and, in extent, the society (Yao, Mahood, & Linz, 2009). In the case of gender portrayal, stereotypical representation, misrepresentation, or underrepresentation can lead to many

misconceptions concerning gender. Moreover, it has direct impact on the gamers' psychology, affecting their self-esteem and self-image (Behm-Morawitz & Mastro, 2009; Barlett & Harris, 2008; Fox et al., 2015). It is vital to make sure that players can identify with their characters, that those characters inspire the players positively, and that the correct messages are sent. Tackling these issues, and eliminating them from game design, could even make video games a great source of egalitarian ideas, a great way to spread ideas of equality, diversity, and understanding. It is fundamental to study and understand this topic in order to guide and improve future characters, whether they are destined to be a part of animations, video games, art, illustration, comics, or live action films.

The purpose of the present investigation is to find out if stereotypical portrayal is embraced in the case of the currently most popular video game (www.statista.com) and also popular eSport, League of Legends (LoL). LoL has 67 million players monthly (Entertainment Software Association, 2015), is free to play, and has 130 playable characters at the date of conducting this study. In this work, specific stereotypes, tropes, and ways of (mis)representation are analyzed. The study aims to provide guidelines for the design of stereotype-free video games and discusses implications of this work for future research and practice. Specifically, the study aims to answer the following:

- *RQ1*: Does gender representation in LoL perpetuate stereotypical portrayal?
- RQ2: Can we extract general guidelines for stereotype-free game design?

#### 2. BACKGROUND KNOWLEDGE

#### 2.1 Gender and Gaming

Video games have always been considered a guys' leisure and the idea that gamers are predominantly men is vastly widespread. But recent changes in the gaming industry, including the introduction of "casual gaming" with smartphones, tablets, and other handheld devices, have altered this idea (Jayanth, 2014). A lot of video games have actually attracted the female audience and the increase of strong, confident female characters, as well as the introduction of women in the industry, have prompted more and more women to join the gamers' community (Stuart, 2011).

What is the truth though, when it comes to gamers' gender? Despite the notion of most gamers being men with a great difference, many researches suggest otherwise. For example, the Entertainment Software Association (ESA) suggested that in 2008, 40% of gamers in the US were women and that women above 18 represented a greater percentage of gamers than boys below 17, with 33% and 18% respectively (Entertainment Software Association, 2008). By 2015 the numbers seem to have increased as the same company reported that nearly half (44%) of the gamers are actually women and that adult female gamers are more than twice as many as young male ones (Entertainment Software Association, 2015). Similarly, a research by Populus on behalf of the Internet Advertising Bureau UK (IAB), found that in the UK more than half (52%) of the gamers are women (Internet Advertising Bureau UK, 2014). Taking these researches into consideration, it is safe to assume that about half of the gamers are women and that anyone can be a gamer, regardless of gender.

Although it is undeniable that women play video games as well, it is true that video game companies seem to persist on aiming to attract mostly the male audience. Because of that, through the years games persisted on following a specific aesthetic that exclusively pleased straight men and their fantasies. One of the strategies they follow to achieve that, is by favoring and opting for male lead characters instead of female ones. In an interview with The Penny Arcade Report, game developer and director of *Remember Me*, Jean-Max Moris, stated that when the aforementioned female-led video game was presented to potential publishers, many of them declined, claiming that "it was not going to succeed" and that

"[y]ou can't have a female character in games. It has to be a male character, simple as that." (Prell, 2013). In addition, the hesitation of companies to promote female characters is reflected in the respective funding. On this matter, the chief operating officer of Electronic Entertainment Design and Research (EEDAR), Geoffrey Zatkin said that "[g]ames with a female-only protagonist got half the spending of female optional, and only 40 per cent of the marketing budget of male-led games. Less than that, actually." Due to this, female-led video games have less success in the market, with games featuring only one male hero selling 75% more (Phillips, 2013).

At some point in the early history of gaming, the creators decided to turn to girls as well, mostly for marketing reasons (Lien, 2013). One of the techniques that game developers used in order to attract more female gamers was creating "feminine-themed" games – for example involving fashion or cooking. These games were supposed to be female-exclusive. This genre died up easily for that very reason. These themes only support and strengthen the stereotypes that surround women, their interests, and their capabilities, reinforcing the idea that women do not share common interests with men, and thus increasing the gap between the two genders (Bryce et al., 2006).

Because of this false perception of video games being connected to masculinity, women are still not fully accepted into gaming communities. In fact, many researches suggest that online gaming communities hold hostile stances towards women. For example, Kuznekoff and Rose (2013) conducted a study with recorded online multiplayer matches (n = 245) of the same video game, during which audio clips containing the voice of either a man or a woman played. Results showed that the female voice received about three times as negative comments as the male voice or no voice at all. In a research by Pew Research Center, online games ranked poorly as a welcoming environment for women, with 44% stating that online games are more welcoming towards men only (Pew Research Center, 2014). Online harassment in multiplier games is not rare occurrence for women and websites like www.fatuglyorslutty.com allow women to post any online harassment and hate speech they received. Jenny Haniver has even created a website in which she documents her unpleasant and full of sexism experiences, while playing video games online (NotintheKitchenAnymore.com).

#### 2.2 Representation and Stereotypes in Games

Due to the fact that most video games aim to please men, reports argue that this leads to unfair representation through the characters. Through the years an excessive amount of academic researchers have analyzed how genders are generally represented through video games and which specific attributes seem to be associated with each gender. The vast majority of research on the topic tends to agree on the problematic representation of male and female characters. A significant number of stereotypes, concerning both the appearance of the character as well as their personality and role in game, can be found in male and female characters alike. Apart from this, many of these researches agree on the lack of representation of female heroes compared to male ones, or the utter lack of female characters in video games. For example, a content analysis of popular Nintendo and Sega Genesis video games conducted by Tracy Dietz (1998) suggested that female characters are mostly portrayed through degrading stereotypes, if at all. To be more specific, out of the total sample of 33 games she analyzed, 41% of the games with human characters included no women at all. Only 15% of the games portrayed female characters as heroes (but never exceeded the number of male ones in each), while 21% depicted them as a helpless victim as part of the plot, who would of course be saved by the hero, the so-called Damsel in Distress. Another 15% only included supportive or non-significant female characters (e.g. spectators). Even in those cases, female characters were stereotypically portrayed (e.g. wearing pink clothes) or as sex objects (e.g. revealing clothes, large breasts). Similarly, one other relevant content analysis with larger sample (n = 133) agreed that males are heavily over-represented in video games with an appearance rate of 85.23%, leaving female characters with 14.77% (Williams et al., 2009).

In a more recent investigation, Bryce et al., (2006) conducted a content analysis of 27 of the most popular games on Playstation, Dreamcast, and Nintendo 64 that demonstrated similar patterns in the representation of female characters. Male characters were once again more likely to have a leading role, with 92% of the games including a male lead compared to the 54% that had at least one female lead. In addition, this research also focused on the stereotypical portrayal of female bodies in video games as well: when it comes to their bodies, 85% of the female characters had large cleavage, small waists, or very thin bodies. As for their clothing, 38% of the female characters were designed with significant body

exposure, 31% had exposed thighs, the same amount had exposed stomachs or midriffs, 23% had exposed breasts, and 15% had exposed behinds (Bryce et al., 2006).

Furthermore, in Miller and Summers (2007), a content analysis confirmed the existence of similar patterns in video game magazines. The study analyzed a total of 115 characters and found the following, in terms of their portrayal: male characters were likely to be depicted as muscular (70.7% scored above the midpoint), powerful (84.5% scored above the midpoint); females were likely to be portrayed as sexy (66.7% scored above the midpoint), very attractive (88.5% scored above the midpoint), and 65.9% scored above the midpoint on revealing clothing. In short, while male characters were mostly portrayed as powerful and muscular, female ones were portrayed as sexy and their attire differed in similar ways as well. In terms of plot and roles, once again male characters dominated in playable roles or as the heroes. Fifty-one percent of the games had playable male characters, 26.5% of the games had playable female characters, 10.2% of the games gave the player the option to choose the gender of their character, and the rest of the games featured an unknown or nonhuman character of undetermined or unsure gender. In total, 58.1% of the time the males were heroes and 14.5% were secondary or supplemental, while females were heroes 34.6% of the time and 30.8% were supplemental. This showed once again that male characters are more likely to be the leading heroes and female characters tend to be complimentary characters or villains (Miller and Summers, 2007).

While Friedberg (2015) seems to agree with the above, he also suggested that when it comes to body and clothes sexualization, both male and female characters are not as oversexualized as before, although still attractive to some extend. His research led to the same findings as before, concerning gender representation: male characters still outnumber female ones in leading roles, the game narratives and plots clearly try to satisfy the male audience, even when having a well-developed female lead, and women often serve as supportive characters who help with the plot.

Going beyond the games themselves, stereotypical depiction of both genders seems to prevail and be visible in official video game websites. In a research, Robinson, Callister, Clark, and Phillips (2009) examined the websites of the most popular video games of 2005 and 2006, and it was found that male characters where three times as frequent as female ones. One could say the reason behind this is that male characters are more prevalent in video games themselves and thus in their websites as well. However, the researchers also found that

even in games where players can freely choose the gender of their character, male characters were 20% more likely to appear than female ones, with 60% and 40% respectively. As for the body and appearance, a large number of women were portrayed younger than men, with thin bodies (80%), "voluptuous" cleavage (31%), very sexy (37%), or extremely attractive (72%). Meanwhile, many of the men had large bodies and muscles (35%), and women were by far more likely to appear in sexy clothing (tight fitting or exposing more body) or swimsuits (Robinson et al., 2009).

#### 2.3 Game Characters in contemporary games

As video games evolve, there is a significant increase of non-stereotypical female characters and female heroes and lead characters. There are also more and more games that give players the ability to choose their character's gender, either by giving multiple choices of characters to play as or by offering a fully customizable avatar in character creation, and some even include the feature of alternating between different gendered characters as part of the game (Bryce et al, 2006). It is also important that characters now have less sexualized bodies and seem to slowly deviate from body stereotypes, such as exaggerated muscularity, voluptuous portrayal, or disproportionately thin waist (Friedberg, 2015).

Many examples in contemporary games support this case. Only recently, FIFA 16 became the first game of the series to feature women's soccer (see Byford, 2015); in the latest installment of Tomb Rider, Rise of Tomb Raider, the character of Lara Croft was critically acclaimed for being more "human" than before and a great female lead which girls can look up to, especially compared to older versions of the same character (see for example Granger, 2015); Assassin's Creed Syndicate finally included a playable female assassin option (see Williams, 2015) after including a female protagonist in its previous installment: Assassin's Creed Unity. Blizzard's Overwatch, added the character Zarya (see Figure 1) in response to fans' call for diversity in female body types (Makuch, 2015). She is tall, athletic, muscular, and strong, with short hair and a facial scar, escaping from conventional representation in many ways. These and many more cases of popular video games embrace the idea of proper female representation, devoid of traditional ideas and stereotypes.



Figure 1. Zarya in the official trailer.

#### 2.4 Psychological Influences on Players

Given the evidence that video game characters are stereotypically designed depending on their gender, what exactly is the impact of being exposed to these stereotypes and portrayals? Since the birth of video games, the constant argument of how and to what extent video games affect people's psychology has been on-going. Dietz (1998) stated that stereotypical portrayal of both genders in video games has a tremendous negative effect on the perception of gender in young kids who play these games. This traditional depiction of men and women in video games-like in all media-reinforces sexist ideologies and expectations, such as considering women weaker, less worthy, or viewing them as mere sex objects. A similar theory was tested and verified in Yao, Mahood, and Linz's (2009) study, by having male students (n =74) play either a sexually explicit game with female objectification content (n = 24) or one of two non-sexual control games, one social (n = 25) and one non-social (n = 25), and then performing a lexical decision task and complete the Likelihood to Sexually Harass (LSH) scale. Results showed that, indeed, playing a sexually explicit game that portrays women as sexual objects, not only primes sexist thoughts reflecting the idea that females are sex objects, but also increases "self-reported behavioral tendencies to sexually harass women" in social situations. An experiment conducted by Yang (2012), examining implicit gender

stereotyping, suggested that playing as a male character performing violent acts subsequently connects the two (males and violence) in the mind of the player, more than violent female characters do, leading to stereotypically associating men with violence.

But the effects of this portrayal are not limited on how we perceive the opposite gender. They also spread to the way players see themselves too. This is tested in an experiment conducted by Behm-Morawitz and Mastro (2009). In the experiment participants were undergraduate students (n = 328), 63% being women (n=206) and the 37% men (n=122). The participants were asked to either play a video game with either a sexualized character, one with a non-sexualized character, or none at all, and then filled a questionnaire. The results showed that women who played with the sexualized character displayed lower self-efficacy and underestimated the physical capabilities of women in comparison to those of men. It is therefore suggested that girls and women exposed to stereotypically portrayed or sexualized female characters may have negative effects on their confidence. Moreover, additional findings from the same experiment seemed to repeat the previous statements about gender expectations from both, men and women. That is to say, participants who played with the sexualized character seemed to underestimate women's cognitive capabilities afterwards. This might suggest, once again, that sexualized female characters have negative effects on the players' beliefs about real-life women as well.

The negative influence that stereotypically and ideally depicted characters have on self-esteem was also tested in Barlett and Harris's (2008) two studies. Participants of both genders completed body-image measures, played a game, and completed post-game body-image measures. The participants were divided into the two studies, according to gender. In study 1, male participants (n = 51) played with either a muscular male character (n = 27) or a non-muscular one (n = 24) that was customized so as to resemble each individual participant. Results indicate a significant drop of their self-esteem and an increase in negative body-image of participants who played as the muscular character. In fact, both cases showed a decrease in their body confidence and esteem and also "had a decrease in their positive attitudes toward muscularity, and had a decrease in the drive for muscularity". Interestingly, participants who played with the non-muscular version had lower levels of 2drive for muscularity" suggesting that not being exposed to muscular images and characters can decrease one's will to pursuit such image/body. Similarly to study 1, study 2 focused on female participants (n = 32) who played as bikini-wearing female characters with small

waists, flat stomachs, and large breasts. Like the first study, results hint that playing the game alienated the participants' feelings towards their own bodies for the worse. In addition, they displayed slight negativity towards their sexual attractiveness. However, no significant impact on the participants' body satisfaction was noted. Overall, the study showed that being exposed to ideal bodies through video games can drastically affect one's self esteem, regardless of gender. More importantly, it was specifically stated in the study that the total amount of time spent playing by each participant did not affect the results and we should therefore consider that these effects might develop from short exposure to these images.

Last but not least, Fox et al. (2015) conducted two studies about exposure to sexualized avatars and the impact on players' self-objectification. In study one, college women (n = 87) were exposed to either sexualized or non-sexualized avatars, and either played as the avatar or just watched. Results suggested that exposure to the sexualized avatar led to higher levels of self-objectification, and the condition of either playing with or watching the sexualized avatar had no significant impact on the value of self-objectification. This suggests that exposure to sexualized video game characters leads to self-objectification regardless of interactivity with the video game. Study 2 had college women (n = 8I) play with a sexualized avatar that resembled them, a non-sexualized avatar that resembled them, a sexualized avatar that did not resemble them, and a non-sexualized avatar that did not resemble them, in order to test whether the similarity would affect the results of selfobjectification. Once again participants with sexualized avatars displayed higher values of self-objectification than participants with non-sexualized avatars, but this time the study further argued that sexualized avatars also led to a tendency to accept fallacious arguments about rape and rape victims (Rape Myth Acceptance), basically indicating that sexualized avatars "may be at risk for developing negative attitudes toward the self and perhaps toward women in general outside the virtual environment".

The above-mentioned studies suggest the importance and necessity of studying stereotypes and representation in video games; it appears that the impact they may have on kids and adults alike can be significant to their development, confidence, and self-esteem. Ubiquitous images of ideal bodies, exaggerated muscularity, or oversexualized bodies and clothing can alter one's idea of themselves and their own body. Moreover, traditional depiction of genders can perpetuate these stereotypical ideas creating false perception of the opposite gender and subsequently shaping unrealistic or sexist expectations of real life (e.g., men expecting women to be weak or sex objects, women expecting men to be violent). It is

thus essential to pursuit video games and characters that promote diversity and realistic bodies that do not degrade any gender. The present investigation is yet another step toward this direction. The study uses LoL, and its 130 champions as a case study, in an attempt to evaluate whether the game embraces these gender stereotypes and to provide guidelines for the design of stereotype-free video games.

#### 3. METHODOLOGY

This is a content analysis research (Kyriazi, 2011) focused on the case of the video game LoL and its champions.

#### 3.1 League of Legends

LoL is a fantasy-themed Multiplayer Online Battle Arena (MOBA) game by *Riot* and popular eSport. While it features multiple game modes, the most commonly played mode features two rival five-person teams fighting their way to the enemy's base. The gameplay is heavily based on strategy as well as teamwork and communication with one's team. Each player in each team has a different role, all equally important for the team. The map is divided into three lanes (top, middle, bottom) that are separated by the "jungle". The playable characters are called champions. Each champion has a different and unique backstory (lore), abilities, and appearance. The Roles of a champion, can define his or her position, gameplay, and role within the team. For example Support champions aim to aid their teammates, usually with heals or shields that protect them, while Marksmen deal damage with ranged weapons. The Roles in the game include: Fighter, Marksman, Mage, Tank, Assassin, and Support. Although champions have primary—and sometimes secondary—roles in their description in the game as recommendations, it is ultimately up to the player to decide where and how to play with his or her selected champion.

There are several reasons behind my choice to analyze LoL. With 67 million players monthly (Entertainment Software Association, 2015), LoL appears to be the most played PC game (www.statista.com) while in 2015, LoL was the most popular video game on Twitch (www.twitch.tv). Moreover, it is notable that LoL is free to play and available worldwide, thus not limiting its player base to certain groups. Another factor for choosing LoL as the case of this work is the eclectic roster of champions and the fact that it attracts both genders. Last but not least, I play LoL on a daily basis and thus I am pretty familiar with it and its champions.

#### 3.2 Sample

There were a total of 130 released, playable champions in LoL at the time of the investigation based on official website information. Basic data was collected for these 130 champions (Race, Gender, Primary Role, Secondary Role (when available), and Release Date) based on official website and in-game information. To gender-categorize champions I used the pronouns used in the lore or description of each champion (i.e. he/him/his for male and she/her/her for female). Also, one champion did not fit either group, as they were consisted of two characters: one female and one male. The game roles and gender of the champions of the full sample (N=130), per official website and in-game information, are presented in Table 1.

Table 1: Champions' Roles and Gender (N=130)

D 1		Gender	
Role —	Male	Female	Other
1. Fighter	26	9	0
	(24)	(5)	O
2. Mage	17	12	0
2. 11480	(13)	(10)	U
3. Marksman	12	9	1
	(3)	9	1
4. Support	7	5	0
Sufferi	(3)	(10)	O
5. Assassin	10	4	0
• • • • • • • • • • • • • • • • • • • •	(11)	(7)	O
6. Tank	14	3	0
	(18)	(2)	O
Total	86	43	1
Humans/Humanoids	46	38	0

Notes. Parentheses indicate secondary champions roles.

After basic information was collected for all champions, it was found that only 84 characters were fully or partially human or humanoid and therefore suitable for inclusion in the content analysis with the variables (n=84). That is, animal or monstrous champions or champions that did not resemble humanoids physically in any way were not included in the sample for the following content analysis.

Although each champion has alternative *skins* (alternative costumes or overall appearance) in the game, the default skins for each one (which are pre-set, free, and available to all players once the champion is unlocked) were used for this content analysis.

#### 3.3 Coding Scheme

The coding scheme of the study included 11 variables. These variables were extracted from previous research and were various gender-based stereotypes concerning the appearance or clothing of characters, which were found in previous studies to prevail in video game characters throughout time. The variables included:

- 1. Age (based on the appearance of the champion and not their lore)
- 2. Body Size
- 3. Waist Size
- 4. Breasts Size (females only)
- 5. Muscularity
- 6. Conventional Attractiveness
- 7. Sexiness
- 8. Amount of Clothing
- 9. Tightness of Attire
- 10. Power (based on their appearance)
- 11. Personality (also based on their appearance)

Each variable was rated on a scale from 0 to 10 for each champion in the sample. Age was the only variable to be rated on a scale of 0 to 6. Please view complete coding scheme and rating scales in the appendix.

The instrument for data collection presented each champion on one page including two pictures (a picture of the current in-game model of the champion and the official art of the champion in the North American and European servers) followed by the 11 variables of coding scheme to be rated (see Appendix). The total number of coders was four (4), two (2) males and two (2) females, all university students between the ages 21 to 23, and all casual players of LoL.

#### **RESULTS**

The results of the content analysis for the fully or partially human or humanoid characters (n=84) are indicated in Table 2 and Table 3 for male champions and female champions respectively.

#### Number of male vs female champions

Based on official website information and as demonstrated in Table 1, male champions (n=86) are twice as many as female champions (n=43).

#### **Gender of Support champions**

One surprising result, based on official website information, was the Gender of Support champions, that is champions that had Support as their Primary or Secondary Role in their ingame and website profile. The expected result was to have more female Support champions. On the contrary, champions with Support as Primary Role were mostly male (n=7) than female (n=5). Summing it up with champions that have Support as Secondary Role (male, n=3; female, n=10), the overall number of female champions with Support as primary or secondary role (n=15) exceeded that of male champions with Support as primary or secondary role (n=10) by only 5. However, considering the disparity between the total male and female champions, we can see that a greater portion of female champions has Support as primary or secondary role (34.88%) than male champions (11.63%).

#### Champion gender and age

Ratings on the champions' ages based on their appearance (n=77) showed that women (n=38) were on average rated as Young Adults (ages 20-29) while men (n=39) were on average Adults (ages 30-39) showing that indeed, women were on average younger-looking than men. More importantly however, no women at all were clearly rated as Middle Aged (ages 40-59) or Elderly (ages 60+), compared to the 15 men who scored either Middle Aged or Elderly.

#### Champion gender and body sizes

The difference between female body sizes and male ones is significant. On average, female champions (n=38) were rated as Very Skinny with 2.4671. The highest score of female

champions was 5.7500 (Quite Overweight) while some female champions would go as low as 1 (Extremely Skinny) (n=3). Interestingly, the female champion with the highest score was also the most recent female champion. On the other hand, male champions (n=46) scored Average with 5.4837, and their scores varied from 2.2500 (Very Skinny) to 10 (Extremely Obese). Overall, 52.6% of the female champions were rated as Very Skinny to Extremely Skinny.

#### Champion gender and waist size

Similarly on Waist Size, female champions (n=38) scored only 2.2829 (Tiny). The range for female champions was 0.7500 (Extremely Tiny) to 5.2500 (Average), with only one scoring 5 or higher and that being the most recent female champion like before. Out of the 38 female champions, 60.5% were rated to have Tiny to Extremely Tiny Waists. Once again, male champions (n=45) scored higher with 5.4837 (Average) and their range going from 2.7500 (Small) to 10 (Disproportionally or Absurdly Wide).

#### Female champion breast size

For Breast Size (n=37), the majority of women (n=33) scored Above Average. Only 2 scored below Average, with 2.75, and 3 (Small); two of them scored 5 (Average) and the rest scored from 5.5 to 9.75 (Voluptuous / Absurdly Large). The average score was 6.8919 (Large). Overall, 29.7% of the female champions were rated to have Very Large to Voluptuous/Absurdly Large Breasts.

#### **Champion gender and muscularity**

For Muscularity, men (n=42) mostly scored Above Average. The range went as low as 2.25 (Very Weak) and as high as 10 (Absurdly Muscular). Their average score was 6.1964 (Quite Muscular) and 21.4% were rated to be Very Muscular to Absurdly Muscular. Women (n=36) scored on average only 2.2153 (Very Weak) and their scores varied from 0.5 (Extremely to Absurdly Weak) to 7.25 (Muscular); however only one scored above Average—once again, the most recent female champion. Overall, 61.1% of the female champions were rated as Very Weak to Extremely Weak

#### Champion gender and attractiveness

On Attractiveness, female champions (n=37) scored on average 7.7905 (Very Attractive). The majority of female champions (n=35) scored above average. Their scores were from 2.7500 (Unattractive) to 10 (Utterly Attractive). A total of 62.1% of female champions was

rated to be Very Attractive to Utterly Attractive. Male champions (n=34) on the other hand score only 3.6397 (Quite Unattractive) on average with scores ranging from 0 (Utterly Unattractive) to 8.2500 (Very Unattractive). The majority (n=21) scored below Average.

#### Champion gender and overall sexiness

Similarly, on Overall Sexiness, female champions (n=37) scored on average 7.3514 (Sexy). The majority of female champions (n=35) scored above average. Their scores were from 2.7500 (Quite Unsexy) to 9.7500 (Utterly Sexy). A total of 45.9% of female champions was rated to be Very Sexy to Utterly Sexy. Male champions (n=45) on the other hand score only 2.4889 (Very Unsexy) on average with scores ranging from 0 (Utterly Unsexy) to 6.7500 (Sexy). The majority (n=35) scored below Average while a lot of them (n=12) scored 0.

#### Champion gender and clothing amount

For their clothing amount, female champions had on average 5.0556 (Average), with the lowest score being 1 (Almost Naked) and the highest 10 (Fully Covered). Female champions' clothing tightness was on average 7.8643 (Very Tight), with the lowest score being 5 (Average) and the highest 10 (Skintight). Twenty-five of the female champions were rated to be either Almost Naked or have Very Revealing clothing and 34.2% was rated to have Extremely Tight or Skintight clothes. Male champions had for clothing amount an average of 7.0598 (Heavily Clothed), with scores ranging from 0.2500 (Totally Naked) to 10 (Fully Covered), and for clothing tightness an average of 4.4833 (Quite Loose), with scores ranging from 0.5000 (Very to Extremely Loose) to 8.000 (Very Tight).

#### Notable exceptions in female champions

Considering the appearance of female characters, the most recently added female champions seem to be more deviant than the previous ones. Champion Illaoi (added 24/11/2015) was actually the only female champion to have an above average body, an average waist size, and to be muscular (see Figure 2). She was also rated to have average breasts size. Before her, champion Kalista (added 20/11/2014) was rated to have small breasts size, and was the least conventionally attractive and sexy champion, showing that her design was not sexually based (see Figure 2).



Figure 2. Illaoi (left) and Kalista (right).

Table 2: Results for Male Champions

		Male Champions					
Variable	M	SD	min	max			
1. Age <sup>a</sup>	4.18	1.05	1.00	6.00			
2. $Body Size^b$	5.49	1.75	2.25	10.00			
3. Waist Size <sup>c</sup>	5.26	1.57	2.75	10.00			
4. Breasts Size <sup>d</sup>	-	-	-	-			
5. Muscularity <sup>e</sup>	6.20	2.10	2.25	10.00			
6. Conventional Attractiveness <sup>f</sup>	3.64	2.67	0.00	8.25			
7. Overall Sexiness <sup>c</sup>	2.49	2.30	0.00	6.75			
8. Clothing Amount <sup>b</sup>	7.06	3.12	0.25	10.00			

9. Tightness of Clothing <sup>c</sup>	4.48	1.78	0.50	8.00
10. Power (Looks) <sup>b</sup>	7.02	1.99	1.25	9.75
11. Personality (Looks) <sup>b</sup>	5.45	2.48	1.25	10.00

*Notes*. Four coders contributed to the ratings of each champion. The rate scale for age ranged from 0.00 to 6.00, each number representing an age group assigned with a specific age range. The rest of the variables were rated on a scale from 0 to 10

Table 3: Results for Female Champions

		Female Champions				
Variable	M	SD	min	max		
1. Age <sup>a</sup>	3.16	0.58	1.00	4.50		
2. Body Size <sup>a</sup>	2.47	0.99	0.75	5.75		
3. Waist Size <sup>a</sup>	2.28	1.02	0.75	5.25		
4. Breasts Size <sup>b</sup>	6.89	1.48	2.75	9.75		
5. Muscularity <sup>c</sup>	2.22	1.22	0.50	7.25		
6. Conventional Attractiveness <sup>b</sup>	7.79	1.35	3.00	10.00		
7. Overall Sexiness <sup>b</sup>	7.35	1.48	2.75	9.75		
8. Clothing Amount <sup>c</sup>	5.06	3.21	1.00	10.00		
9. Tightness of Clothing <sup>d</sup>	7.86	1.39	5.00	10.00		

<sup>&</sup>lt;sup>a</sup> n = 39. <sup>b</sup> n = 46. <sup>c</sup> n = 45. <sup>d</sup> Male champions were not rated in this category. <sup>e</sup> n = 42.

 $<sup>^{</sup>f} n = 34.$ 

10. Power (Looks) <sup>a</sup>	4.51	1.87	1.75	8.50
11. Personality (Looks) <sup>a</sup>	4.26	2.58	0.50	8.75

*Notes*. Four coders contributed to the ratings of each champion. The rate scale for age ranged from 0-6, each number representing an age group assigned with a specific age range. The rest of the variables were rated on a scale from 0-10.

<sup>a</sup> 
$$n = 38$$
. <sup>b</sup>  $n = 37$ . <sup>c</sup>  $n = 36$ . <sup>d</sup>  $n = 35$ .

#### Observations in champion design and poses

Despite the numerical differences, there were also many observations that indicated various differences between male and female champions. For example, there are two robot champions: one masculine-gendered (Blitzcrank) and one feminine-gendered (Orianna). While both are technological constructions, the feminine-gendered champion keeps a perfectly human-like shape while keeping characteristics from above (thin body, thin waist) and a human face. On the other hand, the masculine-gendered robot deviates from standard human body and his face does not even resemble a human (see Figure 3). This seems to be the case in animal champions as well: while male "animal" champions are more likely to physically fully resemble animals, female "animal" champions are usually shapeshifters or hybrids so that they can keep a human form. In fact, only 11.63% of female champions were not considered to be fully or partially human or humanoid, compared to 45.35% of male champions. This difference shows how reluctant character and game designers are to escape from beauty standards when designing female champions.



Figure 3. Different-gendered champions: Blitzcrank (top) and Orianna (bottom).

One more observation from analyzing the champions is that in their official in-game art, female characters were often drawn in uncomfortable poses, usually with a bent spine, that highlighted their slim bodies, thin waists, chest, and body curves (see Figure 4). Some of these poses looked extremely unrealistic for a human body to achieve and some were obviously trying to exemplify the champion's body and sexuality. On the other hand, male champions were often drawn in poses that showed power, strength, dominance, and anger (see Figure 5). Interestingly, the two recently-added female champions I mentioned earlier, are also some of the exceptions to this stereotypical pose (see Figure 2).

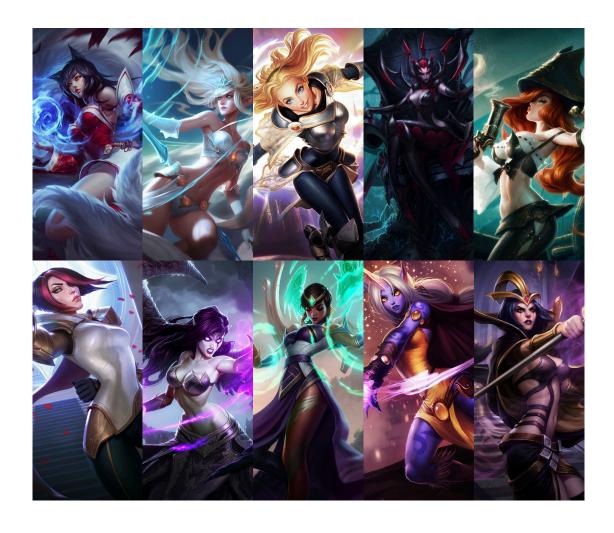


Figure 4. Some examples of female champions' bodies and poses.



Figure 5. Some examples of diversity in male champions' bodies, looks, and clothing.

#### **Inferential statistics on variables**

An independent-samples *t*-test (for statistics refer to Table 4) was conducted for each variable to compare the mean scores between male and female champions. The results are indicated in Table 5.

Table 4: T-test Group Statistics

	Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
1.	100	Male	39	4.18	1.05	0.17
	Age	Female	38	3.16	0.58	0.09
2.	Body Size	Male	46	5.49	1.75	0.26
۷.	Bouy Size	Female	38	2.47	0.99	0.16
<i>3</i> .	Waist Size	Male	45	5.26	1.57	0.23
3.	waisi Size	Female	38	2.28	1.02	0.17
4. Mi	Mugaulavita	Male	42	6.20	2.10	0.32
	Muscularity	Female	36	2.22	1.22	0.20
5.	Conventional Attractiveness	Male	34	3.64	2.67	0.46
		Female	37	7.79	1.35	0.22
6.	Overall Sexiness	Male	45	2.49	2.30	0.34
		Female	37	7.35	1.48	0.24
7.	Clothing Amount	Male	46	7.06	3.12	0.46
		Female	36	5.06	3.21	0.54
8.	Tightness of Clothing	Male	45	4.48	1.78	0.27
		Female	35	7.86	1.39	0.24

9. Power (Looks)	Male	46	7.02	1.99	0.29
	Female	38	4.51	1.87	0.30
10. Personality (Looks)	Male	46	5.45	2.48	0.37
	Female	38	4.26	2.58	0.42

Table 5: T-test Results

		t-test for Equality of Means										
	Variable			Sig.	Mean	Std. Error	95% Confidence of the Difference					
		t	df	(2tailed)	Difference	Difference	Lower	Upper				
1.	Age	5.25	75	< .0001	1.02	.19	0.63	1.41				
2.	Body Size	9.45	82	< .0001	3.02	.32	2.38	3.65				
3.	Waist Size	10.04	81	< .0001	2.98	.30	2.39	3.57				
4.	Muscularity	10.00	76	< .0001	3.98	.40	3.19	4.77				
5.	Conventional Attractiveness	8.37	69	< .0001	-4.15	.50	-5.14	-3.16				
6.	Overall Sexiness	11.10	80	< .0001	-4.86	.44	-5.73	-3.99				
7.	Clothing Amount	2.84	80	.0056	2.00	.70	0.60	3.40				
8.	Tightness of Clothing	9.25	78	< .0001	-3.38	.37	-4.10	-2.65				
9.	Power (Looks)	5.91	82	< .0001	2.51	.42	1.67	3.35				
10	. Personality (Looks)	2.15	82	.0346	1.19	.55	0.09	2.29				

#### **DISCUSSION**

The importance of studying portrayal in video games lies within the undeniable influence that all media have on people. Proven by researches mentioned in my literature review, stereotypical, exaggerated, or oversexualized depictions of characters can have many different negative effects on players. For example, they can form sexist thoughts or decrease one's self-esteem. Such depictions can also drive away females from video games and therefore the industry, leaving the gender gap in those positions open.

Does gender representation in LoL perpetuate stereotypical portrayal? (RQ1)

The aim of this research was to find whether or not the currently most popular video game, LoL, perpetuates examples of stereotypical portrayal based on gender, compared to other studies on the same issue

Most of previous researches argued that male characters were always greater in number, if female characters existed at all. Likewise, LoL features 86 male playable champions, only 43 female ones, and one champion that does not belong in either group, as of the writing of this thesis. Therefore, the analogy of male:female champions is 2:1. Finding out that male champions outnumber females ones so vastly, gives rise to one question: does the champion gender analogy reflect the players gender analogy, or vice versa? This could mean that the game developers want more male champions because most players are male, or that most players are male because the champions themselves drive away potential female players. Either way, the numbers seem to agree that the video game in question revolves around male players more, either by trying to attract them or by building on their needs.

The ratings on the champions' physical appearance seem to argue that their design perpetuates patterns and stereotypes found in previous researches. For example, female champions are more likely to be young while male champions range from young to elderly. No woman was clearly rated to be older than adult (ages 30-39). Most women were rated to be young adults (ages 20-29). Male champions included of course several elderly ones.

Moreover, women were by far more likely to have skinny bodies. In fact, no female champion was rated to have Overweight or Obese body-type. A total of 97.37% scored below the midpoint while the majority of women were rated to be very skinny. Many men, on the

other hand, were rated as Obese, very obese, or extremely obese. Similarly, women were more likely to have smaller waists.

For female champions, other body-related depictions included large breasts, with 89.19% scoring above the midpoint; conventional attractiveness, with 94.59% scoring above the midpoint; and overall sexuality, with the same amount scoring above the midpoint.

For male champions, one body-related stereotype that seemed to prevail from previous studies was the excessive muscularity. Indeed, 83.33% scored above the midpoint. When it comes to attractiveness however, only 32.43% scored above the midpoint. As for overall sexuality, only 24.32% scored above the midpoint.

Findings on women's clothing seem to agree with previous researches as well, although not in as great numbers as above, with 55.55% scoring below the midpoint in clothing amount (i.e. had more than average body exposure). Thirteen percent were rated to have significant body exposure (total rating of 3 or less, scale 0-10) and 71.43% were rated to wear significantly tight clothes (total rating of 7 or more, scale 0-10).

These findings, along with the observations, indicate that while male champions vary in appearance and do not rely on it, female champions still lack diversity and still rely heavily on having an ideal and "pleasing" appearance (see Figure 4). Male champions are by far more likely to have bodies and physical characteristics that escape what is conventionally deemed to be ideal (see Figure 5). They do not need to have a "perfect" body or a sexy appearance. Female champions, however, have still not escaped from the standards and their designs seem to repeat the same body shapes and ideal characteristics. Even in the case of non-humans, female champions are more likely to be some kind of hybrid or shapeshifter in order to keep their human silhouette, which would of course keep the characteristics above: young, slim etc. Male champions on the other hand often appear in animal forms instead.

Of course, there are always exceptions. There are some male champions for example that wear revealing clothing or have conventionally attractive bodies, but the case here is lack of diversity within female champions. There is nothing wrong with including sexy, attractive, or skinny champions, however, what is wrong, is lacking diversity or designing female champions just for the sake of pleasing the players, which is, ultimately, a form of objectification.

Overall, my results argue that LoL *does* perpetuate certain gender-based stereotypes through its champions – mostly in female champions. Stereotypes found in previous researches, concerning stereotypical portrayal through body, image, and clothing can be tracked in LoL as well. The way female champions are presented hints that, indeed, their design is heavily influenced by the fact that the game is mainly promoted for a male audience. It is, however, a hopeful sign that several recent champions deviate from these stereotypes.

#### Can we extract general guidelines for stereotype-free game design? (RQ2)

Considering the reasons behind gender stereotypes in games, the designers always keep in mind that the players of the game are mostly men and thus want the female champions to attract the audience. However, it is crucially important to consider what kind of messages this sends to male players. For example, the idea that women are obligated to have this–rather unrealistic–appearance, unlike men who come in many shapes, and that women are nothing more than their appearance and *have* to remain attractive and sexy even while fighting. Perhaps, if video games were designed to attract women, male characters would lack diversity the way female characters do at the moment. Consequently, we have the case of women playing this game. We should consider what kind of role models or ideas these characters give. Can everyday women identify with these sexualized or unrealistic characters? These characters may lower women's self-worth by providing unrealistic expectations. Instead, champions should promote diversity and at the same time healthier examples for women to follow.

Taking into consideration the stereotypes found as well as these recent signs of improvement, I would like to note some steps that I think the game design industry (and character designers in general) should follow in order to further improve gender representation in games:

1. **Inclusion:** It is more preferable to not gender-specify video games, as this increases the gap between the genders. However, no matter the target audience (in case of one), do not neglect to include characters of different genders. This is not just a matter of being able to identify with the characters but also of setting examples to both genders to understand, respect, and not underestimate the other.

- 2. Enrich Body and Image Diversity: Like in the case of male characters, female characters should come in different body types and unique, non-standardized appearances. Dare to deviate from conventional beauty standards. Characters should be unique and resemble the diversity of the real world. They should set a variety of examples so that players can openly accept difference and being different themselves. That includes examples like chubby or overweight female characters, fully covered female characters, older female characters, muscular female characters, non-muscular or big male characters, and sexy male characters. Being attractive, skinny, or wearing revealing or tight clothes is not a problem, it is acceptable (at least it should be, for both genders), but it is also not a necessity. Boys and girls should not feel obligated to look a certain way and that can be achieved by promoting a diversity of characters who prove that these are choices and it is ok to be different.
- 3. Avoid Forcing Sexiness: It is totally acceptable for a woman or man to want to embrace their sexuality, and that should be the case for characters as well. However, forcing female characters to "look sexy" in order to appeal to the male audience is a form of objectification. Let the attractiveness and sexuality of characters be naturally integrated into their appearance and personality. Some characters might not even need to look sexy, and rely on other characteristics to appeal to the audience, such as their personality or skills. Therefore, sexiness is not something essential all female characters need and occasionally some male ones but something that might eventually characterize a specific character if it is truly a part of them.
- 4. **Dismiss Stereotypes:** Gender stereotypes come in many forms, and whether that is colors, clothing, jobs, or personality, video game characters should aim to break these stereotypes in order to subsequently eliminate them within the society as well. Do not choose to go with standardized formulas or archetypes. Instead choose to create unique characters that prove that anyone can do, wear, and be anything, regardless of their gender.
- 5. Embrace Lack of Gender: Some cases do not need to be gendered in an attempt to look attractive or sexual. Like in the cases of robots, monsters or animals, most non-human and non-humanoid characters are male. These characters could be female with no changes on their appearances whatsoever but they are not, mostly because of the unreasoned need to keep female champions attractive. Do not hesitate to create female monstrous or neutral-looking characters.

Overall, it is possible and also necessary to follow specific guidelines in order to ensure video games remain friendly towards their audience. This could lead to diverse characters, characters that promote equality and egalitarian ideas. Increasing the number of characters like these could lead to positive representation of women. Women would potentially be able to identify with these characters and more women would feel represented. Additionally, boys and girls alike could be more open and acceptive towards different appearances while increasing their self-confidence. These ideas can be applied to many more characteristics, including disabilities, sexuality, and ethnicity in order to make games more diverse.

#### **CONCLUSION**

Summing it up, at the moment, LoL as the most popular video game, does perpetuate certain gender-related stereotypes. Female characters are almost always skinny (often *too* skinny), young, and conventionally attractive, while many times their appearance or attire revolves around exhibiting their sexuality. Unlike male champions who have many shapes, bodytypes, a wide range of ages, and diverse appearances, female champions are almost always built on the same body-type and seldom escape from characteristics that are conventionally deemed attractive or beautiful. Even the way they are portrayed in official art often seems to aim on demonstrating their bodies through specific poses, unlike male champions whose poses evoke more aggressive feelings like power and dominance although still keeping diversity among them. In addition, not only male champions are twice as much as female ones, female champions are far less likely to be non-human or non-humanoid. However, recent additions in the roster seem to deviate from these tropes and include female champions that are muscular, non-sexual, and even monstrous.

Concluding from the above, it is obvious that the current state of gender representation in video games, although improved, still promotes some harmful stereotypes. The increase of female gamers has led to companies embracing the idea of including properly represented female protagonists and focusing less on making their video games aim for male gamers only. However, unfortunately many companies may not be willing to "betray" their predominant buyers. Hopefully, successful titles that are more accepting will set the right example and slowly make video games a more gender-neutral, women-friendly environment. Video games have always been serving as an escape from reality, so the issue is not always designing realistic characters, but ones that the players can identify with and prove that video games truly are for everyone. As I mentioned before, besides entertainment, video games also offer education and socializing. In order to make the most out of this, video games should be a welcoming space that does not force stereotypes.

Taking the impact this has on gamers into consideration, game developers should strive for games and characters that promote egalitarian ideas, equality, and diversity. Video games are to be treated like any other form of media, whether that is TV or films and animation and should therefore aim to shape kids' perception so as to respect and accept, not only people of other genders but also themselves as they are, without feeling the need to

compare themselves to unrealistic video game characters. That can only happen through diverse characters that everyone can identify with. All we have to do is see video games as more than just time-passers and entertainment; see them as mirror reflecting of our values and ideals or, more precisely, the values and image our society should strive for.

#### REFERENCES

Anderson, C. A., & Bushman, B. J. (2001). Effects of Violent Video Games on Aggressive Behavior, Aggressive Cognition, Aggressive Affect, Physiological Arousal, and Prosocial Behavior: A Meta-Analytic Review of the Scientific Literature [Abstract]. *Psychological Science*, 12(5), 353-359. doi:10.1111/1467-9280.00366

Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. [Abstract]. *Journal of Personality and Social Psychology*, 78(4), 772-790. doi:10.1037/0022-3514.78.4.772

Barlett, C. P., & Harris, J. R. (May 2008). The Impact of Body Emphasizing Video Games on Body Image Concerns in Men and Women, *Sex Roles*, *59*, 586–601.

Behm-Morawitz, E., & Mastro, D. (2009). The Effects of the Sexualization of Female Video Game Characters on Gender Stereotyping and Female Self-Concept, *Sex Roles*, 61(11-12), 808-823.

Bryce, J., Rutter, J., & Sullivan, C. (2006). Community, identity and digital games In J. Rutter & J. Bryce (Eds.), *Understanding Digital Games* (pp. 185-204). London: SAGE Publications.

Byford, S. (September 2015). 'Women are the best thing about FIFA 16'. Retrieved 13 December 2015 from: http://www.theverge.com/2015/9/24/9391315/fifa-16-review

Cassel, J., & Jenkins, H. (1998). Chess for girls? Feminism and computer games. In J. Cassel & H. Jenkins (Eds.), From Barbie to Mortal Kombat: Gender and computer games (pp. 2–45). Cambridge, MA: MIT

Dietz, T. L. (1998) 'An examination of violence and gender role portrayals in video games: implications for gender socialization and aggressive behavior', Sex Roles, 38 (5-6): 425-42.

Entertainment Software Association (2008). 'Women Comprise 40 Percent of U.S. Gamers'. Retrieved 12 December 2015 from: www.theesa.com/article/women-comprise-40-percent-us-gamers/

Entertainment Software Association (2015). '2015 Essential facts about the computer and video game industry'. Retrieved 12 December 2015 from: www.theesa.com/wp-content/uploads/2014/11/ESA EF 2013.pdf

Fox, J., Ralston, R. A., Cooper, C. K., & Jones, K. A. (2015). Sexualized Avatars Lead to Women's Self-Objectification and Acceptance of Rape Myths. *Psychology of Women Quarterly*, 39(3), 349-362.

Friedberg, J. (2015). Gender Games: A Content Analysis of Gender Portrayals In Modern, Narrative Video Games (Doctoral Dissertation). Retrieved from: http://scholarworks.gsu.edu/sociology theses/52

Granger, K. (November 2015). Feminist Icon Or Eye-Candy? How Lara Croft Paved The Way For Better Representation in Video Games. Retrieved 13 December 2015 from: http://moviepilot.com/posts/3635866

Internet Advertising Bureau UK (2014) 'Gaming Revolution', retrieved 12 December 2015 from: http://www.iabuk.net/sites/default/files/research-docs/GamingRevolution-A0.pdf

Jayanth, M. (September, 2014). 52% of gamers are women – but the industry doesn't know it. Retrieved April 15, 2016, from http://www.theguardian.com/commentisfree/2014/sep/18/52-percent-people-playing-games-women-industry-doesnt-know

Kyriazi, N. (2011). Η κοινωνιολογική έρευνα [Sociological Research] (in Greek). Athens: Pedio.

Kuznekoff, J. H., & Rose, L. M. (2013). Communication in multiplayer gaming: Examining player responses to gender cues. *New Media & Society*, *15*(4), 541-556.

Lien, T. (December, 2013). No Girls Allowed. Retrieved April 17, 2016, from http://www.polygon.com/features/2013/12/2/5143856/no-girls-allowed

Makuch, E. (March, 2015). New Overwatch Characters Revealed, Beta Starts This Fall. Retrieved 28 March 2016 from http://www.gamespot.com/articles/new-overwatch-characters-revealed-beta-starts-this/1100-6425737/

Miller, M. K., & Summers, A. (2007). Gender Differences in Video Game Characters' Roles, Appearances, and Attire as Portrayed in Video Game Magazines, *Sex Roles*, *57*, 733-742.

Pew Research Center. (October 2014). Online Harassment. Retrieved 17 December 2015 from: http://www.pewinternet.org/2014/10/22/online-harassment/

Phillips, T. (March 2013). Why publishers refuse games such as Remember Me because of their female protagonists. Retrieved 13 December 2015 from: http://www.eurogamer.net/articles/2013-03-19-why-publishers-refuse-games-such-as-remember-me-because-of-their-female-protagonists

Prell, S. (March 2013). How Facebook inspired Remember Me to drop global warming, and why its protagonist had to be a woman. Retrieved 13 December 2015 from: http://web.archive.org/web/20131211185434/http://penny-arcade.com/report/article/remember-mes-surprising-connection-to-facebook-and-why-its-protagonist-had

Robinson, T., Callister, M., Clark, B. & Phillips, J. (February 2009). Violence, Sexuality, and Gender Stereotyping: A Content Analysis of Official Video Game Web Sites, *Web Journal of Mass Communication Research*, 13. Retrieved from http://www.scripps.ohiou.edu/wjmcr/vol13

Stuart, K. (December, 2011). Game changers: The women who make video games. Retrieved April 15, 2016, from https://www.theguardian.com/technology/2011/dec/08/women-videogames-designing-writing

Twitch 2015 Retrospective. (2016). Retrieved April 16, 2016, from https://www.twitch.tv/year/2015

Williams, M. (May 2015). 'Assassin's Creed Syndicate: Female Assassins and Gang Members, A Step for Equality'. Retrieved 13 December 2015, from http://www.usgamer.net/articles/assassins-creed-syndicate-female-assassins-and-gang-members-a-step-for-equality

Yang, G. S. (2012). Do the gender and race of video game characters matter? The effects of violent game playing on implicit stereotyping and aggressive behavior (Doctoral dissertation, The University of Michigan).

Yao, M. Z., Mahood, C., & Linz, D. (2010). Sexual Priming, Gender Stereotyping, and Likelihood to Sexually Harass: Examining the Cognitive Effects of Playing a Sexually-Explicit Video Game, *Sex Roles*, 62, 77–88.

Williams, D., Martins, N., Consalvo, M., & Ivory, J. (2009). The virtual census: Representations of gender, race and age in video games. *New Media & Society*, 11, 815-834.

### **Games Mentioned**

Assassin's Creed Unity, Ubisoft Montreal, Ubisoft Entertainment S.A., 2014.

Assassin's Creed Syndicate, Ubisoft Montreal, Ubisoft Entertainment S.A., 2015

FIFA 16. EA Canada, EA Sports, 2015.

League of Legends, Riot Games, 2009.

Overwatch, Blizzard Entertainment, 2016.

Remember Me. Dontnod Entertainment, Capcom Co., 2013.

## **APPENDIX**

# **Coding Scheme**

1. Age (Looks): the age of the characters based on their appearance

N/A -	Toddler 0 - 3	Child 4-12	Adoleso		Young A. 20-29		Adult 30-39	Middle		Elderly 60+				
2. <b>B</b>	2. Body Size: the character's body size on average													
N/A	Absurdly Skinny	Extremely Skinny	Very Skinny	Skinny	Quite Skinny	Average	Quite Overweight	Overweight	Obese	Very Obese	Extremely Obese			
-	0	1	2	3	4	5	6	7	8	9	10			
3. V	3. Waist Size: the size of the character's waist size													
N/A	Disproportional ly / Absurdly Tiny	Extremely Tiny	Tiny	Small	Quite Small	Average	Quite Wide	Wide	Very Wide	Extremely Wide	Disproportional ly / Absurdly Wide			
-	0	1	2	3	4	5	6	7	8	9	10			
4. Breasts Size: the size of the character's breasts (women only)														
N/A	Absurdly Small	Extremely Small	Very Small	Small	Quite Small	Average	Quite Large	Large	Very Large	Extremely Large	Voluptuous / Absurdly Large			
-	0	1	2	3	4	5	6	7	8	9	10			

5. Muscularity: how muscular the character's body is, his/her physical condition

	•						1 0				
N/A	Absurdly Weak	Extremely Weak	Very Weak	Weak	Quite Weak	Average	Quite Muscular	Muscular	Very Muscular	Extremely Muscular	Absurdly Muscular
-	0	1	2	3	4	5	6	7	8	9	10
6. Atta		ss: how co	onvention	ally attr	active the c	haracte	r is, based	on ideal	character	istics (bod	dy,
N/A	Utterly Unattractive	Extremely Unattractive	Very Unattractive	Unattractive	Quite Unattractive	Average	Quite Attractive	Attractive	Very Attractive	Extremely Attractive	Utterly
-	0	1	2	3	4	5	6	7	8	9	10
		iness : the d pose in a			f the chara	cter con	nsidering se	exy eleme	ents in the	ir body,	
N/A	Utterly Unsexy	Extremely Unsexy	Very Unsexy	Unsexy	Quite Unsexy	Average	Quite Sexy	Sexy	Very Sexy	Extremely Sexy	Utterly Sexy
-	0	1	2	3	4	5	6	7	8	9	10
8. <b>Clo</b>	othing (Ai	mount) : ti	he amoun	t of cloti	hing, how c	covered	the charac	ter is			
N/A	Totally Naked	Almost Naked	Very Revealing	Revealing	Quite Revealing	Average	Quite Heavily Clothed	Heavily Clothed	Very Heavily Clothed	Almost Covered	Fully Covered
-	0	1	2	3	4	5	6	7	8	9	10
9. <b>Clo</b>	othing (Ti	ightness) :	the level	of tightn	ess of the c	characte	er's attire				
N/A	Extremely Loose	Very Loose	Baggy	Loose	Quite Loose	Average	Quite Tight	Tight	Very Tight	Extremely Tight	Skintight

10. Power (Looks): how strong/powerful or weak the character is presented to be, based on his/her looks

N/A	Extremely Weak	Very Weak	Weak	Fairly Weak	Somewhat Weak	Neutral	Somewhat Powerful	Fairly Powerful	Powerful	Very Powerful	Extremely Powerful
_	0	1	2	3	4	5	6	7	8	9	10

11. Personality (Looks): how virtuous or evil the character is presented to be, based in his/her looks

N/A	Extremely Virtuous	Very Virtuous	Virtuous	Fairly Virtuous	Somewhat Virtuous	Neutral	Somewhat Evil	Fairly Evil	Evil	Very Evil	Extremely Evil
_	0	1	2	3	4	5	6	7	8	9	10